The Rent Reform Demonstration: Impacts on Work, Housing, and Well-Being After 42 Months

LEXINGTON LOUISVILLE SAN ANTONIO WASHINGTON, D.C.

U.S. Department of Housing and Urban Development | Office of Policy Development and Research

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January 13, 2021

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Acknowledgments

This report would not have been possible without the contributions of many people.[1] We are especially grateful to the families who are participating in the Rent Reform Demonstration at the Lexington-Fayette Urban County Housing Authority, Louisville Metro Housing Authority, San Antonio Housing Authority, and District of Columbia Housing Authority, whose experiences have informed this report. We also want to give special thanks to the staff members of these agencies who have been implementing the new rent policy and whose experiences inform the operational lessons documented in this report; the study depends greatly on their efforts to implement that policy with care. In addition, we appreciate the assistance of agency staff members who were deeply involved in designing the policy and in determining how best to implement it (and the study procedures) or who have supported their agencies' continued engagement in the demonstration. These include in Lexington, Executive Director Austin Simms, with Andrea Wilson, Aldean Pleasant, and Tonya Christopher; in Louisville, former Executive Director Tim Barry, current Executive Director Lisa Osanka, with Deborah Gilbert and Tracy Holmes-Bell; in San Antonio, former Executive Director David Nisivoccia, with Richard Milk, Pat Ortega, Brandee Perez, Gary Baxter, Priscilla Salazar, Valerie Ochoa, Brittni Williams, Jeanette Perkins, Darius Wright, Arlene Esparza, Joann Delatorre, and Christiana Adam; and in Washington, D.C., former Executive Director Adrianne Todman and current Executive Director Tyrone Garrett, with Kimberley Cole, Ronald McCoy, Anissa Jones, Lori Parham, Jannie Lebby, Fatima Koroma, and Rani Joseph.

We are also grateful to the staff at the U.S. Department of Housing and Urban Development (HUD) for their valuable feedback on the evaluation and for reviewing drafts of this report. These include Laura Miller-Pittman from the Office of Public and Indian Housing; Chris Golden from the Moving to Work Office; and from the Office of Policy Development and Research, Todd Richardson, Mark Shroder, Carol Star, Lynn Rodgers, Paul Joice, and especially Marina Myhre. Marina Myhre serves as our HUD Contracting Officer's Representative and has been a source of careful and insightful guidance on all aspects of this study, including this report.

We thank reviewers who serve on our expert panel of advisors, who have provided feedback on the study or our reports: Nicole Barrett, Emily Warren, and Joshua Shokoor of the Council of Large Public Housing Authorities; Janelle Beverly of the Fairfax County Redevelopment and Housing Authority; Tushar Gurjal of the National Association of Housing and Redevelopment Officials; Lawrence Katz of Harvard University; Andrew Lofton of the Seattle Housing Authority; Larry Orr (consultant); Greg Russ of the New York City Housing Authority; Barbara Sard and Will Fischer of the Center on Budget and Policy Priorities; and Deborah Thrope of the National Housing Law Project.

[1]The Acknowledgments list the institutions with which individuals were affiliated at the time they contributed to the work reflected in this report.

We acknowledge our research partners from other organizations who played a crucial role in the design of the new rent policy and the evaluation, worked directly with the housing agencies to implement the new rent rules and research procedures, or provided feedback on this report: Martin Abravanel and Diane Levy of the Urban Institute, John Goering of the City University of New York, and Ingrid Gould Ellen of New York University. We also thank Sylvia Epps, David Getman, Heather Morrison, Carol Pistorino, and Monica Schneider of Decision Information Resources for their work in designing and administering the survey of families, and Victoria Deitch, formerly of MDRC, for assisting in the survey design and consulting on data issues. Keith Olejniczak, along with Don Davis of the Bronner Group and Roberta Graham and Jessica Porter of Quadel, worked with the housing agencies to provide ongoing technical assistance and led the effort to create participant communication materials. Cynthia Miller, Ingrid Gould Ellen, and David Long offered helpful insights on findings and report drafts. Joshua Vermette, Henry Kanengiser, Katerina Galkin, and Camille Preel-Dumas processed and analyzed the quantitative data. Andrew Rock prepared the exhibits and assisted with fact-checking. Carole Campbell (consultant) edited the report drafts. Finally, we appreciate the support of our resource managers, Crystal Ganges-Reid and Stephanie Rubino.

Foreword

In 1969, the Brooke Amendment established limitations on the rents charged to families and individuals in federally assisted housing. Initially, the Brooke Amendment limited rent charges to 25 percent of an assisted family's income. Over time, numerous changes were made to the basic rent setting policy including, raising the threshold to 30 percent (enacted in 1981), adding numerous adjustments, exclusions and deductions, as well as adding minimum and ceiling rent options.

Over the last few decades, critics have suggested that the Brooke Amendment, in its pursuit of safeguarding affordability, creates a disincentive to work by dampening tenant motivation to earn more income. In response, The U.S. Department of Housing and Urban Development (HUD) has undertaken a Rent Reform Demonstration to comprehensively test an alternative to the current rent-setting requirements for one of its key, and largest, housing assistance programs: Housing Choice Voucher (HCV). The main features of the alternative rent model are a triennial recertification, a tenant payment based on 28 percent of gross income for the prior 12 months (retrospective income) without any allowances or deductions, minimum rent (ranging from $50 to $150) paid directly to the landlord, and a simplified utility allowance, and hardship remedies. The demonstration has three key goals:

- Incentivize employment for work-eligible individuals
- Reduce the complexity and administrative burden for public housing agencies (PHAs)
- Avoid unnecessary hardship on assisted families

In addition, this study helps test innovations in the HCV program that might promote housing stability and economic opportunity, as well as overall client satisfaction for assisted households.

Since 2015, over 6,600 families have been randomly assigned to either the alternative rent rules or a control group subject to the existing rules at the four PHAs that are participating in the demonstration. The current report presents results through the first triennial recertification (covering more than 3 and a half years of followup). It examines the new rent policy's impacts on labor market and housing-related outcomes based on administrative data and data from a long-term followup survey conducted approximately 42 months after the new rent policy took effect. Data in this study were captured before the COVID-19 pandemic and do not include resulting changes in income and employment from pandemic-related economic shocks.

The results indicate that, when the findings for all four PHAs are combined, the new policy did not increase tenants' employment or average earnings in unemployment insurance covered jobs during the 42-month followup. The story varied somewhat across locations, however, with some positive effects on earnings and employment in Lexington and San Antonio, which were not consistent or sustained, no effects in Washington, D.C., and the continuation of negative impacts seen previously in Louisville.

Despite the mixed effects on employment and earnings, a majority of tenants responding to the long-term followup survey in the alternative rent group favored the new rent policy (70.6 percent), particularly the triennial recertification. The new rent policy's hardship remedies were essential for protecting many families from an excessive rent burden.

The new rent policy reduced the frequency and need for time consuming actions related to regular and interim changes in families' income through the triennial recertification and limited interim recertifications.

One impact that is consistent across all sites is that the new rent rules lead families to retain their housing assistance longer and, therefore, receive larger housing subsidies. Given that the intervention to date has had limited or no impact on incomes, continuing to receive assistance would appear to be a good outcome for housing stability and security. This is reinforced by the finding that fewer families in the treatment group had difficulty paying rent at 42 months relative to the control group. One way to interpret this finding is that by reducing required recertifications, families who otherwise would have lost their assistance were able to retain that assistance.

The final report, expected at the end of 2023, will examine the new rent policy's effects over a 6-year followup period, and will include a process evaluation of the second half of the demonstration and an updated cost analysis of administering the alternative rent model. The final report will include the timeframe of the recession and potential recovery from it.

General Deputy Assistant Secretary for Policy Development and Research
U.S. Department of Housing and Urban Development

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Executive Summary

Renting decent, safe, affordable homes in the private rental market is one of the most difficult economic challenges facing families with very low incomes. Many need deep government subsidies to do so. The Housing Choice Voucher (HCV) program is the main federal program providing such subsidies. The program assists about one-fourth of those who qualify, and the amount of subsidy it provides depends on a family's income—the lower the income, the higher the subsidy. This ensures that families with the least ability to pay will get the most assistance. However, linking subsidy amounts to income levels also means that part of any increase in tenants' earnings must go toward their housing costs. Some observers fear that this creates a disincentive to work. Some also believe the rent system imposes too heavy an administrative burden on public housing agencies (PHAs). This belief is in part because it requires PHAs to adjust subsidies, up or down, as families' incomes fall or rise, and to apply complicated rules in determining eligibility and subsidy levels.

Could a different rental subsidy system work better? The U.S. Department of Housing and Urban Development (HUD) launched the Rent Reform Demonstration to help find out. The demonstration sought to learn whether an alternative rent policy could simultaneously achieve the important but potentially competing goals of reducing work disincentives, reducing the administrative burden on PHAs, and protecting families from greater financial hardship—all without increasing the average cost of the voucher program per family served.[2] The demonstration tests an alternative rent policy for families living in privately owned housing units and receiving "tenant-based" HCVs, which are not restricted to any particular rental buildings or apartment units. This report is the fourth in an ongoing evaluation of the experimental policy and the third to report on its effects.

The new rent policy changes how subsidies are calculated. It also introduces or increases the minimum dollar amount families are expected to pay toward their rent and utilities (typically referred to collectively as "minimum rent"); extends the regular interval for redetermining families' incomes and eligibility for the HCV program from 1 to 3 years; requires no income reporting to the PHA and imposes no reductions in families' housing subsidies during that 3-year interval, even if families' incomes grow; and includes several safeguards to protect families from excessive rent burden, such as when their incomes decline. Four PHAs implemented the new policy on a trial basis: Lexington-Fayette Urban County Housing Authority (generally referred to as the "Lexington Housing Authority") in Lexington, Kentucky; Louisville Metropolitan Housing Authority in Louisville, Kentucky; San Antonio Housing Authority in San Antonio, Texas; and District of Columbia Housing Authority in Washington, D.C. These housing agencies are a subset of 39 PHAs that are part of HUD's Moving to Work (MTW) Demonstration, which

[2]See Riccio, Deitch, and Verma (2017) and Riccio (2020) for a discussion of goals and tradeoffs considered in designing the Rent Reform Demonstration.

allows selected PHAs broad administrative flexibility in operating their housing assistance programs, including authorization to reform their rent policies.

The PHAs began enrolling voucher holders into the demonstration in 2015. All but Washington, D.C., are slated to continue operating the new rent policy until late 2021 or early 2022. The Washington, D.C., PHA chose not to remain in the demonstration past the project's original September 2019 end-date due to a need to devote staff resources to other agency priorities.

HUD selected MDRC and its partners to lead the Rent Reform Demonstration. MDRC worked closely with the four PHAs and HUD to help design the new rent policy and evaluate it using a randomized controlled trial.[3] The current report presents the new rent policy's effects, or "impacts," on a wide range of outcomes. Among the most important are outcomes of household heads' employment and earnings, families' use of housing subsidies, and families' material hardship. The report also explores the policy's effects on receipt of other government benefits, overall income and poverty rates, use of homelessness services, and other important outcomes. It updates and expands upon MDRC's prior reports examining earlier effects of the new rent policy. Using public housing agency (PHA) data covering a 3.5-year (or 42-month) followup period and data from a survey of household heads administered at approximately 4 years after their initial recertifications, the analysis makes it possible to draw a fuller picture of the policy's effects than has been possible up to now. The ongoing evaluation will continue tracking families through the sixth year of followup as part of a longer-term assessment of the new policy.

The results presented in this report cover a period that ended before the onslaught of the COVID-19 pandemic when the labor market was strong. In that context, household heads in the Rent Reform Demonstration were substantially engaged in the labor market. Although their jobs were low-paying, and a subset of tenants struggled to work consistently, average earnings were on an upward trajectory.[4] So far, however, the new rent policy has not caused a general improvement in tenants' labor market outcomes beyond what would have occurred under the existing rent policy. Although the results vary across the PHAs and some PHAs produced positive labor market effects, those effects have not been consistent across PHAs or sustained. Simultaneously, the new policy enabled families to remain on the voucher program longer while employed, but has not increased their financial strain or material hardship, and has reduced certain types of burdensome PHA transactions with families. Most household heads subject to the new policy prefer it to HUD's traditional policy; they especially appreciate not having to report income gains to the PHA for 3 years at a time.

[3]MDRC's design partners included the Urban Institute, the Bronner Group, Quadel Consulting & Training, Ingrid Gould Ellen (New York University), and John Goering (City University of New York).
[4]This is true even after adjusting for inflation.

HUD's Traditional Rent Policy

A family receiving an HCV is usually expected to contribute 30 percent of their "adjusted income" toward rent and utilities under HUD's traditional rent policy (or 10 percent of their gross income if that amount is greater).[5] This contribution is known as the *total tenant payment* (TTP). Adjusted income is determined by applying several allowable deductions from the family's pre-tax gross income (such as a deduction for some childcare costs for working parents).[6] The calculation looks forward in time, basing the adjusted income estimate on the amount of income a family currently receives and anticipates receiving during the coming year ("current/anticipated" income in this report). The PHA pays the difference between the family's TTP and the maximum combined amount for rent and basic utilities that the PHA will allow for privately owned rental units for families of given sizes, called a "payment standard." (Families are allowed to rent units exceeding the payment standard at their own expense, but not ones that would cost them more than 40 percent of their adjusted incomes for rent and basic utilities in the first year they lease a unit.) PHAs are currently permitted to establish a minimum TTP or "minimum rent" of up to $50 per month, although not all have done so.

This traditional "percentage-of-adjusted-income" approach builds a strong safety-net feature into the rent subsidy system: If a family's income falls, the family pays less toward its housing costs. However, this approach also implicitly "taxes" tenants for increasing their earnings, which some experts contend reduces their work effort. The traditional rent policy also requires PHAs to review families' incomes at least annually to recertify their continued eligibility for the voucher program and to adjust their TTPs and housing subsidies if their incomes have changed.

The New Rent Policy

The new rent policy developed for the Rent Reform Demonstration substantially alters the traditional rent subsidy approach for voucher holders. The model includes the following core features:

- **A 3-year schedule rather than an annual schedule for recertifying families' continued eligibility for the voucher program and determining its TTP and housing subsidy.**
    - Under the triennial recertification schedule, if a family increases their income during the 3 years, it does not report that increase to the PHA until recertification is required at the end of the 3-year period. Consequently, the

[5]Throughout his report, HUD's "traditional" rent policy for voucher holders refers to the national rent policy in effect for non-Moving to Work PHAs *before* the passage of the Housing Opportunity Through Modernization Act of 2016. "Existing" rules refer to those in place at each of the Rent Reform Demonstration's PHAs at the time the demonstration began, which, in some cases, vary somewhat from HUD's traditional policies. The Fixing America's Surface Transportation (FAST) act allowed triennial recertifications for families with fixed income only—rule which took effect June 8, 2020.

[6]"Gross income" refers to a family's total pre-tax income minus certain types of excluded income.

TTP will not be raised, and their housing subsidy will not be reduced during that 3-year period.

- **A new formula for calculating a family's TTP and subsidy**
    - Eliminates all deductions from pre-tax income so that gross income (full income before taxes), rather than adjusted income, is the basis for calculating a family's TTP.
    - Sets a family's TTP at 28 percent of gross income over the prior 12 months (referred to as "retrospective income"), rather than 30 percent of current or anticipated adjusted income.
    - Ignores a family's income from assets when their assets' total value is less than $25,000 (and does not require documentation of those assets).
    - Simplifies the policy for determining utility allowances, basing the allowance on a streamlined standard schedule mostly according to unit size (rather than certain characteristics of the unit and utilities), with some adjustments for more expensive utilities.
    - Establishes a minimum TTP of not less than $50 per month (versus the minimum TTP of *no more* than $50 per month traditionally) and requires families to pay at least the specified minimum TTP directly to their landlords.
- **Safeguards for families**
    - At the start of the 3-year period, allows for a 6-month "grace-period" TTP, set at a lower amount, if a family's current or anticipated gross income is lower than its retrospective gross income by more than 10 percent.
    - Allows one interim recertification per year if a family's retrospective income falls by more than 10 percent before the next required triennial recertification.
    - Specifies a generally standard set of hardship conditions and remedies (TTP reductions) to protect families from excessive rent burdens.

Of all the new rent policy's features, the 3-year recertification is the one most expected to improve labor market outcomes because it eliminates the implicit "tax" on earnings during the 3-year period. The introduction of a minimum TTP, or the increase in an existing one, might also increase work effort because some tenants may need to increase their earnings to have enough income to meet the new minimum.

The PHAs participating in the demonstration helped develop this common framework. They also saw a need, however, to adapt the model in response to local conditions. In addition, the demonstration had to accommodate some policy changes that the PHAs had already

implemented. For example, the PHAs set their minimum TTPs for the new rent policy at different levels, ranging from $50 to $150 per month. The Louisville and D.C. PHAs introduced a minimum TTP for the first time ($50 and $75, respectively); San Antonio, which had already implemented a minimum TTP, increased it for the demonstration from $50 to $100. Lexington had already introduced a $150 minimum TTP before the demonstration began, and it continued that policy for the full study sample.[7] The process for determining hardship remedies for the new rent policy also varies across the PHAs, although the general conditions defining a hardship and the remedies themselves do not. Washington, D.C. had already instituted a simplified approach for calculating families' cost of utilities, a version of which each of the other PHAs in the demonstration adopted as part of the new policy.

Evaluation Design and Sample Characteristics

At the beginning of the study, to build a research sample, the PHAs and MDRC identified existing voucher holders who would soon be scheduled for an annual recertification to calculate their new TTP and rent subsidies. Families deemed eligible for the Rent Reform Demonstration were then randomly assigned to either a new rent rules group that would be subject to the new rent policy for the duration of the demonstration or to a control group that would continue to be subject to the existing rent rules.[8] According to HUD criteria, certain types of families, including those defined as senior or disabled, were excluded from the demonstration.[9]

In Louisville, an opt-out option was offered to families assigned to the new rules group—they could choose to continue having their TTP calculated according to the existing rent policy. By the end of the enrollment period, about 22 percent of the eligible families in Louisville's new rent rules group chose to opt-out of the new policy. However, they did not opt-out of the evaluation. The evaluation continues to treat the opt-out families as members of the new rent rules group (rather than the existing rules group) to avoid biasing the research, even though they are subject to the existing rent rules. Nevertheless, it means that, unlike the new rent rules families in the other sites, not all members of the new rent rules group in Louisville were exposed to the new policy, thus diluting its potential effects on the full new rules group.

Preexisting policies in two of the other PHAs need to be kept in mind when interpreting the evaluation results. As mentioned previously, Lexington's $150 minimum TTP applies to both research groups (and permits few hardship exemptions). In addition, after the Rent Reform Demonstration was underway, Washington, D.C., modified its existing biennial recertification policy in ways that eliminated interim income reporting requirements for control group

[7]Lexington generally does not permit any reductions in TTPs below the minimum in its application of the new rent rules hardship policy. The other three PHAs may temporarily waive the minimum TTP as a hardship remedy, but they generally require families with zero income to report their family expenditures regularly to the PHA.
[8]In this report, "control group" and "existing rules group" are used interchangeably.
[9]For full details on the evaluation design and characteristics of sample members, see Riccio, Deitch, and Verma (2017) and Riccio and Deitch (2019).

families.[10] That change meant that both the new rent rules group and the control group at that PHA had their TTPs capped for the first 2 years of followup, weakening the contrast in policies in an unintended way. Overall, the differences across PHAs mean that the "pooled" impact estimates (all PHAs combined) reflect the summary results of somewhat different tests in four locations and must be interpreted with that in mind. Those differences also make it important to consider each PHA's findings separately in assessing the overall merits of the new rent policy.

The impact analysis includes a total of 6,665 families across the four PHAs. Nearly all (94 percent) of the heads of those households are women, most of whom were single parents.[11] When they entered the study, about 77 percent of families included a child under 18, and 37 percent included other adults, typically young adult children of the household heads. In Lexington, Louisville, and Washington, D.C., most household heads are Black; in San Antonio, the majority (75 percent) are Hispanic/Latino. With only four PHAs in the demonstration, it is impossible, of course, to create a research sample that strictly represents the relevant national voucher population. However, a comparison of important background characteristics suggests that, taken together, the families in the study sample are roughly similar to working-age, nondisabled voucher holders nationally but may be somewhat more disadvantaged (Riccio, Deitch, and Verma, 2017). Although the four PHAs are not strictly representative of PHAs and local conditions nationally, they capture important dimensions of variation seen across many PHAs, allowing the study to assess the effects of the new rent policy across a range of relevant settings and contexts.

The evaluation uses three measures, with results pooled across the PHAs, as its primary or "confirmatory" outcomes: cumulative earnings during the followup period, cumulative housing subsidy payments, and a summary hardship index. These are the most important variables for judging the intervention's effectiveness, and the pooled impacts on them are shown with and without Washington, D.C. Because Washington, D.C., extended its biennial recertification schedule to all of its control group families, and because it ended its participation in the demonstration in September 2019, the pooled results without Washington, D.C., offer a clearer assessment of the new policy's effects. Therefore, for most pooled analyses, estimates are presented only for Lexington, Louisville, and San Antonio combined. Pooled results that include Washington, D.C., are presented selectively, primarily to illustrate how much the effects of this site influence the overall confirmatory impact estimates. When PHA-specific results are considered, those for Washington, D.C., are also shown.

[10]At the time of site selection, the PHA had set conditions under which the agency's existing biennial policy would still require most control group members who increased their earnings to report those increases to the PHA when they occurred (as was the case under HUD's traditional rent rules); thus, their TTPs would be increased prior to their biennial recertifications. However, that interim recertification policy was eliminated during the demonstration's first followup year so that no families in the control group were required to report earnings increases for up to 2 years.
[11]The household head is the main person in the household responsible for the subsidy agreement with the PHA. Where more than one adult is present, the family designates the household head.

This report uses several types of quantitative data: PHA administrative records; unemployment insurance (UI) wage records obtained through the National Directory of New Hires (NDNH), which capture employer-reported employment and earnings; benefit records on the receipt of Temporary Assistance for Needy Families (TANF) and the Supplemental Nutrition Assistance Program (SNAP); information from the Homelessness Management Information System (HMIS) in each locality on stays in shelters and use of other housing and services for people experiencing homelessness; and a survey of the heads of households participating in the demonstration. The followup period is defined as the period that begins after a family's new TTP took effect, roughly the third quarter after families were randomly assigned, through the following 42 months (3.5 years). It covers families' experiences in the early months after families in the new rules group were expected to complete their triennial recertifications. Those in the control group were expected to complete their third annual recertifications. The survey data cover roughly 4 years. This report's sections also incorporate findings from the previous reports that include in-depth qualitative data interviews with families (Riccio, Verma, and Deitch, 2019).

Household Heads' Employment, Earnings, and Income

In examining the new policy's effects on tenants' earnings, the study focuses primarily on the household heads. Most of the nonheads of households were the young adult children of the household heads, many of whom were no longer on the lease during the followup period, thus limiting their exposure to the new or existing rent policies.[12] The patterns of effects for those adults were generally similar to the results for household heads.

- **The results for all PHAs combined show that the new rent policy did not increase household heads' employment or earnings in UI-covered jobs.**

Data on UI-covered jobs reflect participation in the formal labor market, in jobs covered by UI that are more likely than non-covered jobs to come with fringe benefits. In the four-PHA pooled sample, almost 80 percent of household heads in the existing rules group ever worked in a UI-covered job during the 42-month followup period. A majority (57 percent) of this group worked in an average followup quarter, reflecting a substantial rate of participation in the formal labor market (see exhibit ES.1). These rates differ little across the two research groups, however. Each group's average cumulative earnings (one of the study's confirmatory outcome measures) also differ little. A similar pattern of results is evident for the three-PHA pooled sample that excludes Washington, D.C.[13]

[12]Impact findings on the labor market outcomes of these other adults are included in the report's appendix C.
[13]This conclusion holds for estimated impacts on cumulative earnings even after adjustment for inflation.

- **The new rent policy produced some positive impacts on employment or earnings in UI-covered jobs in Lexington and San Antonio, but these were not consistently statistically significant or sustained. It produced negative effects in Louisville.**

In Lexington, household heads in the new rent rules group were more likely to work in UI-covered jobs in Year 3 than the control group by a statistically significant 5 percentage points (not shown). However, over the full 42-month followup period, neither the impact on average quarterly employment nor average cumulative earnings was statistically significant (exhibit ES.1).[14] In San Antonio, the new rent policy produced statistically significant increases in earnings in the first 2 followup years, but these diminished in Year 3. In Washington, D.C., the new policy had no statistically significant impacts on employment and earnings.

Surprisingly in Louisville, employment and earnings in UI-covered jobs were *lower* for the new rules group than the control group. This trend first emerged during the second followup year and grew stronger in the third. Over time, the earnings trends are positive for both research groups; they are just less positive for the new rules group. By the end of the followup period, the impact on cumulative earnings was -$2,631, a statistically significant reduction of about 6 percent relative to the control group mean.

The negative impacts in Louisville, which are concentrated in the subgroup of household heads who were not already employed at baseline, are not easy to explain. (This pattern is not evident in the other PHAs.) This nonemployed subgroup had a much larger number of families who opted out of the new rent rules than the already employed subgroup (30 percent versus 17 percent, respectively). It would be reasonable to expect that if the new rent policy were effective, the magnitude of its positive impacts would be lessened with such a high proportion of the new rules group not exposed to the new policy. But a high opt-out rate seems unlikely to have caused *negative* effects; in other words, there is little reason to expect the opt-out tenants themselves to have worked any *less* than they would have worked had they been assigned to the control group and subject to the same rent policy. It seems more likely that the household heads who did *not* opt-out drove the negative results. The full report explores some possible reasons for these results. The demonstration's final evaluation report will show whether the negative effects persist through the next 3-year period leading up to the second triennial recertification. But an important lesson so far is that a rent policy designed to promote work may have the opposite effect for some types of families in some contexts.

[14]The in estimated impacts on cumulative earnings across the three PHAs excluding Washington, D.C., is statistically significant at the .054-percent level. The variation in impacts on this measure across the four PHAs including Washington, D.C., is not statistically significant.

Exhibit ES.1. Impacts on Employment and Earnings Within First 42 Months of Followup: Heads of Households

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
All PHAs					
Ever employed (%)	78.9	78.8	0.1		0.905
Average quarterly employment[a] (%)	57.6	57.2	0.5		0.523
Average total earnings ($)	41,074	41,046	28		0.970
Sample size (total = 6,665)	3,312	3,353			
All PHAs except Washington, D.C.					
Ever employed (%)	82.2	82.8	– 0.6		0.560
Average quarterly employment[a] (%)	61.5	61.2	0.3		0.737
Average total earnings ($)	39,482	39,489	– 7		0.994
Sample size (total = 4,756)	2,368	2,388			
Lexington					
Ever employed (%)	86.3	83.3	3.0		0.132
Average quarterly employment[a] (%)	66.2	63.4	2.7		0.134
Average total earnings ($)	40,791	39,039	1,751		0.330
Sample size (total = 979)	486	493			
Louisville					
Ever employed (%)	81.5	83.3	– 1.8		0.233
Average quarterly employment[a] (%)	61.0	62.6	– 1.6		0.235
Average total earnings ($)	40,288	42,919	– 2,631	*	0.063
Sample size (total = 1,908)	947	961			
San Antonio					
Ever employed (%)	81.3	81.4	– 0.2		0.926
Average quarterly employment[a] (%)	59.7	58.5	1.2		0.416
Average total earnings ($)	37,907	36,258	1,649		0.234
Sample size (total = 1,869)	935	934			
Washington, D.C.					
Ever employed (%)	70.7	69.1	1.6		0.346
Average quarterly employment[a] (%)	48.0	47.1	1.0		0.468
Average total earnings ($)	44,920	45,041	– 121		0.940
Sample size (total = 1,909)	944	965			

PHA = public housing agency.

[a]Average quarterly employment is calculated as the total number of quarters with employment divided by the total number of quarters of followup, expressed as a percentage.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause light discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values. The variation across the four PHAs in estimated impacts on total earnings and average quarterly employment in the full period is not statistically significant based on an H-statistic test. The variation across the three PHAs in estimated impacts on total earnings in the full period is statistically significant at the .054-percent level based on an H-statistic test. Confirmatory outcomes were tested for multiple hypothesis testing using the Benjamini-Hochberg procedure. The adjusted p-value = .970 for the impact on total full period earnings for all

four PHAs combined. The adjusted p-value is = .994 for the impact on total full period earnings for all PHAs combined, excluding Washington, D.C.
Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

- **According to the survey of household heads, the new rent policy modestly increased self-reported employment, which includes jobs not covered by the UI system.**

When interviewed for the 4-year survey of household heads, a higher proportion of respondents in the new rules group than the control group said they were currently working: 61.2 percent versus 57.2 percent, respectively, a 4-percentage point (statistically significant) impact. The same pattern is evident in each of the four PHAs (including Louisville), although not all the PHA-specific impacts on this measure are statistically significant. It is difficult to know for certain, but perhaps a somewhat higher proportion of household heads in the new rules group worked in types of jobs that are not covered by the states' UI records, such as freelance jobs in the "gig economy," other self-employment contract jobs, or informal jobs. Overall, these results suggest that the new rent policy may have caused somewhat greater work effort among household heads than is reflected in the analysis of UI-covered jobs.

The new rent policy did not increase the likelihood that household heads would work in better jobs than the jobs they would have gotten had they been in the control group. For example, among employed household heads in either research group who responded to the 4-year survey, only about 17 percent held a current or recent job paying $15 or more per hour. About one-third received paid sick days.

- **Health and family care responsibilities were among the most common reasons why household heads in each research group not in the labor force were not looking for work.**

Among survey respondents in Lexington, Louisville, and San Antonio combined, about 23 percent in the new rent rules group (and a similar proportion in the control group) were not active in the labor market at the time they were interviewed: they said they were not working *and* were not looking for work. Their reasons varied, but health-related factors, such as their own health problems or need to care for a child with health problems or a disability, account for why almost 60 percent of these household heads were not looking for work. These types of work impediments are not directly addressed by policies that only increase financial incentives to work.

- **Overall, with little sustained positive impact on earnings, the new rent policy did not reduce receipt of SNAP or TANF benefits.**

In Lexington, Louisville, and San Antonio combined, only a small portion of families (approximately 6 percent) in each research group received TANF benefits at any time during the 42-month followup period. In contrast, over 87 percent had received SNAP benefits, although

the rate fell over time to 56 percent in Quarter 16 (the last quarter in the 42-month followup period). The rates did not appreciably differ between the new rules group and the control group.

Families' Use of Housing Subsidies

The new rent policy substantially changed the rules for calculating TTPs and adjusting them over time. These changes have affected families' receipt of housing subsidies and their interactions with the PHAs.

- **The new rent rules increased the proportion of families still receiving housing subsidies by the end of the 42-month followup period.**

The new rent policy's cap on TTPs, when it took effect, meant that families in the new rules group would not have any income increases documented before their triennial recertifications that would have put them in the zero HAP category where their HCV program participation would have ended after 6 months. Consequently, the new rules group was less likely than the control group to exit the voucher program before the triennial recertification. This effect also persisted beyond that recertification. As exhibit ES.2 shows, with Lexington, Louisville, and San Antonio combined, 71.9 percent of the new rent rules group was still in the voucher program and "leased up" (that is, they were using their rental subsidies) in Month 42, compared with 65.1 percent of the existing rules group—a statistically significant increase of 6.8 percentage points above the control group rate. A similar pattern is evident for the four-PHA pooled sample (including Washington, D.C.) and for each of the four PHAs.

- **On average, families in the new rent rules group paid less toward their rent and utilities while in the voucher program than the existing rules group, and they received more in housing subsidies.**

The new rules group paid lower TTPs, on average, than the control group during the 3 years before the triennial recertification. That changed after the triennial recertifications when families in the new rules group still on the voucher program began paying higher TTPs than the control group. But with a reduced average monthly TTP over the full 42-month followup period, combined with a longer duration in the voucher program, families in the new rules group received higher average cumulative housing subsidies than the control group. This result was intended by the policy design so that families would benefit from their increased work effort during the 3 years between recertifications. As exhibit ES.2 shows, for Lexington, Louisville, and San Antonio combined, the new rules group received an average of $2,108 more than the control group mean ($22,021), representing an increase of nearly 10 percent.[15] Although the magnitudes vary, a generally similar pattern is evident for the four-PHA pooled sample and for each PHA.[16]

[15]This impact estimate remains statistically significant after adjustment for multiple outcomes.
[16]The variation across the four PHAs in estimated impacts on cumulative housing subsidies is not statistically significant.

Exhibit ES.2. Impacts on Families' Subsidy Receipt Within First 42 Months of Followup

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
All PHAs					
Currently enrolled in HCV program and leased up	77.9	72.4	5.5	***	0.000
Total housing subsidy ($)	34,285	32,365	1,920	***	0.000
Sample size (total = 6,665)	3,312	3,353			
All PHAs except Washington, D.C.					
Currently enrolled in HCV program and leased up	71.9	65.1	6.8	***	0.000
Total housing subsidy ($)	24,129	22,021	2,108	***	0.000
Sample size (total = 4,756)	2,368	2,388			
Lexington					
Currently enrolled in HCV program and leased up	71.3	66.6	4.7		0.114
Total housing subsidy ($)	21,718	20,191	1,527	**	0.021
Sample size (total = 979)	486	493			
Louisville					
Currently enrolled in HCV program and leased up	74.0	62.6	11.4	***	0.000
Total housing subsidy ($)	25,500	22,935	2,566	***	0.000
Sample size (total = 1,908)	947	961			
San Antonio					
Currently enrolled in HCV program and leased up	70.0	67.1	3.0		0.165
Total housing subsidy ($)	24,069	21,973	2,095	***	0.000
Sample size (total = 1,869)	935	934			
Washington, D.C.					
Currently enrolled in HCV program and leased up	92.6	90.4	2.2	*	0.080
Total housing subsidy ($)	59,825	57,897	1,928	*	0.063
Sample size (total = 1,909)	944	965			

HCV = Housing Choice Voucher. PHA = public housing agency.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause light discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values. The variation across the PHAs in estimated impacts on total earnings and average quarterly employment in the full period is not statistically significant based on an H-statistic test. Confirmatory outcomes were tested for multiple hypothesis testing using the Benjamini-Hochberg procedure. The adjusted p-value = .000 for the impact on total full period housing subsidy for all four PHAs combined and for all PHAs combined, excluding Washington, D.C.

Source: MDRC calculations using PHA data

- **The new rent policy's hardship remedies were essential for protecting many families from an excessive rent burden.**

Families whose TTPs exceed 40 percent of their current/anticipated gross incomes are considered to have an excessive rent burden and are generally eligible to request a hardship remedy. These renewable remedies include setting the TTP at the minimum level or at 28 percent of current income for up to 6 months at a time. Families in Lexington are only eligible for a hardship remedy if they are paying TTPs that exceed the PHA's $150 minimum and still meet the 40-percent threshold, and their TTPs can only be reduced to the $150 minimum. With Lexington, Louisville, and San Antonio combined, about 8 percent of families had ever paid a TTP less than the minimum for their PHAs; about 36 percent had ever paid exactly the minimum required, and about 88 percent had ever paid more than the minimum.

Hardship remedies can be issued to qualifying families at any time, but families must request them. Among families in the three-PHA pooled sample, almost 17 percent of families received a hardship remedy by the end of the 42-month followup period; the rate ranged from about 11 percent in San Antonio and Lexington to over 25 percent in Louisville.[17] In Washington, D.C., the rate was comparable to the rate in Louisville. The substantial rates of reliance on the hardship provisions testify to the importance of those provisions in minimizing excessive rent burden among many families.

- **The new rent policy reduced certain time-consuming efforts required of PHA staff. In particular, it reduced the number of regular recertifications and the need for and frequency of actions related to interim changes in families' income.**

One goal of the new rent policy is to reduce the PHAs' administrative burden in operating the voucher program. It partly achieved this by reducing the number of actions that staff had to take with or on behalf of families as their circumstances changed, particularly among families who would have had a moderate or high number of actions. For example, with Lexington, Louisville, and San Antonio combined, the new rent policy reduced the likelihood of five or more actions by 23.2 percentage points while families were enrolled in the voucher program. The frequency of actions was reduced the most for three types of PHA actions: (1) regularly scheduled recertifications, (2) interim recertifications for reductions in income, and (3) interim recertifications for income increases. These three actions were generally the most time-consuming actions for staff because they required reviewing household income to enable the PHA's software system to recalculate TTPs and subsidies.

[17]The rate for Louisville only counts families who did not opt-out of the new rent policy.

Families' Financial and Material Well-Being

The new rent policy's safeguards intended to protect against serious financial hardships arising from the minimum TTP and restrictions on interim recertifications make it important to assess the policy's effects on financial well-being. Data from the 4-year survey of household heads and HMIS are used in this assessment.

- **The alternative rent policy had little effect on overall material or financial well-being, causing no undue harm or improvement.**

Many families in each research group experienced some of the material hardships specified in the survey interviews. For the pooled sample with Lexington, Louisville, and San Antonio combined, roughly 65.1 percent of respondents in the new rent rules group, compared with 64.6 percent in the existing rules group, indicated that they had experienced one hardship or more in the 12 months before their interviews.[18] As shown in exhibit ES.3, respondents in the new rent rules group scored 3.6, on average, on a cumulative measure of material hardship in the 12 months before the interview (a confirmatory outcome measure for this evaluation), compared with 3.8 for families in the existing rules group, a difference that is not statistically significant.[19] The material hardship score measures both the presence and frequency of hardship using a broad set of indicators, including recurring monthly rent, utility and phone bill payments, food, and access to preventive healthcare and prescription medication. (Scores closer to zero reflect, on average, fewer and shorter durations of such hardship.) For the most part, in the post-triennial period, both groups report experiencing similar material circumstances.

[18]Some families were interviewed after leaving the voucher program, so, for those families, the reported outcomes pertain to their post-voucher circumstances. Note that survey response rates were lower for sample members who exited the voucher program than for those who were still enrolled in the program. Thus, the survey results reported here may more heavily reflect the experiences of sample members who remained on the voucher program. (For further information see the response bias analysis in appendix B).

[19]Including Washington, D.C., in the pooled estimate does not change this conclusion. The material hardship score ranges from 0 to a maximum of 40. Higher scores reflect a higher number of enduring hardships. About 80 percent of the respondents scored between 0 and 6.

Exhibit ES.3. Impacts on Selected Measures of Material Hardship and Financial Well-Being: Heads of Households from Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Material hardship score[a]	3.6	3.8	– 0.2		0.171
Any severe material hardships in the past 12 months[b] (%)					
Did not pay full rent or mortgage	4.8	7.0	– 2.3	***	0.005
Did not pay utility bill	0.6	1.7	– 1.1	***	0.002
Did not pay telephone bill	5.9	6.7	– 0.7		0.363
Did not buy food	14.4	14.2	0.3		0.811
Financial situation at the end of each month (%)					0.160
Has money left over	8.0	7.1	0.9		
Has just enough money to make ends meet	53.8	51.3	2.5		
Does not have enough money to make ends meet	38.2	41.6	– 3.4		
Forced to move or formally evicted[c] (%)	10.6	11.4	– 0.7		0.614
Sample size (total = 3,606)	1,839	1,767			

[a]The material hardship score is a cumulative hardship scale that reflects the average number of months of reported hardships within the last 12 months. The measure incorporates the frequency of hardships related to food, shelter, recurring monthly utility and phone bills, and medical care listed on this exhibit.
[b]Severe material hardship is defined here as a hardship lasting 4 or more months.
[c]This item was administered to a random subsample (N = 1,805) of the survey respondents. Nine hundred sixteen are in the New Rent Rules group, and 889 are in the Existing Rent Rules group.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. The p-value indicates the likelihood that the estimated impact (or larger) would have been generated by an intervention with zero true effect. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.
Source: Rent Reform 4-Year Followup Survey

- **Families in the new rules group were slightly less likely to have had extended periods of material hardship or to have experienced evictions or homelessness.**

As shown in exhibit ES.3, 4.8 percent of survey respondents in the new rent rules group reported that they had difficulty paying their full rent or mortgage for at least 4 out of the prior 12 months, compared with 7 percent of the control group—a 2.3-percentage-point reduction that is statistically significant and may reflect the new rules group's longer duration on the voucher program. This pattern (although with a smaller difference) is also evident with utility bills. The survey data reveal no statistically significant effects of the new rent policy on the likelihood of eviction, an outcome that remained low for both research groups. Homelessness administrative records obtained from the HMIS show that very few household heads in either research group had stayed in homeless shelters or had received services for homeless individuals or families. These extreme housing-related outcomes may have been rare in part because most families were still receiving vouchers at the end of the followup period for this report.

Tenants' Understanding and Perceptions of the New Rent Policy

- **Survey respondents in the new rules group were more likely to be aware of some of the new rent policy features than others. They were most likely to be aware of the policy's provision for triennial recertifications.**

How well tenants understand the new rent policy's built-in work incentive and protective features may influence their labor market behaviors and degree of protection from excessive rent burdens and hardship. The 4-year survey included questions intended to assess that awareness. The results show that most survey respondents in the new rules group were familiar with the rent policy's triennial recertification (81 percent) and minimum rent to landlord requirements (76 percent). Somewhat fewer—but still a majority (66 percent)—respondents were aware that they did not have to report their earnings increases between triennials (although some who thought otherwise seemed to know that their TTPs would not be increased before the triennial). A smaller proportion (50 percent) of respondents indicated awareness of the policy's safeguards allowing reductions in TTPs if incomes fell. Fewer (36 percent) were aware that increasing a household's income by adding a new member to the lease would not necessarily lead to a TTP increase before the triennial recertification. Of course, some respondents may not have known or remembered certain policy features because they did not need to make use of them.

- **TTP increases after the triennial were often higher than families expected, and many families who were affected expressed difficulty paying the higher TTPs.**

Among families in the new rules group who responded to the 42-month survey and completed triennial recertification, about 15 percent experienced a post-triennial TTP increase they found "very difficult" to pay.[20] Many respondents who faced such an increase indicated that they had to cut back on expenses and manage their household budgets differently to cope with higher rent obligations. Although the new rules group on average received more in rent subsidies than the control group, and although many control group families similarly faced TTP increases after their annual recertifications, qualitative interviews conducted with a small subset of household heads in the new rules group suggest that some did not remember that their new TTPs, which would be reset at the recertification, would be based on retrospective income, and they had not planned for large increases.[21] The new rent policy's grace-period TTP and hardship remedies are intended to ensure that any jump in TTPs will not cause an excessive burden on families. Still, some advance notification from the PHAs, had it been offered, may have helped families experiencing an increase prepare for the change.

- **Most families in the new rent rules group preferred the new rent rules over HUD's traditional rent policy.**

[20]Among respondents who reported that they completed a triennial recertification and had a rent increase, 30.2 percent said it was "very difficult" to pay, another 42.2 percent said it was "somewhat difficult (see exhibit 7.4).
[21]See Riccio, Verma, and Deitch (2019) for findings from the qualitative interviews.

Overall, about 71 percent of respondents in the new rules group favored the new rent policy, with the triennial recertification feature being especially popular. Only about 13 percent of respondents said they preferred the traditional rent rules, while 16.7 percent did not express a clear preference.

Summary and Next Steps

The Rent Reform Demonstration lessons learned so far can help to answer questions about what may or may not be achieved by changing the HCV rent rules to try to promote work, safeguard tenants, and reduce PHA administrative burden while containing voucher program costs. These lessons may be most immediately relevant to other existing MTW PHAs that are experimenting with their own rent reform policies, as well as to HUD and PHAs that are selected to join HUD's planned expansion of MTW, which will include new tests of innovative rent policies.[22]

So far, the study has shown that most working-age, nondisabled voucher holders in the research sample, regardless of the rent policy that applied to them, had worked in the formal labor market—albeit in low-wage jobs—and that their average earnings generally increased over the followup period. Among household heads who were already working when they entered the study, a high proportion worked fairly consistently, while fewer of those not initially employed did so. Against this backdrop, the new rent policy's financial work incentive did not substantially or consistently increase tenants' employment and earnings. As the Louisville example showed, a subset of tenants worked and earned less in UI-covered jobs. However, across the four PHAs, the survey data suggest that the new rent policy may have led some tenants to work more than they would otherwise have worked in jobs not covered by the UI system.

Despite instituting or increasing the minimum TTP and setting restrictions on interim recertifications when families' incomes fell, the new policy did not increase families' material hardships. On average, the new policy increased families' duration on the voucher program and, consequently, the total amount of housing assistance they received.

The new policy also fostered some reductions in PHAs' administrative burden by reducing the frequency of certain time-consuming actions staff were required to take with or on behalf of families, owing largely to the triennial recertification schedule and interim recertification restrictions. In addition, the triennial recertifications reduced the time and effort that families had to spend interacting with the PHAs. This appears to be a prime reason why most families in the new rules group preferred the new rent policy over the existing policy. One of the PHAs implemented further measures designed to streamline PHA administrative procedures for calculating retrospective income and determining families' eligibility for certain safeguards.

This report is not the final word on the Rent Reform Demonstration. A subsequent report will examine the new rent policy's effects on the same administrative records outcomes covered in

[22]For more information, see HUD (2020).

this report over a 6-year followup period (extending into 2022), as families in the new rules group still on the voucher program approach their second triennial recertifications, and when the operational phase of the demonstration winds down. No additional survey is planned, but a new round of qualitative interviews will be conducted with staff and a subset of families to understand their longer-term experiences with the policy. The next report will also revisit the administrative burden question, taking into account some new efforts to streamline certain features of the policy, and it will include a final cost analysis.[23]

Crucially important, the extended followup period will also make it possible to learn about the operation and effects of the new rent policy during a precipitous and deep recession sparked by the COVID-19 pandemic. This phenomenon will subject the new rent policy to a kind of extreme "stress test." Depending on the overall course of the pandemic, the final stages of the extended followup period may reach a time when the nation may be recovering from its recession. This may offer an opportunity to assess the new rent policy's effects in the early stages of an improving labor market.

[23]A preliminary analysis of administrative costs is included in Riccio, Verma, and Deitch (2019). The final report will update that analysis using administrative records covering 6 years of followup plus longer-term data collected on staff activities and time use.

Chapter 1
Introduction

Very-low-income families typically need deep government housing subsidies to rent safe, decent homes. Yet, an important public policy question has persisted for decades: how to support subsidized tenants' progress toward self-sufficiency while providing an effective safety net for families—without excessive administrative burdens and costs.

This report is the fourth in an ongoing random assignment evaluation of the Rent Reform Demonstration sponsored by the U.S. Department of Housing and Urban Development (HUD). The demonstration is testing important modifications to HUD's traditional rent subsidy policy for families living in privately owned housing units and receiving tenant-based subsidies through the federal Housing Choice Voucher (HCV) program (commonly known as Section 8).[24] This report updates earlier reports on the operation and effects of the new rent policy by examining its effects on labor market behavior and the receipt of housing subsidies and other government benefits over a longer time period—up to 3.5 years (or 42 months). It also examines the policy's effects on a much broader range of outcomes for household heads and their families, including poverty, material hardship, family economic and social well-being, and other outcomes, based on a survey of families conducted roughly 4 years after the new policy took effect.[25]

Most public housing agencies (PHAs), which operate the voucher program, follow a common set of federal rules in determining how much tenants must contribute of their own income toward their rent and utilities and how much of a housing subsidy they will receive. The traditional way that such subsidies have been calculated has been widely criticized for creating a disincentive to work while imposing a substantial and costly administrative burden on PHAs.[26] That system requires families to report changes in income at least annually and for the PHAs to adjust the subsidies up or down as families' incomes fall or rise. Although this system provides a strong safety net for families by giving more rental assistance to those whose needs are greater because of lower or falling incomes, it also creates an implicit marginal "tax" on increased earnings (approximately 30 percent). Tenants may increase their family income by earning more, but they do not get to keep all of their extra earnings because they pay more toward their rent and utilities as their incomes rise. This implicit tax is on top of possible reductions in other means-tested benefits families might be receiving, such as Temporary Aid for Needy Families (TANF) or

[24] Tenant-based HCVs are portable, meaning that families can use the vouchers with private landlords of their own choosing if the housing unit meets the PHA's quality standards, and they can take the vouchers with them to a new landlord if they choose to move. These vouchers differ from Project-Based Section 8 assistance, which attaches a subsidy to a particular housing unit through a contract between the PHA and a private landlord.

[25] See Riccio, Verma, and Deitch (2019), sections of which have been incorporated into this report with adaptions.

[26] These and other criticisms are described in Abt Associates, Inc., the Urban Institute, and Applied Real Estate Analysis, Inc. (2010), Government Accountability Office (2012), and Public Housing Authorities Directors Association (2005). See also Riccio, Deitch, and Verma (2017) for a summary of these perspectives and relevant prior evidence on how housing assistances may affect labor force participation.

Supplemental Nutrition Assistance Program (SNAP) benefits (formerly food stamps). With these benefit reductions, their combined marginal tax on increased earnings can exceed 30 percent, thus further reducing tenants' "take-home" pay and possibly discouraging increased work effort.

HUD launched the Rent Reform Demonstration to design and carefully evaluate an alternative rent-subsidy policy for recipients of tenant-based HCVs. In setting guidelines for the demonstration, HUD sought a policy that would simplify the rent system to reduce PHAs' administrative burden and costs, create a stronger financial incentive for families to increase their earned income, continue to provide a safety net for families who cannot readily increase their earnings, and not increase or at least minimize any increases in PHAs' average housing subsidy expenditures per family over time. HUD selected MDRC and its partners to coordinate the design process, work closely with HUD and the four PHAs that joined the demonstration, and evaluate the policy. HUD and the PHAs had the final say over the policy design.[27] These four PHAs are:

- Lexington-Fayette Urban County Housing Authority in Lexington, Kentucky (generally referred to as the Lexington Housing Authority, or LHA)
- Louisville Metropolitan Housing Authority (LMHA) in Louisville, Kentucky
- San Antonio Housing Authority (SAHA) in San Antonio, Texas
- District of Columbia Housing Authority (DCHA) in Washington, D.C.

These four PHAs implemented the new rent policy alongside a more traditional rent policy to help determine its effects. They are a subset of 39 PHAs that, at the time the project was launched, were part of HUD's Moving to Work (MTW) demonstration. PHAs with MTW status have more flexibility to change housing policies, provided they notify the public and receive approval from HUD and from their boards of directors. They are permitted to change certain policies that would otherwise require changes in legislation or regulations; this administrative flexibility extends to rent rules.[28]

DCHA decided not to continue its participation in the Rent Reform Demonstration after September 2019 (the end-date to which it had originally committed).[29] This decision was primarily driven by the agency's need to devote staff to other priorities, which would be more

[27] The study team includes the Urban Institute, the Bronner Group, Quadel Consulting & Training, and professors Ingrid Gould Ellen (New York University), John Goering (City University of New York), and research consultant Barbara Fink.

[28] According to the Moving to Work Agreement, Moving to Work agencies have the authority to adopt and implement any reasonable policies to calculate tenants' contributions toward their rents that differ from the program requirements as mandated in the 1937 Act and its current implementing regulations. The four PHAs in the Rent Reform Demonstration were still largely following HUD's traditional rent policy at the start of the demonstration, with some exceptions (discussed later in this chapter).

[29] All four PHAs initially agreed to participate in the demonstration through 2019, and DCHA fulfilled that commitment.

difficult while operating a special, parallel rent policy for some voucher holders as part of the demonstration.[30]

The Rent Reform evaluation centerpiece is a two-group randomized controlled trial to test the effects of the new rent policy on voucher holders' labor market outcomes, use of housing subsidies and other government programs, material hardship, well-being, PHA costs and administrative burden, and other outcomes. The study enrolled eligible voucher holders who were coming up for program recertification—that is, a review by PHA staff to determine whether families still meet the voucher program's income and other requirements, to calculate how much each family is expected to contribute to its rent and utilities, and to determine how much of a housing subsidy a family will receive. These families were enrolled in the study between February 2015 and November 2015. Before their recertification, all eligible families were randomly assigned to a new rent rules group that was subject to the new rent policy or to a control group that remained subject to the existing rent rules.[31] The families' rent and utility obligations and housing subsidies determined through that recertification process (referred to in this report as the "initial recertification" because it occurred at the beginning of the study period) took effect between June 2015 and March 2016. (The exact dates varied among families and the four PHAs, as shown in chapter 2.)

MDRC prepared an initial or "baseline" report on the demonstration, published by HUD in 2017, that describes the origins of the Rent Reform Demonstration, the policy debate surrounding the traditional HCV rent policy, the features of the new policy, the rationale behind each of its main elements, and how the policy was to be evaluated (Riccio, Deitch, and Verma, 2017). That report also describes in more detail the process for identifying and enrolling families into the study, the background characteristics of those families, the amounts the families initially began paying for their rent and utilities under the new rent rules compared with the existing rules at the beginning of the study, and the housing subsidies they received initially. MDRC prepared a second report, published in 2019, providing an early look at the effects, or "impacts," of this policy on families' labor market and housing-related outcomes, covering a followup period for each eligible family of approximately 12 to 18 months after the new policy took effect (depending on the outcome measure) (Riccio and Deitch, 2019). A third report, published later in 2019, extended the followup period on these outcomes to more than 2 years (Riccio, Verma, and Deitch, 2019). It also analyzed a wider range of outcome measures, using data on families' receipt of TANF and SNAP benefits and families' use of shelters and services for individuals and families experiencing homelessness. Using qualitative data from in-depth interviews, that report also explored the experiences of PHA staff and voucher families with the new policy and their

[30] Among the other priorities was a need to devote agency resources toward administering almost 2,000 new relocation vouchers that were being issued as part of the process of converting some existing public housing units to privately managed housing under HUD's Rental Assistance Demonstration (RAD). In addition, the agency's staff had to take on a large relocation effort for senior voucher holders in the wake of a fire at a senior residence.
[31] The demonstration is expected to conclude in 2022.

perspectives on its pros and cons relative to the existing rent rules, and it included a preliminary comparison of the costs of administering the new rent policy relative to the existing policy.

The current report extends the followup period for the impact analysis using these administrative records data even further—to up to 42 months after families' initial recertification dates at the beginning of the study. It also includes results from a survey administered to families in the new rules group and the existing rules group at approximately 4 years after the families' initial certification.[32] The extended followup period allows the study to assess the program's effects after most families who were still receiving vouchers had completed a triennial recertification (if in the new rules group) or a third annual recertification (if in the control group).

The data analyzed for this report cover a period that ended before the COVID-19 pandemic hit the United States. The PHAs in this study, like those across the country, have had to make dramatic changes in how they operate, such as by moving many PHA functions that involved in-person staff and family interactions online. By waiving certain HUD regulations, they have been taking advantage of increased administrative flexibility that HUD temporarily offered to all PHAs. Although none of these changes occurred in the period covered by this report and, therefore, do not affect the results presented here, they did occur during the later stages of the Rent Reform Demonstration. MDRC's next report will examine how the pandemic changed PHAs' administration of the new rent rules and the existing rent rules, the implications for the policy's effects on families' labor market outcomes, use of the voucher program, and receipt of other government benefits.

As will be seen, the results with all four PHAs combined show that, so far, the new policy has not produced substantial improvement in household heads' longer-term cumulative earnings as measured with unemployment insurance wage records. The results vary across the PHAs, however, with two of the four (Lexington and San Antonio) producing positive effects on some labor market outcomes during some years, one (Louisville) generating negative effects, and one (Washington, D.C.) showing no noteworthy effects. By the end of the 42-month followup period, the differences across the PHAs had lessened. On the other hand, a survey of household heads administered at about 4 years into the followup period points to a small positive effect on self-reported employment. Larger and more consistent effects were observed on outcomes related to housing subsidies. Across the agencies, the new policy, on average, reduced families' housing costs, delayed their exits from the voucher program, increased the total amount of housing subsidy they received, and reduced certain types of time-consuming PHA transactions with families. The policy had limited effects on outcomes related to family financial security, material hardship, moves, evictions, or other measures of family well-being.

The final evaluation report, slated for 2024, will examine the new policy's effects covering 6 years of followup, on the same outcome measures included in the current report that are based on

[32] The survey was conducted by Decision Information Resources, Inc. (DIR).

administrative records data. (No additional surveys of families are planned, although a new round of qualitative interviews will be conducted with staff and families.)

HUD's Traditional Rent Policy

Nationally, HUD funds over 2,200 PHAs to provide approximately 2.2 million low-income households across the country with HCVs. Under traditional HUD rules,[33] a family receiving an HCV is expected to contribute 30 percent of its "adjusted income" toward its rent and utilities, or 10 percent of its gross income, or the minimum rent, whichever is greater. This contribution is known as the "total tenant payment." The rules for calculating a family's total tenant payment (TTP) under the 30 percent rule exclude certain types of income and allow several deductions from pre-tax income,[34] including a deduction for some childcare costs for working parents. The resulting figure is an estimate of adjusted income. The calculation also looks forward in time, basing the adjusted income estimate on the amount of income a family *currently receives* and *anticipates receiving* in a typical month during the coming year (which this report refers to as "current/anticipated" income). The PHA provides a subsidy for the difference between the rent charged by the landlord (referred to as the "contract rent") and basic utilities (if not included in the rent) and the maximum allowable subsidy, called a "payment standard," which takes account of local fair-market rents. All PHAs are permitted to establish a minimum TTP, commonly referred to as a "minimum rent," of up to $50 per month, although not all have done so.[35] (MTW agencies have more flexibility to establish higher minimum TTPs and make other adjustments in rent policy.)

This existing "percentage-of-adjusted-income" approach builds a strong safety-net feature into the rent subsidy system: If a family's income falls, the family pays less toward its housing costs. This approach also implicitly "taxes" tenants for increasing their earnings (which some experts contend discourages work) and requires PHAs to make continuous and administratively burdensome readjustments in TTPs and housing subsidies as a family's income changes. Critics of the existing policy consider the complex rules governing the calculation of "adjusted income," rent, and utility allowances to be administratively burdensome and prone to errors that can lead to improper payments. The new rent policy attempts to address these problems.

[33] Throughout this report, HUD's "current" or "traditional" rent policy for voucher holders refers to the national rent policy in effect for non-MTW PHAs *before* the passage of the Housing Opportunity Through Modernization Act of 2016. "Existing" rules refer to those in place at each of the Rent Reform Demonstration's PHAs, which, in some cases, vary somewhat from HUD's traditional policies.

[34] Gross income refers to a family's total pre-tax income minus certain types of excluded income.

[35] For a full explanation of HUD's existing rent rules, see HUD (2001).

Overview of the New Rent Policy

The new rent policy applies only to working-age, nondisabled voucher recipients whose vouchers were administered under the MTW demonstration.[36] The policy includes the core features, which are summarized in exhibit 1.1 and in the detailed description following the exhibit.[37]

Changes in rules for recertifying families' continued eligibility for the voucher program and recomputing their TTPs

- Replacing the annual recertification schedule with a triennial schedule, a family is only required to review its income with the PHA every 3 years. Thus, if a family increases its earnings during that period, it need not report the increase to the PHA, and its TTP will not be raised until the end of the 3-year period.

Changes in the formula for calculating a family's TTP and subsidy

- Eliminating all deductions from income, making gross income, rather than adjusted income, the basis for calculating a family's TTP (as a step toward simplifying that calculation).[38]
- Calculating TTP at 28 percent of gross income, rather than the normal 30 percent of adjusted income (to help offset the elimination of income deductions).
- Using a family's gross income over the previous 12 months ("retrospective income") in setting its TTP and housing subsidy, rather than the traditional practice of using the family's adjusted current income and its expected income in the coming year.
- Ignoring a family's income from assets when the total value of its assets is less than $25,000 (and not requiring documentation of those assets).
- Simplifying the policy for determining utility allowances to a streamlined standard schedule based primarily on unit size (number of bedrooms), with some adjustments, rather than on various unit characteristics that can affect utility costs.

[36] All Section 8 Project-Based Vouchers, Enhanced Vouchers, and Special Purpose Vouchers, such as Veterans Affairs Supportive Housing, Moderate Rehabilitation, and Shelter Plus Care, were excluded from the study. Additionally, the study did not include households defined as seniors or disabled (according to HUD's definitions), and households headed by people older than 56 (who would become seniors during the long-term study). If a family becomes designated as a disabled household (based on HUD's definition), the PHA will recalculate its TTP based on its current or anticipated gross income immediately, without waiting for its next triennial recertification. Households participating in Family Self-Sufficiency and homeownership programs before sample enrollment began were also excluded from the study, as were families who held vouchers but were receiving no housing subsidy.

[37] See Riccio, Deitch, and Verma (2017) for further details.

[38] The new policy uses the same types of income in TTP calculations that apply under HUD's traditional rent policy.

- Establishing a minimum TTP of at least $50 per month and requiring families to pay at least the specified minimum TTP directly to their landlords. Thus, all tenants have rent-paying relationships with their landlords (as they would in the unsubsidized rental market).[39]

Safeguards for families (in addition to interim recertifications)

- At the start of the 3-year period, providing a 6-month "grace-period" TTP based on current/anticipated gross income if that income is more than 10 percent less than that family's average monthly retrospective income.
- Allowing one interim recertification per year (a "restricted interim recertification") if a family's retrospective income falls by more than 10 percent before the next required triennial review. This change is intended to limit the volume of TTP adjustments the PHA makes while still protecting families when their incomes drop substantially. (The new policy does not restrict interim recertifications required for other reasons, such as a change in household composition or a move to a new unit.)
- A hardship policy that covers a standard set of conditions (particularly when a family's TTP exceeds 40 percent of its current income) and includes a standard set of remedies that permit TTP reductions at any time during the 3-year period to protect households from excessive rent burdens.

[39] Although most voucher holders pay some rent directly to their landlords, in some cases the housing authority pays the entire amount to the landlord. Requiring all families in the new rent rules group to pay at least some amount to their landlords was perceived by some HUD officials as a way of helping to prepare those families for the arrangement they would face if they increased their incomes and received lower housing subsidies or moved and were no longer receiving housing subsidies.

Exhibit 1.1. Comparison of Traditional and New Rent Policies for the Housing Choice Voucher Program

Component	Traditional HUD Policy	New Rent Policy
Total Tenant Payment (TTP)	30 percent of adjusted monthly income (that is, total countable anticipated income, minus deductions) or 10 percent of gross income, whichever is higher.	28 percent of gross monthly retrospective income (that is, gross monthly income over the previous 12 months), with no deductions or allowances. Countable income estimate for setting a family's TTP and housing subsidy is based on 12-month retrospective income.
Minimum TTP	Up to $50 per month, at public housing agency (PHA) discretion.	$50 to $150 per month, depending on the PHA. All families pay a minimum amount of rent directly to their landlords, to mirror the landlord-tenant relationship in the unsubsidized rental market.
Assets	Family income from assets is counted in determining a family's TTP.	Family income from assets is ignored when total asset value is less than $25,000, and families do not need to document those assets.
Recertification period	Annual recertifications.	Triennial recertifications.
Interim recertifications when income changes	At an agency's discretion, families report any income increases when they occur before the next scheduled recertification. Families may request interim recertifications whenever their incomes fall by any amount.	Earnings gains do not increase TTP for three years (that is, until the next triennial recertification). Interim recertifications to account for income reductions are limited to a maximum of one per year (referred to as "restricted interim recertification"), and only when a family's average gross income over the most recent 12 months drops by more than 10 percent from the retrospective estimate that was used to establish the TTP currently in effect.
Utilities	Where the contract rent does not include utilities, a utility allowance is provided based on a detailed schedule that takes into consideration voucher size (the number of bedrooms covered by a family's voucher) and various other aspects of the type of housing unit.	A simplified utilities policy that is tailored to a standard base rate for utility costs that varies according to the voucher amount, with additional payments available to families paying higher costs related to the type of heating (for example, electric or oil heat) and water and sewer charges.

Component	Traditional HUD Policy	New Rent Policy
Hardship policy	If the PHA has a minimum TTP, it must suspend that minimum TTP for families who are unable to pay it because of specified financial hardships. Short-term hardships (lasting 90 days or less) require the suspended minimum to be reinstated after the hardship period ends and to be repaid according to a reasonable payment plan.	Families qualify for consideration of a hardship-based remedy if any of the following conditions are met: • The family's monthly TTP exceeds 40 percent of its current or anticipated monthly gross income. • The hardship cannot be remedied by the one interim recertification permitted each year. • The family faces eviction for not paying rent or utilities. • The family meets other criteria determined by the PHA. Hardship remedy options include the following standardized list: • Allowing an additional restricted interim recertification beyond the normal one per year. • Setting the family's TTP at the minimum level for up to 180 days. (This remedy can be renewed at the end of that period if the hardship persists.) • Setting the family's TTP at 28 percent of its current gross income (which may be less than the minimum TTP) for up to 180 days (except in Lexington). (This remedy can be renewed at the end of that period if the hardship persists.) • Offering a "transfer voucher" to support a move to a more affordable unit.
Grace period	Not applicable. TTP is always based on current income.	At the triennial recertification, if a family's current gross income is more than 10 percent lower than its average gross retrospective income over the last 12 months, the family will have its TTP calculated at that time based on current income rather than retrospective income, and this TTP will remain in effect for 6 months. During this grace period, families can still qualify for a hardship-based remedy.

PHA = public housing agency. TTP = total tenant payment.
Notes: The Traditional HUD Policy column shows the national policy in existence for the non-Moving to Work tenant-based Housing Choice Voucher program population before the enactment of the Housing Opportunity Through Modernization Act of 2016. With a few exceptions, the PHAs participating in the Rent Reform Demonstration have continued to implement that policy. Details on the existing policy at each of the four demonstration PHAs and how it caries from the traditional HUD policy are available in appendix exhibit A.1.
Sources: Housing agency Moving to Work annual plans and other agency documents

The PHAs participating in the demonstration helped to develop and support this common framework. However, they also saw a need to adapt the model in some ways in response to local considerations. At the same time, the demonstration had to accommodate some earlier policy changes the PHAs had already implemented. (See appendix exhibit A.1 for a summary of the existing rent policies across the four PHAs; these policies apply to the control groups in the demonstration.) For example, reflecting local considerations, minimum TTP levels vary among the PHAs from $50 to $150 per month. Two of the four PHAs—Louisville and Washington, D.C.—introduced a minimum TTP for the first time ($50 and $75, respectively), while San Antonio increased its existing $50 minimum TTP to $100. Lexington had already introduced a $150 minimum TTP before the demonstration began, and it continued that policy for both the new rules group and the existing rules group.[40] The process for determining hardship remedies also varies across the PHAs, although the general conditions defining a hardship and the remedies themselves do not. Washington, D.C., had already instituted a simplified approach for calculating families' utilities' costs, a version of which each of the other PHAs in the demonstration adopted for the new rules group.

Of all the new rent policy features, the 3-year recertification is the main one intended to improve labor market outcomes because it eliminates the implicit "tax" on earnings during the 3-year period. The introduction of a minimum TTP, or an increase in an existing one, might also increase work effort because some tenants may need to increase their earnings to have enough income to meet the new minimum.

Administering the New Rent Policy

Some of the changes introduced by the new rent rules simplify the process of determining a family's TTP (for example, eliminating childcare and other deductions and streamlining the utility allowance policy). Other changes, however, can be burdensome to implement with some families, such as computing and verifying retrospective income, especially when a family's income is volatile and not captured by the administrative records that the PHA can access from other government sources.[41] Although adopting a 3-year recertification period is intended to reduce the overall burden on PHAs and families by reducing the volume of TTP recalculations and the number of contacts families have with the PHA over several years, achieving such outcomes depends on the frequency of requests for hardship remedies and interim recertifications and their approval. MDRC's prior report takes an in-depth look at the experiences of PHAs in

[40] Lexington generally does not permit any reductions in TTPs below the minimum in its application of the demonstration's hardship policy. The other three PHAs generally require families with zero income to report their family expenditures regularly to the PHA.

[41] Administrative records are data collected in the course of administering a program. These data are available to PHAs through the HUD Enterprise Income Verification system, which provides information such as earnings reflected in unemployment insurance wage records, unemployment insurance compensation, and Social Security and Supplemental Security Income benefits. One known issue with the Enterprise Income Verification system: it is not considered complete—or current—because of reporting lags in some of its data sources. Unemployment insurance wage records, for example, usually have a 6-month lag.

administering the new policy, using qualitative interviews with staff as well as PHA data on the formal actions they take with families. At the same time, they remain on the voucher program (for example, for recertifications and TTP recalculations with families' incomes and circumstances change). It illustrates ways in which staff burden is reduced or increased (Riccio, Verma, and Deitch, 2019). The current report extends the quantitative analysis and shows an overall reduction in formal staff actions over the 42-month followup period.

The new rent rules also impose extra communication responsibilities on the PHAs in at least two ways. First, if families are to respond to the work incentive built into the new rules, they must be aware of the incentive and understand how it works. Second, if the safeguards built into the new policy are to have their intended protective effects, families must be aware of those safeguards, understand how they work, and take advantage of them when needed. (PHAs must also implement them properly.) Therefore, to implement the new rent policy, PHAs must communicate regularly—beyond the initial explanations offered to families at the time of recertification. To that end, with MDRC's guidance and HUD's support, the PHAs sent mailings approximately twice each year to remind families of the new policy's work incentive and safeguards and to invite them to contact a housing specialist if they believe they may qualify for a TTP reduction.

As the overall managers and evaluators of the demonstration, MDRC and its partners worked closely with the four PHAs to specify the processes required to implement the new rent policy. The MDRC team helped the agencies think through their staffing needs and software modifications, how they would integrate research procedures into recertification meetings, and how staff members would be trained in the procedures for calculating rent and utilities using a new set of rules. The team prepared a manual for each PHA describing these procedures and helped train housing specialists and their supervisors to apply them. In addition, the team observed recertification meetings, monitored implementation practices, and provided refresher training sessions on the use of interim recertifications and hardship remedies. Since that initial launch phase, the team has continued to conduct regularly scheduled check-in meetings with managers at each PHA to discuss any challenges that the PHA is facing in implementing the new rent policy and to update communication flyers, emails, and text messages sent to the new rules group to remind them of the benefits of the triennial recertifications and the opportunity to lower their rent contributions if their incomes fall. MDRC also conducted refresher training sessions for staff at each location, first in 2018 as they began to conduct triennial recertifications under the new policy, and again in early 2020 for incumbent and newly hired housing specialists in Lexington and San Antonio. MDRC and its partners have had no direct operational role in administering the new rent rules, however.

The Scope of This Report

This report provides longer-term findings from the evaluation's impact analysis, updating analyses presented in MDRC's two prior impact reports and adding new outcome measures

based on a survey of household heads in the research sample. At this time, a final report, slated for publication in 2024, will provide a more definitive assessment of the new policy by examining its impacts on families' longer-term labor market outcomes, housing subsidy outcomes, and receipt of other government benefits over 6 years of followup.

Chapter 2 of this report briefly summarizes how the evaluation sample was enrolled in the study and some characteristics of those families. It also discusses the data collection and analysis methods that were used to estimate the impacts presented in subsequent chapters. Chapter 3 presents the findings on employment and earnings outcomes, while chapter 4 discusses families' receipt of TANF, SNAP, and other public benefits. Chapter 5 presents the findings on tenants' housing costs, subsidies, and other outcomes related to their subsidy receipt, including staff actions to administer their subsidies and families' reasons for exiting the voucher program. Chapter 6 explores the new rent policy's effects on families' moves, evictions, material hardships, and well-being. Chapter 7 examines families' experiences with and views of the policy, primarily using data from the 4-year survey of families in the new rules group. Chapter 8 concludes the report by highlighting key findings and the next steps in the evaluation.

Chapter 2
The Study Sample, Data, and Analysis Methods

The Rent Reform Demonstration uses a randomized controlled trial, one of the most rigorous methods for determining an intervention's effectiveness. This chapter discusses the study sample, data sources, and analysis methods being used in the experiment. A fuller account of the overall evaluation design and study sample's characteristics can be found in the demonstration's baseline and previous impact reports (Riccio, Deitch, and Verma, 2017; Riccio and Deitch, 2019).[42]

Building the Research Sample

The Eligible Sample

Because an important goal of the evaluation is to test whether the new rent policy improves tenants' employment and earnings, families had to be existing Housing Choice Voucher (HCV) holders and meet the following core criteria to be eligible for the Rent Reform Demonstration:[43]

- A family could not be classified as an *elderly household* and could not become elderly according to HUD's definition throughout the study. More specifically, the head of household, spouse, and co-head had to be 56 years of age or younger at the time of study enrollment so that a followup period of several years would not extend into the time when many adults begin to retire.
- A family could not be defined, according to HUD guidelines, as a *disabled household* (one in which the head, co-head, or spouse is disabled).

The study also excluded several other types of voucher holders. For example, some families were not eligible because they held special vouchers governed by regulations that did not apply to the vast majority of regular voucher holders. Families who were already participating in HUD's Family Self-Sufficiency and Homeownership programs were also excluded because the new rent rules would change some of the terms that those families had agreed to when they enrolled in those programs. Also, the demonstration excluded families who were currently receiving childcare deductions so that those families would not be forced to give up deductions they had come to rely on. (The new policy does not offer these deductions.) With a few additional exceptions, the

[42] This chapter draws heavily from Riccio, Verma, and Deitch (2019).
[43] The study did not include new voucher holders because it was expected that a substantial number would not successfully "lease up"—that is, find appropriate housing for which they could use the voucher within the time the public housing agencies gave them to do so. Because such families would forfeit their vouchers, they could not be subject to either the new or existing rent rules and, consequently, would not contribute to the goals of the evaluation.

remaining families scheduled for recertification during the study's enrollment period were selected for the study.[44]

The procedures for enrolling families into the study and conducting random assignment for the Rent Reform Demonstration are summarized below and discussed in detail in prior MDRC reports (Riccio, Deitch, and Verma, 2017; Riccio and Deitch, 2019).

Enrolling the Sample

The procedures for enrolling families into the study were incorporated into the regular income recertification process—the process that each of the four public housing agencies (PHAs) uses to review whether families are continuing to meet the voucher program's income and other requirements and calculate their total tenant payments (TTPs) and housing subsidies. Once the study's eligibility criteria were set, the PHAs and MDRC identified qualifying families who were being scheduled for upcoming recertifications. Random assignment procedures were then used to enroll those families either in the new rent rules group that would be subject to the new policy for the duration of the demonstration or to the existing rent rules group that would continue to be subject to the traditional rent rules for voucher holders. The latter group would be the study's control group.[45] With the exception of Louisville, enrollment in the demonstration was mandatory. Families had their TTPs for rent and utilities and their housing subsidy amounts calculated according to the rules of their assigned rent policy group and remained subject to all the rent rules applicable to their group for the demonstration duration. Although families could not opt out of their assigned rent policy group (except in Louisville), they could refuse to allow their individually identified data to be shared with the researchers. Only 14 families (0.2 percent of those randomly assigned) across the four PHAs chose to do so. Further details on the random assignment and enrollment process can be found in the demonstration's baseline report (Riccio, Deitch, and Verma, 2017).

A total of 7,255 families were randomly assigned to the Rent Reform Demonstration. About 8 percent of families across the two research groups were subsequently found to be ineligible (for example, because they were disabled, moving to another PHA, or in the process of exiting the voucher program) for the study before the initial recertifications were completed. They were

[44] See exhibit 4.1 in Riccio, Deitch, and Verma (2017) for a complete list of reasons for exclusion.

[45] Recertifying voucher holders were not asked to choose which rent policy would apply to them because the study wanted to mimic the ways that the new policy would be likely to operate in practice were it to be adopted as a new government policy. The new rent policy includes safeguards to minimize the risk of harm while also creating opportunities for substantial benefits for those subject to it; this was among the reasons why MDRC's Institutional Review Board deemed this random assignment design meets recognized ethical guidelines for human-subject research. These safeguards were also why HUD deemed the rent policy to be compliant with Moving to Work (MTW) regulations, which give MTW agencies statutory flexibility to implement new initiatives with the proper public notice and PHA board approval. In Louisville, however, community concerns led to an agreement with the PHA that families assigned to the new rent rules group would be allowed to opt out and have their rent calculated using existing rules. For more on this issue, see Riccio, Deitch, and Verma (2017).

excluded from the analysis sample (before any findings were produced), yielding a final sample size of 6,665 families for the four PHAs combined.[46]

Characteristics of Enrolled Families at Baseline

The Rent Reform Demonstration is structured around a two-group randomized controlled trial. This research design is powerful because, in general, random assignment with an adequate sample size ensures that the intervention and control groups will be similar in their distributions of observed and unobserved characteristics when a study begins. Thus, differences between the two groups that emerge later can, with a greater degree of confidence, be attributed to the intervention than to preexisting differences in families' characteristics. Therefore, the effects of the new rent policy are determined by comparing, over time, the labor market outcomes and other outcomes of the new rent rules group with the outcomes of the existing rent rules group.

Approximately one-half of the 6,665 families who enrolled in the study were randomly assigned to the group that was subject to the new rent policy. The other one-half were assigned to a control group that remained subject to the existing policy. Data on the families' background characteristics come from PHA administrative records (based on HUD's 50058 form) and a special background information survey administered to families by PHA housing specialists at the time of the initial recertification. (See the baseline report for a full discussion of these characteristics; Riccio, Deitch, and Verma, 2017.) As exhibit 2.1 shows, with the samples of all PHAs combined, the average household size was just over three family members. In addition, just over one-third of families (36.9 percent) had more than one adult living in the household, and nearly one-fourth (22.8 percent) had no children under the age of 18. Household composition varied considerably across PHAs. In Washington, D.C., nearly 50 percent of families had more than one adult in the household, compared with 27 to 34 percent in the other PHAs. In addition, 35 percent of families in Washington, D.C., had no children under the age of 18, compared with 14 to 22 percent of the other PHAs' families. This variation may partly reflect that, as exhibit 2.2 shows, the heads of households in Washington, D.C., were older: more than 40 percent were age 45 or older, compared with 18 to 22 percent of the heads of other PHAs' households.

Nearly all (94 percent) of household heads in the study sample are female, and, on average, household heads were about 39 years old when they entered the study (shown in exhibit 2.2). The majority (69 percent) are Black. Almost one-fourth (23 percent) of household heads are Hispanic/Latino (of any race). In Lexington, Louisville, and Washington, D.C., most heads of households are Black, while most (75 percent) in San Antonio are Hispanic/Latino.

Exhibit 2.3 shows that most of the other adults in the study households were apparently the young adult children of household heads. About 80 percent of the adult nonheads of households were 18 to 24 years of age, and 14 percent were 25 to 34 years of age. A very small proportion

[46] This number is slightly greater than the sample size of 6,660 reported in Riccio, Deitch, and Verma (2017) because of new information that became available after the baseline report was completed.

(about 7 percent) were spouses or co-heads of households—a consistent pattern across all four PHAs. About 47 percent of the adult nonheads of households are female, with their race and ethnicity closely paralleling household heads (not shown in exhibit 2.2).

Exhibit 2.1. Characteristics of Families in the Impact Sample, by Public Housing Agency

Characteristic	Lexington	Louisville	San Antonio	Washington, D.C.	All PHAs
Average number of family members	3.2	3.3	3.6	3.2	3.4
Families with more than one adult (%)	26.7	33.9	32.7	49.4	36.9
Number of children in the family (%)					
None	17.3	21.6	14.0	35.3	22.8
1	24.4	22.4	20.3	25.6	23.0
2	28.4	24.0	27.7	18.0	23.9
3 or more	29.9	32.0	38.1	21.1	30.3
Among families with children, age of the youngest child (%)					
0-2 years	16.9	16.7	17.8	16.0	16.9
3-5 years	17.9	17.5	21.7	19.4	19.3
6-12 years	47.3	43.0	42.7	35.7	41.8
13-17 years	17.9	22.7	17.8	28.9	21.9
No earned income[a] (%)	53.6	61.8	53.1	60.1	57.7
Income sources[a] (%)					
Wages	46.4	38.2	46.9	39.9	42.3
Welfare	5.1	5.8	3.2	37.7	14.1
Social Security/SSI/pensions	19.4	25.8	23.0	23.9	23.5
Other income sources	49.8	44.3	53.1	17.9	40.0
Child support	35.2	28.6	38.0	13.7	28.0
Unemployment benefits	1.0	1.3	2.1	3.4	2.1
Other	17.6	17.0	15.8	1.3	12.2
Average annual income from wages, among families with any wage income[a] ($)	16,625	16,741	12,925	26,853	18,267
Sample size	979	1,908	1,869	1,909	6,665

PHA = public housing agency. SSI = Supplemental Security Income.
[a]Income-source categories are as defined on the HUD-50058 form. Wages include one's own business, federal wages, PHA wages, military pay, and other wages. Welfare includes general assistance, annualed imputed welfare income, and Temporary Assistance for Needy Families. Other income sources include child support, medical reimbursement, Indian trust/per capita, unemployment benefits, and other nonwage sources.
Notes: Rounding may cause slight discrepancies in calculating sums and differences. Sample sizes for specific outcomes may vary because of missing values. Data were collected at the most recent recertification before random assignment.
Source: MDRC calculations using PHA data

Exhibit 2.2. Characteristics of Heads of Households in the Impact Sample, by Public Housing Agency

Characteristic	Lexington	Louisville	San Antonio	Washington, D.C.	All PHAs
Female (%)	96.8	95.6	93.8	90.9	94.0
Age in years (%)					
18-24	3.5	0.9	5.7	1.4	2.8
25-34	39.0	32.3	38.9	18.6	31.2
35-44	39.8	44.7	35.6	39.4	39.9
45 or older	17.7	22.1	19.8	40.5	26.1
Average age (years)	36.9	38.7	36.7	42.2	38.9
Race (%)					
White	18.6	18.2	77.0	2.0	30.2
Black/African-American	81.1	80.3	22.2	97.2	68.9
Other	0.3	1.5	0.8	0.8	0.9
Ethnicity (%)					
Hispanic or Latino	1.9	1.2	74.9	3.1	22.5
Not Hispanic or Latino	98.1	98.8	25.1	96.9	77.5
Sample size	979	1,908	1,869	1,909	6,665

PHA = public housing agency.
Notes: Rounding may cause slight discrepancies in calculating sums and differences. Sample sizes for specific outcomes may vary because of missing values. Data were collected at the most recent recertification before random assignment.
Source: MDRC calculations using PHA data

Exhibit 2.3. Characteristics of Adults Who Are Not Heads of Households, by Public Housing Agency

Characteristic	Lexington	Louisville	San Antonio	Washington, D.C.	All PHAs
Age in years (%)					
18–24	74.3	80.4	78.8	80.4	79.5
25–34	13.9	10.8	12.1	16.7	14.0
35–44	8.4	5.8	5.4	1.4	4.0
45 or Older	3.4	3.1	3.7	1.5	2.5
Relationship status (%)					
Spouse or co-head of household	9.8	7.2	13.5	2.1	6.6
Sample size	296	815	784	1,502	3,397

PHA = public housing agency.
Notes: Rounding may cause slight discrepancies in calculating sums and differences. Sample sizes for specific outcomes may vary because of missing values. Sample sizes represent individuals who were at least 18 years of age at the time of random assignment. Foster children and live-in aides have been excluded. Data were collected at the most recent recertification before random assignment.
Source: MDRC calculations using PHA data

Economically, the study sample was substantially disadvantaged at the time of random assignment (as shown in exhibit 2.1). According to PHA data, more than one-half of the study families (58 percent) had no earned income at that time (from any household members, not just

household heads), ranging from 53 percent of families in San Antonio to 62 percent in Louisville. Even among families who had earned income, earnings were generally low: Average annual earnings (among families with earnings) ranged from about $13,000 in San Antonio to roughly $27,000 in Washington, D.C. According to PHA data, almost 24 percent of families had income from Social Security, the Supplemental Security Income (SSI) program, or pensions. In most cases, SSI income was received on behalf of children or other adults living in the household, not the household head. (In households receiving SSI, that income was evident for only 3 percent of household heads.) The Washington, D.C., families (38 percent) were the most likely by far to have received cash welfare payments compared with fewer than 6 percent of the families from the other PHAs.[47]

According to a brief survey of study families at the time of study enrollment, many contended with significant barriers to employment and material hardships (Riccio, Deitch, and Verma, 2017). For example, 26 percent of household heads reported having no high school diploma or its equivalent, while only 12 percent had 2-year or 4-year college degrees. In addition, 54 percent of respondents to this baseline survey reported facing potential impediments to employment such as physical, emotional, or mental health problems they believed limited their ability to work or the kind of work they could do (31 percent of all respondents) or difficulty affording childcare (21 percent of all respondents).

Almost 70 percent of baseline survey respondents said that they had experienced financial hardship at some time in the last year, for example, an inability to pay utility bills (46 percent), telephone bills (34 percent), or rent (20 percent). About 28 percent indicated that they sometimes did not have enough money to buy food.

For the results of the impact analysis to be unbiased, the new rent rules group and the control group must have a similar distribution of measured and unmeasured pre-random assignment characteristics. If outcomes between those groups are then found to differ to a statistically significant extent, then the differences can be attributed with confidence to the intervention.[48] Random assignment is the most effective mechanism for ensuring comparability between the intervention and control groups. Sometimes, however, differences between the groups can emerge by chance in the process of randomization, a risk that is greater the smaller the sample size. Thus, assessing the extent to which the two groups at least have similar distributions of measurable characteristics (are in "balance") is important before the followup period begins.

MDRC completed such an assessment for the Rent Reform Demonstration and presented results in the baseline report (Riccio, Deitch, and Verma, 2017). As that report shows, when the samples of all four PHAs are combined, only minor and inconsequential differences are evident between

[47] Cash welfare includes income from TANF and state general assistance programs.

[48] A statistically significant impact is one that can be attributed with a high degree of confidence to the intervention being studied rather than to chance. Higher levels of statistical significance provide greater confidence that the "true" effect of the intervention does not equal zero.

the characteristics of families randomly assigned to the new rent rules group and those of families assigned to the existing rent rules group. Further analyses using administrative data on employment and earnings trends leading up to the time of random assignment provide further reassurance that, overall, the two research groups are well balanced and that the estimated impacts of the new rent policy will be unbiased (Riccio and Deitch, 2019).

Data Sources and Followup Period

The current report uses unemployment insurance wage records obtained through the National Directory of New Hires (NDNH), which captures employer-reported employment and earnings on adults in the sample; PHA administrative records (data collected in the normal course of administering PHA programs), which capture families' receipt of housing benefits and other information while families are receiving vouchers; administrative records data on families' receipt of Temporary Assistance for Needy Families (TANF) and Supplemental Nutrition Assistance Program (SNAP) benefits obtained from state agencies; and families' use of housing and services for homeless families entered into the Homeless Management Information System (HMIS) obtained from the local Continuum of Care. This report also includes data from survey interviews conducted with heads of households in the sample at approximately 4 years after their initial recertifications at the beginning of the study.

Box 2.1 describes these data sources in greater detail. While the PHA data are available for all households, the NDNH data are available for individual household members, but not for the household as a whole. TANF and SNAP benefits are available at the case level for the household as defined by the TANF and SNAP programs: these household benefits were analyzed separately for heads of household and other adults. HMIS data are available at the individual level.

Box 2.1. Data Sources for This Report

- **Public housing agency (PHA) records.** All families receiving a housing voucher complete or update a 50058 form as part of their initial or recertification interview; the information collected by the PHA includes their incomes and income sources, total tenant payment (TTP) amounts, family share, and total housing subsidy payment. The study team is collecting this information for all study participants for 1 to 3 years before study enrollment (depending on the PHA) and during the study followup period. For families who are subject to the new rent policy, the study team is collecting information on grace-period TTPs, interim recertifications, hardship remedies, and retrospective income.

- **Wage records.** Employment and earnings data were obtained from the National Directory of New Hires (NDNH), a national database of wages and employment maintained by the Office of Child Support Enforcement. The NDNH includes data on employment and earnings in all work covered by unemployment insurance (UI), including employment across state lines and on federal employment that is not captured in state UI records. NDNH records do not cover earnings from self-employment, some agricultural work, and informal jobs. Other research suggests that administrative data may miss relatively more employment for low-income populations than for higher-income groups, given the former group's greater prevalence of work in informal jobs.* NDNH records also do not provide information about hours worked or about the characteristics of jobs held. For this reason, the study team will supplement NDNH records data with data from the long-term followup survey.

- **Homeless Management Information System (HMIS).** The HMIS tracks information on homelessness services accessed. The HMIS is maintained by a local Continuum of Care for each local area, and other service providers in the area may submit information to the HMIS. Not all service providers participate in the HMIS; however, information is available on the expected coverage of the HMIS for certain categories of services. Individuals are not required to give personally identifiable information to receive services, so some services for specific individuals may be undercounted. The study team is collecting information on overnight stays and other homelessness services.

- **Temporary Assistance for Needy Families (TANF) records.** TANF primarily provides cash assistance to families with children. States are able to provide other services through TANF, but the type of services provided varies by state. The study team is collecting TANF benefit amount for each month from each state's agency that administers TANF.

- **Supplemental Nutrition Assistance Program (SNAP) records.** SNAP provides money to families that can only be used to purchase food. The study team is collecting SNAP benefit amounts for each month from each state's agency that administers SNAP.

- **Implementation and process data.** Two rounds of in-person interviews were conducted with PHA staff and with a small number of participants subject to the new rent rules. The staff interviews focus on documenting the PHAs' experiences implementing the new rent policy. The interviews with participants focus on documenting their experiences with and perspectives on the new rent policy, including any hardships that appear to be created by the new policy.

- **Rent Reform Long-Term Followup Survey.** The survey firm Decision Information Resources, Inc. administered the long-term followup survey of the full study sample of household heads in mid-2019, which covered the period 4 to 17 months after the second triennial, or 40 to 53 months after the initial expected effective date of families' initial recertification under the study. These survey data have enabled the evaluation to assess the effects of the new rent policy on a more comprehensive array of outcome measures, including additional indicators of families' material hardship, overall economic security, personal and family well-being, and views of the new policy.

NOTE: *Abraham, Haltiwanger, Sandusky, and Spletzer (2009).

The administrative records data are available for all families starting from the time of random assignment in the case of PHA records, from three quarters before the quarter of random assignment in the case of NDNH data, and from the year before random assignment for TANF, SNAP, and HMIS data. For this report's purposes, the "first year of followup" is *not* defined as beginning at the time of random assignment as would normally be expected. (See exhibit 2.4, which is a simplified depiction of the sample random assignment, enrollment, and followup period.) For the TTP to be recalculated (under the new or existing rent rules) and to take effect, 4 to 5 months were usually needed after a family's random assignment date. Families did not know right away which rent policy would apply to them or what their new TTP would be, and they would not begin paying the new TTP until the designated "effective date." When examining effects on housing-related outcomes (for example, on TTPs, subsidies, and transactions with PHA staff), focusing only on the outcomes during the period that begins *after* the effective date makes sense because, before that date, both research groups are still subject to the regulations and guidelines of the existing rent policy. If, for example, families' subsidy receipt patterns and interactions with the PHAs change for the new rules group, those changes will occur only after the new rules take effect.

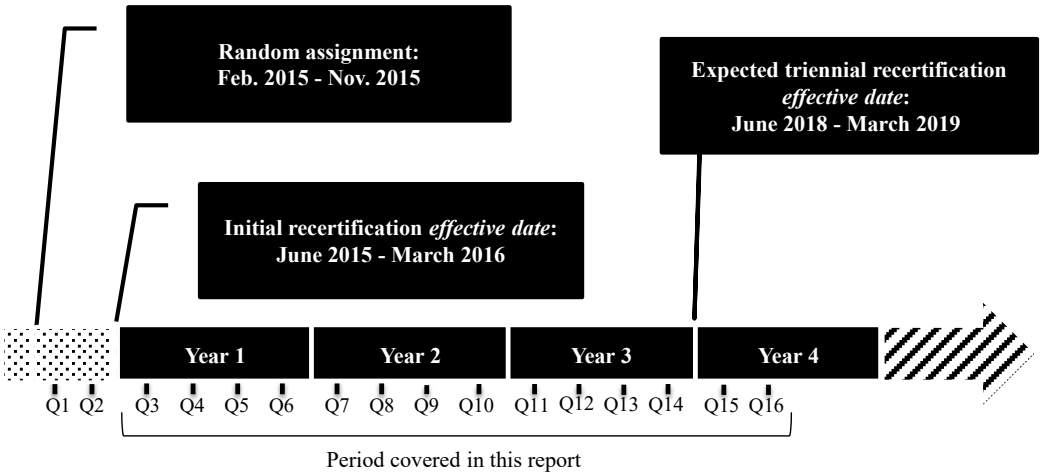
Thus, for outcomes related to families' housing subsidies and the actions of the PHAs, which are available from monthly PHA data, the first followup year for a family is defined as *the period that begins in the month after the month in which the family's new TTP was expected to take effect.* For example, if a family's recalculated TTP became effective on October 1, 2015, the first followup year for that family would begin in November 2015 and end in October 2016. The second followup year would begin in November 2016 and end in October 2017. The third followup year would begin in November 2017 and end in October 2018.[49] The followup period concludes in the 42nd month after each family's initial effective date. Generally, families' effective dates occurred within 4 to 6 months after random assignment.

The definition of Year 1 for PHA outcomes aligns closely but not exactly with the definition of Year 1 for the employment-related outcomes based on NDNH data. Overall, for about 82 percent of families, Year 1 as defined for NDNH outcomes and Year 1 as defined for PHA outcomes began in the same quarter relative to the quarter of random assignment. As will be seen in chapter 3, the quarter in which a family was randomly assigned is referred to as Quarter 1. For most families, the new TTP effective date occurred in Quarter 3. Thus, Quarter 3 is deemed the beginning of the first followup year for the analyses based on NDNH data because it is the "post-effective date" for most families; Quarters 6, 10, and 14 are deemed the end of the first, second,

[49] Beginning Year 1 in the first month after the month of the effective date avoids counting that initial recertification as a "followup" action during the first followup year, although a very small number of late initial recertifications fall into that followup period for both research groups.

and third years, respectively.[50] The NDNH data cover a total of 42 months (through Quarter 16) for all sample members.

Exhibit 2.4. Simplified Depiction of Random Assignment and Followup Period



Q = quarter.

Exhibit 2.5 shows the months when study families' revised TTPs took effect. Across the four PHAs, the initial effective dates spanned a 10-month period from June 2015 through March 2016. Accordingly, the impact study's first 42 months of followup (the focus for many of the outcome measures for this report) ended in December 2018 for the earliest enrolled families and in September 2019 for the last families enrolled. In Washington, D.C., the effective dates fell within a single calendar quarter; consequently, the end of the followup period also fell within a 1- to 3-month period 3.5 years later. For families in the other PHAs, the initial effective dates stretched over a longer period, as did the end dates for the followup period.

[50] For about 62 percent of families, Quarter 3 is the quarter in which the new TTP became effective. For about 38 percent of families, Quarter 3 is the quarter after the quarter in which the new TTP became effective. Thus, for some families in the new rules group, defining Quarter 3 as the beginning of the Year 1 followup period for the NDNH data analysis means that they will have had some exposure to the new rent rules before Year 1.

Exhibit 2.5. Random Assignment Period, New Rent Effective Dates, and Last Month of Followup Period, by Public Housing Agency

PHA	Random Assignment Period[a]	New Rent Effective Date[b]	Last Month of 42-Month Followup Period		
			Employment, TANF, SNAP, homelessness outcomes[c]	Housing outcomes[d]	Survey completion
Lexington	March 2015 – August 2015	July 2015 – December 2015	December 2018 – September 2019	January 2019 – June 2019	May 2019 – November 2019
Louisville	February 2015 – August 2015	July 2015 – January 2016	December 2018 – September 2019	January 2019 – July 2019	May 2019 – November 2019
San Antonio	February 2015 – November 2015	June 2015 – March 2016	December 2018 – September 2019	December 2018 – September 2019	May 2019 – November 2019
Washington, D.C.	April 2015 – June 2015	October 2015 – December 2015	March 2019	April 2019 – June 2019	May 2019 – November 2019
All PHAs	February 2015 – November 2015	June 2015 – March 2016	December 2018 – September 2019	December 2018 – September 2019	May 2019 – November 2019

PHA = public housing agency. SNAP = Supplemental Nutrition Assistance Program. TANF = Temporary Assistance for Needy Families.

[a]Random assignment is when households were randomly assigned to the new rent rules group. Households were notified that they were in the demonstration in their recertification packet from their public housing agency, and details about their research group assignment and the study were explained in their recertification meeting.

[b]The new rent effective date is the date that the new total tenant payment and housing assistance payment were expected to go into effect for the annual or triennial recertification.

[c]For employment, TANF, SNAP, and homelessness outcomes, followup is relative to random assignment, and to have better alignment with housing outcomes. When the new rents became effective, the quarter of random assignment and the quarter following random assignment are not considered followup. For example, if random assignment occurred in the first quarter of 2015, then the first and second quarters of 2015 would not be considered followup; followup would begin in Quarter 3 of 2015 and end 42 months later in Quarter 4 of 2018. There are 14 quarters of followup, or 42 months of followup for all families randomly assigned for the employment, TANF, SNAP, and homelessness outcomes.

[d]For housing outcomes, followup starts the month after the expected new rent effective date. For example, if the new rent effective date was June 2015, the last month of followup is 42 months after June 2015: December 2018.

Sources: PHA and MDRC records

A followup survey of household heads was fielded to collect information about sample members that was not available from administrative records. This includes information on educational attainment, job characteristics and work behavior, material hardship and wellbeing, moving, evictions, and experiences with the new rent rules. The 30-minute survey was administered from May 1 through November 27, 2019. The sample was divided into four cohorts, random assignment date and location, to minimize the potential variation of followup time frames. In each cohort, during the first two weeks of survey fielding, heads of households were given the option to complete a self-administered, web-based survey. After 2 weeks, survey interviewers began reaching out to sample members who had not yet completed a survey to administer a computer-assisted telephone interview (CATI).

Overall, completion occurred roughly 4 years after respondents' initial TTP effective dates, although the exact length of time varied widely across respondents. Some individuals responded very quickly to the request to participate in the survey, while others took much longer to respond or required a much longer time for the survey firm to track them down and schedule the interview. Consequently, the survey followup period varied across respondents. For example, for the Lexington, Louisville, and San Antonio samples combined, 19 percent of respondents completed the survey interview between 39 months to 43 months after their initial TTP effective dates, 63 percent completed it between 44 to 48 months, and 18 percent completed between 49 to 54 months. Because most respondents completed the survey within about 6 months before or after the 4-year mark, this report refers to the survey as a "4-year survey" for simplicity.

Some survey participants had not completed triennial recertification (if in the program group) or its third annual recertification (if in the control group) when they were interviewed. According to PHA data with Lexington, Louisville, and San Antonio combined, 76 percent of the survey respondents (82 percent of the new rent rules group and 70 percent of the control group) had done so.[51]

This is because some survey respondents (21 percent) had left the voucher program before they were scheduled to complete their triennial or third annual recertifications, while another 3 percent of respondents were still in the voucher program but had not completed their recertifications before the survey because of delays in scheduling those recertifications.

Appendix B presents more detailed information about the administration of the survey and response rates and includes a response bias analysis to determine the reliability and generalizability of the survey findings to the full Rent Reform sample. Decision Information Resources (DIR) administered the survey interview under a separate contract with HUD. To keep the survey's length manageable for each survey respondent, HUD and DIR decided to randomly group the sample so that one-half of the household heads received survey interview questions on

[51] The rates are comparable for the new rules group when Washington, D.C., is included. However, the control group in that site was on a biennial recertification schedule, and virtually all respondents would have completed a recertification by the time they were interviewed, unless they had already left the voucher program.

household composition and health, and the other one-half received questions on housing. These subsets of the full respondent sample are referred to as *respondent subsamples* in appendix B.

DIR achieved a high overall survey response rate of 76 percent, with a small but statistically significant differential in response rates between the new rent rules group and the control group (78 percent and 74 percent, respectively). Overall, however, tests of reliability and generalizability showed that estimated effects on outcomes related to employment, income, and material hardship were unbiased, reliable, and generalizable to the full sample. Note that the response rates were lower for sample members who exited the HCV program than those who were still enrolled in the program and leased up (55.4 percent versus 85 percent). Thus, the leavers' results in the survey sample may not be fully generalizable to the results for the full sample. The survey results may reflect more fully the experiences of those who are still enrolled in the program. Since most of the study households were still enrolled in the HCV program at the end of the followup period, this has minimal consequences for the pooled impact results.

There is also some evidence of small bias from nonresponse on the survey items administered to the respondent subsamples. Thus, estimated effects calculated from survey items on household composition, health, and housing should be interpreted cautiously. In particular, the analyses to assess survey quality described in appendix B show that the estimated impacts on outcome measures included in the housing module of the survey presented in chapter 6 may be somewhat larger than what might have been found had the survey modules been administered to the full survey sample, not just to the subsamples selected for that module.

Issues and Strategies for the Impact Analysis

Units of Analysis

In examining the effects of the new rent policy on labor market outcomes based on NDNH data, chapter 3 of this report focuses on the heads of households, who make up 66 percent of all adults in the study. The report also examines, secondarily, the effects on other adults (non-heads). The main reason for giving priority to household heads is that most other adults in the research sample (nearly 80 percent across all PHAs combined) were 18 to 24 years of age at the time of random assignment and are very likely the young adult children of the household heads. Very few (6.6 percent) are the spouse or co-head of household (see exhibit 2.3). This pattern generally prevails across the four PHAs. San Antonio had the largest number of nonheads who are spouses or co-heads (13.5 percent), and Washington, D.C., had the fewest (2.1 percent). Other PHA data (not shown) indicate that about 21 percent of the other adults who had been on the lease at baseline were no longer on the lease at the end of the first year of followup. It is unknown whether these individuals had moved out of the household (for example, to attend college or to begin their own households) or remained in the household but not on the lease. This rate has continued to rise over the course of the followup period, meaning that fewer other adults have

been exposed to the new rent policy (or the existing rules) over time, making it progressively less likely that the new policy would shape their behavior.[52]

For similar reasons, the analyses of other self-sufficiency measures, such as TANF and SNAP receipt rate and use of homelessness services (based on HMIS data), focus on household heads. However, TANF and SNAP benefit amounts pertain to all members of a household head's case. In addition, only household heads were interviewed for the followup survey. Of course, *any* exposure to the new rent policy may affect the employment outcomes of other adults in the household, and possibly even their likelihood of continuing to live with their initial households or remaining on the lease. For that reason, the labor market results for non-heads should not be ignored. These results are presented in appendix C.

In examining the effects of the new rent policy in chapter 5 on housing-related outcomes (such as housing subsidies, exits from the voucher program, and transactions with the PHA), which are based on PHA data, the household is the unit of analysis.

Pooled and PHA-Specific Impacts

The impact analysis examines the effects of the new rent rules for each PHA separately and with their samples combined. Pooling increases the precision of impact estimates; such precision becomes especially relevant when estimating effects for subgroups of the study sample because of the limited size of subgroups within each PHA's sample. Statistical power is also important to consider when interpreting the finding for each site separately, given the smaller samples. The smaller the sample size, the less power the study has to detect a program impact as statistically significant, or the greater the probability of a "false negative" finding.

PHA-specific estimates allow the analysis to test the "robustness" of the new rent model; that is, each site provides a type of independent replication test. However, important differences in control group policies and some local adaptations in the new rent policy across PHAs, as discussed further in a following section, mean that the PHA-specific tests are not all equivalent. Furthermore, it is important to keep these site differences in mind when comparing the results across sites and interpreting the pooled findings.

Regression Adjustment

The basic estimation strategy used to assess the new rent policy's impacts is analogous to the method that researchers use in many social experiments to generate credible results. The analysis

[52] This number grew to about 25 percent by the end of the second followup year, and to 34 percent by the end of the 42-month followup period. By Month 42, only 44 percent of the other adult sample members were still on the lease of families who were still leased up in the voucher program and, hence, continued to be "exposed" to the rent policies in effect for the new rules group or the control group. The remaining adults were from families who had exited the voucher program or ported out. In contrast, about 75 percent of heads of households were still receiving vouchers from one of the four PHAs and were leased up in Mouth 42.

compares the average outcomes of the new and existing rent rules groups of specified followup periods by using regression adjustments to increase the precision of the statistical estimates.[53] A linear regression framework is being used to adjust impacts, with the following basic impact model:

$$Y_{ij} = \alpha + \beta P_{ij} + \delta X_{ij} + s_j + \varepsilon_{ij}$$

where: Y_{ij} = the outcome measure for sample member i in site j; P_{ij} = one for program (or intervention) group members and zero for control group members in site j; X_{ij} = a set of background characteristics for sample member i in site j; ε_i = a random error term for sample member i in site j; S=refers to site, β = the estimate of the impact of the program on the average value of the outcome; α = the intercept of the regression; and δ = the set of regression coefficients for the background characteristics.[54]

Adjusting for Multiple Outcome Measures

The evaluation design includes several "confirmatory" outcome measures related to tenants' earnings, housing subsidies, and material hardships. These confirmatory outcomes reflect the most important variables for judging the intervention's effectiveness. Given their primacy, statistically significant impact findings on those outcomes are subjected to further statistical adjustments that hold them to a higher standard of evidence. These adjustments account for the likelihood that in a study using many outcome variables, some impact estimates may emerge as statistically significant simply by chance and do not reflect true intervention effects. For example, if 10 outcomes are examined in a study of ineffective treatment, one of them is likely to be statistically significant at the 10-percent level by chance. One can have more confidence in any confirmatory impact estimates that remain statistically significant after adjusting for the total number of confirmatory outcome measures. The adjustments use the Benjamini-Hochberg method (Benjamini and Hochberg, 1995). The current report treats cumulative pooled impact estimates for household heads' earnings and families' housing subsidy amounts and a survey-based family hardship scale as confirmatory outcome measures. MDRC's first impact report more fully describes the evaluation's confirmatory measures and its approach to adjusting for multiple outcomes.[55] The final evaluation report will present the final confirmatory impact

[53] In making these adjustments, an outcome—such as "employed" or "received housing subsidy"—is regressed on an indicator for intervention group status, site (for all-sites analysis), and a range of background characteristics at random assignment, including race, ethnicity, age, number of adults in the household, age of the youngest child, family share, type of income reported for the HCV program certification, number of years of subsidy receipt through the HCV program, and whether gross rent exceeds the payment standard. When estimating effects for the pooled sample, site covariates are also included in the model.

[54] For a list of the variables included in the impact estimation model, and for analyses of the sensitivity of results to the adjustments, see appendix G. Appendix exhibit G.3 shows that the adjusted and unadjusted impact estimates on two main outcome measures (total earnings and total housing subsidy amounts) are very similar.

[55] See appendix B of Riccio and Deitch (2019).

estimates and adjustments—using longer-term data on the cumulative earnings and subsidy measures.

Variation in Rent Policies Across Public Housing Agencies

As discussed in chapter 1, the four PHAs largely implemented the same new rent policy for the demonstration. Some exceptions exist, however. Even more important are some differences in the *existing* rent rules operating at each of the participating PHAs at the start of the demonstration. These rules largely mirror HUD's traditional rent rules used by non-Moving to Work (MTW) agencies across the country.[56] As chapter 1 indicates, the PHAs that were selected for the demonstration had already implemented some policy changes before they joined, which means that the control group policy is not the same across all of them. (See appendix exhibit A.1.) The difference in implementing the new rent rules and in the rules that applied to the control group are important to keep in mind when interpreting the pooled results and comparing impact findings across PHAs.

An important difference in the new rent policies across PHAs concerns minimum TTPs. As mentioned previously, Lexington had already introduced a $150 minimum TTP before the demonstration began, with few exemptions permitted. Because it continued that policy for both the new rules group and the control group, any impacts that were estimated for Lexington reflect only the other features of the new rent rules, not any possible effects of a minimum TTP. In the other PHAs, a differential between the two research groups on the minimum TTP element of the policy does exist, although to different degrees. Two of the four PHAs—Louisville and Washington, D.C.—introduced a minimum TTP for the first time ($50 and $75, respectively), while San Antonio increased its existing $50 minimum TTP to $100. Although the levels vary, the impacts of the new rent policy at these three sites may partly reflect the minimum TTP effects.

Furthermore, when PHAs were selected for the Rent Reform Demonstration, the PHA in Washington, D.C., had already adopted a biennial recertification policy for working-age/nondisabled families. Accordingly, a family whose anticipated income from the same income source increased by up to $10,000 per year would not have its TTP recalculated for 2 years, while families with larger income increases (which, for example, would include tenants going to work full time at a minimum wage) would continue to have their TTPs adjusted when the increases occurred. In addition, families receiving income from a new source (such as a new job) were to have their TTPs adjusted when the change occurred. This policy applied to the demonstration's control group, but during the demonstration design phase, it was expected that most control group tenants who went to work would still need to report their income increases and complete interim recertifications that would increase their TTPs—as under HUD's traditional rent policy. However, in June 2016 (during this study's first followup year) the PHA

[56] The traditional rent rules referred to in this report are those in effect before the July 2016 passage of the Housing Opportunity Through Modernization Act of 2016.

eliminated income-reporting requirements before the biennial recertification for all families, including the study's control group, thus capping TTPs for the entire control group for 2 years at a time. The implication is that estimates of the impacts of the new rent rules in Washington, D.C., over the first 2 years of followup reflect little difference in the recertification schedules experienced by the two research groups. At the end of the second year and into the third, TTPs remained capped for the new rules group but were recalculated for control group families when they reached their biennial recertifications. In contrast, at the end of Year 3, families in the new rules group had their TTPs recalculated at their triennial recertifications, while control group families were in the middle of their second 2-year period of capped TTPs. The three other PHAs maintained HUD's traditional policy of annual recertifications but differed in their requirements for income reporting between those recertifications.[57]

In addition, Washington, D.C., ended its participation in the demonstration in 2019, and by September of that year (near the end of this report's followup period), it had transferred all families in the new rules group who were still receiving vouchers back to the PHA's existing policy, including the biennial recertification schedule.[58] For this reason, and because of the PHA's biennial recertification policy for the control group, this report mostly includes Washington, D.C., in pooled estimates that pertain only to the study's three confirmatory outcome measures. For most other pooled analyses, the estimates are based only on the Lexington, Louisville, and San Antonio samples combined. However, when PHA-specific results are considered, those for Washington, D.C., are also presented. In general, excluding Washington, D.C., does not substantially change the pooled estimates.

Louisville Opt-Outs

As explained previously, families in Louisville who were randomly assigned to the new rent policy group were permitted to opt-out of that group and continue to be subject to the existing rent rules. About 22 percent chose to do so. Those who chose to opt-out differed in important ways from those who did not. For example, at the time of their initial recertifications, they were more likely to have lower household incomes and were less likely to have any earned income,

[57] As appendix exhibit A.1 shows, Lexington requires families in the existing rules group only to report income increases from new sources (for example, a new job or a new TANF case), and they must do so when those increases occur. The family's TTP will then be recalculated immediately and take effect 30 days later. Families with increased income from the same source (for example, more earnings from the same job), do not report that income until the next annual recertification. In Louisville, families are required to report all income increases when they occur. The TTP will be recalculated immediately in cases where a family with zero income begins having some income (for example, when a tenant is not working and has no other income and then begins working). For families who already have some income, however, TTPs are not recalculated for income increases until the next annual recertification. San Antonio (starting in 2017) does not require families to report any earnings increases until the next annual recertification.

[58] As explained in chapter 1, Washington, D.C., chose not to remain in the Rent Reform Demonstration largely to allow its staff to devote time to issuing and managing a large number of relocation vouchers for tenants (not in the Rent Reform Demonstration) who were living in a public housing property slated for rebuilding as part of a Rental Assistance Demonstration (RAD) conversion, and to accommodate relation of senior tenants from a PHA senior residence that was damaged by fire.

both statistically significant differences. They also had somewhat lower TTPs (and somewhat higher housing subsidies) under the existing rules than they would have had under the new rent rules. In addition, these household heads tended to be older than the household heads who did not opt-out. PHA staff members reported that some families simply favored whichever policy would leave them paying the lowest initial rent. Some families may not have expected to increase their earnings and may not have expected to benefit from the new policy.[59] Some families may simply have felt more comfortable sticking with a set of rules they already knew and were used to following.

Few families who opted out of the new rent policy chose to opt-out of the evaluation. To avoid introducing selection bias into the impact analysis—in other words, to ensure that the same types of families are included in each research group when the outcomes of these groups are compared—the evaluation still treats the opt-out families as members of the new rent rules group even though they are subject to the existing rent rules. This decision ensures that the evaluation's estimated impacts will be unbiased, which is essential for determining whether the new rules have a causal impact on the outcomes of interest. However, this decision also means that the magnitude of the estimated effects of the new rent policy may be somewhat diluted because not all members of the new rent rules group were exposed to the new policy.

Given the substantial opt-out rate in Louisville, and recognizing that any effects on outcomes can be attributed solely to families who did not opt out, this study includes a set of supplementary estimates that adjust the impact to account for the fact that some members of the new rent rules group were not exposed to the new rent rules. These estimates are derived from what is commonly referred to as a "treatment-on-treated," or TOT, analysis. For a specified outcome measure, the TOT result was computed by dividing the estimated impact by the proportion of families assigned to the new rent rules group who chose to remain with the new policy. The TOT estimates do not affect levels of statistical significance of the impact estimates. Thus, if the original estimated impact (reflecting an "intent-to-treat," or ITT, analytical approach[60]) is not statistically significant, the TOT estimate will also not be statistically significant even if the *magnitude* of the difference in outcomes is larger than the original estimate. Thus, a TOT adjustment cannot offer any more assurance that an estimated effect is not a result of chance.

[59] See appendix B of Riccio, Deitch, and Verma (2017) for a detailed analysis comparing families in Louisville who opted out of the new rent policy with those who did not opt out.
[60] An ITT analysis captures the average impact on the entire group intended to receive the intervention, whether or not every member of that group actually received it.

Chapter 3
Impacts on Employment-Related Outcomes

This chapter looks at the effects of the new rent policy on voucher holders' patterns of engagement in the labor market, including their employment rates, average earnings, the types of jobs they held, and, if not working, their reasons for not working or looking for work. It focuses on tenants who were the heads of their households at the time of random assignment at the four public housing agencies (PHAs) in the study—Lexington, Kentucky; Louisville, Kentucky; San Antonio, Texas; and Washington, D.C. Selected results for other adults on the leases in those households at that time are presented in appendix C.

The analysis is based in part on administrative records that come from state unemployment insurance (UI) wage systems covering the first 3.5 years (42 months) after the newly calculated total tenant payments (TTPs) took effect for families after they entered the study. This time frame extends just past the midway point in a followup period that will eventually cover 6 years. (Longer-term results will be presented in a future report.) Other data come from the survey administered to household heads approximately 4 years after families entered the study.

About 74 percent of all families in the new rules group in Lexington, Louisville, and San Antonio combined received triennial recertification, while 67 percent of control group families received a third annual recertification since the beginning of the study. Most of those who did not receive recertification at the 3-year mark had left the voucher program.

Control group families in the Washington, D.C., site were subject to a biennial recertification policy. (See chapter 2.) This biennial schedule differed from the traditional annual schedule used by most PHAs across the country. The Washington, D.C., site also discontinued its participation in the Rent Reform Demonstration in September 2019. By that date (near the end of this report's followup period), it had switched all members of the new rules group still receiving vouchers to the PHA's existing policy. For these reasons, most of the pooled results in this chapter (and this report) combine the findings from Lexington, Louisville, and San Antonio, and exclude those from Washington, D.C. However, Washington, D.C., is included when findings are presented for each PHA separately.

As will be seen, the new policy led to some improvements in employment or earnings in UI-covered jobs for heads of households in the new rules group (compared with the control group) in two of the four PHAs—Lexington and San Antonio—but these were not consistently statistically significant. Cumulative earnings by the end of the followup period differed little between the two research groups in those PHAs. In Washington, D.C., no statistically significant effects are evident, which is not surprising given the small difference in the recertification schedules for the two research groups. More surprising are the *negative* effects on average earnings in Louisville, a result difficult to explain fully. When the results for all PHAs are pooled

(with or without Washington, D.C.), they show little effect on UI-covered employment and earnings over the full followup period. Overall, the results for both research groups in all four PHAs point to voucher holders' substantial attachment to the labor market, although their jobs were low-paying and, for many, work was inconsistent. Survey data suggest that the new policy make have generated some increases in employment in non-UI-covered jobs. The survey data also show that for household heads who are not working and not looking for work, health problems or family care responsibilities are the main reasons they were not in the labor force.

All the data used in this chapter's analyses (and the entire report) were collected no later than November 2019 (see chapter 2). Thus, the results reflect tenants' experiences well before the spread of the coronavirus pandemic in early 2020.

Impacts for Heads of Households

To measure year-by-year effects of the new rent policy on adults' labor market outcomes, the evaluation uses administrative records from the National Directory of New Hires (NDNH), which collects wage data that employers in each state report quarterly to their state UI systems. As discussed in chapter 2, the pooled impact estimate for cumulative average total earnings over the first 3.5 years of the followup period represents a preliminary confirmatory outcome measure for the evaluation.

Results for the Pooled Sample

Exhibit 3.1 shows the pooled results for this confirmatory measure, along with cumulative pooled effects on employment outcomes, for all four PHAs combined and for just Lexington, Louisville, and San Antonio combined. Washington, D.C., is excluded from the latter group because of that site's distinctive biennial recertification policy. (See Box 3.1 for an explanation of how to read the exhibits showing impacts in this report.)

Random assignment took place in Quarter 1. However, the followup is defined as beginning in Quarter 3. This is because Quarter 3 is when most families' newly calculated TTPs took effect under the new or existing rent rules (see chapter 2).

The top panel of the exhibit shows that through the latest followup quarter (Quarter 16), with all four PHAs combined, about 79 percent of household heads in either the new rent rules group or the existing rent rules group had worked at some point during that period in a job covered by the UI system. Moreover, almost 58 percent of the new rules group had worked in an average quarter, which was about the same as the existing rules group level.

Average earnings, although rising, were low. For example, average earnings for the entire new rules group (including household heads with zero earnings) were only $12,663 during Year 3. This amount translates to an average of $18,567 per person among the 68.2 percent of people who had ever worked in Year 3.

Box 3.1. How to Read the Impact Tables in This Report

In the context of this evaluation, an "impact" is a measure of how much the intervention — the new rent rules policy implemented in the Rent Reform Demonstration — changed outcomes for program participants. The program group outcome for the intervention is compared with that of the control group. The top row of the excerpted table below, for example, shows that an average of 55.8 percent of the new rent rules or program group was working in an average quarter in Year 1, compared with 54.6 percent of the existing rent rules or control group.

Because participants were assigned randomly to either the program group or the control group, the effects of the intervention, or program, can be estimated by the difference in outcomes between the two groups. The "Difference" column in the table excerpt shows the differences between the two research groups' outcomes — that is, the program's estimated impacts on the outcomes. For example, the estimated impact of the program on the average number of individuals employed can be calculated by subtracting 54.6 percent from 55.8 percent, yielding a difference, or estimated impact, of 1.3 percentage points.

The p-value shows the probability that this impact arose by chance. In the table excerpt below, the difference between the program and control groups in average quarterly employment in Year 1 has a 9.5 percent probability of arising as a result of chance rather than as a result of the program. In contrast, the difference on the measure of average quarterly employment in Year 2 has a 41.5 percent probability of having arisen by chance. For this evaluation, only differences that have a 10 percent probability or less of arising by chance are considered "statistically significant" and therefore represent true program effects. The number of asterisks indicates whether the impact is statistically significant at the 1 percent (***), 5 percent (**), or 10 percent (*) level, meaning that there is only a 1, 5, or 10 percent probability, respectively, that the impact arose by chance.

Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
All PHAs					
Average quarterly employment (%)					
Year 1 (quarters 3-6)	55.8	54.6	1.3	*	0.095
Year 2 (quarters 7-10)	58.1	57.3	0.7		0.415

Exhibit 3.1. Impacts on Employment and Earnings Within 42 Months of Followup: Heads of Households

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
All PHAs					
Ever employed (%)					
Year 1 (quarters 3–6)	68.1	66.9	1.2		0.180
Year 2 (quarters 7–10)	68.0	67.9	0.2		0.859
Year 3 (quarters 11–14)	68.2	68.1	0.1		0.919
Quarter 15	58.8	59.4	– 0.6		0.577
Quarter 16	58.4	58.4	0.0		0.989
Full period (quarter 3–16)	78.9	78.8	0.1		0.905
Average quarterly employment[a] (%)					
Year 1 (quarters 3–6)	55.8	54.6	1.3	*	0.095
Year 2 (quarters 7–10)	58.1	57.3	0.7		0.415
Year 3 (quarters 11–14)	58.7	58.9	– 0.2		0.792
Full period (quarter 3–16)	57.6	57.2	0.5		0.523
Total earnings ($)					
Year 1 (quarters 3–6)	10,133	9,973	159		0.415
Year 2 (quarters 7–10)	11,747	11,486	260		0.294
Year 3 (quarters 11–14)	12,663	12,886	– 223		0.428
Quarter 15	3,379	3,477	– 97		0.246
Quarter 16	3,369	3,417	– 47		0.578
Full period (quarter 3–16)	41,074	41,046	28		0.970
Sample size (total = 6,665)	3,312	3,353			
Lexington, Louisville, and San Antonio Combined					
Ever employed (%)					
Year 1 (quarters 3–6)	72.7	71.4	1.2		0.232
Year 2 (quarters 7–10)	71.5	71.8	– 0.3		0.775
Year 3 (quarters 11–14)	72.0	72.3	– 0.3		0.781
Quarter 15	62.0	63.4	– 1.3		0.285
Quarter 16	62.3	62.9	– 0.7		0.604
Full period (quarter 3–16)	82.2	82.8	– 0.6		0.560
Average quarterly employment[a] (%)					
Year 1 (quarters 3–6)	61.4	59.9	1.6	*	0.093
Year 2 (quarters 7–10)	61.2	60.7	0.6		0.589
Year 3 (quarters 11–14)	61.7	62.3	– 0.6		0.571
Full period (quarter 3–16)	61.5	61.2	0.3		0.737
Total earnings ($)					
Year 1 (quarters 3–6)	10,047	9,737	311		0.160
Year 2 (quarters 7–10)	11,146	10,862	284		0.309
Year 3 (quarters 11–14)	12,014	12,301	– 287		0.355

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Quarter 15	3,222	3,348	– 126	0.179
Quarter 16	3,296	3,364	– 68	0.485
Full period (quarter 3–16)	39,482	39,489	– 7	0.994
Sample size (total = 4,756)	2,368	2,388		

PHA = public housing agency.
[a]Average quarterly employment is calculated as the total number of quarters with employment divided by the total number of quarters of followup, expressed as a percentage.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values.
Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

The new rent policy's impacts on earnings in UI-covered jobs, indicated by the differences between the two study groups, were small and not statistically significant for the four-PHA pooled sample. Cumulative earnings for both groups averaged just over $41,000 for the entire 42 months of followup.

As mentioned previously, the pooled results can be difficult to interpret because of differences across the PHAs in their minimum TTPs and control group conditions. Particularly important is the biennial recertification policy in effect for the control group in Washington, D.C. Under that policy, TTPs are reset for the control group at the end of 2 years. Consequently, during the first 2 years of followup, the new rules group had no greater work incentive under its triennial recertification schedule (the new policy's most important financial work incentive) than the control group had under its biennial policy: both groups enjoyed 2 years of capped TTPs. In the third year, the control group's TTPs could rise, while TTPs remained capped for the new rules group. At the beginning of the fourth year, when families in the new rules group had completed their triennial recertifications that reset and capped their TTPs once again for the next three years, families in the control group were halfway through their second 2-year phase of capped TTPs. The bottom line is that, because of the biennial policy for the control group, the resulting change in policy being tested in Washington, D.C., is sufficiently different from that being tested in the other sites to make pooled findings that include Washington, D.C., more difficult to interpret than the pooled findings that exclude that PHA.

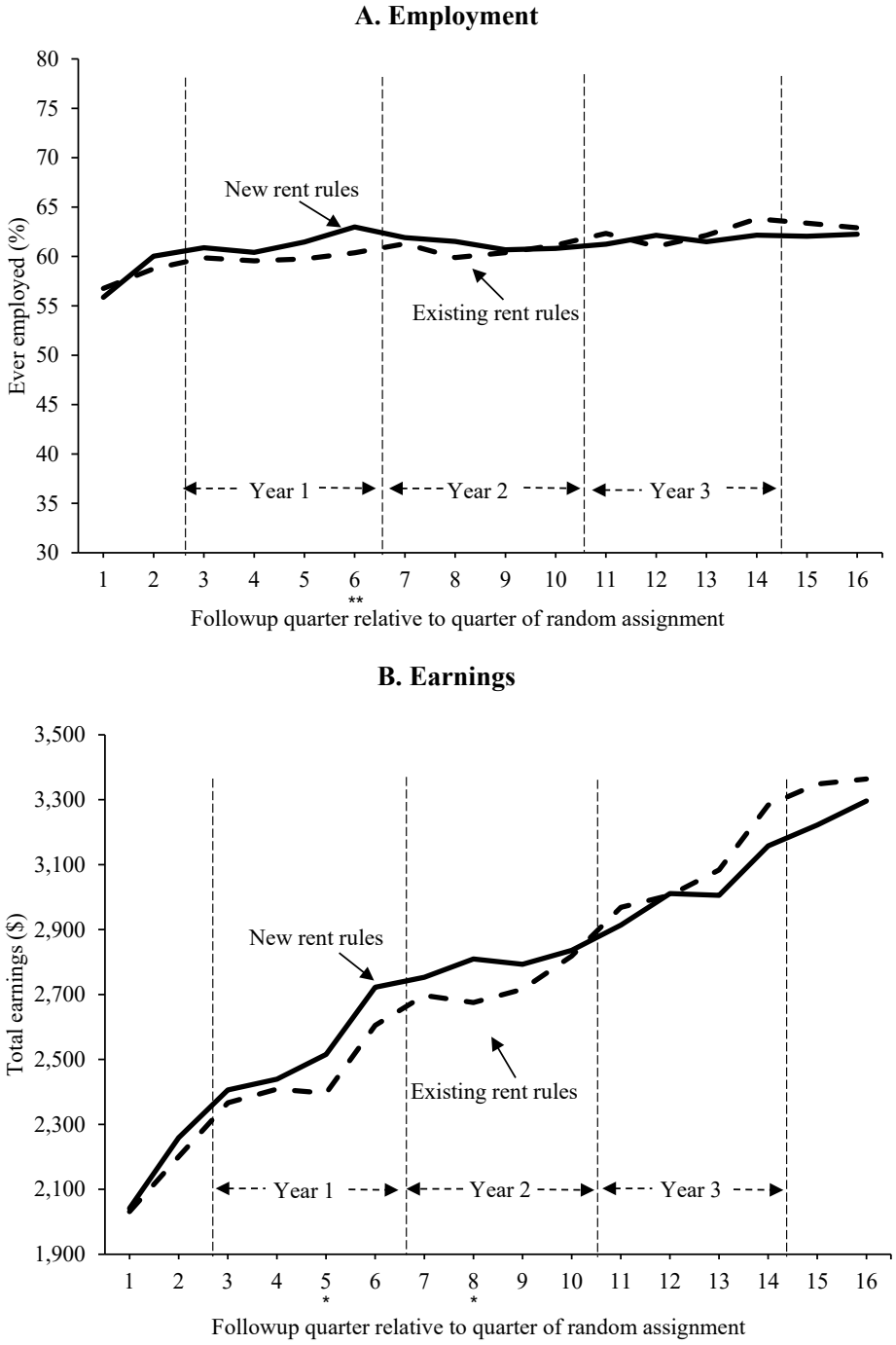
The second panel of exhibit 3.1 presents the pooled results for Lexington, Louisville, and San Antonio PHAs. These results reflect the labor market impacts of the new rule rules relative to a control group in which all families are subject to an annual recertification policy. Although the estimated impacts change somewhat when Washington, D.C., is excluded, the three-PHA pooled sample similarly shows no cumulative earnings impact over the 42-month followup period.

Exhibit 3.2 illustrates the trends over time in employment and earnings outcomes for the new rent rules group and the existing rent rules group for the pooled sample excluding Washington, D.C. The results cover the period from the time of random assignment (Quarter 1) and show trends through the 42-month followup period, again defined as beginning in Quarter 3 and continuing through Quarter 16. The differences between the lines in the graphs represent the effects, or "impacts," of the new rent policy. Any quarter in which the size of that difference is statistically significant is indicated by one, two, or three asterisks (representing statistical significance levels of 10 percent, 5 percent, and 1 percent, respectively) under the relevant quarter.

As the top graph in exhibit 3.2 shows, heads of households in the new rules group were employed in UI-covered jobs to about the same extent as their counterparts in the existing rules group during the entire followup period. For both groups, the employment trends were largely flat. Average earnings for both research groups climbed substantially more over time than did employment rates. These upward trends likely reflect an increase over time in the number of hours worked per quarter (which could include, for example, a shift from part-time to full-time employment), or an increase in average hourly wages, or a combination of the two. (It is not possible to distinguish between those patterns with the quarterly NDNH data.) The improving economy over the followup period, and some increases in the hourly minimum wage, may have contributed to the earnings growth experienced by both research groups.[61] Average earnings were somewhat lower for the new rules group than the control group in Year 3 and beyond, but the differences are not statistically significant.

[61] Over the course of the followup period for this report, unemployment rates in the metropolitan areas in which the PHAs are located were relatively low and generally stable or falling by a small degree, although Louisville's rose slightly from March 2018 through September 2019. From February 2015 through November 2019, they ranged from 4.1 to 3.4 percent in Lexington-Fayette; 4.8 to 3.7 percent Louisville/Jefferson County; 3.9 to 3.0 percent San Antonio-New Braunfels; and 4.7 to 2.9 percent in Washington-Arlington-Alexandria. Some changes in the minimum wage were also introduced. In Louisville, the minimum wage rose in July 2015 from $7.25 per hour to $7.75 and increased in July 2016 to $8.25. In October 2016, however, the Kentucky Supreme Court struck down the local ordinance, and the minimum wage returned to $7.25. In Lexington, in July 2016, the minimum wage rose from $7.25 to $8.20, but the same court action returned it to $7.25. No changes were made to the minimum wage in San Antonio, where it remained at $7.25. In Washington, D.C., in July 2015, it rose from $9.50 to $10.50, to $11.50 in July 2016, to $12.50 in July 2017, to $13.25 in July 2018, and to $14.00 in July 2019 (U.S. Department of Labor, 2020).

Exhibit 3.2. Quarterly Impacts on Employment and Earnings Within First 42 Months of Followup: Lexington, Louisville, and San Antonio Combined, Heads of Households



Notes: Quarter 1 is the quarter of random assignment. Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by change. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; and * = 10 percent. Sample sizes for specific outcomes may vary because of missing values.
Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

Results by PHA

The pooled results mask some important differences across the PHAs. Exhibits 3.3 and 3.4 show that the new rent rules produced positive impacts on employment rates in Lexington in Year 3 of 5 percentage points, and positive but not statistically significant impacts on earnings in Year 2, Year 3, and cumulatively. In San Antonio, the new policy produced statistically significant positive effects on earnings in the first 2 years of followup. However, these faded in Year 3, and although the cumulative earnings effects were positive, they fell short of statistical significance. The lessening of San Antonio's earnings effects over time happened not because household heads in the new rules group began earning less than they had previously earned (they did not), but because the control group began to catch up, eventually closing the gap by the end of Year 3. Louisville and Washington, D.C., show no statistically significant positive effects on these labor market outcomes.[62]

It is possible that some tenants in the new rules group in Lexington and San Antonio began reducing their work effort in a strategic effort to lower their retrospective incomes in anticipation of the recalculation of their TTPs that would take place at the end of Year 3. A lower retrospective income would mean a lower TTP for the subsequent three years. However, the data on the earnings of the new rules group do not show declines in earnings in the period leading up to the triennial recertification that might support this conclusion. Another possibility is that control group earnings began to increase at a faster rate over time in part because tenants in that group exited the voucher program more quickly (see below); those who did would no longer face any work disincentives from the traditional rent policy, and perhaps they increased their work effort as a result. Again, it is not possible to assess this interpretation with the evidence available to this evaluation.

Louisville shows a distinctive pattern of *negative* effects on employment and earnings in UI-covered jobs, which began to emerge in Year 2 and grew larger in Year 3. For example, as exhibit 3.3 shows, by the end of the 42-month followup period, the new rules group earned $2,631 less than the existing rules group, a statistically significant reduction in earnings of 6.1 percent below the control group average. This is not because the earnings of the new rules group fell over time. Indeed, both group's earnings continued to grow throughout the followup period, but, in this case, the rate of growth was greater for the control group.

Louisville's negative effects on employment and earnings diminish in the last quarter of the followup period (Quarter 16) and are no longer statistically significant. This quarter is after most families still on the voucher program completed their triennial recertifications (if in the new rules group) or third annual recertification (if in the control group). Whether it portends the beginning

[62] As outlined in Riccio and Deitch (2019), an H-statistic test was applied to the estimated impact on earnings for the full period to assess whether the differences in impacts on this confirmatory outcome measures across sites are statistically significant. The results show that this variation is statistically significant across the three PHAs excluding Washington, D.C., at the .054-percent level. The variation in impacts on this measure across the four PHAs including Washington, D.C. is not statistically significant.

of a longer-term pattern of no negative effects or simply reflects a short-term deviation from the existing pattern of results will become clearer from the longer-term findings presented in the evaluation's final report.

In Louisville, because 22 percent of families opted out of the new rent policy, the estimated impacts shown in exhibit 3.3, which are averaged over all heads of households, including those from the opt-out families, may be understated. Therefore, as explained in chapter 2, treatment-on-treated (TOT) adjustments were made, which attribute all effects to only those exposed to the policy. The TOT adjustments, however, do not alter statistical significance levels.[63] Appendix exhibit C.1 presents the results of the TOT analysis. As it shows, the TOT impact on the average earnings in each year is slightly larger than the original intent-to-treat (ITT) impact estimate.[64] For the full followup period, the estimated TOT impact is -$3,390, compared with the ITT estimate of -$2,631.

A later section provides a more in-depth discussion of Louisville's results.

In Washington, D.C., few differences in employment and earnings outcomes are evident during the followup period, and none are statistically significant. This is not surprising because of that PHA's biennial recertification policy for the control group. Any *extra* incentive for the new rules group to work resulting from the triennial recertification policy was much weaker in Washington, D.C., than it would have been had the control group been subject to annual recertifications.

It is also important to consider the minimum TTP that Washington, D.C., implemented for the new rules group. Unlike the control group, the new rules group was subject to a $75 minimum TTP. In theory, this feature could have induced an increase in work effort because it was a new obligation for families regardless of their income level (although a time-limited hardship exemption was available). The absence of positive impacts of the new rent policy on employment and earnings in this PHA suggests that the $75 minimum TTP did not function as a strong work incentive.

[63] The TOT analysis adjusts the impact to account for the fact that some members of the new rent rules group were not exposed to the new rent rules, but no new statistical test was run. Statistical significance will remain the same as in the ITT analysis.

[64] An ITT analysis captures the average impact on the entire group intended to receive the intervention, whether or not every member of that group actually received it.

Exhibit 3.3. Impacts on Employment and Earnings Within First 42 Months of Followup, by Public Housing Agency: Heads of Households

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value	
Lexington						
Ever employed (%)						
Year 1 (quarters 3–6)	78.3	76.1	2.2		0.296	
Year 2 (quarters 7–10)	75.4	73.0	2.4		0.302	
Year 3 (quarters 11–14)	78.4	73.4	5.0	**	0.035	††
Quarter 15	69.4	64.1	5.3	*	0.052	††
Quarter 16	68.0	65.4	2.6		0.329	
Full period (quarter 3–16)	86.3	83.3	3.0		0.132	
Average quarterly employment[a] (%)						
Year 1 (quarters 3–6)	65.5	64.2	1.3		0.505	
Year 2 (quarters 7–10)	64.8	61.8	3.1		0.167	
Year 3 (quarters 11–14)	67.0	63.7	3.3		0.150	†
Full period (quarter 3–16)	66.2	63.4	2.7		0.134	
Total earnings ($)						
Year 1 (quarters 3–6)	10,204	10,102	102		0.827	
Year 2 (quarters 7–10)	11,346	10,489	857		0.145	††
Year 3 (quarters 11–14)	12,637	11,848	788		0.243	†
Quarter 15	3,291	3,369	– 77		0.702	
Quarter 16	3,359	3,275	84		0.667	
Full period (quarter 3–16)	40,791	39,039	1,751		0.330	
Sample size (total = 979)	486	493				
Louisville						
Ever employed (%)						
Year 1 (quarters 3–6)	71.9	72.1	– 0.2		0.903	
Year 2 (quarters 7–10)	71.9	73.4	– 1.6		0.377	
Year 3 (quarters 11–14)	71.4	74.9	– 3.5	**	0.048	††
Quarter 15	60.2	64.7	– 4.5	**	0.025	††
Quarter 16	61.5	63.5	– 1.9		0.337	
Full period (quarter 3–16)	81.5	83.3	– 1.8		0.233	
Average quarterly employment[a] (%)						
Year 1 (quarters 3–6)	60.9	59.6	1.2		0.412	
Year 2 (quarters 7–10)	60.7	62.3	– 1.7		0.303	
Year 3 (quarters 11–14)	61.7	65.2	– 3.5	**	0.039	†
Full period (quarter 3–16)	61.0	62.6	– 1.6		0.235	
Total earnings ($)						
Year 1 (quarters 3–6)	10,164	10,029	135		0.716	
Year 2 (quarters 7–10)	11,236	12,027	– 791	*	0.088	††
Year 3 (quarters 11–14)	12,314	13,646	– 1,333	***	0.009	†
Quarter 15	3,284	3,627	– 343	**	0.026	

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value	
Quarter 16	3,417	3,668	– 251		0.123	
Full period (quarter 3–16)	40,288	42,919	– 2,631	*	0.063	
Sample size (total = 1,908)	947	961				
San Antonio						
Ever employed (%)						
Year 1 (quarters 3–6)	70.7	68.2	2.5		0.139	
Year 2 (quarters 7–10)	69.3	69.4	– 0.1		0.953	
Year 3 (quarters 11–14)	69.6	68.7	0.9		0.635	††
Quarter 15	60.3	61.4	– 1.1		0.580	††
Quarter 16	60.6	60.3	0.3		0.892	
Full period (quarter 3–16)	81.3	81.4	– 0.2		0.926	
Average quarterly employment[a] (%)						
Year 1 (quarters 3–6)	60.0	57.8	2.2		0.145	
Year 2 (quarters 7–10)	59.8	58.4	1.4		0.408	
Year 3 (quarters 11–14)	59.1	58.5	0.6		0.723	†
Full period (quarter 3–16)	59.7	58.5	1.2		0.416	
Total earnings ($)						
Year 1 (quarters 3–6)	9,849	9,240	609	*	0.084	
Year 2 (quarters 7–10)	10,909	9,900	1,009	**	0.024	††
Year 3 (quarters 11–14)	11,341	11,194	148		0.768	†
Quarter 15	3,130	3,045	86		0.575	
Quarter 16	3,165	3,073	92		0.554	
Full period (quarter 3–16)	37,907	36,258	1,649		0.234	
Sample size (total = 1,869)	935	934				
Washington, D.C.						
Ever employed (%)						
Year 1 (quarters 3–6)	56.7	55.4	1.2		0.459	
Year 2 (quarters 7–10)	59.4	58.0	1.4		0.458	
Year 3 (quarters 11–14)	58.9	57.9	1.1		0.576	††
Quarter 15	51.0	49.4	1.7		0.386	††
Quarter 16	49.1	47.0	2.1		0.284	
Full period (quarter 3–16)	70.7	69.1	1.6		0.346	
Average quarterly employment[a] (%)						
Year 1 (quarters 3–6)	41.9	41.4	0.5		0.703	
Year 2 (quarters 7–10)	50.2	49.1	1.1		0.502	
Year 3 (quarters 11–14)	51.2	50.4	0.8		0.650	†
Full period (quarter 3–16)	48.0	47.1	1.0		0.468	
Total earnings ($)						
Year 1 (quarters 3–6)	10,285	10,620	– 335		0.408	
Year 2 (quarters 7–10)	13,200	13,083	117		0.823	††
Year 3 (quarters 11–14)	14,268	14,354	– 86		0.887	†

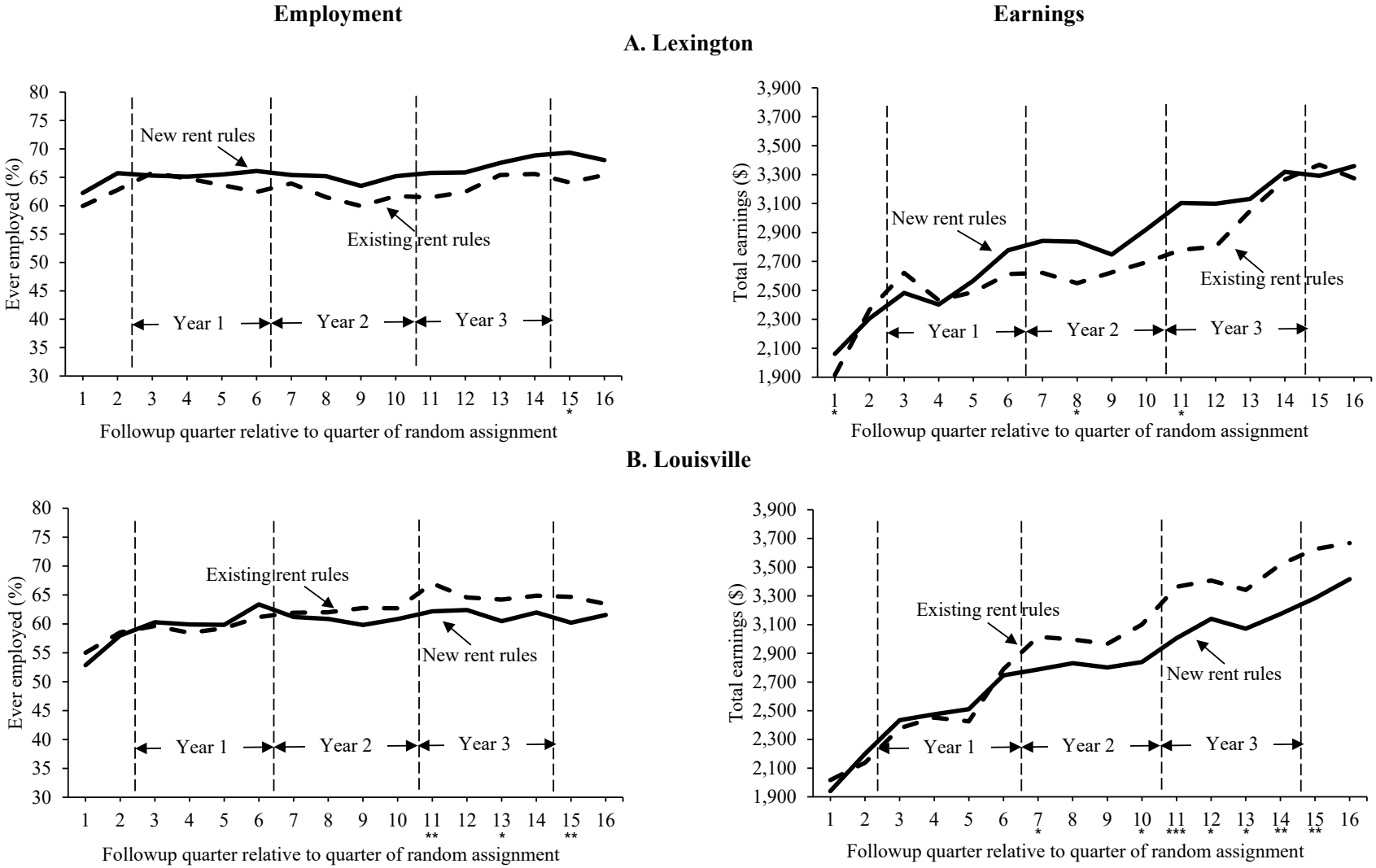
Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Quarter 15	3,768	3,799	– 31	0.859
Quarter 16	3,559	3,541	17	0.921
Full period (quarter 3–16)	44,920	45,041	– 121	0.940
Sample size (total = 1,909)	944	965		

[a]Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

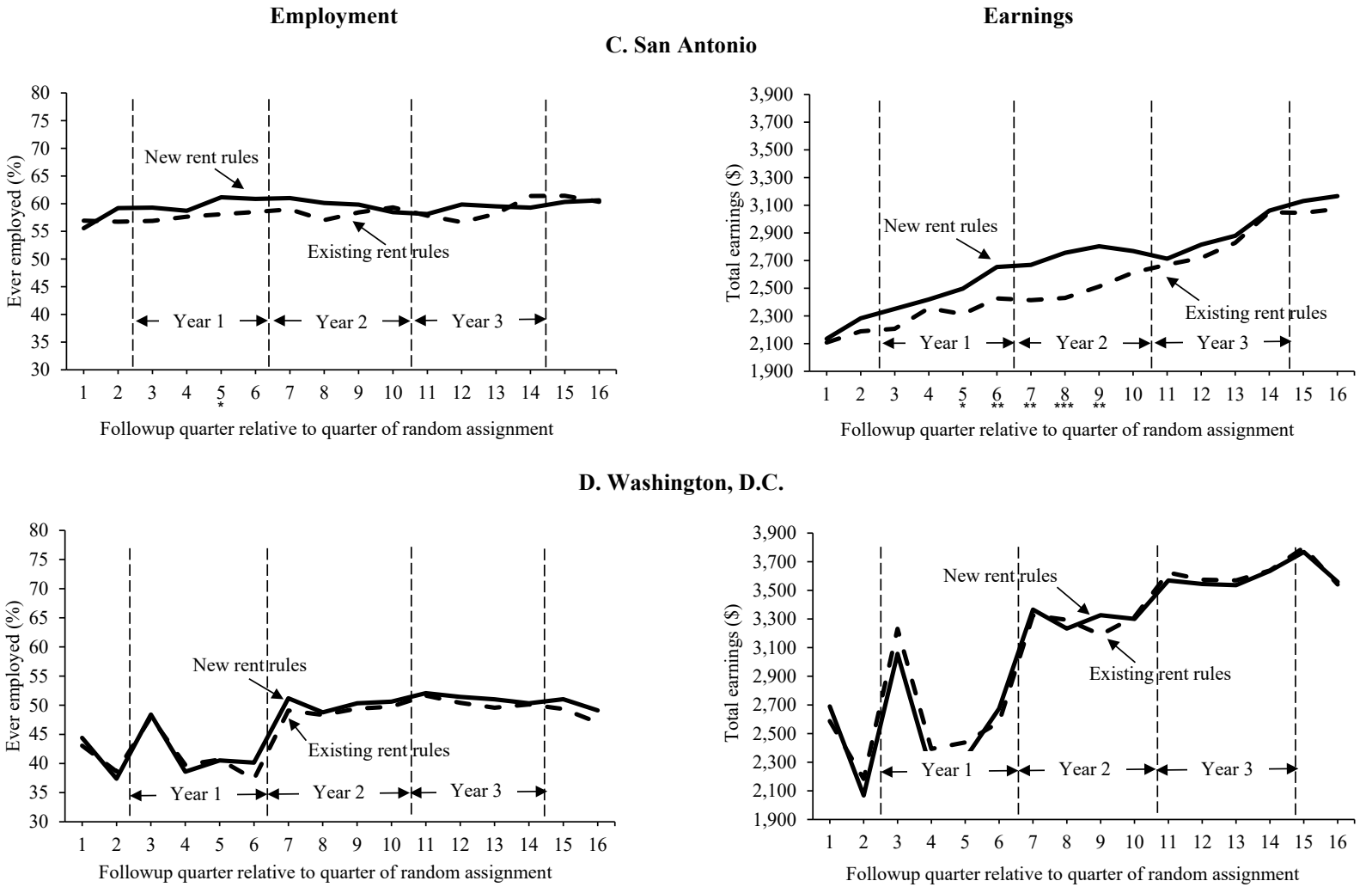
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the differences between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. The H-statistic test was used to test for statistically significant differences in impact estimates across different subgroups. Statistical significance levels are indicated as: ††† = 1 percent; †† = 5 percent; † = 10 percent. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

Exhibit 3.4. Quarterly Impacts on Employment and Earnings Within First 42 Months of Followup, by Public Housing Agency: Heads of Households



(continued)



Notes: Average quarterly employment rate is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage. Quarter 1 is the quarter of random assignment. Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * 10 percent. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

The pattern of employment and earnings trends for heads of households in Washington, D.C., for both research groups also deserves comment. The quarter-to-quarter variability, especially for earnings, is much more pronounced than in any other PHA. As exhibit 3.4 illustrates, the trend lines in Washington, D.C., show striking peaks and troughs. The peaks occur in the 3rd, 7th, 11th, and 15th quarters relative to families' random assignment dates. As it turns out, this pattern reflects a seasonality phenomenon (where employment rates normally vary across different seasons of the year), resulting from the random assignment within a single calendar quarter (April to June 2015) of the entire sample in this PHA.[65] That variability does not affect the accuracy of the impact estimates.

Impacts on Self-Reported Employment Outcomes

The survey of household heads, conducted approximately 4 years after the initial effective date for most survey respondents, provides additional insights into the effects of the new rent policy on labor market outcomes of those adults. It should be kept in mind that a substantial proportion of respondents were no longer receiving vouchers at the time of their interviews (19 percent of the new rules group in the three-PHA pooled sample and 31 percent of the control group). Most of those who were still on the voucher program had completed their triennial recertifications before being interviewed.

Exhibit 3.3 shows that, with the results for Lexington, Louisville, and San Antonio combined, 61.2 percent of respondents in the new rules group said they were employed at the time they were interviewed, compared with 57.2 percent in the control group—a statistically significant increase of 4.0 percentage points. Similarly, a somewhat higher proportion of the new rules group (74.7 percent) than the control group (71.8 percent) said they had worked in the past 12 months, yielding a small statistically significant increase of 2.9 percentage points. These survey findings paint a slightly more positive picture of the new rent policy's employment effects than is suggested by the analysis of NDNH administrative records. Although the correspondence in findings is strong, it is not exact. Of course, an exact correspondence should not be expected because not all heads of households included in the NDNH analysis responded to the survey, and the months when the survey interviews were conducted do not fully align with the annual and cumulative time frames used in the NDNH analysis.[66] For example, some interviews occurred near the end of Year 3, some occurred soon after that point, and some occurred more than a year later. In addition, some survey respondents may have worked in jobs that are not covered by the

[65] See Riccio and Deitch (2019) for further discussion of this phenomenon.

[66] See appendix exhibits C.2 and C.3. The three-PHA pooled sample (exhibit C.2) shows, for example, that when a survey respondent's interview date is lined up with the corresponding calendar quarter in the NDNH data, both data sources show either evidence of employment or evidence of no employment for about 80 percent of survey respondents in each research group. In some cases, the survey picked up employment not evident in the NDNH data, and in some cases the NDNH data picked up evidence of employment not reported on the survey, but the correspondence is high overall. As another example, 74.4 percent of survey respondents in the new rules group said they had worked in year prior to being interviewed, while NDNH data show that 72.3 percent of survey respondents in the new rules group worked in a UI-covered job in the year prior to their interviews. Very similar patterns are evident for the control group.

states' unemployment insurance records, such as freelance jobs in the "gig economy, other self-employment contract jobs, or informal jobs.

Exhibit 3.5. Impacts on Self-Reported Employment: Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Employed at the time of the survey (%)	61.2	57.2	4.0	**	0.011
Number of jobs (%)					0.124
Not employed	38.8	42.8	– 4.0		
1	54.1	50.5	3.7		
2	5.1	5.1	0.0		
3 or more	0.4	0.2	0.2		
Not reported	1.5	1.4	0.1		
Employed in the past year (%)	74.7	71.8	2.9	**	0.037
Number of jobs in past year (%)				*	0.086
Not employed	25.3	28.2	– 2.9		
1	49.1	49.2	– 0.1		
2	17.3	15.2	2.1		
3 or more	6.3	5.0	1.2		
Not reported	2.1	2.3	– 0.2		
Average number of months worked	7.2	6.9	0.3	*	0.077
Number of months worked (%)					0.170
Not employed	25.3	28.2	– 2.9		
1–6	15.0	13.5	1.5		
7–11	13.0	13.8	– 0.8		
12	42.4	40.8	1.7		
Not reported	4.3	3.6	0.6		
Employment search					
Looked for a job in the past 4 weeks[a] (%)	32.0	30.7	1.3		0.399
Full-time	24.0	22.3	1.7		0.217
Part-time	14.9	15.3	– 0.4		0.710
Currently employed or looked for a full-time or part-time job in the past 4 weeks	76.7	74.1	2.6	*	0.060
Received job search assistance from a program or agency in the past 12 months	16.2	14.9	1.3		0.290
Sample size (total = 3,606)	1,839	1,767			

[a]Some respondents reported looking for both full- and part-time work.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values.

Source: Rent Reform 4-Year Followup Survey

At a general level, both the survey and the NDNH analyses point to a substantial attachment to the labor market among heads of households in both research groups and few large differences between them. Moreover, the more negative labor market impacts in Louisville indicated by the NDNH analysis may largely reflect the new rent policy's negative effects in the period prior to the survey. As previously mentioned, the negative Quarter 16 impacts shown in exhibit 3.3 for Louisville families are smaller than prior effects for those families and not statistically significant.

Few participants (only about 5 percent in both research groups) said they were working more than one job when they were interviewed. Over 20 percent (somewhat higher in the new rules group) said they had worked in two or more jobs in the past 12 months. Over 40 percent of respondents worked the full 12 months, with little difference in this steady employment rate between the two research groups.

Almost one-third of respondents in both groups said they had looked for work in the past 4 weeks. Combining the data on job search efforts and actual employment reveals that about three-fourths of both research groups were active in the labor market. This rate was slightly higher for the new rules group by a statistically significant 2.6 percentage points.

The findings on these measures for each PHA separately (including Washington, D.C.) are presented in the supplementary appendix. In general, the results suggest that, in each of the four PHAs, the likelihood of working at the time of the survey and/or in the prior year was somewhat higher among the respondents in the new rules group than the control group, although not always by a statistically significant margin.

Job Characteristics

The new rent policy had little effect on the likelihood that household heads would work in better jobs than the jobs they would have gotten had they been in the control group. Exhibit 3.6 illustrates this finding using data from the survey, which asked respondents about their current job or, if they were not working at the time of the interview, the most recent job they held within the 12 months before the interview. The results are pooled for Lexington, Louisville, and San Antonio. (For PHA-specific findings, which are similar across the four PHAs, see the standalone supplementary appendix.) The top part of the exhibit presents impact estimates that consider the employment status of *all* survey respondents, including those who were not working. It shows, for example, that the new rent rules increased by a small amount the likelihood of working as a regular employee, in self-employment, or in a temporary or seasonal job, but that most of the small increase in overall employment was driven by the increase in regular employment.[67] Other results show that the new policy did not substantially improve the likelihood of working in a full-time job: about 41 percent of all respondents in each research group said they were working or

[67] The p-value of .049 and two asterisks indicate that this difference between the two research groups *in the distribution* of respondents across these four employment categories is statistically significant.

had worked in the past 12 months in a job for 35 hours per week or more. No noteworthy impacts on other job characteristics are evident.

Exhibit 3.6. Impacts on Characteristics of Self-Reported Jobs: Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Characteristics of current/most recent job held within 12 months prior to interview[a]				
Type of employment (%)			**	0.049
Not employed in past year	25.3	28.2	– 2.9	
Employee	60.8	60.4	0.3	
Self-employed	5.0	4.3	0.7	
Temporary or seasonal job	7.2	5.3	1.9	
Not reported	1.8	1.7	0.0	
Average hours worked per week (%)				0.155
Not employed in past year	25.3	28.2	– 2.9	
1–20	12.3	10.7	1.6	
21–34	19.8	18.2	1.6	
35 or more	40.9	41.4	– 0.5	
Not reported	1.8	1.6	0.2	
Average weekly earnings (%)				0.114
Not employed in past year	25.4	28.4	– 3.0	
$1–$199	12.1	11.1	1.0	
$200–$399	23.7	21.0	2.7	
$400–$599	16.6	17.7	– 1.2	
$600 or higher	8.4	9.1	– 0.7	
Not reported	13.8	12.7	1.2	
Usual work schedule (%)				0.292
Not employed in past year	25.3	28.2	– 2.9	
Regular daytime shift	45.3	43.2	2.1	
Regular evening or night shift	11.2	10.7	0.5	
Rotating or split shift	8.8	9.1	– 0.3	
Irregular shift	6.9	6.5	0.4	
Other	1.0	0.6	0.5	
Not reported	1.5	1.7	– 0.1	
Employed and received employer-provided benefits (%)				
Paid sick days	23.5	24.0	– 0.4	0.752
Paid vacation days	30.2	30.5	– 0.3	0.837
Paid overtime	36.5	35.5	1.0	0.518
A retirement plan	26.7	25.8	0.9	0.537
A health or medical insurance plan offered	34.9	33.1	1.9	0.231
Sample size (total = 3,606)	1,839	1,767		

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Characteristics of current/most recent job among respondents employed within 12 months prior to interview				
Average hourly wage[b] ($)	*10.94*	*11.09*		
Average hourly wage (%)				
Less than $7.25	*16.5*	*15.1*		
$7.26–$11.99	*47.7*	*47.1*		
$12.00–$14.99	*19.2*	*20.5*		
$15.00–$19.99	*12.9*	*13.2*		
$20 or higher	*3.7*	*4.1*		
Average weekly earnings[c] ($)	*365*	*379*		
Worked at least 35 hours per week (%)	*54.8*	*57.6*		
Worked regular daytime shift	*60.6*	*60.1*		
Employer-provided benefits (%)				
Paid sick days	*32.1*	*33.8*		
Paid vacation days	*41.0*	*43.1*		
Paid overtime	*49.4*	*49.9*		
A retirement plan	*36.6*	*36.8*		
A health or medical insurance plan offered	*47.5*	*46.8*		
Sample size (total = 2,637)	1,371	1,266		

[a]If a respondent worked multiple jobs in the 12 months before the interview, then only the characteristics of the primary job are reported. (The job at which the respondent worked the most hours is considered primary.) The jobs of respondents who were not working in the prior 12 months are not included in this exhibit.
[b]Hourly wage amounts above the 99th percentile were excluded from this calculation.
[c]Weekly earnings amounts above the 99th percentile were excluded from this calculation.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values. Outcomes shown in italics are nonexperimental. Statistical significance tests are not conducted on nonexperimental outcomes.
Source: Rent Reform 4-Year Followup Survey

The bottom part of exhibit 3.6 (in italics, with no impact estimates) presents the characteristics of jobs only for survey respondents with current or recent jobs.[68] By dropping non-working respondents (who are necessary to include for estimating impacts), these results provide a clearer description of the kinds of jobs held by respondents who were working. Overall, job characteristics of employed respondents are similar across the new rules and control groups. In both groups, a majority (about 58 percent) worked full time and at low-wage jobs. Hourly wages

[68] Because only respondents with jobs in each research group are compared, who might reflect different types of people across the two groups, valid impact estimates, which rely on comparing all sample members in each research group, cannot be estimated.

averaged $11, and fewer than 18 percent held jobs paying $15 or more per hour. Approximately one-third received paid sick days, and roughly one-third to almost one-half received other types of fringe benefits.

Exhibit 3.7 provides information on occupations and industries in which employed heads of households worked. The distributions are nearly identical for both research groups. Four service occupations—healthcare support, office and administrative support, food preparation and service, and sales—together account for nearly 60 percent of employed respondents' self-reported jobs. These occupations are occupations known to employ high proportions of low-wage workers (Ross and Bateman, 2019).

These patterns are not surprising, given that the new rent policy primarily created enhanced financial incentives intended to support and encourage tenants to increase their work effort. It did not directly seek to increase the skills or qualifications that tenants brought with them to the labor market, which can affect the wage rates employees may command.

Reasons for Not Working

As this chapter shows, data from both the NDNH administrative records and the participant survey indicate that most household heads in the study were attached to the labor force during the followup period. Indeed, over 82 percent of those in the new rules group in Lexington, Louisville, and San Antonio combined had worked in a formal UI-covered job at some point during the followup period, while about 75 percent of survey respondents said that they were either working or had looked for work in the 4 weeks prior to their interviews. However, many did not work consistently. For example, according to NDNH data for the three-PHA pooled sample, about 39 percent of the new rules group did not work during an average quarter during the followup period. (See exhibit 3.1.) Among survey respondents, 25.3 percent of the new rules group said they had not worked at all in the year before their interviews, and another 15 percent said they had worked for no more than 6 months in the prior year (exhibit 3.5). The corresponding rates for the control group are very similar.

Exhibit 3.7. Occupation and Industry of Primary Job Among Survey Respondents Employed Within 12 Months Prior to Interview: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules	Existing Rent Rules
Occupation		
Healthcare Support	*19.1*	*18.3*
Office and Administrative Support	*16.6*	*16.7*
Food Preparation and Service	*13.2*	*12.7*
Sales	*10.9*	*9.7*
Building Cleaning and Maintenance	*7.9*	*10.2*
Transportation and Material Moving	*7.3*	*6.9*
Personal Care and Service	*6.6*	*6.8*
Production Occupations	*5.3*	*5.0*
Educational Instruction and Library Workers	*3.0*	*2.5*
Protective Services	*1.2*	*1.5*
Community and Social Services	*1.7*	*2.4*
Management	*2.0*	*2.3*
Healthcare Practitioners and Technicians	*1.7*	*1.6*
Business and Financial Operations	*1.1*	*1.1*
Construction and Extraction	*0.5*	*0.7*
Arts, Design, Entertainment, Sports, and Media Workers	*0.7*	*0.2*
Installation, Maintenance, and Repair Workers	*0.4*	*0.2*
Computer and Mathematical Workers	*0.1*	*0.4*
Life, Physical, and Social Science Workers	*0.1*	*0.2*
Other	*0.2*	*0.0*
Industry		
Health Care and Social Assistance	*30.0*	*31.9*
Accommodation and Food Services	*16.2*	*13.9*
Retail and Electronic Shopping	*13.6*	*13.6*
Administrative, Support, Waste Management, and Remediation Services	*11.2*	*13.5*
Transportation, Warehousing, and Storage	*6.6*	*8.0*
Educational Services	*3.4*	*2.8*
Other Services (except Public Administration)	*3.8*	*2.6*
Manufacturing	*4.2*	*3.5*
Public Administration	*2.0*	*1.8*
Finance and Insurance	*2.8*	*2.2*
Arts, Entertainment, and Recreation	*1.4*	*1.4*
Professional, Scientific, and Technical Services	*2.1*	*1.1*
Construction	*0.6*	*1.3*
Real Estate Rental and Leasing	*0.7*	*0.9*
Information	*0.8*	*0.6*
Other	*0.4*	*0.7*
Sample size (total = 2,637)	1,371	1,266

Notes: Rounding may cause slight discrepancies in sums and differences. Sample sizes for specific outcomes may vary because of missing values. Outcomes shown in italics are nonexperimental. Statistical significance tests are not conducted on nonexperimental outcomes. Outcomes on this exhibit are mutually exclusive, reflecting occupations and industries of primary jobs for respondents who have worked within the past 12 months.
Source: Rent Reform 4-Year Followup Survey

Exhibit 3.8 shows that among all survey respondents in the new rules group, 23.1 percent were not active in the labor market when they were interviewed: they said they were not working *and* were not looking for work. This rate is only slightly lower than the control group rate (25.7 percent). The exhibit also shows that although some nonemployed tenants were seeking work, most of them (59.3 percent) said they did not look for work in the prior 4 weeks. Their reasons

varied, but health-related factors were by far the most important. As seen in the bottom panel of exhibit 3.8, 38.3 percent cited their own health problems as the primary reason; another 11.0 percent said they had a disability or were receiving SSI; 9.1 percent said they were caring for a child with health problems or a disability. Together, these health-related reasons account for why almost 59 percent of nonemployed respondents were not looking for work. In contrast, very few of these respondents (1.5 percent) said the primary reason was concern about losing their housing subsidies or their engagement in school or training (1.2 percent). Only about 8 percent cited the difficulty of finding childcare at a reasonable cost. This pattern of results is similar for nonemployed household heads in the control group who were not looking for work.

Were part-time workers looking for full-time work? Most were not. Again, health-related or family care reasons were the primary reasons for not seeking full-time work (not shown in exhibit 3.8).

Impacts on Receipt of Education and Training Credentials

Whether working or not, some household heads had engaged in efforts to increase their employment opportunities by trying to build their own human capital. However, the new rent policy did not increase their likelihood of obtaining education or training credentials by the 4-year survey. As exhibit 3.9 shows for Lexington, Louisville, and San Antonio combined, about 77 percent of household heads in the new rules group (and a similar proportion of those in the control group) had at least a high school degree or GED (General Educational Development), and roughly 10 percent in both groups achieved that credential (most likely a GED) during the followup period. Nearly one-third of household heads in each research group had a technical license or certificate at the time of the survey, with a somewhat higher proportion of the new rules group achieving it during the followup period. About 16 percent of respondents in the new rules group, and almost as many in the control group, had a college degree (associate's or bachelor's).

Exhibit 3.8. Job Search Efforts and Reasons for Not Working: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Not currently working and did not look for a part-time or full-time job in the past 4 weeks	23.1	25.7	– 2.6 *	0.058
Sample size (total = 3,606)	1,839	1,767		
Among respondents not currently working, percentage who did not look for a part-time or full-time *job in the past 4 weeks*	*59.3*	*60.3*		
Sample size (total = 1,465)	710	755		
Primary reason for not working among respondents not working and not looking for work				
Health problems	*38.3*	*41.2*		
Disabled or receiving SSI	*11.0*	*10.2*		
Want to stay home with children	*4.6*	*8.2*		
No satisfactory childcare at a reasonable cost	*7.5*	*6.8*		
Caring for child with health problems or a disability	*9.1*	*6.6*		
Respondent caring for someone in their family other than child	*2.9*	*4.0*		
No jobs available	*1.0*	*2.7*		
Insufficient education or job skills	*1.5*	*2.2*		
Insufficient transportation	*2.1*	*2.0*		
No jobs that pay enough	*1.7*	*1.7*		
Pregnant or had a child within the past 3 months	*2.5*	*1.7*		
Feeling depressed or overwhelmed	*2.5*	*1.4*		
Concerned about losing housing subsidy	*1.5*	*1.0*		
Concerned about losing current health insurance	*1.2*	*0.9*		
Currently in school or training program	*1.2*	*0.8*		
Receiving financial support from spouse or partner	*0.2*	*0.7*		
Concerned about losing other benefits (food stamps, etc.)	*1.1*	*0.5*		
Insufficient work experience	*0.9*	*0.2*		
Dealing with drinking or drug problem	*0.7*	*0.0*		
Other	*4.3*	*4.4*		
Other reasons for not working				
Health problems	*11.2*	*9.8*		
Caring for child with health problems or a disability	*4.0*	*4.7*		
Want to stay home with children	*2.1*	*3.1*		
No satisfactory childcare at a reasonable cost	*2.8*	*2.9*		
Feeling depressed or overwhelmed	*4.8*	*2.8*		
Insufficient education or job skills	*2.0*	*2.6*		
Respondent caring for someone in their family other than child	*2.4*	*2.4*		
Concerned about losing housing subsidy	*1.2*	*1.8*		
No jobs that pay enough	*1.3*	*1.7*		
Insufficient transportation	*1.5*	*1.5*		
Insufficient work experience	*1.3*	*1.4*		
Concerned about losing other benefits (food stamps, etc.)	*0.9*	*1.4*		
Disabled or receiving SSI	*4.3*	*1.3*		
No jobs available	*1.0*	*1.1*		
Pregnant or had a child within the past 3 months	*0.6*	*0.8*		
Currently in school or training program	*1.4*	*0.7*		
Receiving financial support from spouse or partner	*1.0*	*0.4*		
Concerned about losing current health insurance	*0.7*	*0.0*		
Other	*7.6*	*8.1*		
Sample size (total = 869)	420	449		

SSI = Supplemental Security Income.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values. Outcomes shown in italics are nonexperimental. Statistical significance tests are not conducted on nonexperimental outcomes.

Source: Rent Reform 4-Year Followup Survey

Exhibit 3.9. Impacts on Education, Training, and Job Search Assistance: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Has any degree, license, or certificate	80.3	81.1	– 0.9	0.504
Earned since baseline	15.6	14.0	1.6	0.180
Has any trade license or training certification	31.7	32.6	– 0.9	0.544
Earned since baseline	8.8	7.6	1.3	0.169
Has any degree or diploma	77.1	78.4	– 1.3	0.334
Earned since baseline	10.1	9.6	0.6	0.565
Highest degree or diploma				0.190
GED certificate	11.4	12.7	– 1.3	
High school diploma	20.0	21.2	– 1.2	
Some college	29.4	30.1	– 0.6	
Associate's degree	11.8	11.2	0.6	
Bachelor's degree or higher	4.5	3.2	1.3	
Currently working toward degree, credential, or license	12.7	12.6	0.1	0.906
Sample size (total = 3,606)	1,839	1,767		

GED = General Educational Development.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values.
Source: Rent Reform 4-Year Followup Survey

Impacts by Subgroup

Different types of voucher holders may respond differently to an enhanced financial incentive to work that is built into the new rent policy. For example, even if inspired by the new policy to work or earn more, some adults may have greater difficulty doing so because of certain disadvantages, such as low education and skill levels, personal and family problems, childcare issues, transportation problems, health issues, or other work impediments. Others may seek and achieve employment outcomes even without the added inducement of a more favorable rent policy. For such tenants, the new rent policy may have little effect. In contrast, other tenants—who have been discouraged from trying to work or increase their earnings because they are concerned that much of their earnings gains will be offset by reductions in their housing subsidies—may respond well to a policy that addresses that disincentive.

This report examines differential responses to the new rent policy primarily for subgroups of voucher holders as defined by their employment status in the quarter before random assignment (using NDNH data) and by the age of the youngest child in the household at the time of random

assignment (using PHA data).[69] Other studies of workforce interventions for voucher holders, including the Family Self-Sufficiency program, have shown that the degree of prior employment is often a good predictor of the likelihood of future employment and earnings. Moreover, several studies have found that impacts on future employment and earnings are greater for individuals with less prior employment because programs often help individuals who are not employed to get jobs to be easier than helping those who are already working to increase their earnings or advance to higher-wage jobs (Hendra et al., 2011; Nuñez, Verma, and Yang, 2015; and Michalopoulos, 2005). In the Rent Reform Demonstration sample, about 46 percent of the heads of households (for all four PHAs combined) were not working in the quarter before random assignment. With Lexington, Louisville, and San Antonio combined, 44 percent were not working at that time.

A common perception is that low-income parents with young children have greater difficulty working at all, or working full time, because of the difficulty they have in finding affordable childcare. Moreover, concerns about leaving older children and teenagers unsupervised after school may discourage parents with older children from working or working full time. In the Rent Reform Demonstration sample, about 77 percent of household heads had children who were under the age of 18; 28 percent had a child 5 years of age or younger at the time of random assignment.

Impacts by Initial Employment Status

Exhibit 3.10 shows the early impacts of the new rent policy for household heads according to their employment status in the quarter before random assignment. The results are for Lexington, Louisville, and San Antonio combined. In reviewing these results, it is important to note the stark differences in the control group's outcomes between those working and those who were not working in the quarter prior to random assignment. For example, among household heads in the existing rules group who were not already employed at the time of random assignment, 63.2 percent worked in a UI-covered job at some point in the full followup period; however, only about one-third (35.3 percent) worked in an average quarter. In contrast, the quarterly employment rate was 81.6 percent for tenants who were already working. The average total earnings for the two subgroups during that time were $17,435 and $56,881, respectively. (These averages include zeroes for individuals who had no earnings.) Thus, household heads in the

[69] MDRC's analysis plan prespecified the prior employment subgroup as a confirmatory subgroup and the age-of-youngest-child subgroup as an exploratory subgroup (see MDRC, 2016). Results for other subgroups were also explored, including subgroups defined in terms of the number of children and the combination of single parenthood and employment status at baseline. Among the pool sample, the subgroup analysis shows that no statistically significant differences exist in impacts by number of children or single parenthood and employment status at random assignment. In general, the subgroup impacts for each of the sites also did not show significant differences on impacts.

control group who were not already working remained out of work or worked inconsistently during the followup period.[70]

Exhibit 3.10. Impacts on Employment and Earnings Within First 42 Months of Followup, by Employment Status at Random Assignment: Lexington, Louisville, and San Antonio Combined, Heads of Households

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Not employed				
Full period (quarter 3–16)				
Ever employed (%)	62.7	63.2	– 0.6	0.783
Average quarterly employment[a] (%)	35.1	35.3	– 0.2	0.918
Total earnings ($)	16,678	17,435	– 757	0.487
Last quarter (quarter 16)				
Ever employed (%)	38.7	40.7	– 2.0	0.338
Total earnings ($)	1,576	1,769	– 193	0.120
Sample size (total = 2,086)	1,032	1,054		
Employed				
Full period (quarter 3–16)				
Ever employed (%)	97.6	98.1	– 0.5	0.364
Average quarterly employment[a] (%)	82.3	81.6	0.7	0.486
Total earnings ($)	57,365	56,881	484	0.701
Last quarter (quarter 16)				
Ever employed (%)	80.7	80.2	0.4	0.770
Total earnings ($)	4,643	4,611	33	0.819
Sample size (total = 2,666)	1,335	1,331		

[a]Average quarterly employment is calculated as the total number of quarters with employment divided by the total number of quarters of followup, expressed as a percentage.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. The H-statistic test was used to test for statistically significant differences in impact estimates across different subgroups. The differences in impacts across subgroup categories were not statistically significant. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

The new rent policy did not produce distinctly different patterns of effects on employment and earnings outcome measures for either subgroup for the three-PHA pooled sample. None of the summary impact estimates shown in exhibit 3.10 are statistically significant for either subgroup.

[70] A similar pattern has been observed in other studies of voucher holders. For example, in MDRC's evaluation of New York City's Family Self-Sufficiency program, adults in control group families receiving HCVs who were not working at the time of random assignment had an average quarterly employment rate of 25.4 percent over a 6-year followup period, compared with 61.7 percent among those who were already employed at that time (Verma et al., 2017).

This same conclusion generally applies to Lexington, San Antonio, and Washington, D.C., when their results are examined separately. (See exhibit 3.11.)

The subgroup patterns are sharper in Louisville. In that PHA, the full-sample negative impacts on employment and earnings appear to be driven mostly by negative effects for the initially nonemployed subgroup. For example, over the full followup period, the impact on average quarterly employment was negative and statistically significant (-4.9 percentage points) for that subgroup, compared with a small positive, although statistically insignificant, effect of 1.5 percentage points for household heads already employed at the time of random assignment. The difference in these impacts across the two subgroup categories is also statistically significant. The average earnings impact for the full followup period was statistically significant -$3,251 for the nonworking subgroup, compared with a statistically insignificant -$1,779 for the already working subgroup. (The difference in impacts across those categories is statistically significant on the quarterly employment measure but not on the earnings measure.)

To explore whether the early effects of the new rent policy differed for heads of households depending on the presence of children in the household at the time of random assignment, families were divided into four groups: (1) those who had no children under the age of 18 years; (2) those whose youngest child was 5 years of age or younger; (3) those whose youngest child was 6 to 12 years of age; and (4) those whose youngest child was 13 to 17 years of age. One hypothesis is that families with very young children may have more difficulty responding to the stronger financial work incentives embedded in the new rent policy, in part, because of childcare issues.

Interestingly, using the pooled sample with Lexington, Louisville, and San Antonio combined and looking first at outcomes for household heads in the control group, attachment to the labor force does not appear to vary greatly according to the age of the youngest child. For example, as exhibit 3.12 shows, control group parents whose youngest child was 5 years of age or younger had an average quarterly employment rate of about 61 percent over the full followup period, which is close to the rate for those with teenage children (about 63 percent) and for those with no children (about 59 percent). Their average earnings were somewhat less, however.

When the impact findings are compared across these four subgroup categories, no clear patterns of statistically significant differences emerge across the child-age subgroups. Notably, however, household heads in each research group with the youngest children (0 to 5 years of age) were not less likely to work during the followup period than those with older children, although their cumulative earnings were somewhat lower.

Exhibit 3.11. Impacts on Employment and Earnings Within First 42 Months of Followup, by Employment Status at Random Assignment and by Public Housing Agency: Heads of Households

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value	
Lexington - Not employed						
Full period (quarters 3–16)						
Ever employed (%)	70.6	63.0	7.6	*	0.081	†
Average quarterly employment[a] (%)	41.6	37.0	4.6		0.173	
Total earnings ($)	19,001	18,820	181		0.945	
Last quarter (quarter 16)						
Ever employed (%)	46.5	42.4	4.1		0.389	
Total earnings ($)	1,764	1,844	– 80		0.765	
Sample size (total = 416)	209	207				
Lexington - Employed						
Full period (quarters 3–16)						
Ever employed (%)	97.6	98.4	– 0.8		0.497	†
Average quarterly employment[a] (%)	84.1	83.2	0.9		0.645	
Total earnings ($)	56,703	54,237	2,466		0.321	
Last quarter (quarter 16)						
Ever employed (%)	83.7	82.6	1.2		0.714	
Total earnings ($)	4,499	4,371	128		0.643	
Sample size (total = 563)	277	286				
Louisville - Not employed						
Full period (quarters 3–16)						
Ever employed (%)	61.4	65.2	– 3.9		0.217	
Average quarterly employment[a] (%)	33.1	38.0	– 4.9	**	0.033	††
Total earnings ($)	16,469	19,720	– 3,251	*	0.065	
Last quarter (quarter 16)						
Ever employed (%)	35.9	42.5	– 6.6	**	0.046	††
Total earnings ($)	1,581	2,031	– 450	**	0.033	
Sample size (total = 855)	405	450				
Louisville - Employed						
Full period (quarters 3–16)						
Ever employed (%)	97.9	97.9	0.1		0.955	
Average quarterly employment[a] (%)	83.8	82.3	1.5		0.331	††
Total earnings ($)	59,910	61,689	– 1,779		0.404	
Last quarter (quarter 16)						
Ever employed (%)	82.2	80.4	1.8		0.465	††
Total earnings ($)	4,906	5,003	– 97		0.688	
Sample size (total = 1,050)	541	509				
San Antonio - Not employed						
Full period (quarters 3–16)						

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Ever employed (%)	60.4	60.6	– 0.2	0.956
Average quarterly employment[a] (%)	33.7	31.3	2.4	0.324
Total earnings ($)	15,326	14,536	790	0.637
Last quarter (quarter 16)				
Ever employed (%)	38.2	37.1	1.1	0.741
Total earnings ($)	1,453	1,457	– 4	0.983
Sample size (total = 815)	418	397		
San Antonio - Employed				
Full period (quarters 3–16)				
Ever employed (%)	97.3	97.9	– 0.5	0.582
Average quarterly employment[a] (%)	79.8	79.9	– 0.1	0.944
Total earnings ($)	55,423	53,354	2,069	0.325
Last quarter (quarter 16)				
Ever employed (%)	78.0	78.4	– 0.4	0.874
Total earnings ($)	4,484	4,327	157	0.505
Sample size (total = 1,053)	517	536		
Washington, D.C. - Not employed				
Full period (quarters 3–16)				
Ever employed (%)	47.9	45.4	2.5	0.421
Average quarterly employment[a] (%)	21.8	20.8	0.9	0.620
Total earnings ($)	13,430	13,781	– 350	0.836
Last quarter (quarter 16)				
Ever employed (%)	25.8	22.4	3.5	0.200
Total earnings ($)	1,251	1,152	99	0.574
Sample size (total = 976)	488	488		
Washington, D.C. - Employed				
Full period (quarters 3–16)				
Ever employed (%)	97.0	96.3	0.7	0.558
Average quarterly employment[a] (%)	78.7	77.1	1.5	0.412
Total earnings ($)	81,808	81,151	657	0.819
Last quarter (quarter 16)				
Ever employed (%)	76.2	75.2	0.9	0.749
Total earnings ($)	6,264	6,256	8	0.980
Sample size (total = 861)	431	430		

[a]Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. The H-statistic test was used to test for statistically significant differences in impact estimates across different subgroups. Statistical significance levels are indicated as: ††† = 1 percent; †† = 5 percent; † = 10 percent. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

Exhibit 3.12. Impacts on Employment and Earnings Within First 42 Months of Followup, by Age of Youngest Child in the Household at Random Assignment: Lexington, Louisville, and San Antonio Combined, Heads of Households

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
No children under age 18 years					
Full period (quarters 3–16)					
Ever employed (%)	78.4	76.7	1.8		0.469
Average quarterly employment[a] (%)	59.6	59.2	0.3		0.880
Total earnings ($)	35,512	36,349	– 837		0.655
Last quarter (quarter 16)					
Ever employed (%)	57.9	62.3	– 4.4		0.138
Total earnings ($)	2,859	3,087	– 228		0.285
Sample size (total = 843)	415	428			
Children ages 0–5 years					
Full period (quarters 3–16)					
Ever employed (%)	83.8	85.4	– 1.6		0.360
Average quarterly employment[a] (%)	58.7	60.5	– 1.8		0.242
Total earnings ($)	34,720	35,746	– 1,025		0.487
Last quarter (quarter 16)					
Ever employed (%)	61.9	63.3	– 1.4		0.537
Total earnings ($)	3,167	3,122	45		0.797
Sample size (total = 1,429)	696	733			
Children ages 6–12 years					
Full period (quarters 3–16)					
Ever employed (%)	84.2	83.8	0.4		0.781
Average quarterly employment[a] (%)	64.1	62.3	1.8		0.198
Total earnings ($)	42,745	42,607	137		0.929
Last quarter (quarter 16)					
Ever employed (%)	63.8	62.8	1.0		0.627
Total earnings ($)	3,459	3,553	– 94		0.577
Sample size (total = 1,713)	859	854			
Children ages 13–17 years					
Full period (quarters 3–16)					
Ever employed (%)	78.5	82.5	– 4.0	*	0.100
Average quarterly employment[a] (%)	62.6	62.7	– 0.1		0.954
Total earnings ($)	44,790	43,429	1,360		0.539
Last quarter (quarter 16)					
Ever employed (%)	64.4	63.0	1.4		0.645
Total earnings ($)	3,664	3,684	– 20		0.936
Sample size (total = 771)	398	373			

[a]Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. The H-statistic test was used to test for statistically significant differences in impact estimates across different subgroups. Statistical significance levels are indicated as: ††† = 1 percent; †† = 5 percent; † = 10 percent. Sample sizes for specific outcomes may vary because of missing values.
Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

A Closer Look at the Louisville Findings

The overall pattern of negative effects in Louisville is puzzling because tenants in the control group, who faced a 30-percent implicit marginal tax on increased earnings and were not subject to a minimum TTP, had a *weaker* economic incentive to improve their employment and earnings than tenants in the new rent rules group. Yet, beginning in the second followup year, the control group began to work and earn somewhat more than the new rules group. What could explain this pattern? The data available for this report inform several conjectures about factors that may help explain these negative impacts. However, the actual influence of those factors is uncertain, and firm conclusions cannot be drawn at this time.

In trying to make sense of the Louisville results, it is important to remember that the negative effects are more heavily concentrated in the subgroup of household heads who were not employed at baseline. (See exhibit 3.11.) It is also worth noting that while 22 percent of Louisville families opted out of the new rent policy, this rate varied widely by subgroup: It was almost twice as high for the nonemployed subgroup (30 percent) than the already employed subgroup (17 percent). If the new rent policy effectively boosted work outcomes, its measured effects would have been substantially diluted for the nonemployed subgroup because almost a third of that group was subject to the existing rent rules that applied to the control group rather than to the new rent policy. Thus, it would not be surprising to see a smaller positive effect on the new rules group, especially the nonemployed subgroup. Had the tenants randomly assigned to the new rent rules group who opted out of the new policy instead opted in, perhaps they would have benefited from the new policy, thus increasing the overall estimated impact for the new rules group.

But even if it were true that the opt-out families diluted the overall intensity of the implicit work incentives created by the new rent policy and, in doing so, reduced the policy's average effects on labor market outcomes for the entire new rules group, this would not explain why the policy's effects were *negative*—that is, why the new rules group worked and earned *less* than the control group. One would have expected that the opt-out tenants would have behaved similarly to their counterparts in the control group since they were subject to the same rules. Therefore, the issue may lie more with the tenants who opted in and were fully exposed to the new rent rules.

One conjecture is that household heads in the new rules group who opted in were more likely than their control group counterparts to go back to school or take training courses to increase their earnings potential in the future and work less in the short term. Findings from the 4-year

survey of household heads suggest that this was not the case because no impacts on educational outcomes were evident for the nonemployed subgroup.

Another conjecture is that these household heads were more likely to have partners who contributed to family income, even if they were not living in the household. Thus, an increase in "partnering" in general could have added income to the household. Among the subgroup of household heads who were not employed at baseline, data from the survey show that at the time of their interviews, respondents in the new rules group were less likely by 7.1 percentage points to be "unpartnered"—that is, "unmarried or not living with a partner"—compared with their control group counterparts.[71] In most cases, the partners were spouses, and even if they were not living in the same household, they may have contributed money to the household, making it easier for some household heads not to work or work less than they otherwise would have.

Another factor that may have contributed to negative impacts for Louisville's nonemployed subgroup concerns families' TTPs. Families who opted out of the new rent policy paid the same TTPs as they would have paid if they had been randomly assigned to the control group.[72] However, those who opted in may have paid somewhat lower TTPs, on average, than they would have paid during the next 3 years had they opted out, leaving them with somewhat larger housing subsidies.[73] Although the difference in the average subsidy amount in any given month was likely to be small, for some opt-in families, the combination of a small extra subsidy plus any other income that partners may have added to the household, as discussed above, may have contributed to what economists refer to as an "income effect." Although they could have benefited under the new rent rules by working more to increase their income (an "incentive effect"), some household heads, particularly those with significant work impediments, may have felt able to work a little less than they otherwise would have.

Here it is relevant to consider the finding presented earlier in this chapter that, across the PHAs, many household heads who did not work and were not looking for work, or who were working part-time and not looking for full-time work, said they had made that decision because of their own health problems or because of their responsibilities to care for other household members who were ill or disabled. Thus, it seems plausible that some household heads in the Louisville nonemployed subgroup who opted into the new rules group, who might otherwise have worked or increased their work hours (had they been in the control group), chose not to do so because of health problems or family care-related responsibilities.

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[71] The TOT estimate of this effect suggests a reduction of about 10 percentage points.

[72] The opt-out families paid TTPs that were somewhat lower than they would have paid had under the new rent rules, in large part because of the minimum TTP requirement. See Riccio, Deitch, and Verma (2017), appendix C.

[73] Data limitations make it impossible to determine what the TTPs of the opt-ins would have been over the followup period under the existing rent policy, or to get precise TTP estimates for each subgroup. As some context, however, all families in the new rules group (ignoring the subgroups), the average monthly TTP among those still on the voucher program at the end of 30 months of followup was $238 compared with $271 among controls still on the voucher program at that time, a difference of $33 per month (or about $42 TOT estimate, if attributed entirely to the opt ins). See Riccio, Verma, and Deitch (2019).

Possibly reinforcing this decision and contributing to the growth in negative earnings effects into the third followup year was the new rent policy's effect on this subgroup's self-reported SNAP receipt and receipt of Supplemental Security Income (SSI) or Social Security Disability Income (SSDI) benefits. As discussed in chapter 4, respondents to the survey of household heads were asked to identify their sources of income in the month before the interview. In Louisville's nonemployed subgroup, families in the new rules group were more likely by 7.2 percentage points than similar respondents in the control group to say they were receiving SSI or SSDI (36 percent versus 28.8 percent, respectively). They were also more likely by 6.2 percentage points to report receiving SNAP benefits (65.2 percent versus 58.9 percent). (Both of these impact estimates are statistically significant.)[74] The increase in transfer income (a likely product of initial earnings reductions in Year 2), combined with a possible increase in income from partners and a small TTP reduction (relative to what might have occurred under existing rules), may have made it easier for some household heads in this subgroup who had work impediments to continue to work and earn less over the remainder of the followup period than they would have under the existing rent policy.

Although these ideas are speculative, they suggest some possible ways in which the new rent policy, designed to promote work, might have the opposite effect for some families in some contexts. It is also possible that some families in other PHAs had similar experiences and responded in similar ways, but on a scale less than in Louisville. The evaluation's final report will show whether these negative effects persist through the end of the 6-year followup period, which concludes at the time of the second triennial recertification for the new rules group.

Impacts on Employment and Earnings for Other Adults in the Household

Approximately 37 percent of the study's households included adults who were not heads of households. As discussed previously, these 3,397 "other adults" were primarily the young adult children of the household heads at random assignment time. Few were spouses or partners of the household heads; more than 25 percent were no longer on the household's lease 2 years after the initial recertification. Appendix C presents the findings on these adults.

Appendix exhibit C.4 shows the overall pooled employment and earnings impacts for the non-heads of households. Within the control group, employment rates for this group were roughly comparable with those of the heads of households, with about 83 percent having worked at some time in a UI-covered job during the 16 quarters of followup and about 56 percent working in an average quarter. However, their average earnings were somewhat lower. That exhibit also shows that the new rent rules produced no impacts on employment for the nonheads of households.

[74] The respective TOT estimates for these subgroup impacts are 9.3 percentage points for SSI-SSDI receipt, and 8 percentage points for SNAP receipt.

Average earnings are somewhat lower for those in the new rules group than in the existing rules group, but the differences are generally not statistically significant.[75]

Conclusion

Against a backdrop of substantial labor force participation and a rising control group earnings trend, the new rent policy, so far, has had limited success in improving household heads' labor market outcomes, according to analyses based on NDNH data. Two PHAs—Lexington and San Antonio—showed some statistically significant positive effects on either employment rates or average earnings at some points during the followup period, suggesting the new policy's potential to improve labor market outcomes. However, these effects were not consistently statistically significant. They began to dissipate in Year 3 as families in the new rules group in each of those sites got closer to their triennial recertifications. Surprisingly, the new rent policy also produced negative labor market effects in Louisville. The survey data suggest that the new rent policy may have produced a small positive effect on "current employment" at the time of the survey interview (even in Louisville) if self-reported jobs, some of which may not be covered by the UI system, are considered. Still, the effect is not large and only covers a point in time.

Chapter 5 shows that, across all the PHAs, control group families left the voucher program faster than families in the new rules group. The higher exit rate among control group families might have contributed to the new rent policy's diminishing impacts on labor market outcomes over time in Lexington and Louisville. As they left the voucher program, control group families were no longer subject to the 30-percent implicit tax on earnings. In other words, they had no more housing subsidy to lose by increasing their earnings. This is akin to the condition faced by their counterparts in the new rules group during the 3-year period until the triennial recertification—except that the zero marginal tax on earnings became permanent after exiting the voucher program. Thus, as more control group members exited the voucher program during the first 3 years of followup than families in the new rules group, the weaker the "treatment differential" between the two research groups became.

Longer-term findings will show whether the diminished labor market effects persist or whether the second 3-year cycle will change these results during which TTPs were capped again for the new rules group.

[75] Appendix C also includes results for all adults combined, which generally follow similar patterns.

Chapter 4
Impacts on Household Composition, Benefits, and Poverty

When assessing a policy designed to help families progress toward greater economic well-being through work, it is important to consider its effects on families' receipt of income-conditioned (or "means-tested") public benefits, including welfare and other income transfers as well as housing subsidies. This is because increases (or decreases) in earnings may cause corresponding changes in those benefits, thus affecting a family's overall income and resources. Chapter 5 examines how the new rent policy affects the amount of subsidy that voucher holders receive. The current chapter examines the new policy's effects on other income-conditioned benefits, including Temporary Assistance for Needy Families (TANF), commonly known as "welfare," and the Supplemental Nutrition Assistance Program (SNAP), commonly known as "food stamps," both of which are intended to assist low-income families. The chapter also provides estimates of family poverty rates. Because these benefits and poverty rates generally apply to the household, not just the head of household, the chapter looks first at household composition, using data from when a survey was administered to household heads—roughly 4 years after their initial recertifications at the beginning of the study. Overall, the new rent policy had little effect on household composition, benefit receipt, or poverty rates.

Impacts on Household Composition

Overall, according to the survey of household heads (some of whom had already left the voucher program), the two research groups had quite similar household composition patterns at the time of the survey. Exhibit 4.1, which provides data for families in Lexington, Louisville, and San Antonio combined, shows, for example, that in over half of the households, the household head was the only adult. No more than 10 percent of the household heads in each research group lived with a spouse or a partner at the time of the survey interview. Where other adults were present, therefore, they were most likely the household heads' adult children. In the new rent rules group, about 32 percent of households had two adults, including the household head, and another 14 percent had three or more. Overall, the number of adults averaged 1.7. These patterns were very similar for the control group.

The two research groups also differed little at the time of the survey in the number of children in their families. About one-fourth of families had no children under the age of 18. This is a higher proportion than at the beginning of the study, according to public housing agency (PHA) records, reflecting the fact that some children turned 18 years old during the followup period.[76] Still, over 40 percent of families had one or two children, and about 31 percent had three or more.

[76] See chapter 2, exhibit 2.1.

Exhibit 4.1. Impacts on Household Composition: Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Current marital status (%)					0.189
Married, living with spouse	7.2	6.4	0.7		
Married, not living with spouse	11.5	9.3	2.3		
Not married, living with partner	2.8	2.2	0.6		
Not married, not living with partner	78.4	82.0	– 3.6		
In month prior to interview					
Average number of adults in household	1.7	1.7	0.0		0.928
Number of adults in household (%)				*	0.066
1	53.6	56.9	– 3.3		
2	32.0	27.9	4.1		
3 or more	14.4	15.2	– 0.7		
Average number of children in household	1.9	1.8	0.1		0.347
Number of children in household (%)					0.592
0	24.4	26.6	– 2.2		
1–2	44.5	41.9	2.6		
3 or more	31.1	31.5	– 0.4		
Within the 12 months prior to interview					
Added someone to household and lease (%)	6.4	6.0	0.4		0.744
Removed someone from household and lease (%)	9.2	8.9	0.3		0.833
Sample size (total = 1,801)	923	878			

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values. The items in this section of the survey were administered to a random subsample (N = 1,801) of the survey respondents.
Source: Rent Reform 4-Year Followup Survey

Compared with existing rules, the new rent policy reduced the disincentive for a household head to add another adult to the lease during the 3 years after the triennial recertification and to take off the lease children who turned 18 years old. That is because the income of an adult added to the lease during that period, or the increased income of another adult already on the lease, does not require an interim change in the family's total tenant payment (TTP)—the amount that families were expected to contribute toward their rent and utilities when they were on the voucher program—unless the size of the voucher had to increase to cover a larger housing unit. Thus, barring an increase in the voucher size, once the TTP is capped, it does not increase until the next triennial recertification, no matter how much new income comes into the household. In contrast, under the existing rent rules, any increase in a family's income when a new member is added to the household is counted and the TTP is recalculated, either at the time of the change or at the next annual recertification, at the discretion of the PHA. The policy change under the new

rent rules was intended to avoid discouraging families from adding spouses or partners to their households out of concern that it would reduce their housing subsidies, at least during the 3 years before the next triennial recertification.

The survey data suggest the new policy had little effect on household composition changes, at least near the time when families were interviewed. (Recall that families were included in the survey even if they were no longer on the voucher program when they were interviewed.) Exhibit 4.1 shows that only about 6 percent of families in either research group added someone to the household and lease in the 12 months before the survey interview, and only about 9 percent removed a person. The survey did not ask about such changes that may have occurred earlier in the followup period.

Impacts on Temporary Assistance for Needy Families and Supplemental Nutrition Assistance Program Receipt

Nationally, a relatively small proportion of Housing Choice Voucher (HCV) families are TANF recipients, but most receive SNAP benefits. The same is true among families in the demonstration (Eggers, 2017).

Because TANF and SNAP benefits are income-conditioned, an intervention that changes tenants' earnings should eventually lead to changes in their receipt of those benefits. So far, the new rent policy has had little effect on families' receipt of TANF or SNAP benefits during the 42-month followup period. Among all Lexington, Louisville, and San Antonio families combined, TANF receipt was extremely low: Only about 6 percent of families in the new and existing rules groups had ever received TANF during the followup period, as exhibit 4.2 shows. Average benefit amounts received per family were also quite small. (These averages include zero values for families who did not receive TANF.) Overall, the very low reliance on TANF among families in these three PHAs left little room for the new rent policy to generate reductions. And, indeed, none of the differences between the two groups in receipt rate or amount of benefits received is sizable or statistically significant.

Appendix exhibit D.1 presents the results for each PHA separately. It shows that the proportion of families in the existing rules group who ever received TANF during the followup period was comparably low across Lexington, Louisville, and San Antonio, where less than 9 percent of families in each of these sites had received TANF. The receipt rate fell to less than 2 percent at the end of the followup period (Quarter 16). In Washington, D.C., TANF receipt was much higher than in any of the other PHAs.[77] Among the existing rules group in that PHA, just over one-third (34 percent) received TANF at some point during the followup period, and 18.1 percent were receiving it in Quarter 16. With no earnings impacts observed for that PHA, it is

[77] To a large extent, this difference likely reflects less restrictive TANF policies in Washington, D.C., than in Kentucky and Texas. It does not reflect lower earnings among household heads in Washington, D.C., because, as chapter 3 showed, average cumulative earnings were higher among household heads in that PHA than among household heads in the other three PHAs.

not surprising that TANF receipt rates and the amount of TANF benefits received were virtually the same for the two research groups.

In contrast to TANF, most families in the Rent Reform Demonstration received SNAP during the first 42 months of followup. Exhibit 4.2 shows that, with Lexington, Louisville, and San Antonio combined, 87.4 percent of household heads in the existing rules group had a SNAP case during the followup period, and 56.1 percent had a case in the last quarter of that period (Quarter 16). The total average value of SNAP benefits received during the full followup period (counting zero for families who had not received those benefits) was $11,064. (This amount translates to a total average value of $12,659 per family that had received SNAP at any time during the followup period.) The SNAP receipt rates and mounts received were somewhat lower in Washington, D.C., than in the other PHAs, as appendix exhibit D.1 shows. Even there, however, 78.5 percent of the existing rules group received SNAP.

Exhibit 4.2. Impacts on Household Benefits Receipt Within First 42 Months of Followup: Heads of Households in Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
TANF receipt				
Full period (quarters 3–16)				
Ever received (%)	6.0	5.4	0.5	0.424
Average quarterly receipt (%)	1.4	1.6	– 0.1	0.574
Amount received ($)	113	134	– 21	0.304
Last quarter (16)				
Ever received (%)	0.7	1.1	– 0.4	0.161
Amount received ($)	4	6	– 2	0.381
SNAP receipt				
Full period (quarters 3–16)				
Ever received (%)	88.5	87.4	1.1	0.204
Average quarterly receipt (%)	66.2	66.2	0.0	0.990
Amount received ($)	11,021	11,064	– 43	0.860
Last quarter (16)				
Ever received (%)	56.7	56.1	0.6	0.641
Amount received ($)	637	632	5	0.804
Sample size (total = 4,756)	2,368	2,388		

SNAP = Supplemental Nutrition Assistance Program. TANF = Temporary Assistance for Needy Families.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. A two-tailed t-test was applied to the differences between research group outcomes. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Rounding may cause slight discrepancies in sums and differences. Dollar averages include zero values for sample members who did not receive TANF or SNAP.
Source: MDRC calculations using administrative records data

In San Antonio, SNAP outcomes over the full followup period differed little between the new and existing rent rules groups. Why did the new rent policy's positive earnings impacts in that site in the first 2 years of followup not lead to reductions in the amount of SNAP benefits received? One reason may have to do with how benefit rates are determined. The rules for calculating benefit amounts are such that a simple dollar-for-dollar relationship with income does not exist. For example, the benefit rules include earnings disregards (excluding some amount of earnings from the income calculations on which eligibility and benefit amounts are based) and income thresholds that, when exceeded, cause benefits to drop to zero. Family size and other considerations also matter. In addition, income increases need not be reported to the SNAP agency immediately. Thus, a dollar increase in income does not necessarily translate into an immediate dollar reduction in benefits. Furthermore, the earnings gains themselves began to shrink in Year 3.

In Louisville, a somewhat higher proportion of families in the new rent rules group (89.6 percent) than in the control group (87.2 percent) had ever received SNAP benefits (a 2.4-percentage-point increase, which is statistically significant). (See appendix exhibit D.1.) The cumulative amount of benefits received was also higher, although not by a statistically significant degree, and the difference disappeared in the last followup quarter. In general, a larger impact on SNAP benefits might have been expected, considering the new rent policy's negative effects on earnings in Louisville. Although the reasons this did not occur are uncertain, it is possible that some families delayed or did not seek SNAP benefits or changes in the benefit amounts to which they may have been entitled. Another possible reason is that, given how SNAP benefits are calculated, some families' benefit adjustments may have been small concerning the change in income.

Impacts on Family Income and Poverty

Exhibit 4.3 uses data from the survey of household heads to paint a broader picture of families' income sources, total income, poverty rates, and noncash safety-net benefits. (It should be kept in mind that 24 percent of survey respondents were no longer receiving vouchers at the time of their interviews; see chapter 2.) The exhibit shows that in the month before the interview, with results for Lexington, Louisville, and San Antonio combined, about three-fourths of respondents said they had received public health insurance (such as Medicaid), over one-half received SNAP benefits, nearly half had children enrolled in the free or reduced-price school lunch program, and over one-fifth had income from Supplemental Security Income (SSI) or Social Security Disability Income (SSDI). The receipt rate was much lower for other benefits. Overall, the differences in benefit receipt rates between the new rules group and the existing rules group were small and most were not statistically significant. About one-fourth of families in each group received child support payments.

Exhibit 4.3. Impacts on Household Income: Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Income sources					
Household income source in month before interview[a] (%)					
Earnings from respondent or other household members[b]	70.8	63.8	7.0	***	0.001
Respondent's earnings	63.6	60.2	3.4	**	0.027
Other household members' earnings[b]	23.5	19.6	3.9	**	0.039
SNAP/food stamps	55.2	55.9	– 0.7		0.670
TANF or other cash assistance	2.0	2.6	– 0.6		0.272
SSI-SSDI	21.8	22.9	– 1.1		0.385
Unemployment insurance	0.9	1.8	– 0.9	**	0.021
WIC	6.9	8.0	– 1.1		0.208
Home energy assistance	9.5	9.0	0.5		0.593
Free or reduced-price lunch	47.6	44.2	3.4	**	0.031
Public health insurance[c]	75.0	73.4	1.6		0.253
Child support	25.0	24.2	0.8		0.560
Alimony	1.1	0.3	0.7	***	0.010
Other	4.8	3.8	1.0		0.146
Income and poverty					
Average total household income in month prior to interview[d,e] ($)	1,240	1,211	28		0.333
Total household income in prior year as a percentage of the federal poverty level (%)					0.851
Less than 50%	41.5	41.7	– 0.2		
50–100%	37.2	36.0	1.2		
101–129%	10.4	10.8	– 0.4		
130% or more	10.9	11.5	– 0.6		
Sample size (total = 3,606)	1,839	1,767			

PHA = public housing agency. SNAP = Supplemental Nutrition Assistance Program. SSDI = Social Security Disability Insurance. SSI = Supplemental Security Income. TANF = Temporary Assistance to Needy Families.
WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

[a]Percentages may add up to more than 100 percent because respondents may have multiple income sources.

[b]This measure is missing for all respondents who were not randomly selected to respond to the household characteristics section of the survey.

[c]Public health insurance includes Medicaid, CHIP, DC Healthy Families, DC Healthcare Alliance, Immigrant Children's Program (ICP), Kentucky Health, STAR, STAR KIDS, STAR PLUS, as well as any other government-funded health insurance

[d]Monthly household income amounts equal to or greater than $5,000 (above the 99th percentile) were excluded from this calculation.

[e]Annual household income is calculated by multiplying by 12 the respondent's income in the month before the survey interview. The federal poverty level was calculated based on annual income (monthly income multiplied by 12) and the household size at the time of the survey. To estimate the poverty categories for all households, household size data were imputed from PHA records for those missing responses to the household size questions. The poverty threshold was measured according to the 2019 Poverty Guidelines.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values.

Sources: Rent Reform 4-Year Followup Survey and administrative data from the PHAs

Although study families made considerable use of government safety-net benefits, most survey respondents reported that their households had some earned income.[78] For example, 70.8 percent of respondents in the new rules group said their household income in the prior month included their own earnings (the main source of earnings) and/or another household member's earning, compared with 63.8 percent of control group respondents.[79] This finding represents a statistically significant increase of 7 percentage points over the control group rate.

Despite the high proportion of families with earned income, most voucher holders in the sample remained poor. For example, respondents in the new rules group reported an average prior-month income from all sources of only $1,240. On an annual basis, this would put over three-fourths (79 percent) at or below the federal poverty line, with about 42 percent with income falling below 50 percent of the poverty line—a benchmark often considered an indicator of severe poverty. These income and poverty results are nearly identical for the control group.

Thus, for the pooled sample of families in Lexington, Louisville, and San Antonio, the new rent rules did not lead to a reduction in family poverty.[80]

Not only did most families have very low incomes, few had other financial assets. As Exhibit 4.4 shows, for the three PHAs combined, about 90 percent had no savings, over two-thirds had any debt, and over one-fourth had debt exceeding $20,000. Again, no appreciable distinctions are evident between the new and existing rules groups.

These financial indicators present only a partial view of families' material circumstances. Chapter 6 looks beyond income, savings, and debt to consider the new rent policy's effects on the degree to which families were experiencing material hardships, such as difficulty paying their rent or getting enough of the food their families needed.

[78] Household-level earnings were not reported in chapter 3 because it is not possible to construct household-level estimates using NDNH data.

[79] These estimates are based on questions asked of the subset of survey respondents to whom the interview module on household composition was administered. The impact on respondent's own earnings is close in magnitude to the impact on current self-reported employment presented in chapter 3 for the full survey respondent sample.

[80] The new policy also did not lead to an increase in family poverty in Louisville, at least at the time of the survey, despite the policy's negative effects on earnings as measured using New Database on New Hires (NDNH) administrative data, which largely covered a period prior to the time respondents completed the survey. (See chapter 3.)

Exhibit 4.4. Impacts on Banking, Savings, and Debt: Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Currently has bank account (%)	46.3	44.1	2.2	0.195
Currently has savings (%)	11.4	11.2	0.2	0.825
Average savings[a] ($)	36	35	0	0.952
Average savings (%)				0.666
No savings	90.4	90.8	– 0.3	
$1–$499	7.5	6.9	0.7	
$500–$1,999	1.5	1.8	– 0.4	
$2,000 or more	0.6	0.5	0.0	
Currently has loans or debt[a,b] (%)	69.5	67.0	2.5	0.114
Average current loans or debt ($)	14,465	13,829	635	0.396
Average current loans or debt (%)				0.401
No debt	32.1	34.7	– 2.6	
$1–$1,999	9.0	9.7	– 0.7	
$2,000–$9,999	19.3	17.5	1.8	
$10,000–$19,999	13.9	13.1	0.8	
More than $20,000	25.8	25.0	0.8	
Sample size (total = 3,606)	1,839	1,767		

[a]Values above the 99th percentile were identified as outliers and excluded from the calculations.
[b]This measure of loans or debt may include medical bills, credit card bills, student loans, and store accounts. It does not include mortgages and home loans.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values.
Source: Rent Reform 4-Year Followup Survey

Conclusion

This chapter shows that the new rent policy had little effect on household composition, benefit receipt, poverty rates, or assets. Moreover, they underscore the considerable financial need facing most families in the sample, and their substantial reliance on SNAP and SSI/SSDI benefits, and public health insurance, in addition to earnings from the head of household and other household members and child support payments. Poverty rates remained high, however, with about three-fourths of the survey respondents reporting monthly income from all sources that, when annualized, put them at or below the federal poverty line, with as many as 42 percent reporting income at one-half the federal poverty level, a common indicator of "deep poverty." Following chapter 5's discussion of families' use of housing subsidies, chapter 6 takes a closer look at their overall financial and material well-being.

Chapter 5
Impacts on Housing-Subsidy Outcomes

The new rent rules being tested for the federal Housing Choice Voucher (HCV) program in the Rent Reform Demonstration substantially change how the amount of money that families are expected to contribute toward their rent and utilities (called their "total tenant payments," or TTPs) is determined.[81] The new rules also include a minimum TTP, limit increases in TTPs due to income increases for 3 years at a time, modify in other ways how TTPs are adjusted in response to changes in families' incomes and circumstances and include a variety of safeguards to minimize the rent burden some families could experience from the minimum TTP or income losses. These features, taken together, were intended not only to create a greater financial incentive for voucher holders to work but to do so without exposing families to the risk of greater material hardship and without increasing the long-term costs of the voucher program.

Using public housing agency (PHA) data covering a 3.5-year (or 42-month) followup period and some data from a survey of household heads administered at approximately 4 years after a family's initial recertification, this chapter examines the effects of the new rent policy on a variety of outcomes related to families' participation in the voucher program and subsidy receipt during and shortly following the date when the triennial recertifications for the new rules group were expected to occur.

Relative to the outcomes of the existing rent rules (control) group, the new rent rules group, on average, paid somewhat lower monthly TTPs and received somewhat larger housing subsidies than families in the control group during the 3-year period after their initial recertifications at the beginning of the study. They were also less likely to exit the voucher program during the followup period. These findings reflect the expected consequences of the policy's efforts to support work by allowing tenants who increase their earnings to keep more of those earnings until their TTPs and subsidies are reset at the triennial recertification. However, after their triennial recertifications, families in the new rules group who remained on the voucher program began paying somewhat higher TTPs and received lower subsidies than their control group counterparts, which began to offset the extra expenditures on subsidies the PHAs made for these families in the first 3 years. The new rent rules also substantially reduced the formal actions that PHA staff had to take with or for voucher families, particularly those that tend to be more time-consuming, such as regular and interim recertifications. Some important differences in impacts on staff actions exist across the PHAs, reflecting, in part, differences in site-specific preexisting PHA policies that affected the control group.

Drawing on findings from the 4-year followup survey of household heads, the study examines families' reasons for exiting the voucher program. It found that for both research groups, the

[81] See chapter 1 for a full summary of the new rent policy, and exhibit 1.1 for a side-by-side comparison of the features of the new and traditional rent policies.

most commonly reported reason was that families' incomes grew to the point that they did not qualify to continue receiving vouchers. However, before the 3-year mark, this was a reason that would only apply to the control group, which was subject to annual and interim income reviews and recertifications, unlike the new rules group. At the same time, most families in each research group who left the voucher program did so for reasons other than income increases.

Calculating Families' Contributions to Their Housing Costs

Under HUD's traditional rent rules, the recertification process entails reassessing a family's continued eligibility for the voucher program, recalculating its expected contribution to its rent and utilities, and redetermining its housing subsidy. This process typically begins several months before the 1-year anniversary of the family's soon-to-be-expiring TTP. PHA housing specialists collect and verify the information that families submit on their current income and the income they anticipate having in the upcoming year and on changes in household composition or other pertinent circumstances. The housing specialists enter the data into the rent-calculation software system, have the system estimate the TTP, and notify families 30 days before their new rent "effective dates"—that is, the dates when their new TTP goes into effect.[82] These recertification activities take different amounts of time at different PHAs. For example, in Lexington, the process takes about 90 days from beginning to end and twice as long (180 days) in Washington, D.C.

Under the new rent policy, families assigned to the new rules group were required to document the income they had received from jobs or other sources during a defined 12-month period leading up to their initial recertification meetings after random assignment. (See chapter 1 and MDRC's baseline report for details; Riccio, Deitch, and Verma, 2017.) This information was used to calculate the families' retrospective incomes to determine their TTPs. The retrospective or 12-month look-back period ended the month before the family's recertification date. For example, if a family was scheduled for a recertification meeting on February 21, 2015, the 12-month period used to determine retrospective income was February 1, 2014, through January 31, 2015.[83]

The Rent Reform Demonstration did not change the rules about the types of income counted in calculating TTPs and rent subsidies.[84] Families were required to make a good-faith effort to provide proof of countable income for the requested period. When families were unable to provide appropriate income documentation, or when the PHAs were unable to verify past income

[82] For the initial recertification under the study, the PHA in Louisville included an additional 30-day period to allow families the option of opting out of the new rent policy.
[83] For a fuller discussion of estimating retrospective incomes, see Riccio, Deitch, and Verma (2017).
[84] Nonwage income that was set to expire by the end of the look-back period, such as TANF or unemployment insurance benefits, was not counted when calculating base income, however, because a family would not be able to count on such income going forward.

using their standard methods,[85] the PHAs followed agreed-upon procedures to impute gaps in reported household income.[86]

The PHA pays the difference between the family's TTP and its "gross rent." The gross rent is the amount of rent charged by the landlord for the unit (referred to as the "contract rent") plus an allowance for basic utilities if they are not included in the contract rent. The subsidy amount cannot exceed the PHA's payment standard (or maximum subsidy) for the local area, which is based on Fair Market Rents in the area. The subsidy is referred to as the housing assistance payment (HAP). If the landlord charges a rent that exceeds the payment standard, the family is responsible for that extra amount in addition to its TTP.[87] The TTP plus that extra amount make up the family's total housing cost, which HUD calls the "family share" of rent and utilities. Box 5.1 offers a simple illustration of these concepts in the case of Paige, a fictional voucher holder.

Impacts on Families' Housing Expenditures and Subsidies

The new rent policy had important effects on families' duration on the voucher program and the total amount of subsidies they received during the followup period. Although the magnitude of these effects varied across PHAs, the general pattern was the same: The policy reduced the proportion of families exiting the voucher program and increased the cumulative amount of subsidy they received. As discussed in chapter 2, the pooled impact estimate for average cumulative housing subsidy payments during this period represents a preliminary confirmatory outcome measure for the evaluation.

Impacts for All PHAs Combined

The top panel of exhibit 5.1 shows effects on these two outcomes for all four PHAs combined within the first 42 months of followup. This time frame covers the period beginning with the first month after the month in which a family's newly recalculated TTP was expected to take effect (the "effective date") after entering the study until 42 months later.[88] As the exhibit shows, by the end of the followup period, 19.2 percent of the new rent rules group had officially exited the voucher program, compared with 24.4 percent of the existing rules group—a reduction of 5.1

[85] Retrospective income was verified using the HUD Verification Hierarchy and the guidance provided in HUD Notice PIH 2010-19 (HA).

[86] The MDRC study team and the PHAs anticipated scenarios where families would struggle to obtain the required income documents—for example, pay stubs from early in the retrospective period—and developed rules and guidance for staff members to use in such situations.

[87] Voucher holders are allowed to rent units for which the contract rent exceeds the payment standard as long as those units do not require them to pay more than 40 percent of their incomes toward rent and utilities when they sign the lease. Under HUD's traditional rent rules, that 40 percent means 40 percent of their current/anticipated *adjusted* incomes. Under the new rent rules, it is 40 percent of their current/anticipated *gross* incomes.

[88] As explained in chapter 2, this report defines "Year 1" for the analysis of PHA data as the 12-month period beginning in the first month after the initial "effective date," with each subsequent year following suit. Depending on a family's initial expected TTP effective date (which occurred sometime between June 2015 and March 2016), the 42nd month ended between December 2018 and September 2019.

percentage points.[89] Largely (although not entirely) because of their extended duration on the voucher program, families in the new rules group received more in rental subsidies over the 42 months than the control group: $34,285 versus $32,365, respectively, for an increase of $1,920—or about 6 percent over the control group average. Both impacts are statistically significant. The cumulative subsidy measure's impact—a confirmatory outcome measure—remained statistically significant when adjusted for multiple outcomes.[90]

As explained in previous chapters, Washington, D.C., stands apart from the other three PHAs because it applied a biennial recertification schedule to the control group rather than HUD's traditional annual schedule. Consequently, TTPs were capped for the control group at the initial recertification for the first 2 years of followup, and then again at the first followup biennial recertification. Thus, at Month 42, control group families in Washington, D.C., were past the halfway point in their second 2-year period of capped TTPs. In contrast, control group families in the three other PHAs had recently completed their third annual recertifications. Because the biennial policy for Washington, D.C., differs from the traditional HUD policy applied to control group families in the three other PHAs, it is important to consider the pooled effects for the three PHAs separately. The second panel of exhibit 5.1 presents those results. It shows a somewhat larger reduction in the rate of exiting the voucher program, at 6.5 percentage points, for the three-PHA pooled sample (excluding Washington, D.C.). At $2,108 (an increase of nearly 10 percent above the control group average subsidy), the impact on total subsidy payments is also somewhat larger when Washington, D.C., is excluded. Both effects are statistically significant. In addition, the effect on subsidy payments, which was adjusted for multiple outcomes, remains statistically significant after that adjustment.

[89] Due to data limitations, a small number of families in Washington, D.C., who are counted as having "exited" may have transferred ("ported out") to another PHA and not left the voucher program during this period. To help put the pooled exit rates in context (although the metrics differ), one study found that nationally about 14 percent of families participating in the HCV program exit the program each year, and families who exited the HCV program in 2015 had stayed an average of 6.6 years. See McClure (2017).

[90] The impact estimates were adjusted using the Benjamini-Hochberg method described in appendix B of Riccio and Deitch (2019). The adjustment considers that impacts were also estimated for two additional confirmatory outcome measures. The impact estimate remains statistically significant, with an adjusted p-value = .000.

Box 5.1. Total Tenant Payment and Family Share

Total tenant payment (TTP) is the amount a family must contribute toward its rent and utilities. TTP is based on 28 percent of gross income for families in the new rent rules group of the Rent Reform Demonstration.

Housing assistance payment (HAP) is the housing subsidy (for rent and utilities) paid by the housing agency.

Family share includes the TTP and any extra housing costs above the payment standard, paid by the family.

Payment standard is the maximum combined rent and utilities subsidy that public housing agencies (PHA) will pay for families of given sizes, specific to each area and its fair-market rent. If a landlord charges a rent that exceeds the payment standard, the family is responsible for that extra amount in addition to its TTP.

Example: Paige is renting a housing unit that has a $1,150 contract rent. The payment standard for her housing subsidy is $1,100. She is responsible for paying a total of $200 (the family share), which includes her TTP of $150 (based on 28 percent of her income of $536 per month) and an additional $50, the amount by which the contract rent exceeds the payment standard. Thus, her rent is subsidized by $950 ($1,150 contract rent minus $200 family share)

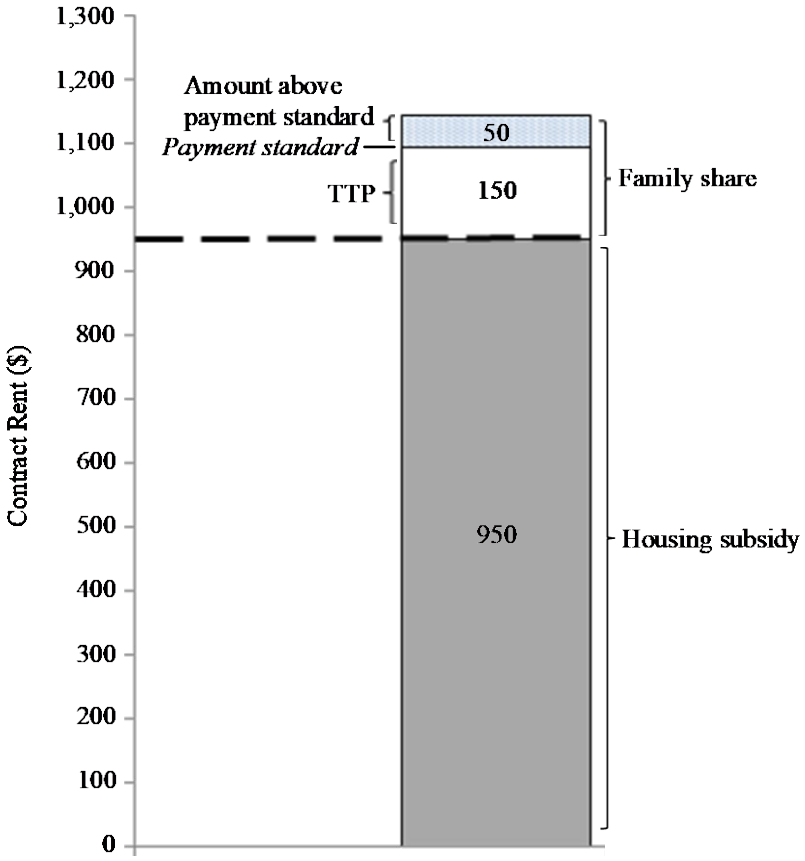

Exhibit 5.1. Impacts on Families' Exits from the Housing Choice Voucher Program and Amount of Housing Subsidies Received Within First 42 Months of Followup: All Public Housing Agencies

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
All PHAs				
Exited HCV program	19.2	24.4	-5.1 ***	0.000
Total housing subsidy in full period ($)	34,285	32,365	1,920 ***	0.000
Sample size (total = 6,665)	3,312	3,353		
Lexington, Louisville, and San Antonio Combined				
Exited HCV program	25.3	31.8	-6.5 ***	0.000
Total housing subsidy in full period ($)	24,129	22,021	2,108 ***	0.000
Sample size (total = 4,756)	2,368	2,388		

HCV = Housing Choice Voucher. PHA = public housing agency. TTP = total tenant payment.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling or pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values. Confirmatory outcomes were tested for multiple hypothesis testing using the Benjamini-Hochberg procedure. The adjusted p-value = .000 for the impact on the full period housing subsidy for all PHAs combined and for all PHAs combined, excluding Washington, D.C.
Source: MDRC calculations using PHA data

The analysis also examined a more comprehensive set of outcomes related to housing subsidies, giving primary attention to the three-PHA pooled results. Exhibit 5.2 distinguishes four dispositions: (1) currently enrolled in the voucher program and leased up (family is renting a unit and using the voucher); (2) currently enrolled in the voucher program but not leased up (not renting a unit); (3) officially exited the voucher program; and (4) ported out (transferred to) another PHA while retaining a voucher. The exhibit shows that, for Lexington, Louisville, and San Antonio combined, 71.9 percent of families in the new rent rules group were still in the voucher program and leased up at the end of the 42-month followup period for this report compared with 65.1 percent of the existing rules group—an increase of 6.8 percentage points.[91] As previously indicated, by the end of the followup period, 25.3 percent of the new rent rules group had officially exited the voucher program, compared with 31.8 percent of the existing rules group—a reduction of 6.5 percentage points. (Very few families in either research group had a voucher but were not leased up or had ported out.)

[91] Families still formally enrolled in the voucher program but who received zero HAP, zero Family Share, zero TTP, and had zero Gross Rent in Month 42 were considered "active and not leased up" in that month for the purposes of this analysis.

Exhibit 5.2 also shows that families in the new rent rules group were living in housing units where the gross rent (the contract rent paid to the landlord plus basic utilities not included in the lease) averaged $1,053 in Month 42 (if they were still on the voucher program), which was nearly the same as the control group's gross rent. In both groups, nearly all families across the three PHAs combined were renting units costing less than $1,500 per month.

Throughout the 42-month followup period (with Lexington, Louisville, and San Antonio combined), the new rent rules group paid an average monthly TTP of $272 while on the voucher program, or $30 less than the $302 that control group families paid while still receiving vouchers.[92] However, families in the new rules group who were still on the voucher program in Month 42, which is after they completed their triennial recertifications, were paying a *higher* TTP ($358), on average, than control group families who were still receiving vouchers at that time ($313). In addition, families in the new rules group were less likely to be paying a very low TTP ($0 to $50) than the control group in Month 42 because of the minimum TTP of the new rent policy. The group was also somewhat more likely (by a few percentage points) to be paying a higher TTP (for example, more than $500).[93]

The average monthly family share (which includes payments by tenants above their obligated TTP contribution) was also lower by $33 for the new rules group than for the existing rules group while the families were still in the voucher program. However, in Month 42, the pattern was reversed: average family share was higher for the new rules group by $38. Overall, families in the new rules group were covering 39.6 percent of their average gross rental cost (including utilities) out of their own pockets; those in the existing rules group were covering 36 percent of their gross rent.

[92] The exhibit does not present impact estimates on these measures, because the difference between the two research groups in the average length of time receiving vouchers means that the full samples of each group could not be included in the 42-month averages. Excluding families who exited the voucher program, who might be different types of families in each research group, could bias the impact estimates for these measures.

[93] At the time of initial recertification, when the base income for calculating TTPs was known for both groups, the new rent rules led to a reduction in the proportion of families in the highest base monthly income bracket relative to the control group, thus reducing the proportion with very high TTPs (see Riccio, Deitch, and Verma, 2017). After the triennial, this pattern was reversed. However, it is important to keep in mind that the types of families still receiving vouchers in Month 42, and their earnings histories, may have differed across the two research groups.

Exhibit 5.2. Impacts on Families' Housing Costs and Subsidies Within First 42 Months of Followup: Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Enrollment status in Month 42 (%)				
Currently enrolled in HCV program and leased up	71.9	65.1	6.8 ***	0.000
Currently enrolled in HCV program, not leased up	0.5	0.5	-0.1	0.695
Exited HCV program	25.3	31.8	-6.5 ***	0.000
Ported out to another housing agency[a]	2.4	2.6	-0.2	0.643
Gross Rent				
Gross rent in Month 42 if received HCV in that month[b] (%)				- -
Less than $1,000	*39.6*	*40.1*	- -	
$1,000 - $1,499	*58.0*	*56.8*	- -	
$1,500 or more	*2.4*	*3.0*	- -	
Average gross rent in Month 42 if received HCV in that month ($)	*1,053*	*1,048*	- -	- -
TTP				
TTP in Month 42 if received HCV in that month[c] (%)				- -
$0	*2.1*	*5.8*	- -	
$1 - $50	*4.8*	*9.5*	- -	
$51 - $75	*1.3*	*3.2*	- -	
$76 - $100	*6.5*	*3.0*	- -	
$101 - $150	*9.9*	*10.5*	- -	
$151 - $300	*25.1*	*24.7*	- -	
$301 - $500	*23.9*	*21.0*	- -	
$501 - $700	*16.3*	*13.6*	- -	
$701 or above	*10.1*	*8.8*	- -	
Average monthly TTP in months received HCV[c] ($)	*272*	*302*	- -	- -
Average TTP in Month 42 if received HCV in that month[c] ($)	*358*	*313*	- -	- -
Has a utility allowance in Month 42 if received HCV in that month (%)	*93.5*	*93.2*	- -	- -
Average utility allowance in Month 42 if received utility allowance in that month ($)	*192*	*196*	- -	- -
Family Share				
Family share in Month 42 if received HCV in that month[d] (%)				- -
$0	*1.2*	*2.6*	- -	
$1 - $100	*8.1*	*12.0*	- -	
$101 - $300	*31.2*	*31.8*	- -	

(continued)

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
$301 - $700	*43.9*	*39.7*	- -		
$701 or above	*15.6*	*14.0*	- -		
Average monthly family share in months received HCV[d] ($)	*330*	*363*	- -		- -
Average family share in Month 42 if received HCV in that month[d] ($)	*418*	*380*	- -		- -
Family share as percentage of gross rent in Month 42 if received HCV in that month (%)	*39.6*	*36.0*	- -		- -
Paid above the payment standard in Month 42 if received HCV in that month (%)	*57.2*	*55.7*	- -		- -
Housing Subsidy					
Average number of months received housing subsidy[e]	35.7	33.5	2.2	***	0.000
Average monthly housing subsidy in months received HCV[e] ($)	*666*	*632*	- -		- -
Total housing subsidy ($)					
Year 1	7,505	7,185	319	***	0.000
Year 2	7,145	6,398	747	***	0.000
Year 3	6,642	5,794	848	***	0.000
Last month	455	437	18	*	0.097
Full period	24,129	22,021	2,108	***	0.000
Total housing subsidy, full period (%)				***	0.000
Exited HCV program or not leased up during full period	1.4	2.3	-0.9		
$0	0.3	0.7	-0.4		
$1 - $9,999	12.1	17.1	-5.0		
$10,000 - $19,999	20.5	21.9	-1.4		
$20,000 - $34,999	47.3	42.4	4.9		
$35,000 or more	18.5	15.7	2.8		
Average housing subsidy in Month 42 if received HCV in that month ($)	*635*	*668*	- -		- -
Total housing subsidy in full period if received HCV in Month 42 ($)	*28,587*	*27,850*	- -		- -
Sample size (total = 4,756)	2,368	2,388			

HCV = Housing Choice Voucher. TTP = total tenant payment.
[a]Some households that ported out may have subsequently exited the HCV program.
[b]Gross rent is the contract rent plus the utility allowance of the unit.
[c]TTP is the amount a family must contribute toward rent and utilities regardless of the unit selected. Under the new rent rules, TTP is 28 percent of prior-year gross income, and under existing rent rules, TTP is 30 percent of adjusted income.
[d]Family share is the family's contribution toward its gross rent. It may be higher than the TTP if the family rents a unit with a gross rent that exceeds the payment standard.
[e]Housing subsidy is the full subsidy amount paid by the housing agency and includes any utility allowance payments made to the tenant in addition to rent paid to the owner by the housing agency.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-

value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values. Outcomes shown in italics are nonexperimental. Statistical significance tests are not conducted on nonexperimental outcomes. Confirmatory outcomes were tested for multiple hypothesis testing using the Benjamini-Hochberg procedure. The adjusted p-value = .000 for the impact on the total full period housing subsidy for all three PHAs combined.
Source: MDRC calculations using public housing agency data

The lower average TTP for the new rules group, combined with a longer duration in the voucher program, means that families in that group received a somewhat larger total housing subsidy than they would have received in the absence of the new policy (represented by the control group's subsidy amount). The new rules group received $24,129, on average, during the 42 months of followup, which is $2,108 (9.6 percent) more than the control group's average subsidy ($22,021).[94]

These differences in TTPs, subsidy duration, and cumulative subsidy receipt follow directly from the triennial recertification feature of the new rent policy. Whereas control group families who increased their incomes during the 3 years leading up to their third annual recertifications had to report those increases to the PHAs and had their subsidies reduced, families in the new rules group had their initial TTPs capped. Because of that cap, no income increases, no matter how large, had to be reported to the PHAs. Nor would any income increases reduce families' subsidies or make families ineligible for the voucher program during this period. The policy was designed this way so families would experience the benefits of their increased work effort during the 3 years between recertifications. At the same time, this feature resulted in an increase in the total amount the PHAs spent on housing subsidies for the new rules group compared with the control group during this period. (A later section in this chapter explores in more detail families' reasons for leaving the voucher program.)

The picture began to change somewhat after the recertifications at the end of the third year were completed—for families who were still on the voucher program at that time. Exhibit 5.3 shows how TTPs changed for the two research groups in Lexington, Louisville, and San Antonio combined before and after those recertifications. As the top panel indicates, the average TTP for the new rules group rose by $109 (44 percent) from $250 in the prior month to $359 after the triennial recertifications. For control group families still on the voucher program, the average TTP rose by $60 (22 percent) after their third annual recertification.

The bottom panel of exhibit 5.3 compares the change in families' TTPs from what they were three years earlier, at the time of their initial recertification (the beginning of the followup period). This comparison illustrates the full magnitude of the increase in TTPs over the 3-year period. Again, the jump is somewhat larger for the new rules group. For those remaining on the voucher program, the average TTP increased by $116 for the new rules group, compared with $83 for the control group. Consequently, by Month 42, families in the new rules group had lower

[94] As previously mentioned, this remained statistically significant when adjusted for multiple outcomes using the Benjamini-Hochberg method.

average monthly housing subsidies: $635 versus $668 for the control group, as shown in exhibit 5.2. The reduced average subsidy payment represents the beginning of some savings in the PHAs' HAP payments to the new rules group.

Importantly, families in the new rules group still on the voucher program in Month 42 paid higher TTPs because they had higher base incomes at the time of the 3-year recertification compared with the remaining voucher holders in the control group.[95] Under the new rent rules, the average monthly income (based on retrospective gross income) used to calculate new TTPs at the triennial recertification (unless a family had a temporary grace period or hardship TTP) was $1,251. This is $163 higher than the $1,088 monthly income (based on current/anticipated adjusted income according to traditional HUD rules) used to calculate TTPs for the existing rules group at the time of the third annual recertification.

Of course, not all families still on the voucher program saw a jump in their TTPs after the third-year recertification, compared with the amount they were paying just before that recertification. As exhibit 5.4 shows, just over one-half (60 percent) of those in the new rules group experienced an increase in their TTPs, while 25.9 percent experienced a decrease, and another 14.1 percent saw no change at all. The pattern is roughly similar among control group families, with 50.9 percent experiencing an increase in their TTPs. For some families, the increases—or decreases—in TTPs were substantial. For example, over one-third (39 percent) of families in the new rules group experienced a TTP increase of over $100 per month, while 10.1 percent saw their TTPs fall by that amount. Smaller proportions of control group families experienced a change of this magnitude: 22.5 percent saw an increase exceeding $100 per month, while 6.2 percent had a decrease. A small number of families experienced very large jumps in their TTPs, reflecting big changes in income. For example, 2.3 percent of families in the new rules group and 1.3 percent in the control group experienced TTP increase above $700.

[95] This finding is not inconsistent with the finding of no statistically significant impact on NDNH earnings in Year 3. Recall that NDNH data include the earnings of all household heads, whereas the PHA data only pertain to families still on the voucher program and include other sources of income in addition to earnings.

Exhibit 5.3. Change in Families' Average Total Tenant Payments after Year 3 Recertification: Lexington, Louisville, and San Antonio Combined

Outcome and Comparison	New Rent Rules	Existing Rent Rules
Comparison to Most Recent Prior TTP		
TTP in month after Year 3 recertification ($)	*359*	*337*
TTP in month before Year 3 recertification ($)	*250*	*277*
Difference ($)	*109*	*60*
Change (%)	*43.7*	*21.7*
Comparison to Initial TTP		
TTP in month after Year 3 recertification ($)	*359*	*337*
TTP at initial recertification ($)	*242*	*254*
Difference ($)	*116*	*83*
Change (%)	*48.1*	*32.8*
Sample size (total = 3,112)	1,681	1,431

HCV = Housing Choice Voucher. TTP = total tenant payment.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. Sample sizes for specific outcomes may vary because of missing values. TTP is the amount a family must contribute toward rent and utilities regardless of the unit selected. Under the new rent rules, TTP is 28 percent of prior-year gross income, and under existing rent rules, TTP is 30 percent of adjusted income. The Year 3 recertification is the 'triennial' for the program group, excluding opt-outs, and the third annual recertification for the control group and opt-outs. Its effective date is approximately 36 months after the new rent rules went into effect (the 'initial' recertification), although the exact timing ranges for some households. For the program group, the triennial includes "2: annual reexamination" actions as well as other actions that may have substituted as the triennial, such as a "3: interim reexamination" or "7: change of unit." Some households did not have a triennial identified because they exited the program or did not have a triennial for other reasons. For the control group and opt-outs, if a household did not have a clearly identifiable regularly scheduled recertification in the third year, the last record was chosen as an approximation. The measures exclude some households based on the timing of their Year 3 recertification and their active status in surrounding months. A total of 1.3 percent of the program group and 5.5 percent of the control group had a certification identified after the 42-month followup period, so they are not included in these measures. A further 1.9 percent of the program group and 2.1 percent of the control group are excluded because they were not active and leased up in both the month preceding the Year 3 recertification and the month of the recertification. Additionally, some households did not have information regarding the first certification, so first-certification measures have a slightly smaller sample size.
Source: MDRC calculations using public housing agency data

Exhibit 5.4. Distribution of Changes in Families' Total Tenant Payments after Year 3 Recertification: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules	Existing Rent Rules
Increase of		
$1 - $50	*11.8*	*14.0*
$51 - $75	*3.8*	*3.2*
$76 - $100	*4.0*	*3.4*
$101 - $150	*7.1*	*6.5*
$151 - $300	*15.6*	*14.5*
$301 - $700	*16.5*	*15.0*
$701 or above	*2.9*	*2.5*
Sample size (total = 3,112)	1,681	1,431

HCV = Housing Choice Voucher. TTP = total tenant payment.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. Sample sizes for specific outcomes may vary because of missing values. TTP is the amount a family must contribute toward rent and utilities regardless of the unit selected. Under the new rent rules, TTP is 28 percent of prior-year gross income, and under existing rent rules, TTP is 30 percent of adjusted income. Housing subsidy is the full subsidy amount paid by the housing agency. It includes any utility allowance payments made to the tenant and rent paid to the owner by the housing agency. The Year 3 recertification is the 'triennial' for the program group, excluding opt-outs, and the third annual recertification for the control group and opt-outs. Its effective date is approximately 36 months after the date the new rent rules went into effect (the 'initial' recertification), although the exact timing ranges for some households. For the program group, the triennial includes "2: annual reexamination" actions as well as other actions that may have substituted as the triennial, such as a "3: interim reexamination" or "7: change of unit." Some households did not have a triennial identified because they exited the program or did not have a triennial for other reasons. For the control group and opt-outs, if a household did not have a clearly identifiable regular recertification in the third year, the last record was chosen as an approximation. The measures exclude some households based on the timing of their Year 3 recertification and their active status in surrounding months. A total of 1.3 percent of the program group and 5.5 percent of the control group had a certification identified after the 42-month followup period, so they are not included in these measures. A further 1.9 percent of the program group and 2.1 percent of the control group are excluded because they were not active and leased up in both the month preceding the Year 3 recertification and the month of the recertification. Additionally, some households did not have information regarding the first certification, so first-certification measures have a slightly smaller sample size.
Source: MDRC calculations using public housing agency data

Control group families were less likely than families in the new rules group to face larger TTP increases at the time of their third annual recertifications, partly because of the annual and interim recertifications they were required to complete under the existing rent rules. The greater frequency of those recertifications meant that TTPs for the control group in the month before their third annual recertifications were already reflecting some of the income increases families had experienced in the prior 3 years. In fact, when families' TTPs after the third-year recertification are compared with the TTPs set at their initial recertifications at the start of the followup period, the patterns are similar for the new and existing rules groups. As the lower two panels of exhibit 5.4 show, about 60 percent of both groups experienced an increase in TTP relative to their initial TTPs; also, about 40 percent of both groups saw an increase over their initial TTPs exceeding $100 per month.

Results by Public Housing Agency

In considering the variation in effects across the four PHAs—in Lexington, Louisville, San Antonio, and Washington, D.C.—it is important to keep in mind the big differences between the housing market in Washington, D.C., and in the other sites. This is reflected in the differences in gross rents, payment standards, and subsidy levels. In the tight Washington, D.C., housing market, gross rents in Month 42 (for families still in the voucher program at that time) averaged $2,054 for the new rules group and only slightly less for the existing rules group ($2,045). (See appendix exhibit E.1.) Indeed, about three-fourths of voucher holders in each research group were renting units that cost $1,500 or more per month. In contrast, families in Lexington, Louisville, and San Antonio were renting units that cost just over $1,000 per month, on average—and few (less than 5 percent) were renting units costing $1,500 or more.

In all four PHAs, the new rent policy reduced the likelihood of officially exiting the program by the end of the 42-month followup period. Among control group families, exit rates were lowest in Washington, D.C., where only 5.9 percent had exited by Month 42, largely reflecting the very tight housing market in that area (exhibit 5.5).[96] Among the other three locations, control group exit rates were comparable, ranging from about 30 percent to 35 percent. The new rent rules reduced families' likelihood of exiting the voucher program within the followup period by rates that ranged from 1.7 percentage points in Washington, D.C., to 10.4 percentage points in Louisville. The smaller effect in Washington, D.C., may largely reflect that PHA's higher payment standards (given the tighter housing market), allowing low-income families in both research groups more opportunity to remain on the voucher program even as their incomes grew.

The new rent policy's impacts on average total housing subsidy amounts during the followup period were statistically significant in all four PHAs during the 42-month followup period, ranging from an increase of $1,527 in Lexington to $2,566 in Louisville. Relative to the control group mean in each PHA, the increase ranged from 3.3 percent in Washington, D.C., to 11 percent in Louisville.

In Louisville, because 22 percent of families opted out of the new rent policy, the estimated intent-to-treat (ITT) impacts shown in exhibit 5.5 may be understated because they are averaged over all families who enrolled in the new rules group, whether or not those families were actually subject to the new rules. Therefore, as explained in chapter 2, treatment-on-treated (TOT) adjustments were made that attribute all effects to only those families who were exposed to the policy. (Similar adjustments were produced for selected employment outcomes, as discussed in chapter 3.) Appendix exhibit C.1 presents the results of the TOT analysis. For example, it shows that the TOT impact on the average total subsidies in the 42-month followup period was $3,306 (compared with the $2,566 ITT estimate).

[96] As previously mentioned, due to data limitations, a small number of families who ported out to other PHAs and did not end their participation in the voucher program may be counted in the "exit" category in Washington, D.C., suggesting that the true exit rate from the voucher program by Month 42 may be even lower.

Exhibit 5.5. Impacts on Selected Families' Housing Costs and Subsidies Within First 42 Months of Followup, by Public Housing Agency

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Lexington				
Exited HCV program by Month 42 (%)	24.7	29.4	-4.7 *	0.100
TTP				
Average monthly TTP in months received HCV[a] ($)	*295*	*330*	- -	- -
Average TTP in Month 42 if received HCV in that month[a] ($)	*401*	*348*	- -	- -
Family Share				
Average monthly family share in months received HCV[b] ($)	*348*	*375*	- -	- -
Average family share in Month 42 if received HCV in that month[b] ($)	*444*	*397*	- -	- -
Housing Subsidy				
Average number of months received housing subsidy[c]	35.3	33.7	1.6 *	0.056
Total housing subsidy in full period ($)	21,718	20,191	1,527 **	0.021
Average housing subsidy in Month 42 if received HCV in that month ($)	*578*	*614*	- -	- -
Sample size (total = 979)	486	493		
Louisville				
Exited HCV program by Month 42 (%)	24.1	34.5	-10.4 ***	0.000
TTP				
Average monthly TTP in months received HCV[a] ($)	*252*	*279*	- -	- -
Average TTP in Month 42 if received HCV in that month[a] ($)	*350*	*279*	- -	- -
Family Share				
Average monthly family share in months received HCV[b] ($)	*323*	*353*	- -	- -
Average family share in Month 42 if received HCV in that month[b] ($)	*415*	*351*	- -	- -

(continued)

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Housing Subsidy				
Average number of months received housing subsidy[c]	36.8	33.9	2.9 ***	0.000
Total housing subsidy in full period ($)	25,500	22,935	2,566 ***	0.000
Average housing subsidy in Month 42 if received HCV in that month ($)	*613*	*684*	- -	- -
Sample size (total = 1,908)	947	961		
San Antonio				
Exited HCV program by Month 42 (%)	26.9	30.1	-3.2	0.123
TTP				
Average monthly TTP in months received HCV[a] ($)	*278*	*313*	- -	- -
Average TTP in Month 42 if received HCV in that month[a] ($)	*345*	*329*	- -	- -
Family Share				
Average monthly family share in months received HCV[b] ($)	*328*	*368*	- -	- -
Average family share in Month 42 if received HCV in that month[b] ($)	*406*	*400*	- -	- -
Housing Subsidy				
Average number of months received housing subsidy[c]	34.8	33.0	1.8 ***	0.002
Total housing subsidy in full period ($)	24,069	21,973	2,095 ***	0.000
Average housing subsidy in Month 42 if received HCV in that month ($)	*689*	*680*	- -	- -
Sample size (total = 1,869)	935	934		
Washington, D.C.				
Exited HCV program by Month 42 (%)	4.2	5.9	-1.7 *	0.085
TTP				
Average monthly TTP in months received HCV[a] ($)	*379*	*392*	- -	- -
Average TTP in Month 42 if received HCV in that month[a] ($)	*474*	*401*	- -	- -

(continued)

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Family Share				
Average monthly family share in months received HCV[b] ($)	*387*	*397*	- -	- -
Average family share in Month 42 if received HCV in that month[b] ($)	*478*	*407*	- -	- -
Housing Subsidy				
Average number of months received housing subsidy[c]	40.1	39.0	1.1 ***	0.003
Total housing subsidy in full period ($)	59,825	57,897	1,928 *	0.063
Average housing subsidy in Month 42 if received HCV in that month ($)	*1,579*	*1,638*	- -	- -
Sample size (total = 1,909)	944	965		

HCV = Housing Choice Voucher. TTP = total tenant payment.
[a]TTP is the amount a family must contribute toward rent and utilities regardless of the unit selected. Under the new rent rules, TTP is 28 percent of prior-year gross income, and under existing rent rules, TTP is 30 percent of adjusted income.
[b]Family share is the family's contribution toward its gross rent. It may be higher than the TTP if the family rents a unit with a gross rent that exceeds the payment standard.
[c]Housing subsidy is the full subsidy amount paid by the housing agency. It includes any utility allowance payments made to the tenant and rent paid to the owner by the housing agency.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group than the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values. Outcomes shown in italics are nonexperimental. Statistical significance tests are not conducted on nonexperimental outcomes. The variation across the four public housing agencies (PHAs) in estimated impacts on total housing subsidy in the full period is not statistically significant based on an H-statistic test.
Source: MDRC calculations using public housing agency data

In each of the four PHAs, families in the new rent rules group paid a somewhat lower average monthly TTP than their counterparts in the control group while enrolled in the voucher program (exhibit 5.5). However, in all cases, that pattern changes after the third-year annual recertification. In Month 42, among families still enrolled in the voucher program at that time, TTPs were higher for the new rules group than the control group, and the average housing subsidy received was roughly the same (in San Antonio) or lower.

Across the PHAs, fewer families in the new rules group paid very low TTPs, which was a direct consequence of the minimum TTP requirements. However, because those requirements differed across PHAs, so did the pattern of paying very low TTPs. (See appendix exhibit E.1.) For example, in Lexington and San Antonio, which had preexisting minimum TTP policies that applied to the control group, virtually no families in the new rent rules group or the control group who were receiving housing assistance in Month 42 paid nothing toward their rent and utilities; in other words, those PHAs had no "zero-TTP families." In contrast, in Louisville and Washington, D.C., both of which instituted minimum TTPs for the first time as part of the Rent

Reform Demonstration, and for the new rules group only, the proportion of zero-TTP families was lower in the new rules group. The proportion of such families dropped from 14.6 percent in the control group to 5 percent in the new rules group in Louisville and from 20.2 percent to 2.8 percent, respectively, in Washington, D.C. In Louisville, some families in the new rules group who had a zero TTP may have been families who opted out of the new rules and, therefore, would not be subject to a minimum TTP. In addition, some families in the new rules group in Louisville, San Antonio, and Washington, D.C., could have a zero TTP as part of a hardship remedy.

Paying the Minimum Total Tenant Payment: A Closer Look

As described in chapter 2, the minimum TTPs by PHA set for each group are as follows:

Lexington: $150 for the new rules group and the control group;

Louisville: $50 for the new rules group and $0 for the control group;

San Antonio: $100 for the new rules group and $50 for the control group;

Washington, D.C.: $75 for the new rules group and $0 for the control group.

Exhibit 5.6 shows how the TTPs paid by the new rent rules group compared with their PHAs' minimum TTP levels. For Lexington, Louisville, and San Antonio combined, only 8.2 percent of families in the new rent rules group ever paid *less* than the minimum TTP set by their PHAs during the 42-month followup period. Those who did pay less were families who received a time-limited hardship remedy (although not all families with a hardship remedy paid below the minimum TTP). Most families (87.6 percent) paid above the minimum TTP sometime during the followup period, and 36.3 percent had paid exactly the minimum.

Among the four PHAs, Lexington stands out, with more than one-half (57.3 percent) of its families having paid exactly the minimum TTP. (See appendix exhibit E.2.) This rate is considerably higher than in the other PHAs (where the rate ranges from 29.8 percent to 44.1 percent) and reflects Lexington's relatively high $150 per month minimum TTP and its limited exemptions policy. No Lexington families ever paid less than the minimum. In the other three PHAs, a higher proportion of families than Lexington had paid above the minimum TTP because the minimum TTP thresholds were set at lower levels.

Exhibit 5.6. Payment of Minimum Total Tenant Payment and Use of Safeguards Within First 42 Months of Followup: Lexington, Louisville, and San Antonio Combined, New Rent Rules Group Only

Outcome	New Rent Rules
Family TTP relative to the local minimum TTP (%)	
Ever paid below the minimum TTP	8.2
Ever paid the minimum TTP	36.3
Ever paid above the minimum TTP	87.6
Number of months paid [a]	
Below the minimum TTP	*6.9*
The minimum TTP	*20.4*
Above the minimum TTP	*31.3*
Ever had grace-period TTP[b] (%)	33.4
Ever received a restricted interim recertification (%)	6.2
Ever received a hardship remedy (%)	16.5
Received hardship remedy in Month 42 if received HCV in that month (%)	*4.2*
Average number of months of a hardship (for those who received hardship)	*7.3*
Sample size	2,156

HCV = Housing Choice Voucher. TTP = total tenant payment.
[a]The "number of months paid" measures limit the sample to those who ever paid that family TTP relative to the local minimum TTP. For example, the number of months paid below the minimum TTP is shown only for those who ever paid the minimum TTP.
[b]At the regularly scheduled recertification, families receiving grace-period TTPs have their TTPs calculated based on current/anticipated income for 6 months, rather than retrospective income. The grace-period TTP is used if a family's current/anticipated income is more than 10-percent lower than its retrospective income.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members.
Rounding may cause slight discrepancies in calculating sums and differences.
Sample sizes for specific outcomes may vary because of missing values.
Outcomes shown in italics are nonexperimental. Statistical significance tests are not conducted on nonexperimental outcomes.
Louisville families who opted out of the study are excluded because their rent calculation is subject to existing rules.
TTP is the amount a family must contribute toward rent and utilities regardless of the unit selected. Under the new rent rules, TTP is 28 percent of prior-year gross income, and under existing rent rules, TTP is 30 percent of adjusted income.
The minimum TTP varies by site and research group. The measures are created using the relevant minimum TTP.
Source: MDRC calculations using public housing agency data

Use of Safeguards by the New Rent Rules Group

Grace-Period Rents

Some families in the new rent rules group found that their retrospective gross incomes were substantially higher than their current/anticipated gross incomes at the time of their initial recertifications and subsequent triennial recertifications. The new rent policy includes several

critical safeguards (described in chapter 1 and summarized in exhibit 5.7) to help protect such families from excessive rent burdens. The grace period is one such safeguard. If at that recertification a family's current/anticipated gross income is more than 10-percent lower than its retrospective income, the family automatically qualifies for (and receives) a 6-month grace-period TTP based on 28 percent of its current/anticipated gross income. The family would need to pay the minimum TTP if that 28 percent were less than the minimum TTP threshold set by its PHA unless the family applies for and receives a hardship exemption. Only available at the beginning of the 3-year period (and at any subsequent triennial recertifications), the 6-month grace period temporarily protects the household from a high rent burden. At the same time, the family tries to restore its income to its prior level. At the end of the 6-month grace period, the TTPs for these families automatically revert to the TTPs that were based on the retrospective income originally calculated. If the family cannot restore its current income to that original retrospective gross income level, however, it may request an interim recertification (limited to one per year) or a hardship remedy.

Exhibit 5.6 shows that about one-third (33.4 percent) of families had received a grace-period TTP at the initial recertification when the study period began or at their triennial recertification. The substantial degree of reliance on this safeguard testifies its importance in protecting families from difficult-to-afford TTPs, at least temporarily, in a rent system that bases TTPs primarily on retrospective income.

Interim Recertifications

As another safeguard, the new rent policy allows families one interim recertification per year. For the new rent rules group, these are referred to as "restricted interim recertifications" because of the numerical restriction placed on them. A family qualifies for this mechanism to lower its TTP only if its income drops by more than 10 percent of its retrospective income over the 12 months immediately before the time it requests an interim adjustment. Exhibit 5.6 shows that during the 42-month followup period, for Lexington, Louisville, and San Antonio combined, 6.2 percent of the new rent rules group received a restricted interim recertification for this purpose. The rate ranged from 4.7 percent in Louisville to 10 percent in Lexington (as shown in appendix exhibit E.2). In general, the new rules group was less likely to receive an interim recertification to reduce a family's TTP than the existing rules group, as discussed later in this chapter.

Hardship Remedies

In addition to grace-period TTPs and interim recertifications, the new rent policy offers potential further relief to families whose TTPs exceed 40 percent of their current/anticipated gross income. (See exhibit 5.7.) Such families are considered to have excessive rent burdens and are generally eligible to request a hardship remedy. In Lexington, however, families are eligible for a hardship remedy only if they are paying TTPs that exceed the PHA's $150 minimum and still meet the 40-percent threshold. No families can pay below the $150 minimum except in cases where households become classified as disabled.

Exhibit 5.7. Safeguards Built Into the New Rent Rules Policy

Safeguard	Timing	Eligibility Criteria	Modified TTP
Grace-Period TTP	At triennial certification	Current or anticipated monthly income is more than 10 percent less than retrospective monthly income.	Based on 28 percent of the current or anticipated monthly income. The modified TTP lasts for 6 months and then automatically switches back to being based on retrospective income.
Interim Recertification[a]	Upon family's request, up to once per year.	The family's retrospective income at the time of the request for the interim recertification is more than 10 percent below its previously established income.	Set at 28 percent of retrospective income based on the 12 months before the request.
Hardship Remedies	At any time	TTP is more than 40 percent of current or anticipated monthly income *or* the family is at risk of eviction.	Set at 28 percent of a family's current or anticipated income (which may be less than the minimum TTP, except in Lexington) for up to 180 days (can be renewed), *or* set at the minimum TTP for up to 180 days (can be renewed), *or* based on an additional interim recertification beyond the normal one-per-year option, *or* supplemented with a "transfer voucher" to help a move to a more affordable unit.

TTP = total tenant payment.
[a]Interim recertification refers to restricted interims to reduce TTP.
Notes: The new rent policy uses gross income regardless of whether using current, anticipated, or retrospective income. Gross income is income without making adjustments for deductions.
Sources: MDRC, HUD, and housing agency memos and other documents on the design of the new rent policy

Earlier in the demonstration, when very low rates of hardship requests became apparent after the initial recertifications were completed, the PHAs, HUD, and MDRC discussed the possibility that some families might be eligible for but not be sufficiently aware of the hardship provisions of the new rent policy. To address that concern, the PHAs sent flyers to all families in the new rent rules group. These flyers reminded participating families of the benefit of not needing to

report earnings increases until the triennial recertification; the flyers also reminded families that, if they were experiencing difficulty meeting their rent obligations, they might qualify for hardship remedies or interim recertifications to reduce their TTPs, and that they should contact their housing specialists to find out whether they qualified. In addition, the agencies mailed a special letter to families that MDRC identified (using PHA data) as having initial TTPs that might qualify them for a hardship remedy. The letters encouraged those families to contact the PHA to see whether they did, in fact, qualify. Of course, not all families who qualify for a hardship remedy may want to apply for one because doing so may require them to interact with the PHA more than they would like. Some potentially eligible families may also have had an increase in income after the initial recertification, which they realized would disqualify them from receiving a hardship remedy. Other considerations may have been factors as well.[97]

A hardship remedy can be issued at any time during the 3-year period between regularly scheduled recertifications. Exhibit 5.6 shows that for Lexington, Louisville, and San Antonio combined, 16.5 percent of families in the new rules group had requested and received a hardship remedy by the end of the followup period. The rate ranged from 11.1 percent in San Antonio and 11.9 percent in Lexington to just over 25 percent in Louisville and Washington, D.C. (See appendix exhibit E.2.)[98] This rate is higher than the rate at the time of initial recertification, when, as shown in the baseline report, only 0.5 percent of families across the four PHAs received a hardship remedy (Riccio, Deitch, and Verma, 2017).

Exhibit 5.6 also shows that a somewhat smaller proportion of families were receiving a hardship remedy in Month 42 (4.2 percent) if they were still on the voucher program, compared with the proportion who ever received a hardship remedy at some time during their period of voucher receipt (16.5 percent). This finding suggests that, for many families, those time-limited remedies expired and were not renewed.

Impacts on Project Housing Agency Actions for Families

One goal of the new rent policy is to simplify the rent-determination process. Doing so, it was hoped, would reduce the administrative burden and costs for the PHAs and lighten the burden on families. Toward that goal, as discussed previously, the new policy relies on gross rather than adjusted income, ignores any income from (and documentation requirements for) assets valued at less than $25,000, simplifies the approach to estimating the cost of utilities, switches to a triennial recertification schedule,[99] and limits the number of interim recertifications permitted as a result of income reductions. These burden-reducing features are counterbalanced to some

[97] See chapter 6 in Riccio, Verma, Deitch (2019) for more detail on participants' experiences and views of the hardship policy and the other safeguards.
[98] The hardship rate for Louisville is based only on families who did not opt out of the new rent policy.
[99] The Housing Opportunities Through Modernization Act of 2016, among other changes, eliminates the requirement for families to report increases in earned income between annual recertifications (codifying an option that had previously been left to local PHA discretion) and intends to address interim recertifications for families whose incomes decline a minimal amount. However, as of 2021, HUD had not issued implementation guidance on this issue, and these provisions had not yet gone into effect.

degree by the new policy's reliance on retrospective income in setting a family's TTP and its safeguard policies, which can be time-consuming to administer for certain types of families.[100]

To explore the implications of the new rules on PHA staff burden, the analysis considers the frequency with which various types of staff actions occurred for each research group. Exhibit 5.8 compares the likelihood and frequency of these actions during the 42-month followup period for Lexington, Louisville, and San Antonio combined. It examines actions for *all* families in each research group, including families who had exited the voucher program during that period. It should be kept in mind that fewer families in the new rules group than the control group had exited the voucher program within 42 months and, consequently, were "available" for more actions.

By the end of that period, 85 percent of control group families in Lexington, Louisville, and San Antonio combined had completed a regularly scheduled (that is, annual) recertification. This rate was not 100 percent because, although these recertifications are required under traditional HUD rules, some families had exited the voucher program or moved to another PHA before they were due for their first annual recertification after the beginning of the study. In other cases, the family moved to another unit, and the full income review conducted by the PHA when it processed that move (a "move action") substituted for the annual recertification. Among families in the new rules group, 76.7 percent had a regularly scheduled recertification—the triennial recertification—an 8.3 percentage point reduction relative to the control group rate.

A substantially larger reduction (about 25 percentage points) occurred for interim recertifications due to loss of income; families in the new rules group were about half as likely as those in the existing rules group to have had an interim recertification for this reason (23.7 percent versus 48.9 for the control group, respectively). Similarly, the rent policy led to sizable reductions in the likelihood of interim recertifications for increased income (also by 25 percentage points).[101] Although the new rent rules generally eliminated interim recertifications for increased income, some families in the new rules group (11.2 percent) had received such an action, including families in Louisville who opted out of the new rent rules.[102] Based on examination of the data and discussions with the PHAs, there were various reasons why increases occurred, such as when an adult was added to the household or the household moved. In Louisville, some interim recertifications may reflect corrections to triennial recertifications in the PHA's data system. Some cases may also reflect coding inaccuracies in the PHAs' data systems or, in a few instances, a misapplication of the appropriate rent rules.

[100] For details on how retrospective income is determined, see Riccio, Deitch, and Verma (2017).

[101] The reasons for interim recertifications listed in exhibit 5.8 are not mutually exclusive. The same family could have had two reasons for an interim recertification, sometimes occurring concurrently (for example, in the control group, a change in household composition and an income increase). These actions are counted separately, except in "any action" measures.

At the same time, some types of actions were more frequent for the new rules group than for the existing rules group, thus offsetting somewhat the larger reduction in actions resulting primarily from the reduction in annual recertifications. Among these were staff actions to process changes in rent contracts with landlords, typically when landlords raised the rent. For control group families, these changes were usually addressed as part of the annual recertification process. For the new rules group, which was subject to triennial recertifications, changes in contract rents during the 3-year period required a separate action. These actions primarily required staff to determine that the increase was reasonable, update the contract rent amount, and notify the landlord and tenant about the changes to the rent calculations. This type of action does not require a review of a family's income, which is one of the more time-consuming aspects of processing recertifications.

Overall, the new rent policy decreased the average number of actions requiring a staff response by 1.2 during the followup period, from 4.0 for the existing rules group to 2.8 for the new rules group (exhibit 5.8). Much of the reduction, however, occurred among families likely to have a moderate or high number of actions. For example, the new rent policy reduced the likelihood of five or more actions by 23.2 percentage points. The frequency of actions was reduced the most for three types of PHA actions: (1) regularly scheduled recertifications, (2) interim recertifications for reductions in income, and (3) interim recertifications for increases in income. These three actions were generally the most time-consuming actions for staff, because they required reviewing household income to enable the PHA's software system to recalculate TTPs and subsidies.[103]

Exhibit 5.9 provides additional information on the changes in the number of PHA staff actions resulting from the new rent policy in Lexington, Louisville, and San Antonio combined. It accounts for the fact that families in the new rules group remained on the voucher program longer during the followup period, which made them *available* for more actions than control group families. The top panel shows that, despite their greater availability, families in the new rules group, on average, had staff actions during a smaller fraction of the time they were on the voucher program than was true for the control group (7.1 percent of their months on the program compared with 10.9 percent, respectively). The bottom panel shows that not only did the new rules group generate a lower number of staff actions overall, but most of the reduction was also driven by a reduction among families likely to have multiple actions. For example, among those who were still receiving vouchers at the end of the followup period, 22.9 percent of those in the new rules group had received five or more actions, compared with 56.2 percent of the control group. (Because the characteristics of families remaining on the voucher program longer may differ across the two research groups, estimates of impacts are not calculated for this exhibit.)

These patterns vary substantially across the four PHAs, as shown in exhibit 5.10, for an abbreviated set of measures. (For a fuller set of measures, see appendix exhibit E.3.) In

[103] The time estimates for various staff actions were collected for the cost analysis, discussed in chapter 5 and appendix D of Riccio, Verma, and Deitch (2019).

reviewing these results, it is necessary to keep in mind the differences across the PHAs in the policies that applied to the control group. In Lexington, Louisville, and San Antonio, control group families remained subject to the traditional HUD requirements, including an annual schedule for regular recertifications. However, these three PHAs have different reporting requirements for families whose incomes increased between those annual recertifications.[104] In Washington, D.C., the control group members had to report income increases every 2 years. It is also important to remember that in Louisville, some staff actions for the new rules group reflect the application of the existing rent rules for the families who opted out.

As with the three-PHA pooled sample, most striking for most PHAs is the reduction under the new rent policy in the proportion of families having five or more actions if they were still receiving vouchers at the end of the followup period. The reduction was greatest in Lexington: only 11.7 percent of the new rules group had five or more actions, compared with 75.2 percent of the existing rules group. The differences were smaller, but still large, in Louisville (45.5 versus 74 percent) and San Antonio (5.5 versus 28.3 percent). In Washington, D.C., where regular recertifications were conducted biennially for the control group, the proportion of control group families with five or more actions was already low (18.2 percent); still, the rate for the new rules group, at 11 percent, was lower still.

[104] See appendix exhibit A.1.

Exhibit 5.8. Impacts on Public Housing Agency Actions Within First 42 Months of Followup: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Ever Had Type of Action (%)					
Any action that requires staff response[a]	87.9	90.0	-2.1	**	0.023
Regularly scheduled recertification[b]	76.7	85.0	-8.3	***	0.000
Had a Year 3 regularly scheduled recertification[c]	74.3	67.4	6.9	***	0.000
Move/change of unit[d]	28.8	26.8	2.0		0.114
Interims[e]					
Decreased income	23.7	48.9	-25.3	***	0.000
Restricted interim	5.7	n/a	- -		- -
Hardship exemption[f]	12.1	0.2	11.9	***	0.000
Household composition change[g]	5.5	13.2	-7.7	***	0.000
Increased income	11.2	36.2	-25.0	***	0.000
Any household composition change	19.1	21.4	-2.3	**	0.042
Contract rent change[h]	41.5	16.1	25.5	***	0.000
Other action[i]	24.1	12.5	11.6	***	0.000
Number of Actions					
Average number of actions	2.8	4.0	-1.2	***	0.000
Any action that requires staff response[a] (%)				***	0.000
None	12.1	10.0	2.1		
1	17.0	6.8	10.2		
2	17.0	6.3	10.7		
3-4	36.4	36.2	0.2		
5 or more	17.6	40.7	-23.2		
Regularly scheduled recertification[b]				***	0.000
None	23.3	15.0	8.3		
1	62.4	14.1	48.3		
2 or more	14.3	70.8	-56.5		
Move/change of unit[d]					0.286
None	71.2	73.2	-2.0		
1	23.4	22.1	1.3		
2 or more	5.4	4.7	0.7		

(continued)

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Decreased income (%)				***	0.000
None	76.3	51.1	25.3		
1	17.1	30.0	-12.9		
2 or more	6.6	19.0	-12.4		
Increased income (%)				***	0.000
None	88.8	63.9	25.0		
1	9.4	22.3	-12.9		
2 or more	1.8	13.9	-12.1		
Any household composition change (%)				*	0.097
None	80.9	78.6	2.3		
1	15.9	16.9	-1.0		
2 or more	3.2	4.5	-1.3		
Contract rent change[h] (%)				***	0.000
None	58.5	83.9	-25.5		
1	22.3	13.1	9.2		
2 or more	19.2	3.0	16.3		
Other action[i] (%)				***	0.000
None	75.9	87.6	-11.6		
1	16.9	10.5	6.4		
2 or more	7.2	2.0	5.2		
Sample size (total = 4,756)	2,368	2,388			

[a]Certification actions that require staff interaction or other notable effort from staff include annual reexaminations, interim reexaminations (except for end-of-grace-period and end-of-hardship records), and change-of-unit actions.
[b]Regularly scheduled recertification reflects actions recorded as "Action code 2: annual reexamination" on the 50058 form. PHAs record all regularly scheduled reexaminations under this action code regardless of the frequency of reexaminations: Annual, biennial, and triennial reexaminations are recorded under this action code.
[c]The Year 3 recertification is the 'triennial' for the program group, excluding opt-outs, and the third annual recertification for the control group and opt-outs. Its effective date is approximately 36 months after the date the new rent rules went into effect (the 'initial' recertification), although the exact timing ranges for some households. For the program group, the triennial includes "2: annual reexamination" actions as well as other actions that may have substituted as the triennial, such as a "3: interim reexamination" or "7: change of unit." Some households did not have a triennial identified because they exited the program or did not have a triennial for other reasons. For the control group and opt-outs, if a household did not have a clearly identifiable regularly scheduled recertification in the third year, the last record was chosen as an approximation.
[d]"Move/change of unit" actions reflect actions recorded as "Action code 7: other change of unit" on the 50058 form. If a move was recorded through an annual or interim action, it is not reflected in this outcome.
[e]Interims reflect all actions recorded as "Action code 3: interim reexamination" on the 50058 form, except interim reexaminations to end a grace period or hardship rent. Types of interim actions are not mutually exclusive. Any action counts as each action once. At the same interim certification event, a household may have reported changes in its situation that fell into more than one of the categories displayed in this table.
[f]Households in the existing rent rules groups in Louisville and Washington, D.C., were not subject to a minimum rent. Thus, there was no hardship exemption available to them. This only includes hardships received through an interim recertification.
[g]This outcome indicates a decrease in income that occurred at the same time that household composition changed. When household members are removed, so is their income.
[h]The "existing rent rules" group often has contract rent changes included in their annual reexaminations, and in that case the contract rent increase is not included in this category.
[i]Other actions include interims (or some other reason but not end of grace or hardship), which are difficult to classify from the available data.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values.
Source: MDRC calculations using public housing agency data

Exhibit 5.9. Public Housing Agency Actions Per Month of Voucher Receipt Within First 42 Months of Followup: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Percentage of months with any formal staff actions while receiving HCV[a] (%)	*7.1*	*10.9*	- -	- -
Number of Actions During Full Period, if Received HCV in Month 42				
Average number of actions	*3.4*	*5.1*	- -	- -
Any action that requires staff response[a] (%)				- -
None	*0.0*	*0.1*	- -	
1	*14.2*	*0.3*	- -	
2	*17.9*	*0.4*	- -	
3-4	*45.0*	*42.9*	- -	
5 or more	*22.9*	*56.2*	- -	
Sample size (total = 4,756)	2,368	2,388		

HCV = Housing Choice Voucher.[a]Certification actions that require staff interaction or other notable effort from staff include annual reexaminations, interim reexaminations (except for end-of-grace-period and end-of-hardship records), and change-of-unit actions.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. Sample sizes for specific outcomes may vary because of missing values. Outcomes shown in italics are nonexperimental. Statistical significance tests are not conducted on nonexperimental outcomes.
Source: MDRC calculations using public housing agency data

Exhibit 5.10. Impacts on Selected Public Housing Agency Actions Within First 42 Months of Followup, by Public Housing Agency

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Lexington				
Ever had an action that requires staff response[a] (%)	87.4	91.1	-3.7 *	0.061
Ever had a regularly scheduled recertification[b] (%)	75.2	86.9	-11.7 ***	0.000
Had a Year 3 regularly scheduled recertification[c] (%)	75.4	69.9	5.5 *	0.055
Number of Actions				
Average number of actions	2.4	5.0	-2.6 ***	0.000
Average number of actions during full period, if received HCV in Month 42	*3.0*	*6.2*	- -	- -
Any action that requires staff response, if received HCV in Month 42[a]				- -
None	*0.0*	*0.0*	- -	
1	*15.2*	*0.4*	- -	
2	*26.2*	*0.4*	- -	
3-4	*47.0*	*24.1*	- -	
5 or more	*11.7*	*75.2*	- -	
Sample size (total = 979)	486	493		
Louisville				
Ever had an action that requires staff response[a] (%)	93.0	93.2	-0.2	0.860
Ever had a regularly scheduled recertification[b] (%)	79.3	85.3	-6.0 ***	0.001
Had a Year 3 regularly scheduled recertification[c] (%)	75.7	65.3	10.3 ***	0.000
Number of Actions				
Average number of actions	3.8	4.4	-0.6 ***	0.000
Average number of actions during full period, if received HCV in Month 42	*4.5*	*5.6*	- -	- -
Any action that requires staff response, if received HCV in Month 42[a]				- -
None	*0.0*	*0.0*	- -	
1	*0.0*	*0.6*	- -	
2	*1.0*	*0.5*	- -	

(continued)

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
3-4	*53.4*	*24.9*	- -	
5 or more	*45.5*	*74.0*	- -	
Sample size (total = 1,908)	947	961		
San Antonio				
Ever had an action that requires staff response[a] (%)	83.1	86.1	-3.1 *	0.065
Ever had a regularly scheduled recertification[b] (%)	74.8	83.7	-8.9 ***	0.000
Had a Year 3 regularly scheduled recertification[c] (%)	72.4	68.5	3.9 *	0.061
Number of Actions				
Average number of actions	1.9	3.1	-1.2 ***	0.000
Average number of actions during full period, if received HCV in Month 42	*2.4*	*4.0*	- -	- -
Any action that requires staff response, if received HCV in Month 42[a]				- -
None	*0.0*	*0.2*	- -	
1	*28.6*	*0.4*	- -	
2	*31.1*	*1.0*	- -	
3-4	*34.8*	*70.1*	- -	
5 or more	*5.5*	*28.3*	- -	
Sample size (total = 1,869)	935	934		
Washington, D.C.				
Ever had an action that requires staff response[a] (%)	92.9	91.9	1.0	0.426
Ever had a regularly scheduled recertification[b] (%)	86.9	80.9	6.0 ***	0.000
Had a Year 3 regularly scheduled recertification[c] (%)	90.9	n/a	- -	- -
Number of Actions				
Average number of actions	2.7	2.9	-0.2 ***	0.002
Average number of actions during full period, if received HCV in Month 42	*2.9*	*3.2*	- -	- -

(continued)

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Any action that requires staff response, if received HCV in Month 42 [a]				- -
None	*2.4*	*1.7*	- -	
1	*12.5*	*8.7*	- -	
2	*27.0*	*27.8*	- -	
3-4	*47.1*	*43.6*	- -	
5 or more	*11.0*	*18.2*	- -	
Sample size (total = 1,909)	944	965		

HCV = Housing Choice Voucher

[a]Certification actions that require staff interaction or other notable effort from staff include annual reexaminations, interim reexaminations (except for end-of-grace-period and end-of-hardship records), and change-of-unit actions.

[b]Regularly scheduled recertifications reflect actions recorded as "Action code 2: annual reexamination" on the 50058 form. PHAs record all regularly scheduled reexaminations under this action code regardless of the frequency of reexaminations: Annual, biennial, and triennial reexaminations are recorded under this action code.

[c]The Year 3 recertification is the 'triennial' for the program group, excluding opt-outs, and the third annual recertification for the control group and opt-outs. Its effective date is approximately 36 months after the date the new rent rules went into effect (the 'initial' recertification), although the exact timing ranges for some households. For the program group, the triennial includes "2: annual reexamination" actions as well as other actions that may have substituted as the triennial, such as a "3: interim reexamination" or "7: change of unit." Some households did not have a triennial identified because they exited the program or did not have a triennial for other reasons. For the control group and opt-outs, if a household did not have a clearly identifiable regularly scheduled recertification in the third year, the last record was chosen as an approximation. Results are not shown for the control group in Washington, D.C., because the control group was subject to biennial recertifications and thus did not have comparable recertification in Year 3.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values. Outcomes shown in italics are nonexperimental. Statistical significance tests are not conducted on nonexperimental outcomes.

Source: MDRC calculations using PHA data

Reasons for Leaving the Voucher Program

As previously discussed, the lower exit rate for the new rules group was an expected result during the first 3 years, given the cap on TTPs related to the triennial recertification provision. It is also possible (although it cannot be proven with the data available for this report) that because the new rules group had fewer required income reviews and interim recertifications, they may have been less likely to run afoul of the kinds of administrative requirements that are normally required of voucher families to maintain their eligibility. For example, they may have had fewer chances of missing required appointments with PHA housing specialists or not meeting paperwork requirements, leading to voucher loss.

Among families in both groups who did exit the voucher program during the 42-month followup period, the reasons for exiting varied and were heavily but not entirely related to income.

Respondents to the 4-year survey of household heads who had left the voucher program at some point during the 42-month followup period ("leavers") were asked why they stopped receiving vouchers. Exhibit 5.11 shows that among families in Lexington, Louisville, and San Antonio combined, 41.9 percent of "leavers" in the new rules group said the main reason they stopped receiving vouchers was that their incomes increased such that they became zero HAP, and after 6 months, their participation in the HCV program ended. The rate was nearly the same (42.5 percent) among control group leavers.[105] It is likely that those in the new rules group who gave this reason exited the voucher program later in the followup period (after their triennial recertifications) than those in the control group who gave this reason. Unlike families in the control group, those in the new rules group would not become zero HAP or have their participation in the HCV program end because of income during the three years leading up to their triennial recertifications.[106]

For both research groups, though, the majority families who exited the voucher program cited reasons other than income increases. As exhibit 5.11 shows, 16.3 percent of leavers in the new rules group, and 13.7 percent of those in the control group, indicated that they stopped receiving vouchers due to "problems with the housing authority." Others said the reason was an "issue with the landlord" (12.8 percent among those in the new rules group and 12.4 percent among those in the control group). A small proportion of each group said they could no longer afford their rent or utilities. Despite the higher minimum TTPs in the new rules group, only 4.7 percent of leavers in that group cited this as a reason, compared with 6.5 percent of control group leavers.[107]

Other data from Lexington, Louisville, and San Antonio combined (not shown in the exhibit) suggest that families in the new rules group who were still on the voucher program were more likely than "stayers" in the control group to have had wage income in the month prior to the survey interview. For example, about 70 percent of stayers in the new rules group said their households had income from their own or other household members' earnings in that month, compared with 59 percent of stayers in the control group. This finding suggests that it was "easier" to remain on the voucher program with earnings under the new rent rules than under the existing rules—an outcome consistent with the new rent policy's goal of supporting work.

[105] The reasons listed in exhibit 5.11 include some verbatim responses from interviewees that were ambiguous.
[106] The opt-outs in the Louisville new rules group would be an exception.
[107] PHAs also keep data on reasons for exits, and their perspectives may not always align with those of voucher holders. Inconsistencies in the classification categories used by PHAs can make interpretation difficult, and these data were not fully analyzed for the current report.

Exhibit 5.11. Main Reason for Exiting the Housing Choice Voucher Program Among Survey Respondents Who Exited: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules	Existing Rent Rules
Income too high and no longer eligible	*41.9*	*42.5*
Rent or utilities became unaffordable	*4.7*	*6.5*
Issue with landlord[a]	*12.8*	*12.4*
Lost housing voucher due to problem with PHA[b]	*16.3*	*13.7*
Decided to pursue homeownership	*2.3*	*2.0*
Got married	*4.7*	*2.0*
Tenant initiated, misc. reasons	*11.6*	*14.4*
Other reason[c]	*5.8*	*6.5*
Sample size (total = 271)	101	170

PHA = public housing agency.
[a]Issues with PHA or landlord include eviction and landlord would not take housing voucher/Section 8.
[b]Problems with the PHA include rent or mortgage payment issues or violation of PHA rules like not living in unit, having a visitor past the allowable stay period, damaging the unit, housekeeping violations, or one-strike violations.
[c]Verbatim responses provided under "other" were difficult to categorize. They included health, child custody, emergency, and legal issues that did not clearly fall into ineligibility or tenant-initiated reasons for losing a voucher.
Notes: Outcomes shown in italics are nonexperimental. Statistical significance tests are not conducted on nonexperimental outcomes. The items in the section of the survey that asked respondents about their status in the voucher program were administered to a random subsample (N = 1,805) of the survey respondents. The reasons for exiting were asked of those who in this survey section said they were not receiving vouchers.
Source: Rent Reform 4-Year Followup Survey

Conclusion

As this chapter shows, the new rent policy changed families' experiences with the Housing Choice Voucher program. On average, before their triennial recertifications, the new policy reduced families' TTPs and average family share relative to the control group's levels. The new policy also slowed the pace at which families exited the voucher program, leaving a higher proportion of families in the new rules group than the control group still on the voucher program by the end of the 42-month followup period for this report. These effects result in an increase in the average cumulative amount of housing subsidy received by the new rules group during the followup period—an effect that was intended by the policy to support work. At the same time, in the months after their triennial recertification, families in the new rules group who were still on the voucher program at the end of the followup period were paying a *higher* TTP than control group families still on the program—although the TTPs for the new rules group were capped again for the next 3-year period until their next triennial recertification. The increase in TTPs after the triennial recertifications was an anticipated effect of the new policy, allowing PHAs to recoup some of the extra HAP expenditures they make for the new rules group prior to the triennial recertification—an important outcome for helping the PHAs achieve cost-neutrality in serving a given number of families. The new policy did not substantially change the distribution of reasons that families left the voucher program by the end of the followup period. The most common reason in both groups, according to survey respondents' self-reports, was an increase in their family incomes, reducing their eligibility for subsidies. However, most families did not "earn their way off" the voucher program under either set of rent rules.

The new policy reduced the likelihood of certain types of transactions with staff, especially the most time-consuming ones that involved income reviews for adjustments to TTPs and subsidies (for example, annual recertifications and interim recertifications as a result of increases or decreases in family income). It also reduced the likelihood of families having a high number of interactions with staff, such as five or more. Although some aspects of the new rent rules, such as the reliance on retrospective income and application of safeguards to protect families from hardship, could increase PHA administrative burden, the reduction in time-consuming formal actions and multiple actions per family helped to reduce that administrative burden.

The safeguards included in the new policy were used by many families, testifying to their importance. These features were intended to help ensure that the new rent policy, despite its minimum TTPs, elimination of deductions, restrictions on interim recertifications, and reliance on retrospective income in calculating TTPs, would not lead more families to experience financial hardships. Chapter 6 explores the extent to which the goal of minimizing any increases in hardships was achieved, drawing on data from the 4-year survey of household heads.

Chapter 6
Impacts on Housing, Health, and Well-Being

The Rent Reform Demonstration's new rent policy was designed to promote and support tenants' employment efforts without putting them at greater risk of financial or material harm. At study enrollment, many of the families were contending with significant material hardships (Riccio, Deitch, and Verma, 2017).[108] For a small but nontrivial proportion, material hardships were recurring. Theoretically, more disposable income—potentially available because of the new policy's cap on total tenant payment (TTP) increases when earnings increase before the triennial certification (as opposed to more frequent adjustments under traditional rent rules)—could reduce material hardship, including housing-related hardships such as trouble meeting rent obligations and disconnection of phone and utilities. It could also affect other indicators of hardship, such as food insufficiency and avoidance of health care because of costs, and it could lead to more savings. Alternatively, the minimum TTP requirements, other changes in the way TTPs are set, and restrictions on interim recertifications could increase rent obligations and have negative effects for some families, although the policy includes a number of safeguards to mitigate hardship. How does the new rent policy affect family well-being? Does it protect them from harm? Does it improve their overall economic security? This chapter examines those types of questions approximately four years after families enrolled in the study. It estimates the new rent policy's effects on a variety of well-being outcomes, including housing stability, material hardships, financial strain, and additional quality-of-life indicators, drawing primarily on data from the followup survey of household heads.[109]

The survey was fielded between May and November 2019, and it included questions about families' circumstances, both current (at the time of the interview) and in the prior month or year. On average, respondents completed the survey roughly 4 years after they enrolled in the demonstration, and about 81 percent were still receiving Housing Choice Vouchers (HCVs) at the time, although more families in the new rules group than the existing rules group were still on the voucher program.[110] Also, respondents in the new rules group were interviewed about 8 months after their triennial recertifications if they were still on the voucher program (see chapter 2).[111] Thus, depending on the topic, the survey data mostly capture respondents' circumstances in the post-triennial period for the new rent rules group, after their TTPs had been redetermined using retrospective income, and after the control group's third annual recertification (if still on the voucher program).

[108] Almost 70 percent of baseline survey respondents said that they had experienced one or more hardships in the last year, such as an inability to pay the cost of utilities, telephone bills, and food. Respondents also indicated that they did not have enough money to pay rent sometime in the past year.
[109] The full survey instrument is included in appendix S.
[110] This estimate is based on both survey and housing agency administrative records (not shown).
[111] About 71 percent of the new rules group respondents completed the survey between 7 and 12 months after their first triennial, and another 7 percent between 13 and 22 months.

In interpreting the results presented in this chapter, it is also important to recall that the new rent policy, so far, has had limited success in improving household heads' labor market outcomes according to analyses based on National Directory of New Hires (NDNH) data (see chapter 3), although, according to the survey, current employment rates were somewhat higher for the new rules group. However, the survey data suggest that self-reported income (from all sources) in the month prior to the survey interview was fairly comparable between the two research groups (see chapter 4).

This chapter also draws on data collected from the Homeless Management Information System (HMIS), which localities around the country use to track the reliance on homeless shelters and other housing for homeless individuals and families and their receipt of homelessness services. For this evaluation, MDRC matched the Rent Reform Demonstration full impact sample (not just survey respondents) to the HMIS database in each of the study sites to determine whether the new rules group was any more likely than the existing rules group to use homeless services.

Like the rest of this report, this chapter focuses on the pooled results for three study sites—Lexington, Louisville, and San Antonio. PHA-specific exhibits are available in a standalone supplementary appendix (appendix S).[112] Overall, the findings presented here suggest few positive or negative effects of the new rent policy on the lives and circumstances of the study participants. Also, no clear pattern of effects—or variations across sites—is evident in the site-level findings. While the main aim of the chapter is to assess the effects of the new rent policy, it also provides important information on the housing, financial, and material circumstances of voucher recipients more broadly. Few data sources provide this level of detail on voucher holders' financial well-being, their material circumstances, or their experiences with eviction and homelessness. The chapter shows that high proportions of the families enrolled in the Rent Reform Demonstration experienced adverse quality-of-life circumstances.

Housing Status and Satisfaction

In theory, the new rent policy could affect the housing circumstances and the neighborhoods in which voucher holders reside. Because their TTPs are capped, tenants who increase their earnings would benefit from more disposable income during the 3 years leading up to their first triennial recertification, and they may seek to live in neighborhoods that are safer and offer more amenities that could improve their quality of life (for example, easier accessible public transportation, higher-quality schools, and proximity to desirable jobs). To determine whether the alternative rent model affects housing and residential choices, the survey included a set of

[112] This appendix also includes exhibits for the fourth site, Washington, D.C., which stopped implementing the new rent policy at the end of September 2019.

questions about respondents' housing status at the time they were interviewed and their satisfaction with their current housing and neighborhoods.[113]

Survey respondents were asked whether they owned or rented a home or an apartment and whether they received some form of housing assistance (Section 8, public housing, or other forms of housing subsidy).[114] A higher proportion of new rules group families reported that they were receiving an HCV, a pattern that is consistent with the results based on administrative records for the full sample in chapter 5. As shown in exhibit 6.1, most of the respondents (over 90 percent in both groups) reported renting a home or apartment, with a small number reporting owning their home. Almost 81 percent of the respondents in the new rules group reported using a housing voucher, compared with 69.3 percent of their counterparts in the existing rules group—an 11.3 percentage point difference that is statistically significant. This pattern was also observed in San Antonio, Lexington, and Louisville (see appendix S).[115]

Most respondents in both research groups assessed their current living situations positively. Respondents were asked to rate on a five-point scale, ranging from very satisfied to very dissatisfied, how they felt about their current apartment or home. Similarly, they were asked to rate their satisfaction with their neighborhood. Roughly 70 percent of respondents in each research group said they were very or somewhat satisfied with their current homes; 20 percent indicated being somewhat or very dissatisfied; the remaining sample members—8.8 percent of the new rules group and 7.5 percent of the existing rules group—were neither satisfied nor dissatisfied(shown in exhibit 6.1).[116] Regarding neighborhood satisfaction, about 24 percent of the new rules group and 22 percent of the control group reported being somewhat or very dissatisfied; most of the respondents reported being very or somewhat satisfied.

Tenant-Landlord Relationships

Under the alternative rent policy, all households are required to pay at least the minimum TTP amount to their landlords directly (unless the minimum TTP has been waived under a hardship exemption). This policy is intended to mirror normal practices in the unsubsidized rental market

[113] This section of the survey was administered to a subsample. As mentioned in chapter 2, there is some evidence of slight nonresponse bias on the survey items administered to the respondent subsamples. Estimated effects calculated on measures included in this section of the survey may be somewhat larger than what might have been estimated had those survey modules been administered to the full respondent sample.

[114] Research has documented the challenges of accurately capturing type of housing assistance in survey data, see Shroder (2002). Residents in all types of assisted housing often just respond that they live in "housing" without being able to specify which type, see Comey, Popkins, and Frank (2012). The Rent Reform Demonstration survey includes a series of questions to manage the potential risk of misclassification of survey responses.

[115] For categorical variables such as housing status, a chi-square test is used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The statistical significance levels are applied to the distribution.

[116] Also statistically significant for San Antonio, where a higher proportion of existing rules group participants reported being very dissatisfied with their housing.

Exhibit 6.1. Impacts on Housing Status, Satisfaction, and Landlord Issues: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Current housing status					
Housing type				***	0.003
Owns home or apartment	3.1	5.2	-2.1		
Rents home or apartment	95.3	91.5	3.9		
Lives in HCV housing	80.6	69.3	11.3		
Lives in other subsidized rental housing	4.6	5.4	-0.8		
Lives in public housing	0.3	0.3	0.0		
Subsidy or rental type unknown	9.8	16.5	-6.7		
Does not pay rent	1.5	3.3	-1.8		
Satisfaction with current home					0.968
Very satisfied	35.9	35.7	0.3		
Somewhat satisfied	34.5	35.2	-0.7		
Neither satisfied nor dissatisfied	8.8	7.5	1.2		
Somewhat dissatisfied	11.2	11.1	0.1		
Very dissatisfied	9.6	10.5	-0.9		
Satisfaction with neighborhood conditions					0.916
Very satisfied	36.0	35.8	0.2		
Somewhat satisfied	31.6	33.5	-1.9		
Neither satisfied nor dissatisfied	8.6	8.6	0.1		
Somewhat dissatisfied	13.6	12.1	1.5		
Very dissatisfied	10.3	10.0	0.2		
Problems with landlord in the 12 months prior to interview					
Did not have housing or landlord problems	54.3	59.3	-5.0	**	0.042
Paying rent in full or on time	15.2	13.7	1.5		0.382
Over utilities	3.1	3.9	-0.8		0.379
Unit repair or maintenance	30.4	27.9	2.5		0.277
Pest control	17.0	16.4	0.6		0.751
Unauthorized access to apartment by landlord	3.3	3.7	-0.5		0.607
Lease violations[a]	4.0	3.7	0.3		0.744
Sexual harassment by landlord, property manager, or maintenance worker	0.9	0.3	0.6		0.105
Other	2.4	2.1	0.3		0.668
Sample size (total = 1,805)	916	889			

HCV = Housing Choice Voucher.

[a]Item reflects lease violations by the respondent or the landlord.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values. The items in this section of the survey were administered to a random subsample (N = 1,805) of the survey respondents.

Source: Rent Reform 4-Year Followup Survey

and help prepare tenants for a responsibility they will face when they exit the voucher system. Through questions in the survey, the evaluation examines the extent to which households have difficulty meeting their rent obligations and whether they report having more disputes with their landlords over rent or property maintenance.

The bottom panel of exhibit 6.1 displays findings on the types of issues tenants encounter with landlords. The survey instrument listed some of the more common issues, such as difficulty paying rent on time or covering utilities, unit maintenance and pest control, lease violations, and harassment by the landlord (for example, unauthorized access to the unit or sexual harassment by the landlord or property manager). Overall, for Lexington, Louisville, and San Antonio combined, the findings show that a somewhat higher proportion of the existing rules group (about 60 percent) reported not experiencing any landlord problems in the past 12 months, compared with 54.3 percent of the new rent rules group, a statistically significant difference of 5 percentage points. Among those reporting some type of landlord problem in the past 12 months, issues related to unit maintenance, pest control, or being able to pay rent on time or in full were more likely to be reported.[117] The differences between the two groups on the types of landlord problems are mostly small and statistically insignificant.

Housing Stability and Eviction

Low-income renters and families move for various reasons, including a desire for safety, a bigger place, and proximity to good schools and jobs. Families may also move because they get evicted if they cannot pay the rent at their current residence or for some other reason. As protection against potential eviction for nonpayment of TTP, the new rent policy includes hardship remedies—or rent adjustments, so that families do not experience such hardships. To assess whether the new rent policy affects families' housing stability, the survey respondents were asked whether they had moved since random assignment and, if they had, to describe the reasons they moved. The survey also included a set of questions to assess families' experiences with evictions.

Exhibit 6.2 presents these results. Overall, for Lexington, Louisville, and San Antonio combined, the new rent policy led to a small drop in residential mobility (or increased housing stability). In the approximately 4-year period since study enrollment, about 44.4 percent of the new rules group reported moving, compared with 48.8 percent of the existing rules families, a statistically significant reduction of 4.4 percentage points. On average, compared with the new rules group, families in the existing rules group were more likely to report moving at least once or three or

[117] These types of problems were also expressed by respondents in each of these three sites. In Louisville, statistically significant differences emerged around regular rent payments (a 5.6-percentage-point increase for the new rules group) and over utilities. In San Antonio, a small proportion of respondents (2.1 percent of the new rent rules group and less than 0.5 percent of the existing rules group) reported issues over sexual harassment by the landlord, a 1.7-percentage-point increase over the control group.

more times, a pattern that is statistically significant. The new policy does not appear to have had any notable effects on moves in any of the sites.

Exhibit 6.2. Impacts on Moving and Evictions: Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Moved since baseline	44.4	48.8	– 4.4	*	0.061
Number of moves since baseline	0.7	0.8	– 0.1		0.143
Number of moves since baseline (%)				*	0.086
Did not move	56.6	51.5	5.0		
1 time	25.8	30.1	– 4.3		
2 times	12.5	11.6	0.8		
3 times or more	5.1	6.7	– 1.5		
Primary reason for most recent move (%)					0.749
Wanted cheaper place	2.9	3.5	– 0.6		
Wanted smaller place	2.0	2.4	– 0.3		
Unit needed repairs/maintenance	7.8	8.8	– 1.1		
Building condemned	0.6	0.1	0.5		
Building in foreclosure	0.2	0.4	– 0.1		
Wanted bigger place	7.2	8.1	– 0.9		
Wanted nicer place	2.9	3.6	– 0.7		
Wanted own place	2.8	3.7	– 0.9		
Wanted safer neighborhood	4.2	5.0	– 0.8		
Wanted place closer to work or school	0.7	1.1	– 0.4		
Wanted to move closer to family or friends	1.6	1.7	– 0.1		
Wanted neighborhood with better schools	0.7	1.0	– 0.2		
No rent arrears at time of most recent move (%)	41.9	44.4	– 2.6		0.272
Forced to move or formally evicted[a] (%)	10.6	11.4	– 0.7		0.614
Reasons for forced moved or eviction[a] (%)					
Issue with rent or mortgage payment	1.7	2.2	– 0.5		0.419
Violation of housing rules[b]	1.5	2.2	– 0.7		0.313
Income increase	0.4	0.1	0.3		0.228
Landlord not renewing lease	8.4	7.8	0.5		0.689
Other reason	1.2	1.3	– 0.1		0.853
Sample size (total = 1,805)	916	889			

[a]Includes survey respondents in the midst of an eviction. Percentages of reasons for eviction sum to more than the total percentage because respondents may have reported more than one reason.
[b]Violation of PHA rules include not living in unit, having a visitor past the allowable stay period, damaging unit, housekeeping violations, and one-strike violation.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values. The items in this section of the survey were administered to a random subsample (N = 1,805) of the survey respondents.
Source: Rent Reform 4-Year Followup Survey

Following up on questions about the number of times respondents move, the survey also asked respondents to provide the main reason for their move. As shown in exhibit 6.2, respondents provided a range of reasons, including wanting a bigger or "nicer" place, wanting a cheaper or smaller place, having to leave because the unit needed repair or maintenance, or concerns about safety, among others. No single reason stands out as a primary reason, and there are no differences between the two study groups in reasons for moving, although unit repair and maintenance-related issues appear among the more commonly reported problems reported with landlords. [118]

Income volatility and high housing costs can increase the risk of eviction among low-income families. An important consideration in the design of the new rent policy was whether its minimum rent requirement, restricted interims, and other features, would increase families' rent burden and possibly put them at greater risk of eviction and even homelessness than under current rent rules. The policy's various safeguards were intended to protect against those outcomes.

The final panel of exhibit 6.2 focuses on forced moves and formal evictions. An eviction occurs when a landlord requires a tenant to leave the unit. As documented by Mathew Desmond (2016), landlords evict tenants for nonpayment of rent, but they may also evict them for a variety of other reasons, including property damage, nuisance complaints, or lease violations. Formal evictions are carried out through the court system, but informal evictions, also referred to as "forced moves," which are harder to document, tend to occur outside the legal system through pressure or harassment by the landlords.

The Rent Reform Demonstration survey shows that about 11 percent of the families in each study group reported that they were forced to move or were formally evicted in the period between study enrollment and the 4-year survey.[119] The leading reason respondents reported for their eviction had to do with the landlord not renewing the lease (8.4 percent for the new rules group versus 7.8 percent for the existing rules group). Violation of Housing Choice Voucher rules—such as not living in the unit, having a visitor past the allowable stay period, or unit damage—and issues with rent or mortgage payments were some of the other reasons reported by families who were forced to move or formally evicted. The incidence of evictions, both formal

[118] As shown in the supplementary appendix, the new rules group respondents in Lexington were more likely to provide this reason for moving than their counterparts in the other sites—the more frequent moves reported by the new rules group families in this site could be related to the unit quality issue discussed above.

[119] The survey questions are informed by the Milwaukee Area Renters Study and the set of evictions-related questions included in the 2017 American Housing Survey (AHS). The questions are designed to capture whether respondents were forced to move because of court-ordered action or other actions by the landlord. The questions include: Were you, or a person you were staying with ever evicted, or forced by your landlord to move when you didn't want to, since study enrollment; A landlord might force you to move because you didn't pay your rent, because you damaged the property, or for any number of other reasons; Sometimes a landlord gives you a paper, or tapes a paper to your door, saying you have to move; Sometimes you go to court; other times you don't. Whatever the case, has a landlord made you move out when you didn't want to; Were you, or the person you were staying with, forced to move because your landlord refused to renew your lease? The 2017 AHS includes the first national-level survey on the prevalence of evictions, a key contributor to housing instability.

and informal, varies only slightly across the three PHAs, with rates for the new rules respondents, for example, ranging from about 9.9 to 11 percent.[120]

Homelessness

The evaluation uses data collected from the HMIS to assess the policy's effects on homelessness.[121] The sample for the Rent Reform Demonstration was matched to the HMIS database in each of the study sites to determine whether the new rules group was any more likely than the existing rules group to use housing services for homeless families.

Exhibit 6.3 shows that for the three-PHA pooled sample, very few respondents in either the new rent rules group or the existing rules group had received housing assistance for individuals or families experiencing homelessness. For example, about 1 percent in both groups had spent at least one night in an emergency shelter or received other types of homelessness-related housing assistance during the first 3.5 years (42 months) of followup.[122] Appendix F also shows that in Louisville and San Antonio, where data on the use of other homelessness-related services are available, the proportion of household heads in the new rules group or the control group receiving such services is also very low. On the other hand, the use of any homelessness services appears to be higher in San Antonio, though roughly comparable for the two study groups (11.4 percent for the new rules group and 12.1 percent for the existing rules group). [123]

In part, the use of homelessness services may be low at this stage of the evaluation because most families are still receiving housing vouchers at the end of the followup period for this report. The final report for this evaluation will show whether the rates climb as more families exit the voucher program and whether the new rent policy affects those rates.

[120] Based on 2016 data, the Eviction Lab at Princeton University reports the following eviction rates per 100 renter households in the Louisville, Lexington, and San Antonio: 4.82, 4.59, and 4.1 respectively. These rates are based on court data and do not include informal evictions, which happen outside the courtroom. See Eviction Lab (n.d.).
[121] As explained on HUD's website, "A Homeless Management Information System (HMIS) is a local information technology system used to collect client-level data and data on the provision of housing and services to homeless individuals and families and persons at risk of homelessness. Each Continuum of Care is responsible for selecting an HMIS software solution that complies with HUD's data collection, management, and reporting standards." See HUD Exchange (2019).
[122] A stay is defined as an individual's use of any of the following types of housing assistance: emergency shelter, transitional housing, safe haven, or various forms of permanent housing, such as permanent housing without services, permanent housing with services, permanent supportive housing, or rapid re-housing.
[123] Use of a service is defined as an individual's use of any of the following services: street outreach, day shelter, homelessness prevention, coordinated assessment, services only, or other project type. "Services only" and "other" project types indicate that the project only provides services, not including street outreach. "Services only" projects have associated housing outcomes while "other" projects provide "stand alone supportive services." See HUD (2018).

Exhibit 6.3. Impacts on Use of Homelessness Services Within First 42 Months of Followup: Heads of Households in Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
At least 1 night stay[a] (%)				
Year 1 (quarters 3–6)	0.3	0.6	– 0.2	0.238
Year 2 (quarters 7–10)	0.6	0.6	0.0	0.898
Year 3 (quarters 11–14)	0.5	0.8	– 0.3	0.263
Year 3.5 (quarters 15–16)	0.4	0.3	0.1	0.381
Full period (quarters 3–16)	1.2	1.3	– 0.1	0.710
Any stay in an emergency shelter (%)				
Year 1 (quarters 3–6)	0.2	0.3	– 0.1	0.484
Year 2 (quarters 7–10)	0.5	0.3	0.1	0.535
Year 3 (quarters 11–14)	0.4	0.6	– 0.3	0.199
Year 3.5 (quarters 15–16)	0.3	0.2	0.1	0.485
Full period (quarters 3–16)	0.9	0.9	– 0.1	0.838
Sample size (total = 4,756)	2,368	2,388		

[a]A stay is defined based on the individual's use of any of the following types of housing assistance: emergency shelter, transitional housing, safe haven, or various forms of permanent housing, such as permanent housing without services, permanent housing with services, permanent supportive housing, or rapid re-housing.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. A two-tailed t-test was applied to the differences between research group outcomes. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Rounding may cause slight discrepancies in sums and differences.

Source: MDRC calculations using Homeless Management Information System data

Financial Well-Being

Many of the household heads who completed the baseline survey at study enrollment, both in the new and existing rules groups, reported substantial difficulty making ends meet and were contending at that time (before the new policy took effect) with varying financial hardships. The new rent policy includes safeguards to protect families from excess rent burden, but the minimum TTP, limited interim recertifications, or the use of retrospective income to determine TTPs could create some financial difficulties for families and affect their ability to meet basic needs. About one-half of the families in the new rules group who were interviewed in 2018 as part of the qualitative study described their financial situation as "better" than before the new rent rules went into effect. Fewer respondents described their current financial situation as worse, relatively unchanged, or mixed, or did not respond to the question. Those with a more positive outlook on their financial situation liked that the new policy allowed them to work more, keep more of their earnings, and that their rent did not fluctuate as their earnings increased. Those who rated their financial situation as worse were more likely to point out that their TTPs were higher now than what they had paid in the past. Having recently completed their triennial recertifications, their new—and higher—TTPs influenced their perceptions of their financial well-being. As one respondent put it, "I will say in the beginning, the first three years, it was better for us, but since this last recertification, it's gotten a little — it's more of a hardship on us,

right now." As mentioned previously, unlike members of the control group, who would have seen their TTPs increase as their earnings increased, or at least annually, members of the new rent rules group could increase their earnings and keep their TTPs unchanged until their triennial recertification in 2018–2019.

The 4-year survey offers an opportunity to build more generalizable evidence about the new rent policy's effects on respondents' perceptions of their financial well-being. (Chapter 4 examines other dimensions of financial well-being, including income and savings.) Given the timing of the survey, its findings provide a snapshot of the new rent rules' effects on families' financial well-being in a time period following their triennial recertification and after control group families had their third annual recertifications (if still on the voucher program). The survey questions were designed to gauge the respondents' relative financial well-being—i.e., whether they felt their current financial situation was better than last year, their financial situation at one point in time (the end of each month), and whether they needed to—and the frequency with which—they relied on family or friends for meeting basic household needs or paying for rent and utilities. As shown in exhibit 6.4, these questions elicited mostly similar responses from both study groups, and there are no statistically distinguishable differences in how the two study groups perceive their financial circumstances.

The two research groups differed little in their ability to make ends meet. Nearly 14 percent of the respondents in each group strongly agreed that their current financial situation was better than the previous year. At the same time, a little over 50 percent of the respondents in both groups said they had "just enough money left over at the end of the month to make ends meet," while another two-fifths (38.2 percent of the respondents in the new rules group and 41.6 percent of the respondents in the existing rules group) said they did not have enough money to make ends meet. Despite these financial hardships, over half the respondents in each group indicated that they did not borrow from family and friends to make ends meet.[124] Among those who did rely on family and friends, around 10 percent reported doing so weekly or a couple times a month.

[124] It is unclear whether those who said "never" did not have a network of family or friends they could borrow from.

Exhibit 6.4. Impacts on Financial Well-Being: Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Financial well-being				
Financial situation is better than last year (%)				0.879
Strongly agree	14.4	13.7	0.7	
Agree somewhat	26.9	26.0	0.9	
Neither agree nor disagree	22.0	21.8	0.2	
Disagree somewhat	14.4	14.5	– 0.1	
Strongly disagree	22.3	24.0	– 1.6	
Financial situation at the end of each month (%)				0.160
Has money left over	8.0	7.1	0.9	
Has just enough money to make ends meet	53.8	51.3	2.5	
Does not have enough money to make ends meet	38.2	41.6	– 3.4	
Borrow money from family or friends for basic household necessities such as food, rent, or utilities (%)				0.167
Weekly	1.4	1.5	– 0.1	
A couple times a month	7.3	8.4	– 1.2	
Monthly	9.2	10.9	– 1.7	
A couple times a year	23.4	21.8	1.6	
Once a year	5.0	3.7	1.2	
Never	53.8	53.6	0.1	
Sample size (total = 3,606)	1,839	1,767		

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values.
Source: Rent Reform 4-Year Followup Survey

Within each site, the new and existing rules groups provided fairly similar responses to the questions about their financial well-being. The new rent rules families in Louisville were more likely to report a more difficult financial situation at the end of the month (42.1 percent) compared with their counterparts in Lexington (37.6 percent) and San Antonio (34.6 percent). Control group members in each of the sites reported slightly higher levels of financial difficulty at the end of the month compared with their counterparts in the new rules groups, but the differences between the two groups in each city are not statistically significant.[125]

Material Well-Being

Understanding the new rent policy's effects on material hardship and well-being is an important objective of this evaluation. A central goal of the new rent policy is to avoid increasing hardships

[125] See appendix S. The pattern in Washington D.C., is reversed—with 52.6 percent of the new rules group reporting this financial situation, compared with 48.8 percent of the existing rules group. Overall, compared with other sites, a higher proportion of the respondents (in both groups) in this PHA reported financial hardship.

on families. However, measuring material hardship is complicated because it has many dimensions and generally relies on subjective assessments and respondent self-reports. Moreover, the intensity of any given hardship and the difficulty it poses for a family, relative to other types of hardships, is also hard to gauge. Several types of hardships, though—including an inability to purchase adequate food, difficulty paying rent and utilities, and difficulty sustaining access to basic necessities such as telephone service—are broadly recognized as fundamental hardships for anyone and markers of precarious economic circumstances.[126] As such, they are commonly included in studies that seek to measure effects on material hardship. This evaluation focuses on many of the same measures.

To measure the presence and prevalence of hardship experiences, the evaluation focuses on respondents' experiences with the following types of hardship and the duration of each:[127] food and food insecurity, hardships related to recurring monthly utility and phone bills, access to preventive health care, and prescription medication. Items measuring these individual hardships are combined into a cumulative hardship score—one of the three confirmatory outcome measures for this study, reflecting the average number of months of reported hardships within the last 12 months. A respondent experiencing none of the measured hardships would earn a score of zero. Higher scores will reflect a higher number of enduring hardships.[128]

Exhibit 6.5 presents the findings. The top panel focuses on hardship experiences in the 12 months prior to the interview. For about 75 percent of the respondents in the new rules group, this 12-month period overlaps fully or partially with the period since their triennial recertification when their TTPs were reset—and new rent rules families no longer had the advantage of being exempt from having their pre-triennial earnings gains counted toward their current TTP. Overall, both groups reported similar hardship experiences. About 65.1 percent of the respondents in the new rent rules group, compared with 64.6 percent of the respondents in the existing rules group, indicated that they had experienced at least one hardship in the 12 months prior to the interview. The material hardship summary score, based on the range of items described below, was 3.6 for the new rules group and 3.8 for the existing rules groups, a 0.2 reduction, which is not statistically significant.[129] The pooled analysis presented in the preceding chapters shows no

[126] These dimensions are commonly used in national surveys—such as the Survey of Income and Program Participation, the American Housing Survey, and the National Health Interview Survey—to measure material hardships.

[127] See the survey instrument in appendix S for the set of questions. To capture the frequency hardship experiences, respondents were asked the number of months they experienced selected hardships in the last 12 months: 1 month, 2–3 months, 4–6 months, or 7 months or more. For the unmet medical care and prescription items, for which the followup duration question is not asked, a positive response ("yes, there was a time") will be counted as "1 month;" prescriptions and doctor visits are not necessarily monthly needs.

[128] The material hardship score ranges from 0 to a maximum of 40. About 76 percent of the respondents scored between 0 and 6. A person experiencing only one of these hardships, and in only one month, is assigned a score of 1; a person experiencing one hardship in "2–3 months" is assigned the midpoint of that range, or 2.5 months; someone experiencing all four hardships, and each one for "2–3 months," is assigned a score of 10 (that is, 4 × 2.5); and so on.

[129] The pattern is unchanged for the pooled analysis with DC included: the average material hardship score for new rules group families was 3.4 and 3.6 for existing rules group families, a difference of .2 percentage points that is not statistically significant.

effects of the new rent policy on increasing household income or access to savings and other financial resources. Thus, given the comparable economic circumstances, it is not surprising that both groups also report fairly similar material hardship experiences.[130]

The next panel in the exhibit presents the items considered in the overall hardship summary score. Difficulty paying commonly recurring bills was reported by approximately the same proportion of respondents in the new and existing rules groups. For example, about 29.6 percent of the new rules group respondents and 30.6 percent of the existing rules group respondents cited difficulty paying telephone bills; difficulty paying the full amount of rent was indicated by about 18 percent of the respondents in the new rules group and 19 percent of the respondents in the existing rules group. Beyond the regular recurring payments, study respondents also reported difficulty obtaining access to prescription medications or medical care because of costs. Food hardship was also reported by a nontrivial proportion of respondents: 38.4 percent of the new rules group respondents and 37.7 percent of the existing groups respondents reported food-related hardship.

The respondents in the existing rules group, however, were more likely to report experiencing "severe" hardship—or hardships extending for 4 months or more—with their rent and utility payments. As shown in exhibit 6.5, about 5 percent of the new rules group reported difficulty paying their rent or mortgage in full for 4 months or more in the past year, compared with 7 percent of the existing rules group, a 2.3-percentage-point difference that is statistically significant. A similar pattern is observed for utility bill payments, a difference of 1.1 percentage points that is statistically significant. Both groups experienced similar levels of severe food hardship. It is possible that respondents in the new rules group had access to a little more disposable income during the 12-month reference period because of the TTP cap, and were more likely to be receiving vouchers, better enabling them to buffer themselves and their families from severe hardship.

The bottom panel of the exhibit focuses on food security.[131] Survey respondents were asked about food eaten by the family in the prior month: 1= Often not enough to eat; 2 = Sometimes not enough to eat; 3 = Enough to eat but not always the kinds of food desired; 4 = Enough to eat of the kinds of food desired. Scores closer to 1 indicate that families often do not have enough to eat. Households reporting that they sometimes or often do not get enough to eat are termed "food-insufficient." The results show that both groups reported similar levels of food security: their overall rating on the food security scale was around 3.0, and about 25 percent of the respondents in each group reported that they sometimes or often did not have enough to eat last month. A nontrivial proportion of the respondents in both groups also indicated that a household member had skipped a meal due to the lack of money; 10.4 percent of the new rules group

[130] Additional supplementary analysis by baseline work status also do not reveal a clear pattern of statistically significant differences in hardship experiences.
[131] Using items from the U.S. Household Food Security Survey Module: Six-Item Short Form. See USDA (2012).

Exhibit 6.5. Impacts on Material Well-Being and Food Security: Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Material hardship					
Any material hardship in the 12 months prior to interview[a] (%)	65.1	64.6	0.5		0.775
Average number of material hardships in the 12 months prior to interview	1.5	1.5	0.0		0.862
Material hardship score[b]	3.6	3.8	– 0.2		0.171
Difficulty paying commonly recurring monthly bills (%)					
Did not pay full rent	18.2	19.0	– 0.8		0.561
Utility service turned off for nonpayment of bill	17.5	17.7	– 0.3		0.845
Telephone service turned off for nonpayment of bill	29.6	30.6	– 1.0		0.506
Difficulty obtaining health care and food (%)					
Did not buy prescription drug because of cost	21.8	19.1	2.6	*	0.051
Did not see a doctor or get medical assistance because of cost	25.2	25.3	0.0		0.993
Did not buy food because of cost	38.4	37.7	0.7		0.658
Any severe material hardships in past 12 months[c] (%)					
Did not pay full rent or mortgage	4.8	7.0	– 2.3	***	0.005
Did not pay utility bill	0.6	1.7	– 1.1	***	0.002
Did not pay telephone bill	5.9	6.7	– 0.7		0.363
Did not buy food	14.4	14.2	0.3		0.811
Has no reliable vehicle (%)	28.5	30.8	– 2.2		0.133
Food security and hunger					
Food security (1=low, 4=high)[d]	3.0	3.1	0.0		0.221
Sometimes or often did not have enough to eat last month (%)	24.8	24.2	0.6		0.678
Household member skipped a meal due to lack of money for food last month (%)	27.3	26.8	0.5		0.740
Average number of months in past year when household member skipped a meal due to lack of money for food (%)					0.457
0 months	73.6	74.0	– 0.5		
1–3	16.0	16.8	– 0.8		
4–6	5.8	5.5	0.3		
7–12	4.6	3.6	1.0		
Sample size (total = 3,606)	1,839	1,767			

[a]Includes hardships related to food, shelter, recurring monthly utility and phone bills, and medical care listed on this exhibit.
[b]The material hardship score is a cumulative hardship scale that reflects the average number of months of reported hardships within the last 12 months. The measure incorporates the frequency of hardships related to food, shelter, recurring monthly utility and phone bills, and medical care listed on this exhibit.
[c]Severe material hardship is defined here as a hardship lasting 4 or more months.
[d]The food security question describes food eaten by the family in the prior month: 1= Often not enough to eat; 2 = Sometimes not enough to eat; 3 = Enough to eat but not always the kinds of food desired; 4 = Enough to eat of the kinds of food desired.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a

distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values.
Source: Rent Reform 4-Year Followup Survey

respondents and 9.1 percent of the existing rules respondents endured this type of food hardship for a period lasting between 4 and 12 months.

The hardship measures reported in exhibit 6.5 were also examined for each of the PHAs. These results (see supplementary appendix) show few negative effects, if any, of the new rent rules on hardships experienced by families in Lexington and San Antonio. In Louisville, respondents in the new rules group were somewhat more likely to report difficulty buying prescription drugs because of cost (17.5 percent versus 13.9 percent, a statistically significant increase of 3.6 percentage points) and having to skip meals due to lack of money to buy food. In Louisville, the new rent policy reduced by a small but statistically significant extent the proportion of families experiencing severe hardships (that is, exceeding 4 months or more) related to paying full rent and utility bills, differences that are statistically significant.[132] Comparatively speaking, across all three PHAs in the pooled analysis, families in Lexington appear to report slightly lower levels of adverse material hardships.

A series of nonexperimental analyses focused on the new rent rules group were also conducted to determine whether there were specific types of families who were more likely to report any or specific types of material hardships. These analyses (not shown) found that new rules group respondents who reported at least one hardship in the past 12 months differed in a few small ways from new rules group respondents who did not report any hardships during this period: they were paying, on average, a slightly higher initial TTP ($262 versus $252) and were slightly more likely to have seen their TTPs increase at the first triennial recertification (58 versus 56 percent); report lower income in the month prior to the survey ($1,261 versus $1,307); and also more likely to be receiving a housing voucher at the time of the survey (81 versus 76 percent).

Overall, a higher proportion of the new rules group respondents receiving a voucher at the time of the survey reported having any material hardship in the prior 12 months (66 percent of those receiving a voucher, compared with 62 of those without a voucher at the time of the survey). Compared with their counterparts still receiving a voucher, a higher proportion of the new rules group respondents not receiving a voucher at the time of the survey reported difficulties paying their rent in full or having their gas or utilities shut off because they could not make utility payments on time—a finding that is consistent with other research showing that families moving off housing subsidies struggle to meet rent and utility costs in the private rental market.[133] They

[132] It might be related to their increase in benefits (SNAP and SSI) and the possible other income from partners, which may have reduced severe hardship for some.
[133] For instance, about 17 percent of the new rent rules group who were receiving a voucher reported hardship paying their full rent, compared with about 23 percent of the program group respondents who were not receiving a voucher. Similarly, about 17 percent of the new rent rules group who were receiving a voucher reported difficulty with utility payments, compared with about 21 percent of the program group respondents who were not receiving a voucher. Also see Smith, Popkins, George, and Comey (2014).

were, however, less likely to report food-related hardship and food insufficiency compared with the new rules group sample members still enrolled in the voucher program. As discussed in chapter 5, a significant proportion of families in both study groups exited the voucher program because of income increases, and it is possible they were somewhat better able to cope with food-related needs than covering housing costs without a subsidy.

Health Outcomes and Health Coverage

Housing and economic security are key social determinants of health. This section examines whether the alternative rent policy improves a range of health outcomes. Does it increase their access to private or public health coverage, improve self-rated health status, improve their general disposition to life, and lower self-rated depression or anxiety? The findings for this set of health outcomes are shown in exhibit 6.6. Overall, approximately 4 years after study enrollment, both groups had similar health outcomes and statuses.

Health status is assessed based on a widely used scale in national health surveys that provides a generic, multidimensional measure of physical and mental health.[134] The survey question—Would you say your health in general was excellent, very good, good, fair, or poor?—when posed to a national sample, revealed that 13.8 percent of U.S. adults who were 18 years of age and over assessed themselves in fair or poor health; 35.8 percent of HUD-assisted adults reported fair or poor health.[135] A somewhat higher proportion of the Rent Reform Demonstration sample—or about 46 percent of the respondents in each study group—rated themselves as being in fair or poor health. Similar proportions of sample members in both groups—about 29.3 percent of the respondents in the new rent rules group and 27.6 percent in the existing rules group—reported moderate to high levels of problems engaging in normal activities such as work, studying, homework, or family or leisure activities because of their health. As expected, and consistent with the results for the pooled sample in the three sites combined, within each site, both the new and existing rules groups appear to rate health status comparably.

[134] "Short Form 12 Health Survey" (SF12), NHIS.

[135] A recent HUD study documents the distribution of self-reported health for housing-assisted and unassisted adults. It finds that HUD-assisted adults had the greatest proportion of adults reporting fair or poor health (35.8 percent), more than twice the proportion among the general adult population (13.8 percent). More than one-third of HUD-assisted adults reported their health as either fair or poor, a proportion considerably higher than that reported among unassisted low-income renters and the general adult population. See HUD (2017).

Exhibit 6.6. Impacts on Health and Health Insurance: Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Physical health				
Average self-rated health (1 = poor; 5 = excellent)	3.3	3.3	0.0	0.829
Average self-rated health (%)				0.807
Excellent	7.8	8.2	– 0.4	
Very good	14.1	12.7	1.3	
Good	31.8	33.0	– 1.2	
Fair	32.0	33.1	– 1.0	
Poor	14.3	13.0	1.3	
Problems conducting normal activities because of health (%)				0.518
No problems	48.0	51.3	– 3.3	
Slight problems	22.7	21.1	1.6	
Moderate problems	18.1	17.2	0.8	
Severe problems	8.4	8.3	0.1	
Unable to engage in these activities	2.8	2.1	0.7	
Mental health (%)				
General disposition				0.780
Very happy	19.4	18.3	1.1	
Pretty happy	54.7	54.8	– 0.1	
Not too happy	25.9	26.9	– 1.0	
Prevalence of psychological distress[a]				0.521
None	45.1	47.5	– 2.4	
Moderate	40.9	40.1	0.8	
Severe	14.0	12.4	1.6	
Health insurance coverage (%)				
Respondent has health insurance[b]	80.1	77.8	2.3	0.180
Type of insurance				0.456
Public	63.4	62.2	1.2	
Private	16.6	15.6	1.1	
None	19.9	22.2	– 2.3	
Children have health insurance	90.5	90.9	– 0.4	0.797
Number of children covered				0.529
Some children covered	7.4	9.1	– 1.7	
All children covered	83.1	81.8	1.3	
None	9.5	9.1	0.4	
Sample size (total = 1,801)	923	878		

[a]This outcome is derived from a six-question scale (the K6 or Kessler 6) that has been validated and used in numerous surveys and is designed to measure psychological distress. Respondents are considered to have a prevalence of moderate or severe psychological distress if their cutoff scores fall above a certain value. See Prochaska et al., 2012.

[b]Public health insurance includes Medicaid or any state or government health insurance. Private health insurance includes insurance through a current or former employer, a family member, or privately purchased insurance, such as insurance through the Affordable Care Act or a state-funded website.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for

specific outcomes may vary because of missing values. The items in this section of the survey were administered to a random subsample (N = 1,801) of the survey respondents.
Source: Rent Reform 4-Year Followup Survey

On perceived mental health and well-being, the 4-year survey captures perceptions of happiness and general disposition and feelings of depression and anxiety. The question measuring general disposition, using a 3-point scale, asked respondents: Taken all together, how would you say things are these days; would you say that you are very happy, pretty happy, or not too happy? To assess distress and anxiety, the evaluation used the abbreviated, 6-item, Kessler Psychological Distress Scale, a widely used version for screening for mood or anxiety disorders.[136] The new rent policy, through its triennial recertification policy, has the potential to increase income and housing stability, and reduce psychological distress and increase personal well-being. Prior research has shown that changes in health and economic well-being brought about by programs with financial incentives might improve mental health and emotional wellbeing.

A majority of the respondents in the pooled sample rated their general disposition as pretty happy or very happy—74.1 percent of the new rules group and 73.1 percent of the existing rules group; about one-fourth of the respondents, however, indicated they were not too happy. A generally similar pattern emerged for Louisville and San Antonio; a slightly higher proportion of respondents in the Lexington new rent rules rated themselves as very or pretty happy.

On the measure of psychological distress, both study groups look very similar: 14 percent of the respondents in the new rules group and 12.4 percent of the respondents in the existing rules group scored in the severe distress category. Another 40.9 percent of the respondents in the new rules group and 40.1 percent of the respondents in the existing rules group scored in the moderate distress category. Although the two study groups have fairly similar psychological distress ratings, they appear to report higher rates of serious psychological distress than unassisted low-income renters and the general adult population. A HUD study found HUD-assisted adults and unassisted, low-income renters were more likely to report problems than the general population.[137]

Finally, the bottom panel of exhibit 6.6 presents impacts on health insurance coverage. Both the new rules and existing rules respondents reported roughly similar types of health insurance coverage: both groups were mostly likely to be receiving public health insurance (63.4 percent of the new rules group compared with 62.2 percent of the existing rules group). The exhibit also shows that health insurance coverage rates were higher for children (about 90 percent had

[136] The K6 nonspecific distress scale was designed for use in the National Health Information Survey. It asks respondents how often they may have experienced the following during the past 30 days: so sad that nothing could cheer you up, nervous, restless or fidgety, hopeless, that everything was an effort, and worthless. The response categories included: all of the time, most of the time, some of the time, a little of the time, and none of the time. See Kessler et al. (2003).
[137] According to HUD (2017), HUD-assisted adults reported the highest prevalence of serious psychological distress: an estimated 11.6 percent. In comparison, 8.7 percent of unassisted low-income renters and only 3.7 percent of the general adult population reported serious psychological distress.

coverage) than for parents (roughly 80 percent had coverage), and a small fraction of households in each group (about 17 percent of the new rules group and about 18 percent of the existing rules group) did not have insurance for all of their children.

Survey respondents in San Antonio stand out as being the least likely to have any health insurance—a pattern also observed at baseline. However, in this site, respondents in the new rules group (58.1 percent) were more likely to report having health insurance coverage, compared with 50.7 percent of the existing rules group—a statistically significant increase of 7.3 percentage points, mostly driven by an increase in families' access to private health insurance.

Conclusions

This chapter assesses one of the central goals of the Rent Reform Demonstration's new rent policy: to simplify the administration of housing subsidies and promote tenants' economic mobility efforts without increasing their material hardship or harm. The analyses leading up to this chapter showed few, if any, positive effects of the rent policy on household income, a driver of financial and material well-being.

During the approximately 4-year followup period, families in the new rules group were exposed to the new rent policy, had their TTPs reassessed based on a new 12-month retrospective period, and were amid a new triennial period. Focusing mostly on their circumstances in the post-triennial period, this chapter shows that the alternative rent policy did not have much effect on many of the housing and well-being conditions tracked: in other words, there is no clear evidence that the rent policy caused harm or dramatically improved the circumstances of families subject to the new rules. For the most part, in the post-triennial period, the circumstances of the new rules group respondents closely mirrored those of their counterparts in the existing rules group. There is some evidence, though, that families in the new rent rules group were somewhat more protected from experiencing severe or extended spells of material hardship. That said, the data also show that families in the study sites contend with limited resources and serious hardships—sometimes at a higher rate than the low-income population in general, raising questions about how they cope with additional shocks to disposable income, such as rent increases for the new rules families. The next chapter turns to that topic, focusing exclusively on the families in the new rent rules group and their experiences with the new policy.

Chapter 7
Tenant Experiences with the New Rent Rules

By mid-2019, most families assigned to the new rent rules group had been exposed to the alternative rent policy for almost 4 years. How do participants describe their experiences with the policy? What did they like or not like about it? Answers to those questions are the subject of this chapter. Drawing on the 4-year survey of household heads, this chapter focuses on the families assigned to the new rent rules group and examines their understanding and views of the new policy's core features. The chapter also explores families' experiences following the first triennial recertification and how they coped with the higher rent obligations if their total tenant payments (TTP) increased.

The 4-year survey (fielded between May and November 2019) included a special set of questions for respondents in the new rent rules group. Until the followup survey, the main source of information on the experiences and well-being of the program group families came from a small qualitative study conducted by the evaluation team and discussed in a prior report.[138] This chapter occasionally refers to insights and observations from that study, which included two rounds of in-depth interviews (in 2016 and 2018) with up to 20 household heads at each study site. In contrast to the qualitative study, the 4-year survey is representative of the full group of families assigned to the new rent policy group. As such, the experiences described in this chapter may help in interpreting the study's impact findings and informing overall assessments of the new policy.

As described in chapter 2, the respondents completed the survey roughly 45 months after they enrolled in the Rent Reform Demonstration in 2015 and 2016, on average.[139] The timing of the survey is particularly important for understanding respondents' post-triennial experiences and perspectives: almost all respondents still enrolled in the voucher program at the time of the survey had completed a triennial recertification, some more recently than others, and for a significant portion of the respondents, the new rent rules, including the triennial recertification process, were probably fresher in their minds and shaped the responses captured in this chapter.[140]

As in prior chapters of this report, the analysis in this chapter focuses on the three-PHA pooled sample, with Lexington, Louisville, and San Antonio combined. PHA-specific findings,

[138] See chapter 6 in Ricco, Verma, and Deitch (2019). Drawing on two rounds of in-depth interviews with household heads in the new rent rules group, the chapter describes how families navigate—and experience—the new policy's core features.

[139] At the time the survey, 82 percent of the respondents were still enrolled in the HCV program, based on both survey and housing agency administrative records.

[140] For the three-PHA pooled sample, Lexington, Loisville, and San Antonio combined, respondents still enrolled in the voucher program were interviewed, on average, about 8 months after their triennial recertification: 25 percent with 1 to 6 months, 67 percent between 7 and 12 months, and another 7 percent between 13 and 22 months.

including those for Washington, D.C., are included in the supplementary appendix, although notable variations across PHAs are mentioned in the chapter.

Knowledge and Awareness of the New Rent Policy

Following enrollment in the Rent Reform Demonstration, families assigned to the new rules group continued to receive periodic reminders (simple one-page flyers, for example) from the public housing agencies (PHAs) highlighting core features of the new rent policy. The primary intent was to try to ensure that families would remember that the new policy offered both financial incentives to work and protections from hardship. Thus, the notices emphasized that families did not have to inform the PHA if their earnings increased; that their TTPs would not increase because of an increase in earnings (before the triennial recertification); and that, if their incomes dropped, they should reach out to their housing specialists to see whether they qualified for a TTP reduction.[141] Routine interactions with program staff related to interim recertifications, requests for hardship remedies, or the first triennial recertification provided additional opportunities for families to check their understanding of or seek clarifications on the alternative rent policy. How well families understand the policy's work incentive and protective features, and what they do in response, may affect whether it influences their labor market behaviors while protecting them from excess rent burdens and hardship.

The 4-year survey included six questions that tapped respondents' understanding of the core features of the new rent rules: triennial recertifications, paying a portion of monthly TTP directly to the landlord, hardship remedies, retrospective income, not reporting higher earnings between triennial recertifications to the housing agency, and changes to household composition affecting TTP. For each policy feature, respondents were provided three response options: yes, no, and unsure. Exhibit 7.1 lists the items in the order of respondents' level of awareness (i.e., the percent saying "yes" to each question), from high to low, and provides some evidence of how much—or little—families were aware of the core features of the policy. The findings show that respondents were more aware of some aspects of the rent policy than others. Further, as might be expected and discussed below, awareness was higher among families still active in the voucher program than those who were no longer in the voucher program when they were interviewed.

Most respondents in the new rules group in the three-PHA pooled sample were aware of the triennial recertification policy: 80.8 percent indicated that their required income reviews would be conducted every 3 years. Looking at responses to the question by voucher receipt status, about 86 percent of respondents still active in the voucher program when interviewed were aware of

[141] Families in the new rent rules group first learned about the new rent policy in 2015 or 2016 during the process of recertifying their eligibility for the Housing Choice Voucher (HCV) program and having their TTPs updated. At that recertification meeting, they watched a 13-minute orientation video that introduced them to the new policy. The video also highlighted the main benefits of the new rent rules: families would get to keep more of their earnings over 3 years and that they would not have to report to the PHAs any increases in income during that period. Families also learned about the hardship protections and other safeguards that they might qualify for if they had trouble paying their TTPs.

the policy's triennial recertification requirement, compared with 60 percent of those no longer receiving a voucher. As discussed later in this chapter, the triennial recertification feature of the new rent rules was cited by many respondents as a reason for favoring the new rent rules over traditional rent rules.

The minimum rent to landlord requirement was similarly well recognized: 76 percent of the respondents indicated that this policy applied to them. The idea that "everyone should pay something directly to the landlord" was intended to mirror the direct rent-paying responsibility they would have in the unsubsidized rental market when they exited the voucher program.

Exhibit 7.1. Knowledge and Awareness of New Rent Rules: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules
Respondent understands that	
Required Income reviews are conducted every 3 years	80.8
All households must pay at least some of their own money directly to landlord every month for rent	76.0
Earnings increases do not need to be reported between required income reviews	65.8
Retrospective income is used to calculate rent	64.5
Rent contributions may be lowered by the housing agency if households have difficulty paying rent	49.6
Adding another adult to household does not increase rent obligation unless a larger unit/voucher is required	36.1
Sample size	1,672

Note: This exhibit excludes control group members because it pertains only to the New Rent Rules group.
Source: Rent Reform 4-Year Followup Survey

While almost 81 percent of the new rules group respondents in the pooled sample said they understood that their income reviews would be conducted every 3 years, only about 66 percent of the respondents said that they did not have to report earnings increases between required income reviews.[142] Among those indicating otherwise (i.e., they were required to report earnings increases or were unsure of the requirement), about 75 percent had recent work history and earnings in the year prior to the survey. It is possible they may have reported their earnings to the PHA and were reminded of the nonreporting requirement. An additional 12.3 percent of those who responded "no" or "unsure" provided a health-related reason for not working or for not looking for work at the time they completed the survey. The earnings incentive built into the rent policy may be less salient for people with health or other barriers to work, which may be reflected in how completely they understand features of the rent rules.

[142] Of the remaining 34 percent, about 15 percent said they were unsure about this requirement; 19 percent said they were required to report earnings between triennial recertifications.

Verbatim responses to questions on the survey also suggest that even if some respondents were confused about the nonreporting requirement, they still recognized that they could earn more money and not have their TTPs increased until their triennial recertifications—in other words, they still recognized the policy's built-in work incentive. For instance, some respondents who thought they were required to report their new earnings to the PHA between triennial recertifications identified the work incentive as the main feature of the new rent policy that they liked best. One such participant said "[You are] able to make as much as you wanted to and rent did not change." Another said, "I do like when I did get a slight increase when I go to new job I was able to do a few more things, buy food, and get my kids what they needed for school."

Some household heads interviewed for the qualitative study also mentioned making efforts to inform the PHA of their earnings increases between triennial recertifications. Knowing the penalty of not reporting earnings increases under the traditional policy and recognizing the newness of triennial recertifications, they felt it was safer to keep the PHAs informed of such changes. Their attempts to inform the PHAs also offered additional opportunities for them to receive further clarification about the rent rules. Similarly, the message that the new rent policy does not penalize households for earnings increases between triennials is also the subject of repeated mailings to families in the demonstration (see above), designed with the intent of reminding them of this central feature. These different strands of information suggest that while 66 percent of respondents said they were aware of the non-reporting requirement, probably a higher proportion than this did understand that they would not have their TTPs increased before the triennial recertifications and that new policy supported efforts to increase earnings.

About 65 percent of the respondents said they were aware that the housing agency was using a 12-month look-back period. Given that most respondents had completed a triennial recertification in the recent past, a higher level of awareness with this rent feature might have been expected. As described later in this chapter, some respondents also did not think the PHAs' use of retrospective income for calculating rent was appropriate because it included income that they may no longer have had.

Fewer respondents seemed to understand the protective aspects of the new rent policy. The hardship provisions and other safeguards of the new rent rules are designed to protect families from excessive rent burden.[143] About one-half of the respondents (49.6 percent) in the three-PHA pooled sample said they knew they could have their rent lowered if they had difficulty paying it. A slightly higher proportion in Louisville (57 percent) were aware of this provision, compared with about 46 percent in San Antonio and Lexington.[144]

[143] However high their retrospective income, no families should pay a TTP that exceeds 40 percent of their *current* or anticipated gross income. In cases where a family would, the hardship policy calls for the family's TTP to be set at 28 percent of its current income for up to 6 months; this hardship remedy can be renewed, if necessary.
[144] See appendix exhibit S5.1.

Why more families were not aware of these new rent policy's safeguards is uncertain. Families were informed about them when they first enrolled in the study. And, as previously mentioned, they were sent periodic flyers reminding them that hardship remedies were available if they had difficulty paying their rent. The PHA data presented in chapter 5 (see exhibit 5.6) show that about 16.5 percent of the households in the pooled sample had received a hardship remedy during the 42-month followup period. Moreover, PHA staff interviewed as part of the qualitative study indicated that they received a high volume of hardship requests and that families facing rent hardship generally approach the housing agency for help. It may be that many families that did not experience income reductions and higher rent hardship burdens paid less attention to this feature of the rent policy, reducing the overall awareness rate.

The other policy feature that registered lower levels of awareness is related to adding another adult to households and its implications for rent increases.[145] About 36 percent of the respondents in the pooled sample indicated they were aware of this policy provision. Again, respondents who do not have to deal with this situation may be less likely to be familiar with this aspect of the new rent policy.

Across sites, and as shown in the supplementary appendix, respondents in San Antonio and Washington, D.C., were more likely to rank lower on most of the items used to measure new rent policy knowledge and awareness. The cross-site difference was most notable on the question about not having to report earnings increases between required income reviews to the PHA: 60.4 percent and 59.9 percent in Washington, D.C., and San Antonio, respectively, and 70.9 and 69.7 percent in Lexington and Louisville.

Experiences with Features of the New Rent Rules

Documentation Requirements

To document retrospective income used in setting a family's TTP, families in the new rent rules group are required to submit pay stubs or other documents showing their incomes for the 12-month look-back period. Qualitative data collection conducted as part of this evaluation revealed that some families struggled to provide that information. How widespread were these experiences? What types of documents were most difficult for families to obtain? The 4-year survey included two questions on this topic.

First, respondents were asked how the documentation requirements under the new rent rules compared with those for the old rent rules, and they were provided the following response categories: much harder than the old rules, somewhat harder, about the same, not as hard, and don't know. Only about 15 percent indicated that the new documentation requirements were much harder or somewhat harder than the old rules. As shown in exhibit 7.2, close to half the respondents (46.3 percent) reported that the task of providing required income documentation

[145] This pattern was evident for both current voucher holders and those no longer receiving a voucher.

was about the same for both the new and existing rent rules. Another 30.3 percent noted that documentation requirements for the new rules were not as hard as the old rules.

Exhibit 7.2. Experiences with Retrospective Income Calculation: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules
Providing income documentation required under new rent rules is	
Much harder than under old rules	5.3
Somewhat harder than under old rules	9.6
About the same as under old rules	46.3
Not as hard as under old rules	30.3
Don't know	8.4
Types of documents that were difficult to provide[a]	
Paystubs for most recent job	43.3
Paystubs for a previous job	42.4
Paystubs for other household members	20.2
Cash assistance documentation	12.8
Child support documentation	12.8
Documentation for contributions from friends and family	9.4
Other documentation	13.8
Sample size	1,672

[a]Responses among individuals who thought providing income documentation under new rent rules was much or somewhat harder than under traditional rent rules.
Note: This exhibit excludes control group members because it pertains only to the New Rent Rules group.
Source: Rent Reform 4-Year Followup Survey

To understand whether particular types of income documents were more difficult to provide, the 15 percent of respondents who indicated that the documentation requirement were more burdensome were asked what types of documents were harder to provide. Paystubs for current or previous jobs for themselves or other household members ranked among the top reasons. This is consistent with the findings from the qualitative study, which found that furnishing the required documents was relatively straightforward for those who had been in the same job during the 12-month retrospective period, but those who worked multiple jobs during this period, or had multiple wage earners in the household, were more likely to report difficulty gathering the needed paperwork for themselves or other household members.

Minimum Rent

Minimum rent payment amounts varied across the Rent Reform Demonstration study sites, with Lexington at the higher end ($150) and Louisville at the lower end ($50). Around the time the 4-year survey was fielded, about 28 percent of the respondents in the pooled sample with Lexington, Louisville, and San Antonio combined indicated that they were paying minimum rent or had formerly paid minimum rent.[146] A somewhat higher proportion of respondents in Lexington reported paying minimum rent. From the perspective of the families, was the

[146] This is close to the estimate based on housing authority data, which shows that 36.3 percent of the new rent rules families ever paid minimum rent in the 42-months followup period for which these data are available.

minimum rent requirement a source of hardship? Over one-third (37 percent) of those paying minimum rent—ranging from about 34 percent in Lexington to between 38 and 39 percent in the other PHAs (including Washington, D.C.)[147]—indicated that they found it somewhat difficult or very difficult to pay the minimum rent. It is noteworthy that a lower proportion of the Lexington respondents found it difficult, given the much higher minimum rent requirement there. For the most part, those who ever paid minimum rent indicated that it was not difficult or not very difficult to pay the minimum rent (63 percent of the three-PHA pooled sample). However, for about one-third of the respondents (or 37 percent) paying the minimum rent was a burden. This variation was also evident in the qualitative study, which found that some participants openly worried about how they would pay the minimum rent, while others thought that the minimum rent requirement was reasonable.

Participants reporting difficulty paying minimum rent were also more likely than respondents who did not mention such difficulty to report the types of material hardships examined in chapter 6. For instance, those who said paying minimum rent was very or somewhat difficult also reported higher levels of food hardship, trouble paying their utility and phone bills, obtaining prescription medication, and seeing a doctor; they also endured food hardship for more months than respondents who reported that it was not very difficult or not difficult to pay minimum rent.

Interim Rent Reductions

Overall, nearly 51 percent of the respondents in the Louisville, Lexington, and San Antonio pooled sample said that they had experienced some income loss at some point in the 3 years prior to the survey. Over half the families who reported losing income (52.7 percent) said they had requested an interim rent reduction. Exhibit 7.3 shows that the majority of those requesting an interim rent reduction reported submitting one request (67 percent). This finding contrasts with the qualitative study, which documented program staff reporting a constant flow of interim requests. It is possible that staff were recalling participants who made repeated inquiries about interims but did not always submit a formal request.

Across PHAs, families in Louisville who indicated that they had requested an interim recertification for loss of income were more likely to report having submitted multiple interim rent reduction requests—around 39 percent compared with 20 percent in Lexington, 25 percent in San Antonio, and 30 percent in Washington, D.C.[148]

Did families who requested interim rent reductions receive them? Exhibit 7.3 shows that the majority of respondents (61.9 percent) who requested an interim rent reduction received one. Among those whose request for an interim rent reduction was not approved, the primary reason, according to survey respondents, was an insufficient drop in income (10.6 percent). A similar proportion said the PHA did not provide a reason (11.7 percent). To qualify for the permitted one

[147] See supplementary appendix exhibit S5.3.
[148] See supplementary appendix exhibit S.5.3

interim recertification per year, a family's retrospective income must fall by more than 10 percent before the next required triennial recertification.

Exhibit 7.3. Experiences with Minimum Rent Payments and Interim Recertifications: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules
Minimum rent payments	
Paying minimum rent[a]	28.2
Rent burden each month, among those paying minimum rent	
Very difficult to pay	8.0
Somewhat difficult to pay	29.0
Not very difficult to pay	34.0
Not difficult at all to pay	29.0
Does not know if paying above, below, or exactly minimum rent	35.2
Interim recertifications	
Household income went down in the past 3 years	50.9
Among those whose income went down	
Requested rent reduction to income loss	52.7
Did not request rent reduction	47.3
Among those who requested rent reduction	
Number of times requested rent reduction	
1 time	67.0
2–3 times	26.3
4–5 times	2.2
6–10 times	1.0
More than 10 times	0.2
Not reported	3.4
Among those who requested rent reduction	
Housing authority reduced rent	61.9
Housing authority did not reduce rent	38.1
Income did not go down enough	10.6
Did not have correct documentation	2.1
Already paying minimum rent	2.3
Other reason	6.5
Housing authority did not provide a reason	11.7
No reason reported	4.4
Among those who did not request rent reduction	
Income did not fall enough to affect rent	29.8
Did not know reductions were sometimes allowed	26.8
Did not want to deal with housing authority	5.6
Never got around to submitting request	11.0
Exited HCV program	4.0
Other reason	12.9
No reason reported	9.9
Sample size	1,672

HCV = Housing Choice Voucher.

[a]Respondents were asked whether they paid a rent that is above the minimum, exactly the minimum, or below the minimum. The responses may not exactly match PHA records.

Note: This exhibit excludes control group members because it pertains only to the New Rent Rules group.

Source: Rent Reform 4-Year Followup Survey

Also shown in exhibit 7.3 is that close to one-half (47.3 percent) of those who reported that their incomes had dropped in the preceding 3 years did not approach the PHA for an interim rent reduction. Among this group, about 30 percent did not believe they had lost enough income to affect their rent. Another 26.8 percent said they were not aware that they could be considered for a rent reduction. A small portion indicated that they did not want to bother with the PHA (5.6 percent), and another 11 percent reported that they did not get around to requesting an interim recertification. This response pattern also surfaced in the qualitative study, which showed that for some families, when faced with rent hardship, the first order of relief was to seek help from friends, family, or a community organization. They described ways in which they would activate their support networks for assistance. In San Antonio, one respondent said, "What I usually do when I don't have any money is [go to] my brother. He is kind of like my bank, but I do have other resources. I know that there are programs out there that do help…" Another respondent, who was paying the minimum TTP and had recently experienced a loss in income, said that she would call help lines (such as the Salvation Army or other service providers that help with emergency rental assistance) if she needed help. Seeking help from other sources may be another reason why some of the survey respondents who reported income loss did not approach the PHA for an interim rent reduction.

Triennial Recertifications and Rent Increases

Based on the housing data findings discussed in chapter 5, about 60 percent of the families in the new rules group that completed their triennial recertification saw their TTPs increase after their triennial recertification. The 4-year survey allows the evaluation to document families' experiences after their first triennial recertification. Did their rent increase after their triennial recertification? Did their rent change by an expected amount? If their rent increased, did they find it harder to pay the higher rent? How did they cope with the rent increase?

About 67 percent of the respondents reported completing a triennial recertification; another 11.3 percent were unsure. The survey data show that about 49 percent of the respondents in the new rules group indicated that their TTPs increased after the triennial recertifications. More than half of those reporting a rent increase indicated the increase was much higher (45.1 percent) or somewhat higher (13.1 percent) than expected. About one-fourth said they were unsure of how much of a rent change to expect, and only about 17 percent of this group said their rent changed by an expected amount. A supplementary analysis shows that the respondents who indicated that their TTP change was much higher than expected were, on average, more likely to have been employed in the past year, worked more months in the 12 months prior to the survey, and reported higher weekly earnings than respondents who described their TTP changes a somewhat higher than expected or what they expected.

This response pattern, where rent determination at the triennial recertification does not align with participants' expectations, is not surprising. Leading up to the triennial recertification process, the PHAs notified families that they would have to document their income for a 12-month look-

back period, which was specified in the notification. Families typically received this mailed notification about 30 days before their completed recertification packet was due. Apart from this formal notification, the PHAs had limited communication with families to prepare them for their upcoming triennial. When families enrolled in the study and completed their initial recertifications under the new rent rules, they were informed that the PHA would apply a new set of rules to calculate their rent, and that they would be subject to a triennial recertification. Not everyone, however, may have remembered that another 12-month look-back period would be used to estimate their TTP. Notifying families sooner, even perhaps as early as a year to 6 months before the triennial recertification, might not only have better prepared them to meet the new rent rules' documentation requirement, but to also anticipate how their rent might change at the time of the triennial and to prepare their household budgets accordingly. One related and relevant observation from the qualitative study is that some families may have believed that the demonstration had ended, and that the 12-month look-back period to calculate retrospective income no longer applied to them; and those who had seen their earnings increase during the triennial period may not have realized the extent to which their earnings gains would affect their new TTP.[149] As discussed later in this chapter, some of the survey respondents had similar reactions.

To account for the different reactions that families may have had to their triennial rent increases, the 4-year survey includes followup questions for those reporting a rent increase after their triennial recertifications. As allowed by the new rent policy, these families also saw their earnings increase between their initial and first triennial recertifications, but did these earnings gains buffer—or protect—them and allow them to adjust to their triennial rent increases? Overall, among all families in the new rules group who responded to the 42-month survey and completed a triennial recertification, about 15 percent both experienced a post-triennial TTP increase and found that increase "very difficult" to pay. Focusing in on the subset of respondents in the pooled sample who completed a triennial recertification and experienced a TTP increase (see exhibit 7.4), only about 28 percent of that group indicated that paying the higher TTP was not difficult; the majority of this group indicated that paying the higher TTP was very or somewhat difficult (30.2 and 42.2, respectively). Across sites, among those who reported completing a triennial recertification and had a rent increase, the proportion reporting that it was very difficult to pay a higher rent ranged from 23.1 percent in Lexington to 35.6 percent in Louisville.[150]

How did the families who saw their TTPs increase after their triennial recertification cope? What changes did they make to accommodate their higher rental costs? Survey respondents who indicated that their TTPs had increased after their triennial recertifications were asked whether

[149] As part of technical assistance offered under the Rent Reform Demonstration extension period, MDRC will work with Louisville, Lexington, and San Antonio to develop a communication strategy for informing families how their next TTPs will be estimated. Families will be subject to traditional rent rules at the end of the demonstration if the housing agencies decide to end using the alternative rent rules.

[150] See supplementary appendix exhibit S5.4.

paying the higher TTP was—or would be—difficult for them. Most of the families in this situation (or 85 percent of those who reported a rent increase) reported making—or expecting to make—changes to their household budgets and spending patterns to cope with higher rent payments.

Exhibit 7.4. Experiences with Triennial Recertifications and Rent Calculations: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules
Reported completing a triennial recertification	66.7
Did not complete a triennial recertification	22.0
Does not know if completed a triennial recertification	11.3
Among those who completed a triennial recertification	
Rent decreased after triennial recertification	19.0
Rent stayed the same after triennial recertification	19.6
Rent increased after income review	48.8
Among those who reported completing a triennial recertification and had rent increase	
Rent increase was	
Much higher than expected	45.1
Somewhat higher than expected	13.1
About what was expected	16.6
Less than what was expected	1.7
Unsure of what to expect	23.5
Paying higher rent was	
Very difficult	30.2
Somewhat difficult	42.2
Not difficult	27.6
Needed to make changes in budgeting or spending	85.0
Sample size	1,672

Note: This exhibit excludes control group members because it pertains only to the New Rent Rules group.
Source: Rent Reform 4-Year Followup Survey

Exhibit 7.5 summarizes the coping strategies reported by the respondents who reported a rent increase and indicated difficulty making higher rent payments.[151] As shown, cutting back on groceries and food-related expenditures and managing tight budgets were among the more commonly reported coping strategies. Among those who cited cutting back on food expenditures, one respondent noted: "I'm no longer able to afford groceries with this increase." Another said, "The [rent] difference is taken from the monthly food budget for the household. The amount of food stamps received for the household has been lowered several times over the last 3 years, so cash is needed to buy groceries, too." Having to pay higher rent also forced some respondents to be "budgeting better and cutting unnecessary costs." Respondents described adjusting their

[151] As an open-ended question, respondents could list multiple coping strategies used to stretch their resources to cover higher rent payments.

expenditures by cutting back on extras (such as spending on children's activities, eating out, or entertainment) and making tough choices about what they could afford with the resources remaining after rent was paid. As one respondent noted, "No extra outings. Only school trips that need to be made for my daughter. Reduced food shopping. Reduced use of electricity and gas when possible. Ride bus to save gas. No new clothes unless critical."

Some respondents also described prioritizing certain types of bills over others, "paying the minimum on some bills instead of full amount," and setting up payment plans for their credit card bills. Some respondents also mentioned falling behind on utility payments, discontinuing telephone connections and cable television, and finding cheaper car insurance options or dropping their car insurance. One respondent noted, "We unplug all plugs that are not in use. We removed some of our cable/internet services. We turn our A/C up higher degrees now. We don't eat out much anymore. We lowered our cell phone plans and we don't drive our car much unless we have to."

While this section focuses on how families in the new rules group cope in the face of TTP increases, families in the existing rules group may also be faced with the same circumstances after their recertifications, which happen annually. In other words, compared with the existing rules group, TTP increases might not feel as gradual for families in the new rent rules group. These families still had more in housing subsidies, on average, than if they were in the control group, as well as longer duration on vouchers and grace-period and hardship remedies to offer relief, if needed, but the sudden spike in TTPs may have been more that what they had prepared for.

Overall Preference for the New Rent Rules

As a wrap-up to the survey interview, respondents in the new rules group were asked whether, given a choice, they would prefer to continue having their rent calculated under the new rent rules or the old rules. Most of the respondents (about 71 percent) responded in favor of the new rent rules; 13 percent preferred the existing rules; and the remaining 17 percent did not have a clear preference. A generally similar response pattern was seen in each of the study sites in the pooled sample.[152]

[152] See supplementary appendix S5.6. A slightly higher proportion of families in Washington D.C., were in favor of the old rules.

Exhibit 7.5. Strategies for Coping with Increases in Rent and Utility Payments After the Triennial Recertification: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules
Coping strategies among respondents who said they changed their budgeting or spending behaviors because their TTPs increased after triennial recertification	
Managing money/budgeting	33.3
Cutting back spending on groceries and food-related expenditures and habits	30.8
Managing utility payments, costs, and use	18.6
Making bill/credit card payment arrangements	16.3
Cutting back on leisure and entertainment	12.2
Cutting back on transportation-related costs	9.4
Scaling back spending on children's activities and needs	7.4
Discontinuing cable/internet/phone service	6.4
Working more hours or get an additional/better job	5.5
Shopping at cheaper stores	4.6
Getting assistance from food banks or public benefits	3.7
Saving money	2.5
Struggling to cover health insurance and medical needs	2.1
Sample Size	435

TTP = Total tenant payment.
Note: This exhibit excludes control group members because it pertains only to the New Rent Rules group.
Source: Rent Reform 4-Year Followup Survey

Box 7.1 and Box 7.2 present the types of reasons respondents provided for liking—or not liking—the new rent rules. Respondents were asked two open-ended followup questions that addressed what, if anything, they liked about the way the housing agency was currently calculating their rent and housing subsidy and what, if anything, they disliked about the new rent rules. The evaluation team reviewed participants' verbatim responses and grouped them into a small number of thematic categories.

Exhibit 7.6. Overall Impressions of the New Rent Rules: Lexington, Louisville, and San Antonio Combined

Outcome (%)	New Rent Rules
Prefer new rules	70.6
Prefer old rules	12.7
Preference uncertain	16.7
Sample size	1,672

Note: This exhibit excludes control group members because it pertains only to the New Rent Rules group.
Source: Rent Reform 4-Year Followup Survey

Box 7.1. Why Did Participants Like the Alternative Rent Policy?

Opportunity to build savings, reduce stress, improve well-being

> I love how they are allowing me to save money with the 3-year recertifications.
>
> …[S]ave money….also afford other things that I normally wouldn't be able to.
>
> …[M]ore room to save…Less stress and worry, wondering is this job or that job gonna effect my household income so drastically that my rent goes up.

Opportunity to pursue education goals, increase earnings.

> It gives you a break, a chance to breathe and accomplish some goals I was able to pay for my college classes. I have one more class before I graduate.
>
> …[O]pportunity to get on my feet, pay off bills, get a job and save money to buy a car and enroll in school to take courses to get a better paying job, which I wouldn't be able to do if my circumstances were different; if I were paying higher rent, I wouldn't be able to accomplish this.
>
> It makes it possible to set new goals of higher education w/o being concern of rent charging during the time you're in school.
>
> …[G]reat program for those that can go out and get a 2nd or 3rd job to earn extra income...in my situation, it doesn't help much. I work full time and I have a special needs child and can't just run out and get another job.
>
> …[E]very time, with a job or raise you don't have to immediately report that.
>
> …[F]inding a side job helps to put money aside and not going every three years is good…
>
> …[A]llowing me to work, and be able to survive, if I had to report and work another job [I] would immediately [have] to pay the higher rent.

Offers a sense of stability

> I know what exact amount I will have to pay even if I switch jobs.
>
> …[Y]ou can start focusing on goals and dreams, just know how much you can work and save and get ahead to buying a home.

Reduces reporting burden

> Cuts down on your trips there. I didn't have to report for 3 years any increases.
>
> Letting people move in and out without changing rent.
>
> Having the recert period every 3 years is easier than having to try to find documents every year.

Box 7.2. Why Did Participants Dislike the Alternative Rent Policy?

Not enough time to adjust to the new [higher] TTP

> They didn't give enough notification that the 3 years are up, so rent went up drastically.
>
> My rent went up so much; I didn't have time to save up for the change in my rent amount.
>
> Wish there was maybe some[way] to step it up and not have to do it all at once...my rent went up from 100 to 660...maybe increase it over a few months…

Financial burden with higher TTP

> The interim review after the three year…really destroyed my ability to prosper and build financial stability in the next few years. I have had to use all of my savings for bills. I worked hard to get a good paying job only to lose my housing assistance and put me right back into poverty before I can have the chance to get financially stable.

TTP calculation problematic

> They do not factor in childcare expenses…childcare is a hefty expense…
>
> Don't take medication and medical bills into consideration.
>
> I think a year is too long to look at: people get fired, wages get reduced…
>
> They are calculating child support I don't get anymore. They are calculating overtime from my job but we don't get overtime anymore. They were counting my old job earnings… I can't go back to last year and save that money so why is that money counted; it's gone.
>
> Don't understand why they use my total earnings before taxes. I don't take home my total earnings before taxes.
>
> My son attends school and works…the money he makes is included to calculate rent amount. His money isn't my money. So I feel it's used against me. I pay the rent out of my income. Making the rent higher and more difficult for me to pay.

Risk of losing housing assistance

> After 3 years of paying low rent, after review my rent portion increased by over $500 bringing me to pay an amount that was the same if I didn't have housing assistance.

Minimum rent unreasonable

> I still have to pay even though I don't have income.

Extend hardship protection

> I think when a person's income decreases… you could at least get a 6-month hardship instead of 3 months. 3 months sometimes isn't long enough.

Documentation burden

> Getting the copies from old employers was hard because they didn't want to deal with me and had to pay for the copies for documentation.

Starting with reasons for favoring the new rent rules, respondent preferences appear to cluster along a few lines, many of them related to the new rent policy's triennial recertification feature. Although these experiences may not always have been common enough to show up as impacts on related outcomes, they do reflect how at least some families experienced the new policy. Briefly:

- *The opportunity to build savings, reduce economic stress, and improve material well-being*. Under the alternative rent rules, families can increase their earnings without worrying about paying more in rent. Speaking directly to the benefit of this feature, some survey respondents indicated that without the "tax" on higher earnings, they were able to build savings, get caught up on bills, reduce financial strain, and build financial security.

- *The opportunity to increase earnings without worrying about having their housing subsidy reduced.* With their subsidy being stable for 3 years, respondents indicated that they felt they could enroll in school, complete classes, and pick up more work. In these ways, the new rent rules relieved them of the pressure of weighing work and education choices to preserve their housing subsidy.

- *A sense of stability knowing their TTP is capped for 3 years.* While this was not a dominant theme among those who said they liked the new rent rules, it does suggest that for some respondents, knowing that their TTP was fixed for 3 years provided a sense of security and stability. They knew their TTPs were set for the triennial period, no matter how much their earnings increased. This predictability allowed them to plan or focus on other issues that were important in their lives.

- *Relief from more frequent PHA reporting burden.* Respondents also appear to have appreciated the convenience of reduced reporting requirements with the 3-year recertification cycle. In their own words, many conveyed that they liked that they did not have to "go in every year" or have to "constantly report."

Box 7.2 shows the types of reasons why respondents gave the new rent policy a less favorable rating. The evaluation team distilled the main themes reflected in those responses, which include:

- *Sudden—and unanticipated—TTP increases after the triennial.* More advance notice about the first triennial, along with more time to plan, may have helped some families cope with the rent change they experienced after the triennial recertification. As one respondent put it, "...they didn't give enough notification that the 3 years are up, so rent went up drastically." As discussed earlier in this chapter, close to one-half of those who reported that their rent increased after their triennial certification said it was much higher than expected. At the same time, these families also experienced earnings gains in the 3 years leading up to the first triennial, increasing their disposable income.

- *Concerns with how TTP is calculated.* This reaction ranged from general concerns ("I really don't understand how it's been calculated") to more specific concerns with triennial rent calculations. For instance, the new rent policy's use of retrospective income, which counts any household earnings in the 12-month look-back period, was considered unfair, especially among households who no longer could count on prior earnings. Some respondents also voiced concerns about not having their rent adjusted for certain types of costs, say, childcare, which they believed to be a major cost.[153] Respondents also reacted to the use of pre-tax earnings—or gross income—to calculate TTP.

- *Extend hardship protection.* Some of the responses touched on the need for extending the hardship remedy. As described earlier in the report, the housing agencies used a menu of hardship remedies, and the alternative rent policy did not impose a limit on the number of hardship requests that could be approved. This type of response suggests that some respondents may not have fully understood the hardship protections extended to them under the new rent rules, an observation confirmed by the results presented in Exhibit 7.1.

- *Documentation burden.* Few respondents cited difficulties obtaining required documentation for their triennial recertifications. However, some respondents said they disliked having to track down paystubs and interact with former employers.

Conclusions

The views and voices of the household heads in the new rent rules group who responded to the 4-year survey provide important insights into how families experienced the new rent policy. Their responses to questions about the core features of the rent policy suggest some variation in terms of which aspects were better understood than others. Most families understood that their required recertifications had shifted to a 3-year cycle, a welcome change, but a somewhat lower proportion (but still a majority) made the connection between the triennial recertification and elimination of the requirement to report earnings changes to the housing agency until their next required rectification. Knowledge of the protective aspects of the hardship policy appeared to be the weakest, making this an important topic for PHAs to emphasize in operating the new rent policy.

Another critical insight is the importance of helping families anticipate how their TTPs might change at the triennial recertification. Such information might allow families to prepare better for any TTP increases. While the housing agencies cannot provide exact TTP estimates in advance of the actual triennial recertification (this requires a new calculation based on a new retrospective period), they could provide early reminders that a 12-month look-back period will be used to estimate TTP at the triennial recertification. Families could also be provided worksheets or tools

[153] To simplify the policy for determining TTP, the new rent rules eliminated all deductions from income, including those for childcare.

to help them estimate their new TTPs. In this way, families, especially those that have seen their earnings increase, might not be shocked at their new TTPs and be better able to anticipate the increase and plan for meeting their new rent obligations.

Chapter 8
Summary and Next Steps in the Rent Reform Demonstration

This report updates and expands upon MDRC's prior reports examining the effects of the new rent policy for recipients of Housing Choice Vouchers (HCVs) being tested as part of the Rent Reform Demonstration sponsored by HUD. The new policy changes the ways in which subsidies are calculated, introduces or increases the minimum contribution tenants are expected to make toward their rent and utilities ("total tenant payment," or TTP), caps those contributions for successive 3-year periods even if earnings increase, and introduces a number of safeguards to protect tenants from excessive rent burden. Using administrative records data covering 3.5 years of followup, and survey data from interviews conducted with household heads about 4 years, on average, after entering the study, the analysis makes it possible to draw a fuller picture of the effects of the new policy than has been possible up to now. Of importance, the new results capture families' experiences past the point of the first triennial recertifications for the new rules group.

Highlights of the Results So Far

- **Growing earnings trends under the existing rent policy**

The followup period for this report covers a time when the nation's labor market was deep into its recovery from the Great Recession that began in 2008. In that robust economic environment, with falling rates of unemployment for the population as a whole, the majority of household heads in the control group, whose experiences reflect outcomes that would normally occur in the absence of the new rent policy, worked at some point in the formal labor market. Indeed, with Lexington, Louisville, and San Antonio combined, over 82 percent of control group household heads had ever worked in a UI-covered job during the 42-month followup period. However, many worked inconsistently. Unstable employment was particularly common among those who were not employed at baseline, only about 35 percent of whom worked in an average quarter compared with about 82 percent of the already employed subgroup. Cumulatively, the nonemployed subgroup earned only about 31 percent as much as those already employed at baseline. Still, for the control group as a whole, average earnings followed a clear upward trajectory.

Household heads who were out of the labor force faced significant impediments. According to the survey, the most commonly cited reasons for not working and not seeking work had to do with respondents' own health problems or their caregiving responsibilities for other household members who were ill or disabled, and caregiving responsibility for children. Financial work incentives alone may be less effective in changing work effort among individuals facing those types of impediments.

- **Diminishing impacts on labor market outcomes**

Against a backdrop of substantial labor force participation, the Rent Reform Demonstration is testing the new rent policy's effectiveness in *increasing* tenants' employment and earnings. On that front, the policy, so far, has had limited success. As this report shows, the pooled results for all public housing agencies (PHAs) combined (with or without Washington, D.C.) indicate that the new rent rules group did not consistently work more or earn substantially more than the control group in UI-covered jobs over the 42-month followup period. This is generally the case among tenants who were not employed at baseline as well as among those who were already employed. Two of the PHAs—Lexington and San Antonio—showed some statistically significant positive effects on either employment rates or average earnings at some points during the followup period, suggesting some potential for the new policy to improve labor market outcomes. However, these effects were not consistently statistically significant, and they began to dissipate as families in the new rules group in each of those sites got closer to their triennial recertifications. Of importance, this was not because the new rules group reduced its work effort or saw its average earnings decline; rather, it occurred largely because the control group "caught up" and closed the earnings gap.

More puzzling are the unanticipated negative effects on UI-covered employment and earnings observed in Louisville, especially among the nonemployed subgroup of household heads. Although difficult to explain, those results add an important cautionary note, suggesting that some families in some contexts might respond to the new policy in unanticipated ways.

The survey data suggest that the new rent policy may have produced a small positive effect on self-reported employment (even in Louisville), which may include some jobs not covered by the UI system. Self-reported employment at the time of the survey was about 4 percentage points higher among respondents in the new rules group compared with the control group rate in Lexington, Louisville, and San Antonio combined. Respondents in the new rules group were also more likely (by 2.9 percentage points) to say they had worked in the year prior to being interviewed. (Both effects are statistically significant).

In the absence of larger positive impacts on earnings, it is not surprising that the new rent policy did not generate reductions in Supplemental Nutrition Assistance Program (SNAP) benefits, receipt of Temporary Assistance for Needy Families (TANF), or reductions in poverty. In both research groups, a majority of families reported poverty-level incomes.

- **Longer stays on the voucher program and higher total housing subsidies**

The new rent policy increased the duration of subsidy receipt. Fewer families in the new rules group left the voucher program compared with families in the control group during the 42-month followup period. The survey of household heads asked those who exited the voucher program why they left. The most common exit reasons cited suggest that increases in income made leavers ineligible to continue receiving vouchers. However, most families who exited did so for a

variety of other reasons. The triennial recertification policy is likely the main reason for the lower exit rate for the new rules group during the first 3 years of the followup period. Because of this policy, families in the new rules group whose earnings would have put them in the zero HAP category where their HCV program participation would have ended after 6 months, were not required to report those higher earnings prior to the triennial recertifications. In contrast to the control group, they could not "earn their way off" the voucher program, no matter how much their earnings grew. This effect, which led to the new rules group receiving a higher total amount of subsidy than the control group, is consistent with the new rent policy's intent to help "make work pay" by capping TTPs for 3 years at a time. It is also possible (although it cannot be proven with the data available for this report) that because the new rules group had fewer required income reviews and interim recertifications, they may have been less likely to run afoul of the kinds of administrative requirements that are normally required of voucher families to maintain their eligibility. For example, they may have had fewer chances of missing required appointments with PHA housing specialists, or not meeting paperwork requirements, which could lead to voucher loss.

The higher exit rate among control group members may have contributed to the new rent policy's diminishing impacts on labor market outcomes over time in Lexington and Louisville. As control group families left the voucher program, they were no longer subject to the 30-percent implicit tax on earnings. In other words, they had no more housing subsidy to lose by increasing their earnings. This is akin to the condition faced by their counterparts in the new rules group during the 3-year period leading up to the triennial recertification—except that the zero marginal tax on earnings becomes permanent once a family leaves the voucher program. Thus, as more control group members left the voucher program during the first 3 years of followup than families in the new rules group, the weaker the "treatment differential" between the two research groups became.

- **Increase in TTP and drop in subsidies after the triennial recertification**

Once families in the new rent rules group completed their triennial recertifications, many began paying higher TTPs and receiving smaller housing subsidies than they had in the prior 3 years. Moreover, among families still on the voucher program in Month 42, average TTPs in the new rules group switched from being lower than those of the control group to being somewhat higher. In in-depth qualitative interviews conducted as part of the evaluation's process analysis, some families expressed appreciation for being able to keep more of their earnings during the first 3 years. Although their TTPs would have increased faster under the existing rent rules, some families felt unprepared for the change that occurred after their triennial recertifications.[154] This suggests that PHAs that are implementing a new rent policy that includes triennial recertifications should consider finding ways to communicate better with families in advance of their triennials to help them prepare for the coming jump in TTP that many families may face. At

[154] See Riccio, Verma, and Deitch (2019).

the same time, their new TTPs were capped for another 3 years after the triennial recertification, allowing them to keep any further increases in earnings they achieve during that time.

- **No increases in material hardship**

An important goal of the new rent policy was to avoid increasing the material hardships families experience. The new policy's inclusion of a minimum TTP and the restrictions on access to interim recertifications in the face of drops in income raised some concern during the policy design phase that the new policy might exacerbate families' financial and material hardships. The policy's hardship remedies and other safeguards were intended to mitigate such an outcome, and, overall, it appears that this goal was achieved. According to the survey of household heads, respondents in the new rules group were *not* substantially more likely than those in the control group to report experiencing various hardships (such as not being able to pay their rent or utilities bill, not having adequate food to eat, or having more difficulty making ends meet). In fact, the survey suggests that families in the new rules group were *less* likely by a statistically significant extent to fail repeatedly to pay their full rent and utilities. These types of hardships were not uncommon, but the rates differed little between the two research groups. The more extreme hardships of eviction and reliance on shelters and services for families experiencing homelessness also differed little between the two research groups, and they were rare overall.

- **Some progress toward administrative simplification**

Another goal of the new policy was to simplify the administration of housing subsidies to reduce the burden on PHA staff and the PHAs' costs. It was recognized during the policy design stage, however, that the need to protect families from hardship, while also trying to prevent excessive payments of housing subsidies, limited what could be achieved. Still, some features of the new policy have eased the administrative burden on PHAs of operating the rent subsidy program and were welcomed by staff and tenants alike, especially the extension of the recertification period and limits on interim recertifications. The new policy substantially reduced the proportion of families in the new rules group, compared with those in the existing rules group, who were subject to regularly scheduled and interim recertifications by the PHA for the purpose of reassessing their eligibility for the voucher program and their TTPs in the face of income changes. Contributing most to the overall reduction in staff actions with families was a reduction in the proportion of families who had a high number of actions (for example, five or more). Other features of the new policy, particularly the need to estimate and verify retrospective income over a 12-month look-back period, could be more time-consuming for PHA staff, but the rationale in the context of a rent policy that includes a 3-year recertification schedule is strong (Riccio, Deitch, and Verma, 2017). Finding ways to streamline the process for capturing

retrospective income would go a long way toward reducing PHAs' overall administrative burden and cost of operating such a policy.[155]

- **Cost neutrality**

At the outset of the Rent Reform Demonstration, HUD set another important goal for the new rent policy: that it should not cost more per family than the traditional rent rules, taking into account both administrative costs and housing assistance payments (HAP).[156] A preliminary analysis of administrative costs was included in MDRC's previous evaluation report, and it showed that although some features of the new policy were more expensive to operate, overall administrative costs were probably the same as, if not slightly lower than, those of the existing rent policy (Riccio, Verma, and Deitch, 2019). (The evaluation's final report will update these cost estimates.) Clearly, though, HAP expenditures have been higher, as indicated by the higher total amount of housing subsidy that the new rules group received compared with the control group, owing heavily to the former's lower rate of leaving the voucher program and to its somewhat lower average monthly TTPs. Again, this was an expected consequence of the policy's triennial recertification schedule to help "make work pay." But it was also expected that by the time of the triennial recertification, families in the new rules group would see an increase in their TTPs and a reduction in their subsidies, driven by increases in their retrospective earnings (whether or not the new rent policy had driven those earnings increases). That, in fact, is what happened. As previously mentioned, the average TTPs that were being paid by families in the new rent rules group who remained on the voucher programs jumped up after the triennial recertifications, and some were higher than even than those of control group families who were still receiving vouchers at that time. This means that the PHAs were beginning to recoup at least some of their forgone savings in housing subsidy expenditures during the 3 years preceding the triennial recertifications. The next phase of the evaluation will provide a fuller picture of the PHAs' net expenditures on HAP for the new rules group, taking advantage of a longer followup period.

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[155] Several streamlining procedures are being implemented by the PHAs, including greater reliance on self-attestation for difficult-to-get information needed to calculate retrospective income, using retrospective income from the last recertification to estimate the maximum rent burden for the family searching for a new unit, and an elimination of the requirement that retrospective income must fall by more than 10 percent for a family to qualify for a once-per-year restricted interim recertification. San Antonio is implementing all three of these streamlining procedures, Lexington is implementing the procedure giving greater reliance on self-attestation for difficult-to-get information, and Louisville is implementing the streamlining procedure eliminating the 10-percent requirement for restricted interim recertifications.

[156] Comparing the total subsidy and administrative expenditure per family in each of the study's research groups offers one perspective on cost neutrality. However, another perspective would take voucher turnover into account. For example, a higher net cost per family in the new rules group (relative to the control group) does not necessarily mean that the PHA's *aggregate* expenditures on voucher families during that time are higher. Whether or not they are higher would depend on the cost of subsidizing new families who replace those who exit the voucher program. For example, if poorer families replace families who leave the voucher program, and if annual exits are higher under the existing rules, the PHA's average annual expenditure per family might be higher under the existing rent policy than under the new policy. The evaluation's next report will examine the issue of cost neutrality from both perspectives.

- **Families' preferences for the new rent policy**

Household heads in the new rules group who took part in the qualitative research previously completed for the evaluation tended to be confused about certain aspects of the new rent policy. However, they clearly understood and especially appreciated the triennial recertifications. They welcomed being freed of the burden of reporting income gains to the PHAs during the 3-year period. Data from the survey of household heads confirms this conclusion: Among respondents in Lexington, Louisville, and San Antonio combined, 71 percent of those in the new rules group said they preferred the new rent policy to the existing rules. Only 13 percent said they preferred existing rules. And most did not find that the new policy imposed more documentation burdens on them.

The Next Stage of the Demonstration

The final report on the Rent Reform Demonstration, slated to be published in 2024, will examine the new policy's effects on the same administrative records outcome measures covered in this report, but over a longer followup period. (No additional survey is planned.) The longer-term analysis will extend the followup period from the current 3.5-year period to a full 6 years. That will allow the evaluation to examine the effects of the new policy into 2022. It will also include a final cost analysis.

This timing is important for at least two reasons. First, it will make it possible to examine the effects of the new rent policy after families new rules group approached their second triennial recertification in Year 6, if they remained on the voucher program, and as those in the control group approach their sixth annual recertification. For families in the new rules group, the later period will reflect a time when the PHAs have acquired more experience in operating the new policy, and families will have had more experience living with it and had more time to understand or appreciate both its built-in work incentives and its safeguards. Although families in the new rules group, on average, began paying higher TTPs than they had in the previous 3 years, their TTPs were capped once again for a second 3-year cycle. In addition, as more families in both research groups leave the voucher program over time, the longer-term results will capture the post-voucher program experiences of an increasing share of the research sample. (Washington, D.C., which ended its participation in the Rent Reform Demonstration in September 2019, will not be included in the longer-term impact analysis.)

Second, and crucially important, the extended followup period will make it possible to learn about the operation and effects of the new rent policy during a precipitous and deep recession, sparked by the coronavirus pandemic. The surge of COVID-19 infections began around March 2020, and the bottom fell out of the labor market over the next several months. With data from the longer followup period extending through June 2021 to June 2022 (depending on the PHA), the analysis will show the families' employment rates, earnings, housing subsidy receipt, SNAP and TANF benefit receipt, and use of homeless shelters and services during the height of the pandemic—a phenomenon that will subject the new rent policy to a kind of extreme "stress test."

Several HUD regulations on the existing rent rules were waived during this period (with those waivers set to expire by the end of 2021), and the analysis will need to take account of any waivers affecting the control group during this time.

Depending on the overall course of the pandemic, the final stages of the extended followup period may reach a time when the nation is beginning to crawl out of its deep recession. This will offer an opportunity to assess the new rent policy's effects in the early stages of an improving labor market.

Appendix A
Supplementary Materials for Chapter 1

Appendix Exhibit A.1. Existing Rent Policies of Public Housing Agencies Participating in the Rent Reform Demonstration

Rent-Policy Component	Lexington	Louisville	San Antonio	Washington, D.C.
Percentage of Adjusted Income for Total Tenant Payment (TTP)	30%	30%	30%	30%
Threshold of Asset Value Below Which Asset Income Is Ignored	$5,000; if assets total more than this amount, income from the assets is "imputed" and the greater of actual asset income and imputed asset income is counted in annual income.	None.	None; self-certification of assets sold for less than fair market value.	None; self-certification of individual assets less than $15,000.
Recertification	Working-age or nondisabled: annual. Elderly or disabled (on fixed income): triennial (proposed).	Working-age or nondisabled: annual. Elderly or disabled: biennial.	Working-age or nondisabled: biennial for some, annual for Rent Reform Demonstration existing rules group. Elderly or disabled (on fixed income): biennial (triennial proposed).	Working-age or nondisabled: biennial.[a] Elderly or disabled: biennial.[b]
Minimum TTP	$150	$0	$50	$0
Income-Reporting Requirements	Required to report income from new income sources; TTP recalculated immediately with new income factored in.	Required to report all income increases; TTP recalculated at next recertification except for zero-income households or those receiving external contributions that report increased income.	Not required to report income increases until next annual recertification (since 2017).	Not required to report income increases until next biennial recertification (since 2016).

Rent-Policy Component	Lexington	Louisville	San Antonio	Washington, D.C.
Utility Policy	Uses the appropriate utility allowance for the size of dwelling unit actually leased by the family (rather than the family-unit size as determined under the housing agency subsidy standards).	Current HUD policy.	Current HUD policy.	Simplified by bedroom and voucher size (planned).
Hardship Policy for Minimum Rent	Suspension of minimum rent if a household experiences an increase in rent as a direct result of the Moving to Work Rent Reform Demonstration; reduction in rent if a household experiences a loss of income due to circumstances beyond the family's control.	(No minimum rent).	If the TTP calculated at recertification is lower than the minimum TTP, a hardship exists, and the family share is calculated at the highest of 30 percent of gross income, 10 percent of adjusted income, or the welfare rent.	(No minimum rent).

[a] Starting in June 2016, income increases did not need to be reported between biennial recertifications. Before June 2016, a family had to report an increase in income even if it occurred before the family's next scheduled biennial recertification. If the increase was $10,000 or more, then the housing agency calculated a new TTP If the increase was less than $10,000, then this income was excluded until the next biennial recertification.

[b] Starting in September 2016, disabled and fixed-income families were on a triennial recertification.

Notes: Current HUD utility policy is based on typical utilities costs in housing of similar size and type, on community consumption patterns, and on current utility rates.

Sources: Housing agency Moving to Work annual plans and other agency documents

Appendix B
Supplementary Materials for Chapter 2

The report shows the effects on employment, earnings, income, housing, and other outcomes using responses to a survey fielded about 4 years after program enrollment. When only a subset of the sample completes a survey, potential issues can arise about the reliability of results estimated for survey respondents and whether results for respondents can be generalized to all study participants.

This appendix summarizes the results of reliability and generalizability tests of impact estimates calculated with survey responses. First, this appendix considers whether impact results estimated for survey respondents may be generalized to all study participants. Survey results are considered generalizable if it can be inferred with confidence that the analysis would have reached similar conclusions about the effects of Rent Reform had every study participant completed a survey interview.

Second, the appendix assesses whether research group differences in employment and earnings outcomes are unbiased (and therefore reliable) indicators of Rent Reform effects. Survey results are considered unbiased if a large proportion of each research group responded to the survey and if respondents in both research groups closely resemble each other in characteristics, such as prior employment or total tenant payment amount, that would be likely to affect their ability to work or retain their Housing Choice Voucher after study entry. Additionally, the appendix also considers whether impact results estimated for a randomly selected subsample of respondents to selected sections of the survey may be generalized to the full survey respondent sample.

The numbers presented in this appendix reflect the combined sample from Lexington, Louisville, and San Antonio, or the *three-site core impact sample*. The same tests were performed for the combined four-PHA sample and separately for each site, with similar results. Overall, the results show that the survey is reliable and that results for the survey respondent sample can be generalized to the wider study sample. Although some differences were found in the respondent and nonrespondent pre-random assignment characteristics, the effects for the respondent sample on key outcomes are very similar to the effects for the full sample. However, the subsample of respondents that completed the housing section of the survey had larger estimated effects on Housing Choice Voucher enrollment and lease-up, as well as on housing exits, at the end of the followup period. Thus, estimated effects from the housing section of the survey should be interpreted with caution.

Main Findings

- A high response rate was achieved. The majority of sample members in both research groups responded to the 4-year survey. Overall, about 76 percent of the sample responded to the survey.
- A comparison of survey respondents and nonrespondents shows statistically significant differences in some pre-random assignment characteristics, including race and household size.

- Among 4-year survey respondents, characteristics at baseline were similar for the two research groups. No systematic differences between the groups were found.
- The effects of the new rent rules on employment, earnings, and Housing Choice Voucher (HCV)-related outcomes among respondents are similar to the effects for the three-site core impact sample.
- The effects of the new rent rules on HCV enrollment and lease-up and HCV exit among the housing section respondent subsample appear larger than the effects for the respondent and three-site core impact samples. The effects for both samples are similarly statistically significant.

Survey Sample Selection

The three-site core impact sample includes 4,756 households that were enrolled in the study from February through November 2015, and all individuals who were heads of household at the time of random assignment were included in the survey efforts.[157] To keep the length of the survey interview manageable for the respondents, HUD and Decision Information Resources (DIR), the survey firm for the study, decided to stratify the sample by the research groups and randomly selected heads of households into subsamples so that half of the sample received interview questions on household composition and health, and the other half received questions on housing. All sample members were asked questions about education, employment, and income and material hardship. The New Rent Rules group members were additionally asked about their experiences in the program. From May 1, 2019, through November 27, 2019, DIR attempted to interview everyone in the sample through a mix of online and computer-assisted telephone interviews.

Survey Response Rates

Sample members who were interviewed for the 4-year survey are referred to as "survey respondents," or the *respondent sample*, while members of the research sample who were not interviewed are known as "nonrespondents" or the *nonrespondent sample*. Appendix exhibit B.1 shows the response rates for the three-site core impact sample, the main subgroups, and HCV outcomes at 42 months after their initial certification. Overall, about 76 percent of the three-site core impact sample (or 3,606 individuals) completed the survey. The response rate for the New Rent Rules and Existing Rent Rules groups were about 78 and 74 percent, respectively, and the difference in the response rates between the groups was statistically significant. The difference in response rates between research groups was also statistically significant across some subgroups. Statistically significant and differential response rates occurred among the heads of households in Lexington and Louisville; among heads of households who were employed at the time of

[157] A total of 6,665 households are in the full study sample, and all heads of households were fielded for the survey. The report focuses on the households in Lexington, Louisville, and San Antonio, so the response analysis focuses on the households that were HCV holders in these three cities.

random assignment; among households with no children; and among households whose youngest children were between the ages of 6 and 12. Response rate differences between the research groups were also statistically significant among active HCV holders and among households that had left the HCV program within 42 months. Notably, the response rate for the existing rent rules group was higher than the response rate for the new rent rules group among households that had exited the HCV program, in contrast with the other groups in the exhibit.

Appendix Exhibit B.1. Survey Response Rates by Research Group, PHA, Subgroup, and 42 Month HCV Enrollment Status: Lexington, Louisville, and San Antonio Combined

Survey Respondent (%)	New Rent Rules	Existing Rent Rules		Total	Sample Size
Three-site core impact sample	77.6	74.0	***	75.8	4,756
PHA					
Lexington	78.1	72.9	*	75.5	979
Louisville	79.2	75.7	*	77.4	1,908
San Antonio	75.8	72.9		74.4	1,869
At time of random assignment					
Not employed	75.3	75.2		75.2	2,086
Employed	78.8	73.8	***	76.3	2,666
No children under age 18 years	81.4	76.5	*	78.9	843
Children ages 0-5 years	76.3	72.5		74.3	1,429
Children ages 6-12 years	78.8	75.1	*	76.9	1,713
Children ages 13-17 years	74.1	71.3		72.8	771
42 months after random assignment					
Enrolled in HCV program and leased up	87.2	83.1	***	85.2	3,258
Exited HCV program	52.2	57.9	**	55.4	1,357
Sample size (total = 4,756)	2,368	2,388		4,756	

HCV = Housing Choice Voucher. PHA = Public Housing Agency.

Notes: Rounding may cause slight discrepancies in sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values.

Sources: Rent Reform 4-Year Followup Survey and administrative data from the PHAs

As shown, the response rates varied for some subgroups, especially for subgroups defined by the age of the youngest child in the household. Response rates ranged from about 73 percent among households with teenaged children to about 79 percent among households with no children. In addition, the response rates were much lower for sample members who exited the HCV program than those who were still enrolled in the program (less than 55.4 percent for those who exited compared with 85 percent for those who were still enrolled in the HCV program and leased up).

It is not atypical for response rates to vary across groups defined by post-random assignment outcomes. Sample members active in the HCV program are more connected with the PHA and were thus easier to locate. They also may have been more willing to respond to a survey about their housing vouchers than sample members who were no longer receiving vouchers. The lower response rates among HCV leavers may be a source of bias in the survey findings that cannot be

adjusted for with experimental weighting methods. The results for the leavers in the survey sample may not be fully generalizable to the results for the leavers in the full sample. However, because the majority of the households in the study were still active in the HCV program at 42 months, the survey results more fully reflect their experiences of those respondents than the experiences of leavers. In addition, nonresponse bias may not be a big concern for impact estimates if the overall respondent sample resembles the three-site core impact sample.

Although the overall response rates were high, whenever the response rate is lower than 100 percent, *nonresponse bias* may occur. Differences may exist between the respondent sample and the larger research sample, owing to differences between the sample members who completed a survey and those who did not. Furthermore, the estimates may be biased if background characteristics differ between the research groups in the respondent sample.

Comparison of Respondents and Nonrespondents Within the Three-Site Core Impact Sample

To examine whether systematic differences occur between sample members who responded to the survey and those who did not, a (0/1) indicator of survey response was created (in which survey respondents receive a 1 and nonrespondents receive a 0), and logistic regression analysis was used to identify whether any pre-random assignment characteristics were significantly related to the indicator.

Appendix exhibit B.2 shows the estimated regression coefficients for the probability of being a respondent. Besides background characteristics such as race, age, and household size, a (0/1) indicator of membership in the New Rent Rules group was included in the model. This procedure tests for differences in characteristics likely to affect employment and housing outcomes. The second column of the exhibit provides the parameter estimates that indicate the effect of each variable on the probability of completing the survey. The p-values show the level of statistical significance of this relationship.[158]

Several characteristics were statistically significant in predicting whether someone would complete the survey interview. For instance, heads of households who were African American, Hispanic or Latino, female, or had income from SSI at the time of random assignment had a higher likelihood of responding to the survey. Heads of household between ages 25 and 34, had more than 3 adults in the household, or were HCV holders in San Antonio at the time of random assignment were less likely to respond to the survey.

The p-values for the entire model displayed at the bottom of appendix exhibit B.2 show that the differences in sample member characteristics between the survey respondents and the survey nonrespondents are statistically significant. Nonetheless, the R-squared value (a summary

[158] For example, a p-value of 0.05 indicates that the difference is statistically significant at the 5-percent level, meaning there is no more than a 5 percent chance that a difference of the given size could have been observed if the program had no true effect.

indicator of the predictive power of the effects) of 0.0114 is low, which suggests that sample member characteristics had a very small effect on the likelihood of responding to the 4-year survey. However, the results from this test also show that membership in the New Rent Rules group predicted survey completion, consistent with the higher response rates shown in appendix exhibit B.1. By itself, this finding suggests caution when interpreting results from the survey, although further tests are described below.

Appendix Exhibit B.2. Estimated Regression Coefficients for the Probability of Being a Respondent: Lexington, Louisville, and San Antonio Combined

Characteristic	Parameter Estimate		P-Value
Intercept	0.697	***	0.007
Assigned to New Rent Rules group	0.201	***	0.003
No earned income	– 0.109		0.199
Young child (under age 6) in household	– 0.043		0.597
African American head of household	0.203	**	0.038
Hispanic/Latino head of household	0.437	***	0.001
Female head of household	0.263	*	0.084
Age of head of household			
18–24	– 0.114		0.593
25–34	– 0.193	*	0.073
35–44	– 0.137		0.153
Family share			
$1–$249	0.087		0.582
$250–$599	0.268		0.127
$600 or more	0.134		0.524
Received HCV for less than 7 years	– 0.077		0.304
Household has 2 adults	– 0.106		0.217
Household has 3 or more adults	– 0.353	***	0.009
Gross rent is greater than the payment standard	0.003		0.973
Income from TANF	0.117		0.526
Income from SSI	0.158	*	0.079
PHA			
Louisville, KY	0.134		0.164
San Antonio, TX	– 0.234	*	0.058
Missing race of head of household	0.000		
Likelihood ratio	54.559	***	0.000
Wald statistic	53.672	***	0.000
R-squared (0.0114			
Sample size (total = 4,756)			

HCV = Housing Choice Voucher. PHA = Public Housing Agency. SSI = Supplemental Security Income.
Notes: Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.
Sources: Rent Reform 4-Year Followup Survey and administrative data from the PHAs

Comparison of the Research Groups in the Survey Respondent Sample

Random assignment designs minimize the sources of potential biases in the results. Although the response rates were similarly high in both research groups, there is still the possibility that different types of sample members within each research group responded to the survey. If so, the impact estimates for the respondent sample may be biased.

Appendix exhibit B.3 shows baseline characteristics of the New Rent Rules and Existing Rent Rules group members among the respondent sample. The differences between the groups at the time of random assignment are very small. Only one (for receiving welfare, or TANF) is statistically significant. In addition, a logistic regression analysis was performed to further test for associations between sample member characteristics and research group membership. A (0/1) indicator of membership in the New Rent Rules group was regressed on pre-random assignment characteristics. As shown in appendix exhibit B.4, no baseline characteristics were found to be significantly related to the research group membership. These results suggest that program impacts estimated using the survey data for the survey respondent sample are unbiased.

Appendix Exhibit B.3. Characteristics of the Survey Respondents at the Time of Random Assignment by Research Group: Lexington, Louisville, and San Antonio Combined

Characteristic	New Rent Rules	Existing Rent Rules	
Family characteristics			
Average number of family members	3.4	3.4	
Adults	1.4	1.4	
Children	2.0	2.0	
Families with more than one adult (%)	32.7	30.6	
Current/anticipated annual family income (%)			
$0	2.2	2.0	
$1–$4,999	35.0	35.9	
$5,000–$9,999	22.1	22.1	
$10,000–$19,999	28.1	27.8	
$20,000 or more	12.5	12.1	
Income sources (%)			
Wages	43.8	44.3	
Welfare	5.4	4.0	**
Social Security/SSI/pensions	24.5	23.8	
Other income sources	49.3	48.7	
No earned income (%)	56.2	55.7	
Annual income from wages (%)			
$0	56.2	55.7	
$1–$4,999	4.4	5.7	
$5,000–$9,999	8.3	7.8	
$10,000–$19,999	19.3	19.8	
$20,000 or more	11.9	11.0	
Average annual total tenant payment (TTP) ($)	231	222	
TTP (%)			

Characteristic	New Rent Rules	Existing Rent Rules	
$0	6.4	7.0	
$1–$99	23.1	22.6	
$100–$299	41.1	42.7	
$300–$699	26.5	25.4	
$700 or more	2.9	2.2	
Average family share ($)	273	268	
Family share (%)			
$0	4.7	5.8	
$1–$99	18.6	17.8	
$100–$299	40.0	40.0	
$300–$699	31.9	31.9	
$700 or more	4.8	4.5	
Characteristics of heads of households			
Female (%)	95.6	95.4	
Age (%)			
18–24	3.2	3.3	
25–34	34.9	36.5	
35–44	40.7	39.6	
45 or older	21.2	20.5	
Average age (years)	37.8	37.6	
Race (%)			[ ]
White	39.9	41.5	
Black/African American	59.3	57.3	
American Indian/Alaska Native	0.4	0.7	
Asian	0.2	0.1	
Native Hawaiian/Other Pacific Islander	0.3	0.3	
Ethnicity (%)			
Hispanic or Latino	29.4	31.2	
Not Hispanic or Latino	70.6	68.8	
Sample size (total = 3,606)	1,839	1,767	

SSI = Supplemental Security Income.

Notes: Rounding may cause slight discrepancies in sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values.

Sources: Rent Reform 4-Year Followup Survey and administrative data from the PHAs

Appendix Exhibit B.4. Estimated Regression Coefficients for the Probability of Being a Program Group Survey Respondent: Lexington, Louisville, and San Antonio Combined

Characteristic	Parameter Estimate		P-Value
Intercept	– 0.307		0.246
No earned income	0.021		0.798
Young child (under age 6) in household	– 0.067		0.406
African American head of household	0.061		0.545
Hispanic/Latino head of household	– 0.171		0.222
Female head of household	0.042		0.796
Age of head of household			
18–24	– 0.065		0.760
25–34	– 0.050		0.631
35–44	0.000		0.996
Family share			
$1–$249	0.219		0.177
$250–$599	0.183		0.302
$600 or more	0.162		0.440
Received HCV for less than 7 years	0.029		0.693
Household has 2 adults	0.127		0.130
Household has 3 or more adults	– 0.024		0.863
Gross rent is greater than the payment standard	0.064		0.385
Income from Welfare	0.490	***	0.006
Income from SSI	0.017		0.843
PHA			
Louisville, KY	– 0.017		0.853
San Antonio, TX	0.162		0.205
Missing race of head of household	0.000		
Likelihood ratio	19.229		0.442
Wald statistic	18.906		0.463
R-squared (0.0053)			
Sample size (total = 3,606)			

HCV = Housing Choice Voucher. PHA = Public Housing Agency. SSI = Supplemental Security Income.
Note: Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.
Sources: Rent Reform 4-Year Followup Survey and administrative data from the PHAs

Comparison of the Respondent Subsamples in the Survey Respondent Sample

As described earlier, HUD and DIR decided to randomly group two subsets of the research sample to keep the length of the survey manageable for respondents. One-half of the sample was asked questions on the household composition and health sections of the survey, and the other one-half of was asked questions on the housing section of the survey. Although selection of the subsamples was random, it is possible that some baseline characteristics or unobservable characteristics (such as motivation or resiliency) between the subsamples and the full respondent sample are imbalanced by chance. These differences may contribute to bias in the impact estimates for the respondent subsamples.

Appendix exhibit B.5 shows the results of a logistic regression in which a (0/1) indicator of response to the housing section of the survey was regressed on pre-random assignment characteristics of the full respondent sample. A few baseline characteristics were imbalanced between sample members who responded to the housing section of the survey and those who responded to the household composition and health sections of the survey. For example, the respondents to the housing section were more likely to be heads of households between the ages of 35 and 44, have two adults in the household, and have children under age 6 at the time of random assignment than the heads of households who responded to the household composition and health sections. The overall regression model, however, is not statistically significant. This suggests that, on their baseline characteristics, both subsamples are generally quite similar to the full respondent sample.

Appendix Exhibit B.5. Estimated Regression Coefficients for the Probability of Being a Respondent to the Housing Section of the Rent Reform Long-Term Followup Survey: Lexington, Louisville, and San Antonio Combined

Characteristic	Parameter Estimate		P-Value
Intercept	0.008		0.977
No earned income	0.014		0.865
Young child (under age 6) in household	– 0.133	*	0.098
African American head of household	0.005		0.958
Hispanic/Latino head of household	– 0.207		0.139
Female head of household	– 0.040		0.806
Age of head of household			
18–24	0.265		0.215
25–34	0.112		0.277
35–44	0.185	**	0.042
Family share			
$1–$249	– 0.149		0.358
$250–$599	– 0.194		0.271
$600 or more	– 0.087		0.680
Received HCV for less than 7 years	0.058		0.432
Household has 2 adults	0.185	**	0.027
Household has 3 or more adults	– 0.016		0.908
Gross rent is greater than the payment standard	– 0.001		0.992
Income from Welfare	0.108		0.536
Income from SSI	0.027		0.756
PHA			
Louisville, KY	– 0.010		0.918
San Antonio, TX	0.196		0.125
Missing race of head of household	0.000		
Likelihood ratio	18.157		0.512
Wald statistic	18.024		0.521
R-squared (0.0050)			
Sample size (total = 3,606)			

HCV = Housing Choice Voucher. PHA = Public Housing Agency. SSI = Supplemental Security Income.
Note: Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.
Sources: Rent Reform 4-Year Followup Survey and administrative data from the PHAs

Comparison of Effects Between Survey Respondents and the Three-Site Core Impact Sample

Using administrative records data from the National Directory of New Hires (NDNH) and from each of the PHAs, this section discusses whether the survey respondents' impacts on employment- and housing-related outcomes can be generalized to the main research sample.

For a first test of generalizability, appendix exhibit B.6 compares employment and earnings impacts using NDNH data for the research sample and the survey respondent sample for each year of followup and for the full 42-month period after the time of random assignment. As shown, the impact results for the two samples are very similar in magnitude and level of statistical significance.

A second test uses administrative data from each of the PHAs to compare estimates of the program's impacts HCV stays and exits for the research sample, respondent sample, and the respondent subsample for the housing section of the survey. Appendix exhibit B.7 shows that the impacts were very similar across the research and impact samples across all 3 years and 42 months after the time of random assignment. The impacts for the subsample that responded to the housing section of the survey were also similar in magnitude and level of significance in the early years of followup.

Later in the followup period, however, the subsample's impacts on HCV enrollment and exits are much larger in magnitude than those for the research and respondent samples. At 42 months after the time of random assignment, the new rent rules appear to have increased HCV enrollment and lease-up by about 11 percentage points, compared with about 7 and 8 percentage points for the research and respondent samples, respectively.

Because the comparison of effects between the respondent subsamples and the respondent sample have some evidence of nonresponse bias, weighting was attempted to remedy this problem. Survey weights were constructed as the inverse of the predicted probability of response to the housing section of the survey to rebalance the differences in baseline characteristics presented in appendix exhibit B.5, but the estimated weighted impacts for these exhibits did not change noticeably, so they are not shown in the appendix. This means that the respondent subsample may be different from the full respondent sample in ways that cannot be detected through data on baseline characteristics (such as motivation and resiliency levels, as mentioned earlier).

Recall that in appendix exhibit B.1, response rates between sample members active in the HCV program and sample members who exited are very different. Over 80 percent of active HCV participants responded to the survey, compared with less than 60 percent of those who exited. As described earlier, it is not uncommon for post-random assignment circumstances to affect survey response; in this case, heads of households who had exited the HCV program may have been more difficult to locate or less willing to respond to a study about HCVs they are no longer

receiving. Weights constructed as a function of post-random assignment circumstances, however, are not considered experimental, so estimated effects were not adjusted for this difference.

Appendix Exhibit B.6. Comparison of Employment and Earnings Impacts for the Core Impact and Survey Response Samples in Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Ever employed (%)					
Year 1					
Three-site core impact sample	72.7	71.4	1.2		0.232
Respondent sample	72.5	71.7	0.8		0.529
Year 2					
Three-site core impact sample	71.5	71.8	– 0.3		0.775
Respondent sample	71.1	71.8	– 0.7		0.588
Year 3					
Three-site core impact sample	72.0	72.3	– 0.3		0.781
Respondent sample	71.9	72.5	– 0.6		0.666
Full Period (Quarters 3–16)					
Three-site core impact sample	82.2	82.8	– 0.6		0.560
Respondent sample	81.7	82.4	– 0.6		0.565
Average quarterly employment[a] (%)					
Year 1					
Three-site core impact sample	61.4	59.9	1.6	*	0.093
Respondent sample	61.5	60.2	1.3		0.213
Year 2					
Three-site core impact sample	61.2	60.7	0.6		0.589
Respondent sample	61.0	61.2	– 0.2		0.869
Year 3					
Three-site core impact sample	61.7	62.3	– 0.6		0.571
Respondent sample	61.6	62.8	– 1.1		0.346
Full Period (Quarters 3–16)					
Three-site core impact sample	61.5	61.2	0.3		0.737
Respondent sample	61.5	61.7	– 0.2		0.831
Earnings ($)					
Year 1					
Three-site core impact sample	10,047	9,737	311		0.160
Respondent sample	10,139	9,891	248		0.326
Year 2					
Three-site core impact sample	11,146	10,862	284		0.309
Respondent sample	11,082	11,040	42		0.895
Year 3					
Three-site core impact sample	12,014	12,301	– 287		0.355
Respondent sample	11,902	12,405	– 503		0.150
Full Period (Quarters 3–16)					
Three-site core impact sample	39,482	39,489	– 7		0.994
Respondent sample	39,382	40,033	– 651		0.502
Sample sizes					
Three-site core impact sample (total = 4,756)	2,368	2,388			
Respondent sample (total = 3,606)	1,839	1,767			

[a]Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to

differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values.
Sources: MDRC calculations using quarterly wage data from the National Directory of New Hires and responses from the Rent Reform Four-Year Followup Survey

Appendix Exhibit B.7. Comparison of Impacts on Housing Outcomes for the Research Sample, Respondent Sample, and Housing Section Respondent Subsample: Lexington, Louisville, and San Antonio Combined

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Year 1					
Enrolled in HCV and leased up (%)					
Three-site core impact sample	98.6	97.7	0.9	**	0.022
Respondent sample	99.0	98.4	0.6	*	0.082
Housing section respondent sample	99.0	98.2	0.8		0.140
Housing Subsidy ($)					
Three-site core impact sample	7,505	7,185	319	***	0.000
Respondent sample	7,590	7,244	346	***	0.000
Housing section respondent sample	7,518	7,239	279	**	0.028
Year 2					
Enrolled in HCV and leased up (%)					
Three-site core impact sample	90.9	86.5	4.4	***	0.000
Respondent sample	93.7	89.4	4.3	***	0.000
Housing section respondent sample	94.0	88.1	5.9	***	0.000
Housing Subsidy ($)					
Three-site core impact sample	7,145	6,398	747	***	0.000
Respondent sample	7,471	6,656	815	***	0.000
Housing section respondent sample	7,443	6,600	842	***	0.000
Year 3					
Enrolled in HCV and leased up (%)					
Three-site core impact sample	83.3	77.1	6.1	***	0.000
Respondent sample	89.1	82.4	6.8	***	0.000
Housing section respondent sample	90.0	79.9	10.1	***	0.000
Housing Subsidy ($)					
Three-site core impact sample	6,642	5,794	848	***	0.000
Respondent sample	7,190	6,243	948	***	0.000
Housing section respondent sample	7,191	6,030	1,161	***	0.000
42 months after random assignment					
Enrolled in HCV and leased up (%)					
Three-site core impact sample	71.9	65.1	6.8	***	0.000
Respondent sample	80.7	73.1	7.6	***	0.000
Housing section respondent sample	81.1	70.0	11.1	***	0.000
Housing Subsidy ($)					
Three-site core impact sample	24,129	22,021	2,108	***	0.000
Respondent sample	25,418	23,069	2,348	***	0.000
Housing section respondent sample	25,354	22,650	2,704	***	0.000
Exited HCV program (%)					
Three-site core impact sample	25.3	31.8	– 6.5	***	0.000
Respondent sample	17.0	24.9	– 8.0	***	0.000
Housing section respondent sample	16.3	27.7	– 11.4	***	0.000

HCV = Housing Choice Voucher.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values.
Sources: Rent Reform 4-Year Followup Survey and administrative data from the public housing agencies

Summary of Reliability and Generalizability Tests by Site

In addition to tests of reliability and generalizability of survey results for the three-site core impact sample, the same tests were repeated for the full four-site combined sample and separately for each PHA. Because the findings are very similar, the exhibits are not shown in the appendix. All the site samples, consistent with the combined samples, revealed some imbalances in baseline characteristics between respondents and nonrespondents. The respondent samples looked similar to the larger site samples, however, and baseline characteristics were not shown to be related to membership in the New Rent Rules group. Thus, program impacts by site among the full respondent samples can generally be considered unbiased.

In San Antonio, the respondent sample was more imbalanced on baseline characteristics across research groups than in the other sites. Membership in the New Rent Rules group was less likely for household heads who were Hispanic or Latino, more likely for those paying a gross rent higher than the payment standard, and more likely for those receiving TANF. However, estimated employment effects from administrative data were consistent with the effects for the larger site sample, so nonresponse bias is not a big concern for survey-estimated effects from survey items that were administered to all survey respondents.

Because the respondent subsamples, when divided across four sites, are quite small, the extent of imbalanced impacts across the site, respondent, and subsamples vary by site. In all sites except for DC, the respondent subsamples that received the housing-related survey items show substantially larger effects on HCV enrollment and lease-up and HCV exits than the larger site respondent sample. While caution should generally be used when interpreting these outcomes in any site, the difference is most pronounced in San Antonio, where the new rent rules did not have a statistically significant effect on HCV exits for larger San Antonio sample but did have a large, negative 9 percentage point effect for the housing section respondent subsample. The housing-related effects estimated from the survey can be considered unbiased and reliable for the DC sample.

Conclusion

Overall, the response analysis did not find evidence of nonresponse bias in the survey respondent sample. Although some of the baseline characteristics between the respondent and nonrespondent samples were imbalanced, further analyses show that these imbalances did not result in biased impact estimates. First, baseline characteristics were not imbalanced across the research groups among the respondent sample. Additionally, comparisons of effects on employment and HCV outcomes using calculations from administrative data showed that impacts across these two samples were consistent, both in statistical significance levels and magnitude. However, there is some evidence of nonresponse bias in the subsample of respondents to the housing section when compared with the full respondent sample. Estimated effects on housing outcomes are larger for the subsample than for the larger respondent sample. This suggests that the impacts estimated from the survey in Chapter 5 should be interpreted with

caution. It is likely that the statistical significance of effects calculated in these exhibits remains consistent, but the magnitude of the effects may be somewhat overestimated.

Appendix C
Supplementary Materials for Chapter 3

Appendix Exhibit C.1. Treatment-on-Treatment Impacts for Selected Outcomes, Louisville

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	Impact per Participant	
Employment and earnings for heads of households					
Full period (quarters 3–16)					
Ever employed (%)	81.5	83.3	– 1.8	– 2.4	
Average quarterly employment[a] (%)	61.0	62.6	– 1.6	– 2.1	
Total earnings ($)	40,288	42,919	– 2,631	– 3,390	*
Housing subsidy					
Average number of months received housing subsidy[b]	36.8	33.9	2.9	3.7	***
Total housing subsidy (full period) ($)	25,500	22,935	2,566	3,306	***
Public housing agency (PHA) actions					
Any action that requires staff response[c] (%)	93.0	93.2	– 0.2	– 0.3	
Regularly scheduled recertification[d]	79.3	85.3	– 6.0	– 7.7	***
Average number of actions	3.8	4.4	– 0.6	– 0.8	***
TANF receipt					
Full period (quarters 3–16)					
Ever received (%)	4.7	4.4	0.4	0.5	
Average quarterly receipt (%)	1.2	1.2	0.0	0.0	
Amount received ($)	102	104	– 2	– 2	
SNAP receipt					
Full period (quarters 3–16)					
Ever received (%)	89.6	87.2	2.4	3.1	*
Average quarterly receipt (%)	64.2	61.5	2.8	3.6	*
Amount received ($)	9,978	9,801	177	228	
Sample size (total = 1,908)	947	961			

[a]Average quarterly employment is calculated as the total number of quarters with employment divided by the total number of quarters of followup, expressed as a percentage.
[b]Housing subsidy is the full subsidy amount paid by the housing agency and includes any utility allowance payments made to the tenant in addition to rent paid to the owner by the housing agency.
[c]Certification actions that require staff interaction include annual reexaminations, interim reexaminations (except for end-of-grace-period and end-of-hardship records), and change-of-unit actions.
[d]Regularly scheduled recertifications reflect actions recorded as "Action code 2: annual reexamination" on the 50058 form. PHAs record all regularly scheduled reexaminations under this action code regardless of the frequency of reexaminations: Annual, biennial, and triennial reexaminations are recorded under this action code.
Notes: "Impact per participant" refers to the difference between new rent rules group and existing rent rules group means divided by the participation rate (0.776). Estimates were regression-adjusted using ordinary least squares, controlling or pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values.
Sources: MDRC calculations using PHA data, quarterly wage data from the National Directory of New Hires, and administrative records data

Appendix Exhibit C.2. Comparison of Employment and Earnings Impacts from National Directory of New Hires and Survey Data: Lexington, Louisville, and San Antonio Combined, Rent Reform Long-Term Survey Respondent Sample

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Employment status, survey					
Employed in the year prior to survey interview (%)	74.4	72.2	2.2		0.105
Number of months worked in the year prior to survey interview	7.1	6.9	0.2		0.223
Currently working (%)	60.7	57.7	3.0	**	0.048
Employment status, UI records					
Employed in the year prior to survey interview (%)	72.3	72.8	-0.4		0.749
Earnings in the year prior to survey interview ($)	12,920	13,464	-544		0.159
Earnings in the year prior to survey interview (%)					
Less than $5,000	13.7	11.6	2.1	*	0.057
$5,000 - $9,999	9.0	10.9	-2.0	**	0.046
$10,000 - $19,999	20.6	20.7	-0.1		0.937
$20,000 - $29,999	17.4	16.6	0.8		0.542
$30,000 or more	11.7	12.8	-1.2		0.247
Working in quarter of survey interview (%)	63.8	63.5	0.3		0.847
Employment status, survey and UI records (%)					
Currently working, according to survey but not UI records	8.1	6.5	1.6	*	0.060
Currently working, according to both survey and UI records	52.5	51.3	1.3		0.400
Currently working, according to UI records only	11.2	12.2	-1.0		0.378
Not working, according to survey and UI records	28.1	30.1	-2.0		0.155
Sample size (total = 3,606)	1,839	1,767			

UI = unemployment insurance.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values.

Sources: MDRC calculations using quarterly wage data from the National Directory of New Hires and responses from the Rent Reform Long-Term Followup Survey

Appendix Exhibit C.3. Comparison of Employment and Earnings Impacts from National Directory of New Hires and Survey Data, by Public Housing Agency: Rent Reform Long-Term Survey Respondent Sample

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Lexington					
Employment status, survey					
Employed in the year prior to survey interview (%)	81.4	75.7	5.8	**	0.038
Months employed in the year prior to survey interview	8.1	7.5	0.6	*	0.079
Currently working (%)	68.2	61.9	6.2	*	0.058
Employment status, UI records					
Employed in the year prior to survey interview (%)	76.7	74.0	2.8		0.323
Earnings in the year prior to survey interview ($)	13,545	13,690	-144		0.856
Working in quarter of survey interview (%)	66.1	67.1	-0.9		0.767
Employment status, survey and UI records (%)					
Currently working, according to survey but not UI records	9.6	6.6	3.0		0.140
Currently working, according to both survey and UI records	58.6	55.3	3.3		0.329
Currently working, according to UI records only	7.5	11.6	-4.1	*	0.058
Not working, according to survey and UI records	24.4	26.5	-2.1		0.474
Sample size (total = 739)	379	360			
Louisville					
Employment status, survey					
Employed in the year prior to survey interview (%)	71.1	71.2	0.0		0.996
Months employed in the year prior to survey interview	6.9	6.7	0.1		0.626
Currently working (%)	58.2	55.9	2.3		0.336
Employment status, UI records					
Employed in the year prior to survey interview (%)	72.3	73.4	-1.1		0.593
Earnings in the year prior to survey interview ($)	13,272	14,707	-1,435	**	0.025
Working in quarter of survey interview (%)	65.3	63.8	1.5		0.506
Employment status, survey and UI records (%)					
Currently working, according to survey but not UI records	5.5	4.8	0.7		0.581
Currently working, according to both survey and UI records	52.8	51.1	1.7		0.486
Currently working, according to UI records only	12.6	12.8	-0.2		0.929
Not working, according to survey and UI records	29.1	31.3	-2.2		0.321
Sample size (total = 1,477)	752	725			
San Antonio					
Employment status, survey					
Employed in the year prior to survey interview (%)	74.4	71.1	3.3		0.146
Months employed in the year prior to survey interview	6.9	6.8	0.1		0.749

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Currently working (%)	59.9	56.7	3.2		0.199
Employment status, UI records					
Employed in the year prior to survey interview (%)	70.4	70.9	-0.5		0.809
Earnings in the year prior to survey interview ($)	12,209	12,018	191		0.762
Working in quarter of survey interview (%)	61.3	61.0	0.3		0.898
Employment status, survey and UI records (%)					
Currently working, according to survey but not UI records	10.1	8.1	2.0		0.208
Currently working, according to both survey and UI records	49.7	48.7	1.0		0.681
Currently working, according to UI records only	11.5	12.1	-0.6		0.719
Not working, according to survey and UI records	28.7	31.1	-2.4		0.305
Sample size (total = 1,390)	708	682			
Washington, D.C.					
Employment status, survey					
Employed in the year prior to survey interview (%)	58.9	54.0	4.9	**	0.040
Months employed in the year prior to survey interview	5.5	4.9	0.6	**	0.020
Currently working (%)	46.7	42.6	4.1	*	0.081
Employment status, UI records					
Employed in the year prior to survey interview (%)	59.0	59.7	-0.7		0.759
Earnings in the year prior to survey interview ($)	14,847	14,808	39		0.960
Working in quarter of survey interview (%)	51.0	50.7	0.3		0.892
Employment status, survey and UI records (%)					
Currently working, according to survey but not UI records	5.9	4.1	1.8		0.140
Currently working, according to both survey and UI records	40.8	38.5	2.3		0.316
Currently working, according to UI records only	10.4	12.5	-2.1		0.227
Not working, according to survey and UI records	43.0	44.9	-1.9		0.400
Sample size (total = 1,356)	687	669			

UI = unemployment insurance.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values.

Sources: MDRC calculations using quarterly wage data from the National Directory of New Hires and responses from the Rent Reform Long-Term Followup Survey

Appendix Exhibit C.4. Impacts on Employment and Earnings Within First 42 Months of Followup: Adults Who Were Not Heads of Households

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
All PHAs				
Full period (quarters 3–16)				
Ever employed (%)	83.0	83.4	– 0.4	0.741
Average quarterly employment[a] (%)	56.1	56.6	– 0.5	0.671
Total earnings ($)	33,727	35,137	– 1,410	0.172
Sample size (total = 3,397)	1,737	1,660		
All PHAs except Washington, D.C.				
Full period (quarters 3–16)				
Ever employed (%)	85.3	85.4	– 0.2	0.906
Average quarterly employment[a] (%)	60.1	60.5	– 0.4	0.749
Total earnings ($)	33,913	34,920	– 1,007	0.434
Sample size (total = 1,895)	972	923		

PHA = public housing agency.

[a]Average quarterly employment is calculated as the total number of quarters with employment divided by the total number of quarters of followup, expressed as a percentage.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

Appendix Exhibit C.5. Impacts on Employment and Earnings Within First 42 Months of Followup, by Public Housing Agency: Adults Who Were Not Heads of Households

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Lexington				
Full period (quarters 3–16)				
Ever employed (%)	83.7	86.3	– 2.5	0.512
Average quarterly employment[a] (%)	63.5	60.6	2.9	0.399
Total earnings ($)	34,914	31,282	3,633	0.289
Sample size (total = 296)	131	165		
Louisville				
Full period (quarters 3–16)				
Ever employed (%)	86.2	88.8	– 2.6	0.234
Average quarterly employment[a] (%)	59.7	62.2	– 2.5	0.230
Total earnings ($)	31,465	33,854	– 2,389	0.215
Sample size (total = 815)	429	386		
San Antonio				
Full period (quarters 3–16)				
Ever employed (%)	84.8	81.5	3.4	0.174
Average quarterly employment[a] (%)	59.3	58.7	0.6	0.796
Total earnings ($)	36,173	37,614	– 1,441	0.491
Sample size (total = 784)	412	372		
Washington, D.C.				
Full period (quarters 3–16)				
Ever employed (%)	79.8	81.0	– 1.2	0.555
Average quarterly employment[a] (%)	51.0	51.8	– 0.8	0.627
Total earnings ($)	33,513	35,385	– 1,872	0.266
Sample size (total = 1,502)	765	737		

PHA = public housing agency.

[a]Average quarterly employment is calculated as the total number of quarters with employment divided by the total number of quarters of followup, expressed as a percentage.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

Appendix Exhibit C.6. Impacts on Employment and Earnings Within First 42 Months of Followup, by Employment Status at Random Assignment: Lexington, Louisville, and San Antonio Combined, Adults Who Were Not Heads of Households

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Not employed					
Full period (quarter 3-16)					
Ever employed (%)	71.8	71.5	0.3		0.929
Average quarterly employment[a] (%)	40.1	41.1	– 1.1		0.639
Total earnings ($)	18,780	18,107	673		0.676
Last quarter (quarter 16)					
Ever employed (%)	44.2	44.0	0.2		0.944
Total earnings ($)	1,770	1,884	– 114		0.560
Sample size (total = 904)	483	421			
Employed					
Full period (quarter 3-16)					
Ever employed (%)	97.6	98.3	– 0.7		0.441
Average quarterly employment[a] (%)	78.5	78.6	– 0.1		0.946
Total earnings ($)	47,853	50,381	– 2,528		0.209
Last quarter (quarter 16)					
Ever employed (%)	75.8	78.1	– 2.3		0.391
Total earnings ($)	3,922	4,389	– 467	**	0.047
Sample size (total = 987)	488	499			

[a]Average quarterly employment is calculated as the total number of quarters with employment divided by the total number of quarters of followup, expressed as a percentage.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. The H-statistic test was used to test for statistically significant differences in impact estimates across different subgroups. The differences in impacts across subgroup categories were not statistically significant. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

Appendix Exhibit C.7. Impacts on Employment and Earnings Within First 42 Months of Followup, by Employment Status at Random Assignment and by Public Housing Agency: Adults Who Were Not Heads of Households

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Lexington - Not employed					
Full period (quarters 3–16)					
Ever employed (%)	63.1	70.7	– 7.6		0.405
Average quarterly employment[a] (%)	38.4	35.5	2.9		0.653
Total earnings ($)	16,494	12,943	3,550		0.370
Last quarter (quarter 16)					
Ever employed (%)	40.4	32.3	8.1		0.382
Total earnings ($)	1,639	1,251	388		0.434
Sample size (total = 125)	57	68			
Lexington - Employed					
Full period (quarters 3–16)					
Ever employed (%)	98.3	98.2	0.2		0.942
Average quarterly employment[a] (%)	82.4	78.4	4.0		0.325
Total earnings ($)	48,831	44,344	4,487		0.401
Last quarter (quarter 16)					
Ever employed (%)	80.5	79.8	0.7		0.915
Total earnings ($)	4,400	4,099	301		0.620
Sample size (total = 171)	74	97			
Louisville - Not employed					
Full period (quarters 3–16)					
Ever employed (%)	73.9	78.5	– 4.5		0.263
Average quarterly employment[a] (%)	40.7	45.9	– 5.3		0.114
Total earnings ($)	18,497	19,158	– 662		0.783
Last quarter (quarter 16)					
Ever employed (%)	48.2	48.8	– 0.6		0.906
Total earnings ($)	1,785	1,846	– 61		0.836
Sample size (total = 401)	218	183			
Louisville - Employed					
Full period (quarters 3–16)					
Ever employed (%)	98.1	99.5	– 1.4		0.219
Average quarterly employment[a] (%)	78.4	79.0	– 0.6		0.814
Total earnings ($)	43,902	48,804	– 4,902		0.108
Last quarter (quarter 16)					
Ever employed (%)	74.1	79.7	– 5.7		0.171
Total earnings ($)	3,575	4,197	– 623	*	0.088
Sample size (total = 410)	210	200			
San Antonio - Not employed					
Full period (quarters 3–16)					

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value	
Ever employed (%)	71.6	64.8	6.8		0.158	
Average quarterly employment[a] (%)	40.8	37.0	3.8		0.311	
Total earnings ($)	20,074	18,586	1,487		0.587	
Last quarter (quarter 16)						
Ever employed (%)	42.4	41.6	0.8		0.874	
Total earnings ($)	1,853	2,103	– 250		0.443	
Sample size (total = 378)	208	170				
San Antonio - Employed						
Full period (quarters 3–16)						
Ever employed (%)	97.0	97.1	– 0.1		0.947	
Average quarterly employment[a] (%)	76.8	78.5	– 1.7		0.545	
Total earnings ($)	51,654	54,811	– 3,157		0.327	
Last quarter (quarter 16)						
Ever employed (%)	75.0	76.6	– 1.7		0.700	
Total earnings ($)	4,059	4,767	– 708	*	0.058	
Sample size (total = 406)	204	202				
Washington, D.C. - Not employed						
Full period (quarters 3–16)						
Ever employed (%)	69.9	72.5	– 2.6		0.402	
Average quarterly employment[a] (%)	37.5	37.5	0.0		0.999	
Total earnings ($)	19,132	18,679	453		0.801	
Last quarter (quarter 16)						
Ever employed (%)	45.0	41.6	3.5		0.316	
Total earnings ($)	2,229	1,812	417	*	0.075	††
Sample size (total = 841)	421	420				
Washington, D.C. - Employed						
Full period (quarters 3–16)						
Ever employed (%)	97.3	98.0	– 0.8		0.608	
Average quarterly employment[a] (%)	75.1	76.7	– 1.7		0.533	
Total earnings ($)	59,437	63,620	– 4,183		0.267	
Last quarter (quarter 16)						
Ever employed (%)	74.1	76.4	– 2.3		0.599	
Total earnings ($)	5,119	5,781	– 662		0.156	††
Sample size (total = 422)	232	190				

[a]Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. The H-statistic test was used to test for statistically significant differences in impact estimates across different subgroups. Statistical significance levels are indicated as: ††† = 1 percent; †† = 5 percent; † = 10 percent. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

Appendix Exhibit C.8. Impacts on Employment and Earnings Within 42 Months of Followup: All Adults in Household at Baseline

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
All PHAs				
Ever employed (%)				
Year 1 (quarters 3–6)	68.5	67.7	0.8	0.292
Year 2 (quarters 7–10)	69.2	68.9	0.4	0.654
Year 3 (quarters 11–14)	69.2	69.4	– 0.2	0.851
Quarter 15	59.2	59.7	– 0.5	0.546
Quarter 16	58.5	58.2	0.3	0.697
Full period (quarter 3–16)	80.3	80.3	0.0	0.997
Average quarterly employment[a] (%)				
Year 1 (quarters 3–6)	54.4	53.7	0.7	0.291
Year 2 (quarters 7–10)	57.9	57.3	0.7	0.360
Year 3 (quarters 11–14)	58.6	59.0	– 0.4	0.610
Full period (quarter 3–16)	57.2	56.9	0.3	0.654
Total earnings ($)				
Year 1 (quarters 3–6)	9,157	9,154	3	0.984
Year 2 (quarters 7–10)	11,009	10,909	101	0.613
Year 3 (quarters 11–14)	12,116	12,461	– 345	0.134
Quarter 15	3,281	3,381	– 100	0.148
Quarter 16	3,258	3,344	– 87	0.218
Full period (quarter 3–16)	38,622	39,017	– 395	0.522
Sample size (total = 10,062)	5,049	5,013		
Lexington, Louisville, and San Antonio Combined				
Ever employed (%)				
Year 1 (quarters 3–6)	73.4	72.3	1.2	0.185
Year 2 (quarters 7–10)	72.2	72.3	– 0.1	0.884
Year 3 (quarters 11–14)	72.4	72.9	– 0.5	0.577
Quarter 15	61.9	63.4	– 1.5	0.158
Quarter 16	62.0	62.5	– 0.5	0.632
Full period (quarter 3–16)	83.1	83.5	– 0.3	0.700
Average quarterly employment[a] (%)				
Year 1 (quarters 3–6)	60.8	59.5	1.3	0.113
Year 2 (quarters 7–10)	61.0	60.4	0.7	0.443
Year 3 (quarters 11–14)	61.5	62.0	– 0.5	0.581
Full period (quarter 3–16)	61.2	60.9	0.3	0.717
Total earnings ($)				
Year 1 (quarters 3–6)	9,458	9,269	189	0.301
Year 2 (quarters 7–10)	10,661	10,442	219	0.345
Year 3 (quarters 11–14)	11,686	11,969	– 283	0.285

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Quarter 15	3,121	3,280	– 158	**	0.046
Quarter 16	3,182	3,313	– 131		0.109
Full period (quarter 3–16)	37,922	38,153	– 231		0.747
Sample size (total = 6,651)	3,340	3,311			

PHA = public housing agency.

[a]Average quarterly employment is calculated as total number of quarters with employment divided by total number of quarters of followup, expressed as a percentage.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

Appendix Exhibit C.9. Impacts on Employment and Earnings Within 42 Months of Followup, by Public Housing Agency: All Adults in Household at Baseline

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Lexington					
Ever employed (%)					
Year 1 (quarters 3–6)	78.2	76.6	1.6		0.384
Year 2 (quarters 7–10)	75.8	73.3	2.4		0.240
Year 3 (quarters 11–14)	77.3	74.0	3.4		0.117
Quarter 15	68.9	63.8	5.1	**	0.035
Quarter 16	66.9	64.2	2.8		0.244
Full period (quarter 3–16)	85.8	83.9	1.9		0.280
Average quarterly employment[a] (%)					
Year 1 (quarters 3–6)	65.1	63.3	1.7		0.316
Year 2 (quarters 7–10)	64.3	61.6	2.8		0.158
Year 3 (quarters 11–14)	65.9	62.9	3.1		0.130
Full period (quarter 3–16)	65.5	62.8	2.7	*	0.091
Total earnings ($)					
Year 1 (quarters 3–6)	9,838	9,514	323		0.420
Year 2 (quarters 7–10)	10,897	9,966	931	*	0.070
Year 3 (quarters 11–14)	12,196	11,320	876		0.143
Quarter 15	3,241	3,217	24		0.895
Quarter 16	3,333	3,180	153		0.383
Full period (quarter 3–16)	39,467	37,162	2,305		0.145
Sample size (total = 1,275)	617	658			
Louisville					
Ever employed (%)					
Year 1 (quarters 3–6)	73.4	73.6	-0.2		0.915
Year 2 (quarters 7–10)	72.8	74.5	-1.6		0.267
Year 3 (quarters 11–14)	72.4	75.9	-3.4	**	0.022
Quarter 15	60.8	64.8	-4.1	**	0.016
Quarter 16	61.8	63.5	-1.8		0.301
Full period (quarter 3–16)	83.1	84.8	-1.7		0.187
Average quarterly employment[a] (%)					
Year 1 (quarters 3–6)	60.2	59.3	0.9		0.455
Year 2 (quarters 7–10)	60.5	61.7	-1.2		0.366
Year 3 (quarters 11–14)	61.6	65.1	-3.5	**	0.013
Full period (quarter 3–16)	60.8	62.3	-1.5		0.181
Total earnings ($)					
Year 1 (quarters 3–6)	9,236	9,255	-19		0.949
Year 2 (quarters 7–10)	10,468	11,147	-679	*	0.069
Year 3 (quarters 11–14)	11,793	12,898	-1,104	***	0.008

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Quarter 15	3,109	3,414	-305	**	0.015
Quarter 16	3,215	3,460	-245	*	0.066
Full period (quarter 3–16)	37,742	40,114	-2,372	**	0.038
Sample size (total = 2,723)	1,376	1,347			
San Antonio					
Ever employed (%)					
Year 1 (quarters 3–6)	71.3	68.7	2.7	*	0.070
Year 2 (quarters 7–10)	70.1	69.4	0.7		0.663
Year 3 (quarters 11–14)	70.2	69.3	0.9		0.569
Quarter 15	59.8	61.6	-1.8		0.306
Quarter 16	60.0	60.4	-0.3		0.846
Full period (quarter 3–16)	82.3	81.5	0.8		0.533
Average quarterly employment[a] (%)					
Year 1 (quarters 3–6)	59.3	58.0	1.4		0.302
Year 2 (quarters 7–10)	59.9	58.5	1.4		0.332
Year 3 (quarters 11–14)	59.2	58.4	0.8		0.584
Full period (quarter 3–16)	59.5	58.6	0.9		0.466
Total earnings ($)					
Year 1 (quarters 3–6)	9,452	9,221	231		0.432
Year 2 (quarters 7–10)	10,680	10,028	653	*	0.079
Year 3 (quarters 11–14)	11,308	11,371	-62		0.884
Quarter 15	3,077	3,174	-98		0.448
Quarter 16	3,095	3,211	-115		0.378
Full period (quarter 3–15)	37,237	36,788	448		0.698
Sample size (total = 2,653)	1,347	1,306			
Washington, D.C.					
Ever employed (%)					
Year 1 (quarters 3–6)	59.0	58.9	0.2		0.905
Year 2 (quarters 7–10)	63.3	62.3	1.1		0.453
Year 3 (quarters 11–14)	62.8	62.5	0.3		0.835
Quarter 15	54.0	52.6	1.4		0.345
Quarter 16	51.9	49.9	2.1		0.180
Full period (quarter 3–16)	74.7	74.4	0.3		0.816
Average quarterly employment[a] (%)					
Year 1 (quarters 3–6)	41.8	42.3	-0.5		0.659
Year 2 (quarters 7–10)	51.8	51.2	0.6		0.655
Year 3 (quarters 11–14)	53.0	53.2	-0.3		0.825
Full period (quarter 3–16)	49.3	49.1	0.2		0.831
Total earnings ($)					
Year 1 (quarters 3–6)	8,548	8,951	-404		0.161

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Year 2 (quarters 7–10)	11,671	11,835	-164	0.667
Year 3 (quarters 11–14)	12,959	13,418	-459	0.302
Quarter 15	3,600	3,570	30	0.823
Quarter 16	3,412	3,400	12	0.931
Full period (quarter 3–16)	39,956	40,735	-780	0.507
Sample size (total = 3,411)	1,709	1,702		

[a]Average quarterly employment is calculated as the total number of quarters with employment divided by the total number of quarters of followup, expressed as a percentage.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. The variation across the four public housing agencies in estimated impacts on total earnings in the full period is statistically significant at the 10-percent level based on an H-statistic test. Sample sizes for specific outcomes may vary because of missing values.

Source: MDRC calculations using quarterly wage data from the National Directory of New Hires

Appendix D
Supplementary Materials for Chapter 4

Appendix Exhibit D.1. Impacts on Household Benefits Receipt Within First 42 Months of Followup: Heads of Households by Public Housing Agency

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
Lexington, KY					
TANF receipt					
Full period (quarters 3–16)					
Ever received (%)	8.2	6.9	1.2		0.442
Average quarterly receipt (%)	1.8	1.8	0.1		0.871
Amount received ($)	147	148	– 1		0.981
Last quarter (16)					
Ever received (%)	0.8	1.1	– 0.3		0.666
Amount received ($)	6	3	3		0.391
SNAP receipt					
Full period (quarters 3–16)					
Ever received (%)	85.0	85.0	0.1		0.977
Average quarterly receipt (%)	61.8	62.9	– 1.1		0.630
Amount received ($)	10,139	9,983	156		0.763
Last quarter (16)					
Ever received (%)	52.0	52.4	– 0.5		0.881
Amount received ($)	561	553	8		0.847
Sample size (total = 979)	486	493			
Louisville, KY					
TANF receipt					
Full period (quarters 3–16)					
Ever received (%)	4.7	4.4	0.4		0.698
Average quarterly receipt (%)	1.2	1.2	0.0		0.906
Amount received ($)	102	104	– 2		0.952
Last quarter (16)					
Ever received (%)	0.5	0.6	– 0.1		0.842
Amount received ($)	3	3	0		0.861
SNAP receipt					
Full period (quarters 3–16)					
Ever received (%)	89.6	87.2	2.4	*	0.081
Average quarterly receipt (%)	64.2	61.5	2.8	*	0.084
Amount received ($)	9,978	9,801	177		0.636
Last quarter (16)					
Ever received (%)	53.2	50.1	3.1		0.160
Amount received ($)	547	546	1		0.967
Sample size (total = 1,908)	947	961			

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
San Antonio, TX				
TANF receipt				
Full period (quarters 3–16)				
Ever received (%)	5.9	5.8	0.1	0.930
Average quarterly receipt (%)	1.4	1.9	– 0.5	0.242
Amount received ($)	104	160	– 56	0.118
Last quarter (16)				
Ever received (%)	0.9	1.7	– 0.8	0.110
Amount received ($)	5	10	– 6	0.121
SNAP receipt				
Full period (quarters 3–16)				
Ever received (%)	89.3	88.7	0.6	0.654
Average quarterly receipt (%)	70.9	72.6	– 1.7	0.254
Amount received ($)	12,710	12,759	– 49	0.904
Last quarter (16)				
Ever received (%)	63.2	63.9	– 0.7	0.735
Amount received ($)	779	751	28	0.437
Sample size (total = 1,869)	935	934		
Washington, DC				
TANF receipt				
Full period (quarters 3–16)				
Ever received (%)	35.5	34.0	1.5	0.409
Average quarterly receipt (%)	21.3	21.2	0.0	0.988
Amount received ($)	2,598	2,679	– 81	0.694
Last quarter (16)				
Ever received (%)	16.8	18.1	– 1.3	0.421
Amount received ($)	286	316	– 30	0.312
SNAP receipt				
Full period (quarters 3–16)				
Ever received (%)	80.9	78.5	2.4	0.127
Average quarterly receipt (%)	61.0	59.1	1.9	0.221
Amount received ($)	8,939	8,777	162	0.632
Last quarter (16)				
Ever received (%)	55.3	53.1	2.2	0.292
Amount received ($)	520	513	7	0.804
Sample size (total = 1,909)	944	965		

SNAP = Supplemental Nutrition Assistance Program. TANF = Temporary Assistance for Needy Families.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. A two-tailed t-test was applied to the differences between research group outcomes. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Rounding may cause slight discrepancies in sums and differences. Dollar averages include zero values for sample members who did not receive TANF or SNAP.
Source: MDRC calculations using administrative records data

Appendix E
Supplementary Materials for Chapter 5

Appendix Exhibit E.1. Impacts on Families' Housing Costs and Subsidies Within First 42 Months of Followup, by Public Housing Agency

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Lexington				
Enrollment status in Month 42 (%)				
Currently enrolled in HCV program and leased up	71.3	66.6	4.7	0.114
Currently enrolled in HCV program, not leased up	0.0	0.0	0.0	n/a
Exited HCV program	24.7	29.4	-4.7 *	0.100
Ported out to another housing agency[a]	4.0	4.0	0.0	0.991
Gross Rent				
Gross rent in Month 42 if received HCV in that month[b] (%)				- -
Less than $1,000	*43.3*	*45.3*	- -	
$1,000 - $1,499	*53.8*	*53.2*	- -	
$1,500 or more	*2.9*	*1.5*	- -	
Average gross rent in Month 42 if received HCV in that month ($)	*1,024*	*1,011*	- -	- -
TTP				
TTP in Month 42 if received HCV in that month[c] (%)				- -
$0	*0.0*	*0.0*	- -	
$1 - $50	*0.0*	*0.6*	- -	
$51 - $75	*0.0*	*0.0*	- -	
$76 - $100	*0.0*	*0.0*	- -	
$101 - $150	*21.8*	*30.6*	- -	
$151 - $300	*19.6*	*21.7*	- -	
$301 - $500	*25.2*	*24.0*	- -	
$501 - $700	*23.7*	*15.8*	- -	
$701 or above	*9.7*	*7.4*	- -	
Average monthly TTP in months received HCV[c] ($)	*295*	*330*	- -	- -
Average TTP in Month 42 if received HCV in that month[c] ($)	*401*	*348*	- -	- -
Has a utility allowance in Month 42 if received HCV in that month (%)	*93.1*	*93.3*	- -	- -
Average utility allowance in Month 42 if received utility allowance in that month ($)	*233*	*225*	- -	- -
Family Share				
Family share in Month 42 if received HCV in that month[d] (%)				- -
$0	*0.3*	*0.0*	- -	
$1 - $100	*0.0*	*0.3*	- -	

(continued)

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
$101 - $300	*35.4*	*44.9*	- -	
$301 - $700	*46.1*	*42.4*	- -	
$701 or above	*18.2*	*12.5*	- -	
Average monthly family share in months received HCV[d] ($)	*348*	*375*	- -	- -
Average family share in Month 42 if received HCV in that month[d] ($)	*444*	*397*	- -	- -
Family share as percentage of gross rent in Month 42 if received HCV in that month (%)	*43.6*	*39.4*	- -	- -
Paid above the payment standard in Month 42 if received HCV in that month (%)	*43.3*	*46.9*	- -	- -
Housing Subsidy				
Average number of months received housing subsidy[e]	35.3	33.7	1.6 *	0.056
Average monthly housing subsidy in months received HCV[e] ($)	*605*	*570*	- -	- -
Total housing subsidy ($)				
Year 1	6,777	6,418	359 **	0.029
Year 2	6,403	5,853	550 ***	0.009
Year 3	5,961	5,426	535 **	0.027
Last month	412	409	3	0.891
Full period	21,718	20,191	1,527 **	0.021
Total housing subsidy, full period (%)				0.104
Exited HCV program or not leased up during full period	1.2	1.2	0.0	
$0	0.3	1.0	-0.7	
$1 - $9,999	15.0	19.7	-4.7	
$10,000 - $19,999	25.4	26.3	-0.9	
$20,000 - $34,999	48.0	41.3	6.7	
$35,000 or more	10.1	10.5	-0.4	
Average housing subsidy in Month 42 if received HCV in that month ($)	*578*	*614*	- -	- -
Total housing subsidy in full period if received HCV in Month 42 ($)	*25,890*	*25,561*	- -	- -
Sample size (total = 979)	486	493		

(continued)

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Louisville				
Enrollment status in Month 42 (%)				
Currently enrolled in HCV program and leased up	74.0	62.6	11.4 ***	0.000
Currently enrolled in HCV program, not leased up	0.3	0.5	-0.2	0.519
Exited HCV program	24.1	34.5	-10.4 ***	0.000
Ported out to another housing agency[a]	1.6	2.4	-0.8	0.203
Gross Rent				
Gross rent in Month 42 if received HCV in that month[b] (%)				- -
Less than $1,000	*40.9*	*40.3*	- -	
$1,000 - $1,499	*58.3*	*57.6*	- -	
$1,500 or more	*0.8*	*2.1*	- -	
Average gross rent in Month 42 if received HCV in that month ($)	*1,028*	*1,035*	- -	- -
TTP				
TTP in Month 42 if received HCV in that month[c] (%)				- -
$0	*5.0*	*14.6*	- -	
$1 - $50	*11.3*	*15.0*	- -	
$51 - $75	*2.9*	*2.8*	- -	
$76 - $100	*2.6*	*3.0*	- -	
$101 - $150	*4.3*	*3.1*	- -	
$151 - $300	*22.8*	*22.3*	- -	
$301 - $500	*26.2*	*16.9*	- -	
$501 - $700	*14.1*	*13.4*	- -	
$701 or above	*10.8*	*9.0*	- -	
Average monthly TTP in months received HCV[c] ($)	*252*	*279*	- -	- -
Average TTP in Month 42 if received HCV in that month[c] ($)	*350*	*279*	- -	- -
Has a utility allowance in Month 42 if received HCV in that month (%)	*96.1*	*96.4*	- -	- -
Average utility allowance in Month 42 if received utility allowance in that month ($)	*206*	*211*	- -	- -
Family Share				
Family share in Month 42 if received HCV in that month[d] (%)				- -
$0	*2.8*	*6.6*	- -	
$1 - $100	*13.0*	*17.8*	- -	
$101 - $300	*24.7*	*25.2*	- -	

(continued)

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
$301 - $700	*43.6*	*37.4*	- -		
$701 or above	*15.9*	*13.1*	- -		
Average monthly family share in months received HCV[d] ($)	*323*	*353*	- -		- -
Average family share in Month 42 if received HCV in that month[d] ($)	*415*	*351*	- -		- -
Family share as percentage of gross rent in Month 42 if received HCV in that month (%)	*39.9*	*33.6*	- -		- -
Paid above the payment standard in Month 42 if received HCV in that month (%)	*64.2*	*62.2*	- -		- -
Housing Subsidy					
Average number of months received housing subsidy[e]	36.8	33.9	2.9	***	0.000
Average monthly housing subsidy in months received HCV[e] ($)	*685*	*651*	- -		- -
Total housing subsidy ($)					
Year 1	7,897	7,651	246	*	0.059
Year 2	7,656	6,803	853	***	0.000
Year 3	7,081	5,864	1,217	***	0.000
Last month	451	430	21		0.222
Full period	25,500	22,935	2,566	***	0.000
Total housing subsidy, full period (%)				***	0.000
Exited HCV program or not leased up during full period	1.0	1.9	-0.8		
$0	0.1	0.1	0.0		
$1 - $9,999	9.9	16.7	-6.8		
$10,000 - $19,999	19.2	22.5	-3.4		
$20,000 - $34,999	46.8	39.3	7.6		
$35,000 or more	23.0	19.5	3.5		
Average housing subsidy in Month 42 if received HCV in that month ($)	*613*	*684*	- -		- -
Total housing subsidy in full period if received HCV in Month 42	*29,536*	*28,996*	- -		- -
Sample size (total = 1,908)	947	961			
San Antonio					
Enrollment status in Month 42 (%)					
Currently enrolled in HCV program and leased up	70.0	67.1	3.0		0.165

(continued)

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Currently enrolled in HCV program, not leased up	0.9	0.9	0.0	0.971
Exited HCV program	26.9	30.1	-3.2	0.123
Ported out to another housing agency[a]	2.3	2.0	0.2	0.738
Gross Rent				
Gross rent in Month 42 if received HCV in that month[b] (%)				- -
Less than $1,000	*36.1*	*37.4*	- -	
$1,000 - $1,499	*60.2*	*57.8*	- -	
$1,500 or more	*3.8*	*4.8*	- -	
Average gross rent in Month 42 if received HCV in that month ($)	*1,096*	*1,080*	- -	- -
TTP				
TTP in Month 42 if received HCV in that month[c] (%)				- -
$0	*0.3*	*0.0*	- -	
$1 - $50	*0.8*	*8.5*	- -	
$51 - $75	*0.4*	*5.2*	- -	
$76 - $100	*14.2*	*4.5*	- -	
$101 - $150	*9.3*	*7.4*	- -	
$151 - $300	*30.2*	*28.8*	- -	
$301 - $500	*20.4*	*23.7*	- -	
$501 - $700	*14.7*	*12.7*	- -	
$701 or above	*9.7*	*9.2*	- -	
Average monthly TTP in months received HCV[c] ($)	*278*	*313*	- -	- -
Average TTP in Month 42 if received HCV in that month[c] ($)	*345*	*329*	- -	- -
Has a utility allowance in Month 42 if received HCV in that month (%)	*91.2*	*90.0*	- -	- -
Average utility allowance in Month 42 if received utility allowance in that month ($)	*155*	*162*	- -	- -
Family Share				
Family share in Month 42 if received HCV in that month[d] (%)				- -
$0	*0.1*	*0.0*	- -	
$1 - $100	*7.8*	*11.9*	- -	
$101 - $300	*35.5*	*31.6*	- -	
$301 - $700	*42.7*	*41.0*	- -	
$701 or above	*13.9*	*15.5*	- -	
Average monthly family share in months received HCV[d] ($)	*328*	*368*	- -	- -

(continued)

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Average family share in Month 42 if received HCV in that month [d] ($)	*406*	*400*	- -	- -
Family share as percentage of gross rent in Month 42 if received HCV in that month (%)	*37.1*	*36.6*	- -	- -
Paid above the payment standard in Month 42 if received HCV in that month (%)	*57.2*	*53.9*	- -	- -
Housing Subsidy				
Average number of months received housing subsidy[e]	34.8	33.0	1.8 ***	0.002
Average monthly housing subsidy in months received HCV[e] ($)	*681*	*642*	- -	- -
Total housing subsidy ($)				
Year 1	7,507	7,088	419 ***	0.002
Year 2	7,037	6,245	791 ***	0.000
Year 3	6,573	5,894	679 ***	0.000
Last month	482	457	25	0.165
Full period	24,069	21,973	2,095 ***	0.000
Total housing subsidy, full period (%)			*	0.056
Exited HCV program or not leased up during full period	1.7	3.3	-1.6	
$0	0.5	1.1	-0.6	
$1 - $9,999	12.9	16.2	-3.3	
$10,000 - $19,999	18.9	19.1	-0.3	
$20,000 - $34,999	47.7	46.0	1.7	
$35,000 or more	18.4	14.3	4.1	
Average housing subsidy in Month 42 if received HCV in that month ($)	*689*	*680*	- -	- -
Total housing subsidy in full period if received HCV in Month 42 ($)	*29,152*	*27,794*	- -	- -
Sample size (total = 1,869)	935	934		
Washington, D.C.				
Enrollment status in Month 42 (%)				
Currently enrolled in HCV program and leased up	92.6	90.4	2.2 *	0.080
Currently enrolled in HCV program, not leased up	2.8	3.3	-0.5	0.516
Exited HCV program	4.2	5.9	-1.7 *	0.085
Ported out to another housing agency[a]	0.4	0.4	0.0	0.987

(continued)

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Gross Rent				
Gross rent in Month 42 if received HCV in that month[b] (%)				--
Less than $1,000	*1.5*	*1.0*	--	
$1,000 - $1,499	*25.2*	*23.9*	--	
$1,500 or more	*73.3*	*75.1*	--	
Average gross rent in Month 42 if received HCV in that month ($)	*2,054*	*2,045*	--	--
TTP				
TTP in Month 42 if received HCV in that month[c] (%)				--
$0	*2.8*	*20.2*	--	
$1 - $50	*0.0*	*9.7*	--	
$51 - $75	*20.5*	*0.7*	--	
$76 - $100	*2.3*	*2.2*	--	
$101 - $150	*4.9*	*4.4*	--	
$151 - $300	*16.2*	*16.9*	--	
$301 - $500	*15.5*	*12.6*	--	
$501 - $700	*11.6*	*10.5*	--	
$701 or above	*26.1*	*22.8*	--	
Average monthly TTP in months received HCV[c] ($)	*379*	*392*	--	--
Average TTP in Month 42 if received HCV in that month[c] ($)	*474*	*401*	--	--
Has a utility allowance in Month 42 if received HCV in that month (%)	*86.4*	*86.2*	--	--
Average utility allowance in Month 42 if received utility allowance in that month ($)	*254*	*254*	--	--
Family Share				
Family share in Month 42 if received HCV in that month[d] (%)				--
$0	*2.9*	*19.6*	--	
$1 - $100	*22.1*	*12.7*	--	
$101 - $300	*21.0*	*20.8*	--	
$301 - $700	*27.4*	*24.0*	--	
$701 or above	*26.6*	*22.9*	--	
Average monthly family share in months received HCV[d] ($)	*387*	*397*	--	--
Average family share in Month 42 if received HCV in that month[d] ($)	*478*	*407*	--	--

(continued)

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Family share as percentage of gross rent in Month 42 if received HCV in that month (%)	*24.3*	*20.4*	- -	- -
Paid above the payment standard in Month 42 if received HCV in that month (%)	*4.2*	*3.8*	- -	- -
Housing Subsidy				
Average number of months received housing subsidy[e]	40.1	39.0	1.1 ***	0.003
Average monthly housing subsidy in months received HCV[e] ($)	*1,481*	*1,467*	- -	- -
Total housing subsidy ($)				
Year 1	16,189	15,934	255	0.327
Year 2	16,944	16,881	63	0.835
Year 3	17,926	16,331	1,595 ***	0.000
Last month	1,466	1,478	-12	0.744
Full period	59,825	57,897	1,928 *	0.063
Total housing subsidy, full period (%)				0.782
Exited HCV program or not leased up during full period	1.2	1.4	-0.2	
$0	0.3	0.3	0.0	
$1 - $9,999	2.0	2.6	-0.6	
$10,000 - $19,999	3.7	3.8	-0.1	
$20,000 - $34,999	8.0	9.2	-1.2	
$35,000 or more	84.9	82.8	2.1	
Average housing subsidy in Month 42 if received HCV in that month ($)	*1,579*	*1,638*	- -	- -
Total housing subsidy in full period if received HCV in Month 42 ($)	*62,516*	*61,605*	- -	- -
Sample size (total = 1,909)	944	965		

HCV = Housing Choice Voucher. n/a = not available. TTP = total tenant payment.

[a]Some households that ported out may have subsequently exited the HCV program. Information on port outs for Washington, DC households is available up to June 2018.

[b]Gross rent is the contract rent plus the utility allowance of the unit.

[c]TTP is the amount a family must contribute toward rent and utilities regardless of the unit selected. Under the new rent rules, TTP is 28 percent of prior-year gross income, and under existing rent rules, TTP is 30 percent of adjusted income.

[d]Family share is the family's contribution toward its gross rent. It may be higher than the TTP if the family rents a unit with a gross rent that exceeds the payment standard.

[e]Housing subsidy is the full subsidy amount paid by the housing agency. It includes any utility allowance payments made to the tenant in addition to rent paid to the owner by the housing agency.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values. Outcomes shown in italics are nonexperimental. Statistical significance tests are not conducted on nonexperimental outcomes. Square brackets indicate that the chi-square test may not be valid due to small sample sizes within the cross-tabulation distribution. The variation across the four PHAs in estimated impacts on total housing subsidy in the full period is not statistically significant based on an H-statistic test.

Source: MDRC calculations using public housing agency data

Appendix Exhibit E.2. Payment of Minimum Total Tenant Payment and Use of Safeguards Within First 42 Months of Followup, by Public Housing Agency: New Rent Rules Group Only

Outcome	Lexington	Louisville	San Antonio	Washington, D.C.
Minimum TTP ($)	150	50	100	75
Family TTP relative to the local minimum TTP (%)				
Ever paid below the minimum TTP	0.0	10.4	10.7	14.5
Ever paid the minimum TTP	57.3	31.0	29.8	44.1
Ever paid above the minimum TTP	79.7	92.8	87.5	84.9
Number of months paid [a]				
Below the minimum TTP	*0.0*	*7.0*	*6.9*	*9.3*
The minimum TTP	*21.4*	*16.6*	*22.8*	*22.4*
Above the minimum TTP	*28.7*	*33.1*	*31.1*	*33.6*
Ever had grace-period TTP[b] (%)	34.2	36.4	30.6	39.9
Ever received a restricted interim recertification (%)	10.0	4.7	5.5	7.7
Ever received a hardship remedy (%)	11.9	25.6	11.1	25.9
Received hardship remedy in Month 42 if received HCV in that month (%)	*2.3*	*6.8*	*3.0*	*7.8*
Average number of months of a hardship (for those who received hardship)	*4.4*	*7.7*	*8.3*	*8.7*
Sample size	486	735	935	944

HCV = Housing Choice Voucher. TTP = total tenant payment.
[a]The "number of months paid" measures limit the sample to those who ever paid that family TTP relative to the local minimum TTP. For example, the number of months paid below the minimum TTP is shown only for those who ever paid the minimum TTP.
[b]At the regularly scheduled recertification, families receiving grace-period TTPs have their TTPs calculated based on current/anticipated income for 6 months, rather than retrospective income. The grace-period TTP is used if a family's current/anticipated income is more than 10-percent lower than its retrospective income.
Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. Sample sizes for specific outcomes may vary because of missing values. Outcomes shown in italics are nonexperimental. Statistical significance tests are not conducted on nonexperimental outcomes. Louisville families who opted out of the study are excluded because their rent calculation is subject to existing rules. TTP is the amount a family must contribute toward rent and utilities regardless of the unit selected. Under the new rent rules, TTP is 28 percent of prior-year gross income, and under existing rent rules, TTP is 30 percent of adjusted income. The minimum TTP varies by site and research group. The measures are created using the relevant minimum TTP.
Source: MDRC calculations using public housing agency data

Appendix Exhibit E.3. Impacts on Public Housing Agency Actions Within First 42 Months of Followup, by Public Housing Agency

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Lexington				
Ever Had Type of Action (%)				
Any action that requires staff response[a]	87.4	91.1	-3.7 *	0.061
Regularly scheduled recertification[b]	75.2	86.9	-11.7 ***	0.000
Year 3 regularly scheduled recertification[c]	75.4	69.9	5.5 *	0.055
Move/change of unit[d]	33.3	33.7	-0.4	0.904
Interims[e]				
Decreased income	21.6	58.2	-36.5 ***	0.000
Restricted interim	10.0	n/a	- -	- -
Hardship exemption[f]	10.7	0.8	10.0 ***	0.000
Household composition change[g]	5.1	12.5	-7.4 ***	0.000
Increased income	8.2	44.8	-36.6 ***	0.000
Any household composition change	21.7	21.2	0.5	0.839
Contract rent change[h]	36.0	36.1	0.0	0.989
Other action[i]	20.6	13.8	6.7 ***	0.005
Number of Actions				
Average number of actions	2.4	5.0	-2.6 ***	0.000
Average number of actions during full period, if received HCV in Month 42	*3.0*	*6.2*	- -	- -
Any action that requires staff response[a] (%)			***	0.000
None	12.6	8.9	3.7	
1	18.1	6.9	11.2	
2	23.4	3.7	19.7	
3-4	37.5	23.3	14.2	
5 or more	8.4	57.2	-48.8	
Any action that requires staff response, if received HCV in Month 42[a]				- -
None	*0.0*	*0.0*	- -	
1	*15.2*	*0.4*	- -	
2	*26.2*	*0.4*	- -	

(continued)

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
3-4	*47.0*	*24.1*	- -	
5 or more	*11.7*	*75.2*	- -	
Sample size (total = 979)	486	493		
Louisville				
Ever Had Type of Action (%)				
Any action that requires staff response[a]	93.0	93.2	-0.2	0.860
Regularly scheduled recertification[b]	79.3	85.3	-6.0 ***	0.001
Year 3 regularly scheduled recertification[c]	75.7	65.3	10.3 ***	0.000
Move/change of unit[d]	31.8	34.7	-2.9	0.178
Interims[e]				
Decreased income	31.0	54.4	-23.4 ***	0.000
Restricted interim	3.7	n/a	- -	- -
Hardship exemption[f]	15.1	0.0	15.1 ***	0.000
Household composition change[g]	7.9	15.3	-7.4 ***	0.000
Increased income	22.3	62.7	-40.4 ***	0.000
Any household composition change	19.8	25.3	-5.5 ***	0.003
Contract rent change[h]	59.9	13.3	46.5 ***	0.000
Other action[i]	44.2	21.9	22.4 ***	0.000
Number of Actions				
Average number of actions	3.8	4.4	-0.6 ***	0.000
Average number of actions during full period, if received HCV in Month 42	*4.5*	*5.6*	- -	- -
Any action that requires staff response[a] (%)			***	0.000
None	7.0	6.8	0.2	
1	4.8	6.4	-1.5	
2	6.6	7.0	-0.4	
3-4	46.2	26.8	19.3	
5 or more	35.4	53.0	-17.6	
Any action that requires staff response, if received HCV in Month 42[a]				- -
None	*0.0*	*0.0*	- -	

(continued)

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)		P-Value
1	*0.0*	*0.6*	- -		
2	*1.0*	*0.5*	- -		
3-4	*53.4*	*24.9*	- -		
5 or more	*45.5*	*74.0*	- -		
Sample size (total = 1,908)	947	961			
San Antonio					
Ever Had Type of Action (%)					
Any action that requires staff response[a]	83.1	86.1	-3.1	*	0.065
Regularly scheduled recertification[b]	74.8	83.7	-8.9	***	0.000
Year 3 regularly scheduled recertification[c]	72.4	68.5	3.9	*	0.061
Move/change of unit[d]	23.2	15.2	8.0	***	0.000
Interims[e]					
Decreased income	17.1	38.6	-21.6	***	0.000
Restricted interim	5.5	n/a	- -		- -
Hardship exemption[f]	9.7	0.0	9.7	***	0.000
Household composition change[g]	3.4	11.4	-8.0	***	0.000
Increased income	1.3	4.5	-3.3	***	0.000
Any household composition change	17.0	17.4	-0.4		0.831
Contract rent change[h]	25.6	8.5	17.1	***	0.000
Other action[i]	5.2	2.3	3.0	***	0.001
Number of Actions					
Average number of actions	1.9	3.1	-1.2	***	0.000
Average number of actions during full period, if received HCV in Month 42	*2.4*	*4.0*	- -		- -
Any action that requires staff response[a] (%)				***	0.000
None	17.0	13.9	3.1		
1	28.4	7.3	21.1		
2	24.4	6.7	17.7		
3-4	26.3	52.2	-25.9		
5 or more	3.9	19.9	-16.0		

(continued)

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Any action that requires staff response, if received HCV in Month 42 [a]				- -
None	*0.0*	*0.2*	- -	
1	*28.6*	*0.4*	- -	
2	*31.1*	*1.0*	- -	
3-4	*34.8*	*70.1*	- -	
5 or more	*5.5*	*28.3*	- -	
Sample size (total = 1,869)	935	934		
Washington, D.C.				
Ever Had Type of Action (%)				
Any action that requires staff response[a]	92.9	91.9	1.0	0.426
Regularly scheduled recertification, Year 1	0.3	4.0	-3.7 ***	0.000
Regularly scheduled recertification[b]	86.9	80.9	6.0 ***	0.000
Year 3 regularly scheduled recertification[c]	90.9	n/a	- -	- -
Move/change of unit[d]	29.6	32.8	-3.2	0.132
Interims[e]				
Decreased income	32.2	41.6	-9.4 ***	0.000
Restricted interim	7.7	n/a	- -	- -
Hardship exemption[f]	22.8	0.0	22.8 ***	0.000
Household composition change[g]	7.8	13.9	-6.1 ***	0.000
Increased income	2.0	22.3	-20.3 ***	0.000
Any household composition change	20.3	20.5	-0.3	0.889
Contract rent change[h]	60.2	63.1	-3.0	0.187
Other action[i]	7.6	3.7	3.9 ***	0.000
Number of Actions				
Average number of actions	2.7	2.9	-0.2 ***	0.002
Average number of actions during full period, if received HCV in Month 42	*2.9*	*3.2*	- -	- -
Any action that requires staff response[a] (%)			***	0.000
None	7.1	8.1	-1.0	
1	13.6	9.7	3.9	

(continued)

Outcome (%)	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
2	25.3	26.1	-0.8	
3-4	43.7	39.6	4.1	
5 or more	10.3	16.6	-6.3	
Any action that requires staff response, if received HCV in Month 42 [a]				- -
None	*2.4*	*1.7*	- -	
1	*12.5*	*8.7*	- -	
2	*27.0*	*27.8*	- -	
3-4	*47.1*	*43.6*	- -	
5 or more	*11.0*	*18.2*	- -	
Sample size (total = 1,909)	944	965		

HCV = Housing Choice Voucher. n/a = not available.

[a]Certification actions that require staff interaction or other notable efforts from staff include annual reexaminations, interim reexaminations (except for end-of-grace-period and end-of-hardship records), and change-of-unit actions.

[b]Regularly scheduled recertifications reflect actions recorded as "Action code 2: annual reexamination" on the 50058 form. PHAs record all regularly scheduled reexaminations under this action code regardless of the frequency of reexaminations: Annual, biennial, and triennial reexaminations are recorded under this action code.

[c]The Year 3 recertification is the 'triennial' for the program group, excluding opt-outs, and the third annual recertification for the control group and opt-outs. Its effective date is approximately 36 months after the date the new rent rules went into effect (the 'initial' recertification), although the exact timing ranges for some households. For the program group, the triennial includes "2: annual reexamination" actions as well as other actions that may have substituted as the triennial, such as a "3: interim reexamination" or "7: change of unit." Some households did not have a triennial identified because they exited the program or did not have a triennial for other reasons. For the control group and opt-outs, if a household did not have a clearly identifiable regularly scheduled recertification in the third year, the last record was chosen as an approximation. Results are not shown for the control group in Washington, D.C., because the control group was subject to biennial recertifications and thus did not have comparable recertification in Year 3.

[d]Move/change of unit actions reflect actions recorded as “Action code 7: other change of unit” on the 50058 form. If a move was recorded through an annual or interim action, it is not reflected in this outcome.

[e]Interims reflect all actions recorded as “Action code 3: interim reexamination” on the 50058 form, except interim reexaminations to end a grace period or hardship rent. Types of interim actions are not mutually exclusive. Any action counts as each action once. At the same interim certification event, a household may have reported changes in its situation that fell into more than one of the categories displayed in this exhibit.

[f]Households in the existing rent rules groups in Louisville and Washington, D.C., were not subject to a minimum rent. Thus, there was no hardship exemption available to them. This only includes hardships received through an interim recertification.

[g]This outcome indicates a decrease in income that occurred at the same time that household composition changed. When household members are removed, so is their income.

[h]The “existing rent rules” group often has contract rent changes included in their annual reexamination, and in that case, the contract rent increase is not included in this category.

[i]Other actions include interims (or some other reason but not end of grace or hardship), which are difficult to classify from the available data.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. Rounding may cause slight discrepancies in calculating sums and differences. Differences between the new rent rules group and the existing rent rules group were assessed using a two-tailed t-test for continuous variables and selected outcomes expressed as proportions. For categorical variables, a chi-square test was used to determine whether there is a difference in the distribution of related outcomes for the new rent rules group compared with the existing rent rules group. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. When categorical variables are part of a distribution, the statistical significance levels, which apply to the distribution, are shown above the distribution. Sample sizes for specific outcomes may vary because of missing values. Outcomes shown in italics are nonexperimental. Statistical significance tests are not conducted on nonexperimental outcomes.

Source: MDRC calculations using public housing agency data

Appendix F
Supplementary Materials for Chapter 6

Appendix Exhibit F.1. Impacts on Use of Homelessness Services Within First 42 Months of Followup: Heads of Households by Public Housing Agency (PHA)

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Lexington, KY				
At least 1 night stay[a] (%)				
Full period (quarters 3–16)	0.6	1.3	– 0.7	0.254
Last quarter (16)	0.0	0.2	– 0.2	0.239
Any stay in an emergency shelter[b] (%)				
Full period (quarters 3–16)	0.6	1.3	– 0.7	0.254
Last quarter (16)	0.0	0.2	– 0.2	0.239
Any use of services[c] (%)				
Full period (quarters 3–16)				
Last quarter (16)				
Any stay or use of services (%)				
Full period (quarters 3–16)	1.0	1.4	– 0.5	0.521
Quarters 15–16	0.0	0.2	– 0.2	0.239
Sample size (total = 979)	486	493		
Louisville, KY				
At least 1 night stay[a] (%)				
Full period (quarters 3–16)	1.2	0.7	0.5	0.273
Last quarter (16)	0.4	0.3	0.1	0.668
Any stay in an emergency shelter (%)				
Full period (quarters 3–16)	1.0	0.6	0.4	0.342
Last quarter (16)	0.3	0.1	0.2	0.298
Any use of services[b] (%)				
Full period (quarters 3–16)	0.9	0.6	0.3	0.465
Last quarter (16)	0.2	0.2	0.0	0.944
Any stay or use of services (%)				
Full period (quarters 3–16)	1.2	1.1	0.1	0.887
Quarters 15–16	0.4	0.6	– 0.2	0.574
Sample size (total = 1,908)	947	961		
San Antonio, TX				
At least 1 night stay[a] (%)				
Full period (quarters 3–16)	1.4	1.9	– 0.4	0.481
Last quarter (16)	0.3	0.2	0.1	0.671
Any stay in an emergency shelter (%)				
Full period (quarters 3–16)	0.9	1.1	– 0.2	0.719
Last quarter (16)	0.2	0.2	0.0	0.935
Any use of services[b] (%)				
Full period (quarters 3–16)	11.4	12.1	– 0.7	0.663
Last quarter (16)	1.3	1.4	0.0	0.956

Outcome	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Any stay or use of services (%)				
Full period (quarters 3–16)	11.7	12.3	– 0.6	0.680
Quarters 15–16	2.1	1.7	0.4	0.485
Sample size (total = 1,869)	935	934		
Washington, DC				
At least 1 night stay[a] (%)				
Full period (quarters 3–16)	1.7	2.3	– 0.6	0.341
Last quarter (16)	0.7	0.5	0.2	0.523
Any stay in an emergency shelter (%)				
Full period (quarters 3–16)	1.2	1.6	– 0.3	0.543
Last quarter (16)	0.5	0.2	0.3	0.259
Any use of services[b] (%)				
Full period (quarters 3–16)	4.1	4.0	0.1	0.899
Last quarter (16)	0.3	0.4	– 0.1	0.780
Any stay or use of services (%)				
Full period (quarters 3–16)	4.4	4.9	– 0.6	0.552
Quarters 15–16	1.2	1.3	– 0.2	0.750
Sample size (total = 1,909)	944	965		

[a]A stay is defined based on the individual's use of any of the following types of housing assistance: emergency shelter, transitional housing, safe haven, or various forms of permanent housing, such as permanent housing without services, permanent housing with services, permanent supportive housing, or rapid re-housing.

[b]n/a = Not Available

[c]Use of a service is defined based on the individual's use of any of the following services: street outreach, day shelter, homelessness prevention, coordinated assessment, services only, or other project type. "Services only" and "other" project types indicate that the project only provides services, not including street outreach. "Services only" projects have associated housing outcomes while "other" projects provide "stand alone supportive services" (U.S. Department of Housing and Urban Development, HMIS Data Standards Data Dictionary, Version 1.3, 2018). Any records without a project type or with a retired project code are also included as a service, except in the few cases where project type was inferable from the associated provider name.

Notes: Estimates were regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics of sample members. A two-tailed t-test was applied to the differences between research group outcomes. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent. Rounding may cause slight discrepancies in sums and differences.

Source: MDRC calculations using Homeless Management Information System data

Appendix G
Supplementary Technical Materials

Appendix Exhibit G.1. Regression Coefficients for Estimated Impacts on Total Housing Assistance Payment Within 42 Months of Followup, New Rent Rules Group, Lexington, Louisville, and San Antonio Combined

Variable	Parameter Estimate	P-Value
Intercept	16,082	<.0001
Assigned to New Rent Rules Group (impact)	2,108	<.0001
Head of household characteristics		
African American head of household	-342	0.464
Hispanic/Latino head of household	3,346	<.0001
Female head of household	2,549	0.001
Age of head of household		
18-24	-1,998	0.047
25-34	2,752	<.0001
35-44	1,935	<.0001
Household characteristics		
Young child (age 5 or younger) in household	3,692	<.0001
Household has 2 adults	573	0.150
Household has 3 or more adults	2,002	0.002
No earned income	1,832	<.0001
Receives Temporary Assistance for Needy Families (TANF)	1,314	0.117
Receives Social Security or SSI	1,502	0.000
Received HCV for less than seven years	-1,171	0.001
Family share		
$1-249	-486	0.522
$250-599	-3,824	<.0001
$600 or more	-10,515	<.0001
Gross rent is greater than payment standard	714	0.041
Enrollment		
PHA		
Louisville Metropolitan Housing Authority	2,794	<.0001
San Antonio Housing Authority	-948	0.111
R-squared (0.152087)		
Sample size (total = 4,756)		

HCV = Housing Choice Voucher. PHA = public housing agency. SSI = Supplemental Security Income.
Sources: MDRC calculations using quarterly wage data from the National Directory of New Hires, PHA data, and baseline survey data

Appendix Exhibit G.2. Regression Coefficients for Estimated Impacts on Total Earnings, New Rent Rules Impact Sample, Lexington, Louisville, San Antonio Combined

Variable	Parameter Estimate	P-Value
Intercept	4,732	0.155
Assigned to New Rent Rules Group (impact)	-7	0.994
Head of household characteristics		
African American head of household	5,121	<.0001
Hispanic/Latino head of household	50	0.977
Female head of household	1,666	0.408
Age of head of household		
18-24	3,521	0.191
25-34	9,143	<.0001
35-44	7,284	<.0001
Household characteristics		
Youngest child in household age 0-5	-2,125	0.037
Household has 2 adults	1,504	0.158
Household has 3 or more adults	750	0.669
Receives Temporary Assistance for Needy Families (TANF	133	0.961
Missing TANF flag	-983	0.365
Income from Social Security/SSI/Pensions	-872	0.434
No earned income	18	0.987
Received HCV for less than 7 years	80	0.931
Family share		
$1-249	-1289	0.526
$250-599	-402	0.858
$600 or more	1,008	0.717
Gross rent is greater than payment standard	1,984	0.034
Employment		
Employed in quarter before random assignment (RA)	5,860	<.0001
Employed two quarters before RA	-825	0.603
Employed three quarters before RA	2,948	0.041

(continued)

Variable	Parameter Estimate	P-Value
Earnings		
Missing earnings in quarter before RA	-2,664	0.875
Total earnings in quarter before RA	5	<.0001
Total earnings in second quarter before RA	2	<.0001
Total earnings in third quarter before RA	2	<.0001
Enrollment		
PHA		
Louisville Metropolitan Housing Authority	1,584	0.185
San Antonio Housing Authority	-693	0.666
R-squared (0.466594)		
Sample size (total = 4,756)		

HCV = Housing Choice Voucher. PHA = public housing agency. SSI = Supplemental Security Income.
Sources: MDRC calculations using quarterly wage data from the National Directory of New Hires, PHA data, and baseline survey data

Appendix Exhibit G.3. Unadjusted and Adjust Impacts on Total Earnings and Housing Subsidy Outcomes Within 42 Months of Followup: Lexington, Louisville, and San Antonio Combined

	Adjusted Impacts				Unadjusted Impacts			
Outcomes	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value	New Rent Rules	Existing Rent Rules	Difference (Impact)	P-Value
Average total earnings, quarters 3-16 ($)	39,482	39,489	-7	0.994	39,851	39,123	728	0.529
Total housing subsidy, months 2-43 ($)	24,129	22,021	2,108 ***	0.000	24,083	22,067	2,016 ***	0.000
Sample size (total = 4,756)	2,368	2,388						

Notes: Rounding may cause slight discrepancies in calculating sums and differences. A two-tailed t-test was applied to differences between research groups. The p-value indicates the likelihood that the difference between the new rent rules group and the existing rent rules group arose by chance. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.
Sources: MDRC calculations using quarterly wage data from the National Directory of New Hires and PHA data.

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U.S. Department of Housing and Urban Development
Office of Policy Development and Research
Washington, DC 20410-6000

March 2022