

Homes in Limbo, Children at Risk: Exploring the Link between Housing Instability and Child Maltreatment Using the Discontinuity of the Protecting Tenants at Foreclosure Act

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Impact of Housing Instability on Child Maltreatment

- Use the discontinuity of the **Protecting Tenants at Foreclosure Act (PTFA)**, which resulted in a lapse in federal protections and variations in state-level tenant protections.
- The uniqueness of our study:
 - First study to utilize exogenous changes in the PTFA to examine the impact of housing instability on child maltreatment
 - Focus on **forced displacement**, unlike tenant-caused evictions, providing insights into a form of housing instability that can trigger a vicious cycle.

Child Maltreatment

- Includes physical, emotional, and sexual abuse, as well as neglect and exploitation by a parent or caregiver
- National rate: 7.7 victims per 1,000 children (2021–2022)
- Linked to physical and psychological harms, cognitive impairments, chronic health conditions, criminal behaviors, and significant economic costs (Currie and Tekin, 2012; Currie and Widom, 2010; Leeb et al., 2011; Strathearn et al., 2020; Vachon et al., 2015)
 - Avg. lifetime cost per victim of nonfatal child maltreatment \approx \$210,000 in 2010 dollars (Fang et al., 2012).

Housing Instability

- Generally refers to challenges such as difficulty in paying rent, spending a significant portion of income on housing, living in substandard or overcrowded conditions, and frequent relocations (Gu et al., 2023).
- Prevalent among children: nationwide, in 2022, approx. 17.1% ($> 1/6$) of U.S. children, representing more than 12.1 million children, experienced unstable housing.
- Establishing a causal link remains challenging, mainly due to unobserved variables (e.g., hidden substance abuse) that affect both housing instability and child maltreatment.

We focus on one specific aspect of housing instability:

The uncertainty that tenants face regarding their ability to remain in their rented homes for the full lease term due to unexpected property foreclosures

- Such situations often arise through no fault of the tenants.
- The PTFA, a federal law established in 2009, was intended to shield tenants from the repercussions of foreclosures.
- However, in December 2014, the U.S. Congress failed to renew this law, resulting in a gap in federal protection.
- During this period, some states enacted their own laws to continue the protection previously offered by the PTFA (a control group), while residents in other states experienced the lapse of the PTFA protection (a treatment group).

While our focus seems limited, we want to emphasize that

Forced displacement (e.g., due to foreclosure-related evictions) can exacerbate housing instability.

- A forced move can make renters accept substandard housing, which can lead to another move soon after, especially for low-income renters (Desmond et al., 2015).
- Forced displacement can compel renters to move to lower-quality housing and neighborhoods, putting them in a precarious housing situation (Desmond and Shollenberger, 2015; Evans, 2021).
- Our study provides important insights into the broad implications of such housing instability.

Main Findings

- Focusing on the PTFA's gap period, we find that incidents of child maltreatment due to housing instability increase by as much as **18%** in the treatment group in the year following the PTFA's expiration.
- Also find an increase in **mental health** issues among **renters**, but not homeowners, in the treatment group during the PTFA's gap period.
 - This suggests a mechanism through which housing instability affects child maltreatment.
 - It aligns with the hypothesis that the discontinuity of the PTFA, which resulted in a significant lapse in federal protection for tenants, mostly impacts renters rather than homeowners.

Our study bridges two strands of literature:

One focusing on the risk factors of child maltreatment

- Different forms of maltreatment (e.g., physical, emotional, sexual abuse, and neglect) can have equivalent, broad effects on psychiatric and behavioral outcomes, such as anxiety and depression, rule-breaking and aggression (Vachon et al., 2015).
- Existing literature has examined contributing factors at individual, interpersonal, community and societal levels (Austin et al., 2020), including economic conditions and policies.
- Higgins and Hunt (2024) finds that across the studies they reviewed **parental characteristics** are consistently identified as key factors associated with child maltreatment. Their review also emphasizes the need for further research on **factors affecting parenting skills and capacity**, such as **housing instability**. Our study aims to fill this gap in the literature.

Our study bridges two strands of literature:

The other on the impact of housing instability

- There is a body of literature documenting an association between housing instability and child maltreatment (Chandler et al., 2022).
- As one of the social determinants of health that correlate with child maltreatment, housing instability is found to **rank second** among those factors, next to poverty (Hunter and Flores, 2021).
- We provide the first study that utilizes the change in PTFA, which occurs exogenously to individuals, to explore a causal link between housing instability and child well-being.
 - Adds to the literature summarized by Doyle and Aizer (2018) on utilizing quasi-experimental variation for causal inference in assessing the impact of public policies and social programs on child well-being.

The Protecting Tenants at Foreclosure Act (PTFA)

- It is a federal law providing protection to tenants in foreclosed properties.
- Enacted in May 2009 to shield tenants from foreclosure repercussions.
- Requires new owners of foreclosed properties to honor existing leases and provide a 90-day eviction notice.
- Aims to maintain housing stability and prevent abrupt displacement or homelessness.
- PTFA does not override state laws that are more protective. However, prior to the expiration, the PTFA remained more protective than state laws in most states.

PTFA Gap (Discontinuity) Period

- PTFA expired on December 31, 2014, due to lack of bipartisan support for renewal.
- Some states enacted their own laws to offer protections that are similar to what the PTFA previously offered, while other states did not do so.
- PTFA was reinstated permanently by the Congress in June 2018, recognizing the ongoing need for tenant protections.
- In retrospect, the discontinuity of PTFA created a significant lapse in federal protection, putting tenants in foreclosed properties in a precarious situation, such as being evicted with just a few days' notice.

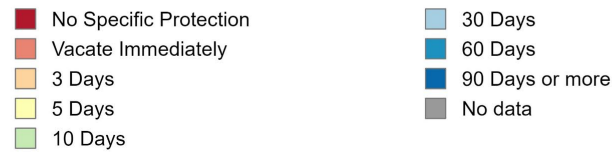
Data

- Child File data (restricted access) from the National Child Abuse and Neglect Data System (NCANDS), including the following info:
 - Maltreatment types and disposition levels (i.e., substantiated or not)
 - Child's demographic data and risk factors
 - Caregiver risk factors
 - Year-month of the report, county identifiers, and report source related to the alleged child maltreatment
- Other data used for control variables:
 - Surveillance, Epidemiology, and End Results (SEER)
 - American Community Survey (ACS) 2010–2014 five-year county-level estimates
 - 2010 census
- Mental health variables from the Behavioral Risk Factor Surveillance System (BRFSS)

Difference-in-Differences (DID)

- Compares two groups before and after the PTFA expiration.
- Treatment group: states with no specific tenant protection or eviction notice of 5 days or less (less than a week).
- Control Group: states with eviction notice of at least 10 days.
- Pre-treatment period: January 2014–December 2014
- Post-treatment period: January 2015–December 2015
- Estimator: the heterogeneity-robust DID estimator developed by Callaway and Sant'Anna (2021), the version that has the double-robustness property

■ No Specific Protection ■ 30 Days
■ Vacate Immediately ■ 60 Days
■ 3 Days ■ 90 Days or more
■ 5 Days ■ No data
■ 10 Days



Econometric Specification

- Unlike any conventional DID estimator that is directly applied to a linear regression model, such as the conventional two-way fixed-effect (TWFE) model, in which a specific coefficient in that model is intended to represent a target parameter, the CS estimator is derived directly from the conditional PT assumption to estimate the average treatment effect on the treated (ATT).
- The “building block” of this estimator— $ATT(g, t)$ —is obtained by a doubly-robust estimator, implementing a transformation (Callaway and Sant’Anna, 2021, p. 228) of the outcome variable (y), the cohort indicator (G_g) where a cohort is defined by the time when a group is first treated (g), and covariates (\mathbf{x}), for each combination of cohort (g) and time (t).

To identify $ATT(g, t)$

The CS estimator is derived from the following conditional parallel trend (PT) assumption where $t \geq g$:

$$E(y_t(0)|G_g = 1, \mathbf{x}) - E(y_{g-1}(0)|G_g = 1, \mathbf{x}) = E(y_t(0)|G_0 = 1, \mathbf{x}) - E(y_{g-1}(0)|G_0 = 1, \mathbf{x})$$

- Here, t denotes a year-month pair, and g takes two values: 01/2015 (the month immediately after the PTFA's expiration on December 31, 2014) and zero, for the treatment and control groups, respectively
- The baseline period used by the CS estimator is $g - 1$, which in our study is December 2014.
- Conditioning variables, denoted by \mathbf{x} , were measured in the pre-treatment period.
- Compute cluster-robust standard errors with the clustering being at the level of treatment assignment, which in our case is the state level.

Table: Comparisons in the Pre-Treatment Period between the Treated and Control Groups

	Control	Treated
<i>Panel A: Variables used for child maltreatment analysis</i>		
Number of observations	5,061 (39.5%)	7,762 (60.5%)
Alleged cases of child maltreatment related to inadequate housing per 100,000 children aged 0–17 in a county	14.528 (29.312)	20.157 (41.549)
Alleged cases of child maltreatment related to inadequate housing or financial problems of the child's family per 100,000 children aged 0–17 in a county	34.289 (57.023)	55.700 (113.292)
Alleged cases of child maltreatment related to the child's intellectual disability or chronic emotional disorder per 100,000 children aged 0–17 in a county	7.318 (15.966)	15.305 (28.399)
Alleged cases of child maltreatment related to the caregiver's intellectual disability or chronic emotional disorder per 100,000 children aged 0–17 in a county	10.448 (23.063)	26.764 (73.329)
Substantiated cases of child maltreatment related to inadequate housing per 100,000 children aged 0–17 in a county	5.708 (13.115)	10.146 (27.694)
Substantiated cases of child maltreatment related to inadequate housing or financial problems of the child's family per 100,000 children aged 0–17 in a county	10.513 (19.674)	18.333 (45.009)
Substantiated cases of child maltreatment related to the child's intellectual disability or chronic emotional disorder per 100,000 children aged 0–17 in a county	1.224 (3.589)	3.701 (10.521)
Substantiated cases of child maltreatment related to the caregiver's intellectual disability or chronic emotional disorder per 100,000 children aged 0–17 in a county	2.752 (7.698)	7.831 (20.460)

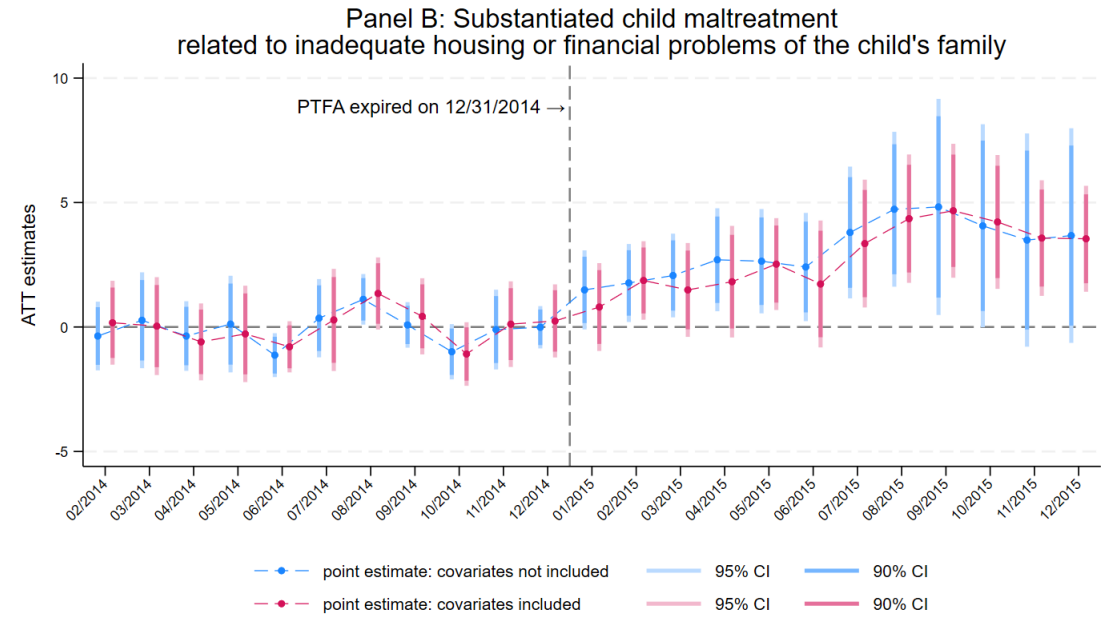
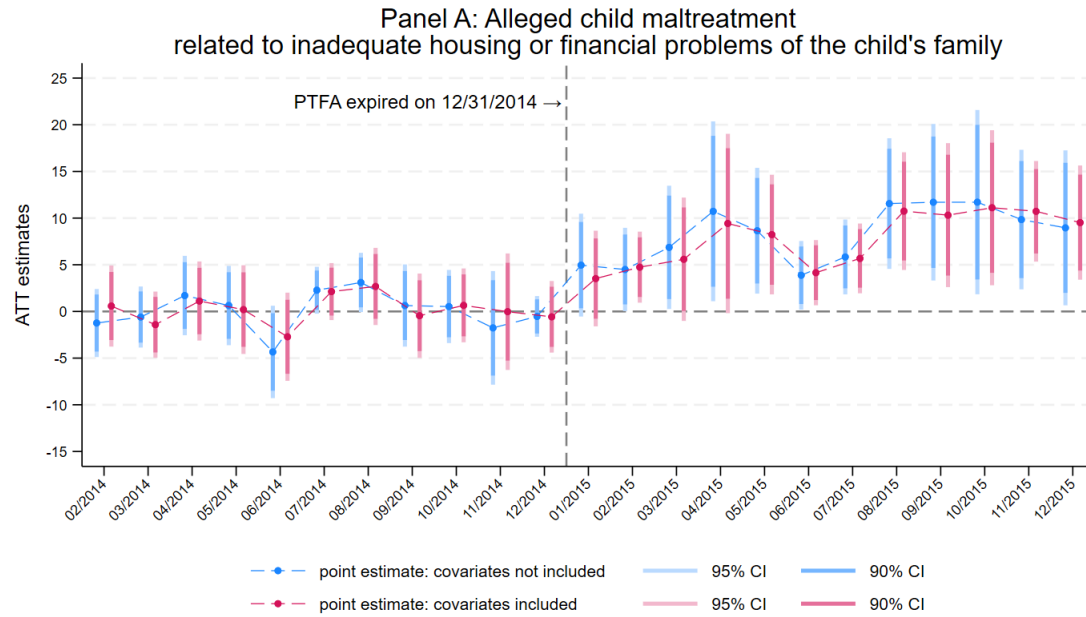
Table (cont.): Comparisons in the Pre-Treatment Period between the Treated and Control Groups

	Control	Treated
<i>Panel A: Variables used for child maltreatment analysis</i>		
Number of observations	5,061 (39.5%)	7,762 (60.5%)
Proportions of individuals aged 0–19 (measured in 2010 from SEER) in a county	0.265 (0.030)	0.268 (0.029)
Proportions of individuals aged 20–64 (measured in 2010 from SEER) in a county	0.596 (0.024)	0.590 (0.026)
Proportions of individuals whose race is white (measured in 2010 from SEER) in a county	0.853 (0.126)	0.844 (0.151)
Proportions of individuals whose race is black (measured in 2010 from SEER) in a county	0.098 (0.110)	0.114 (0.136)
Proportions of individuals who completed at least some college (2010–2014 ACS five-year estimates) in a county	0.081 (0.046)	0.066 (0.037)
Proportions of families below poverty level (2010–2014 ACS five-year estimates) in a county	0.115 (0.044)	0.126 (0.046)
Proportions of owner-occupied housing units with a mortgage (2010–2014 ACS five-year estimates) in a county	0.625 (0.098)	0.612 (0.096)
Proportions of occupied units paying rent with GRAPI (gross rent as a percentage of household income) $\geq 25\%$ (2010–2014 ACS five-year estimates) in a county	0.625 (0.053)	0.614 (0.057)
Proportions of individuals (of the civilian noninstitutionalized population) without health insurance coverage (2010–2014 ACS five-year estimates) in a county	0.135 (0.051)	0.143 (0.042)
Proportions of county population living in rural areas as of the 2010 census	0.309 (0.233)	0.371 (0.245)
Indicator (1/0) for county population (measured in 2010 from SEER) $< 25,000$	0.009 (0.095)	0.029 (0.167)
Indicator (1/0) for $25,000 \leq$ county population (measured in 2010 from SEER) $< 50,000$	0.123 (0.329)	0.238 (0.426)
Indicator (1/0) for $50,000 \leq$ county population (measured in 2010 from SEER) $< 100,000$	0.257 (0.437)	0.243 (0.429)
Indicator (1/0) for $100,000 \leq$ county population (measured in 2010 from SEER) $< 250,000$	0.261 (0.439)	0.264 (0.441)

Table (cont.): Comparisons in the Pre-Treatment Period between the Treated and Control Groups

	Control	Treated
<i>Panel B: Variables used for mental health analysis</i>		
Number of observations	79,872 (39.1%)	124,582 (60.9%)
Having mental health problems in the past 30 days (1/0)	0.363 (0.481)	0.366 (0.482)
Age (in 2014)	44.829 (10.984)	44.996 (11.002)
Male (1/0)	0.436 (0.496)	0.426 (0.495)
White (1/0)	0.714 (0.452)	0.777 (0.416)
Black (1/0)	0.095 (0.294)	0.095 (0.293)
hispanic	0.119 (0.324)	0.071 (0.258)
High school education (1/0)	0.225 (0.418)	0.269 (0.444)
Some college (1/0)	0.256 (0.437)	0.284 (0.451)
Married (1/0)	0.572 (0.495)	0.598 (0.490)
Rent a house (1/0)	0.307 (0.461)	0.252 (0.434)

DID Estimates for Child Maltreatment Related to Inadequate Housing or Financial Problems of the Child's Family



DID Estimates for Child Maltreatment Related to Inadequate Housing or Financial Problems of the Child's Family

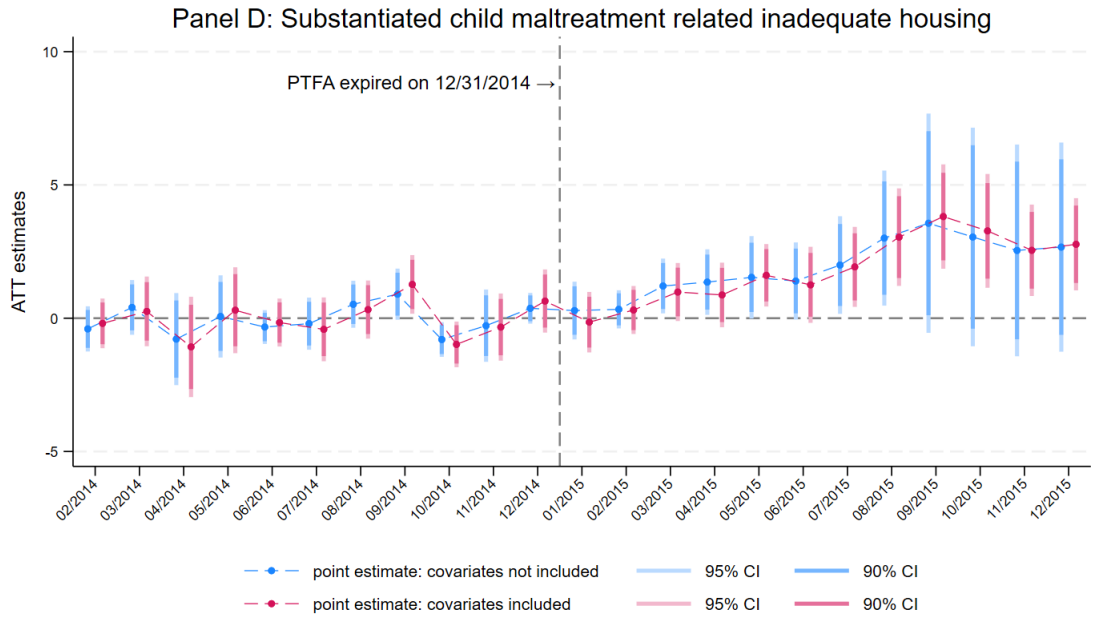
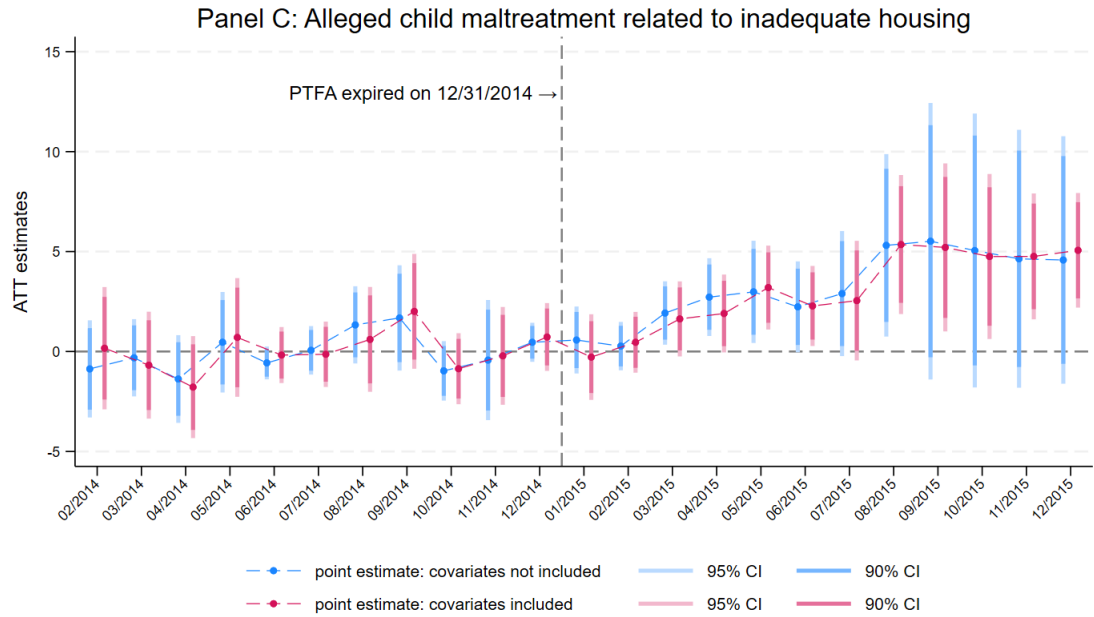


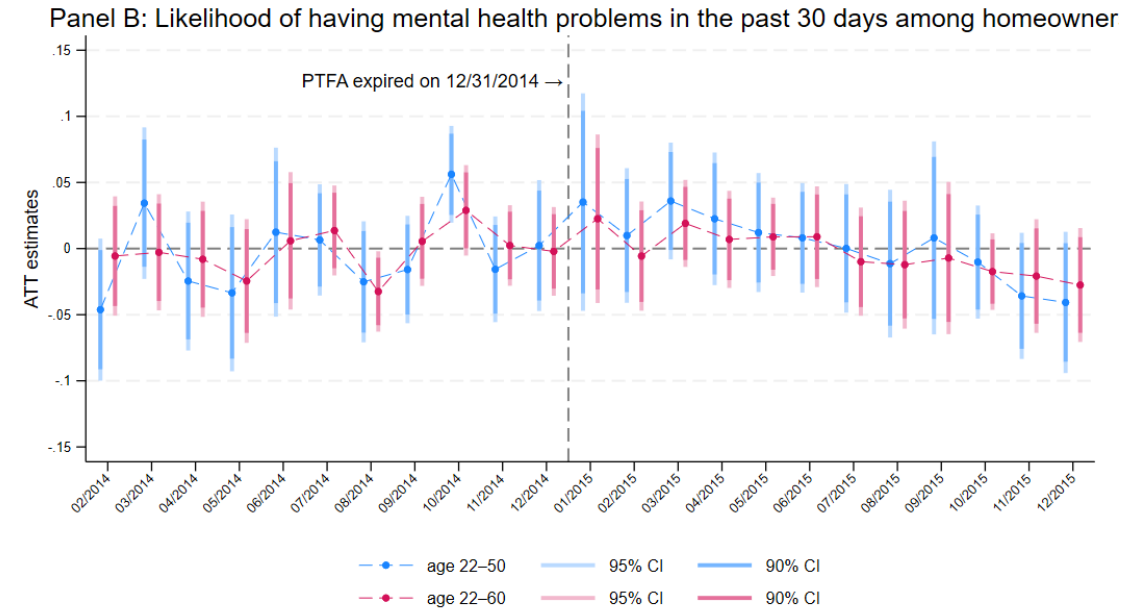
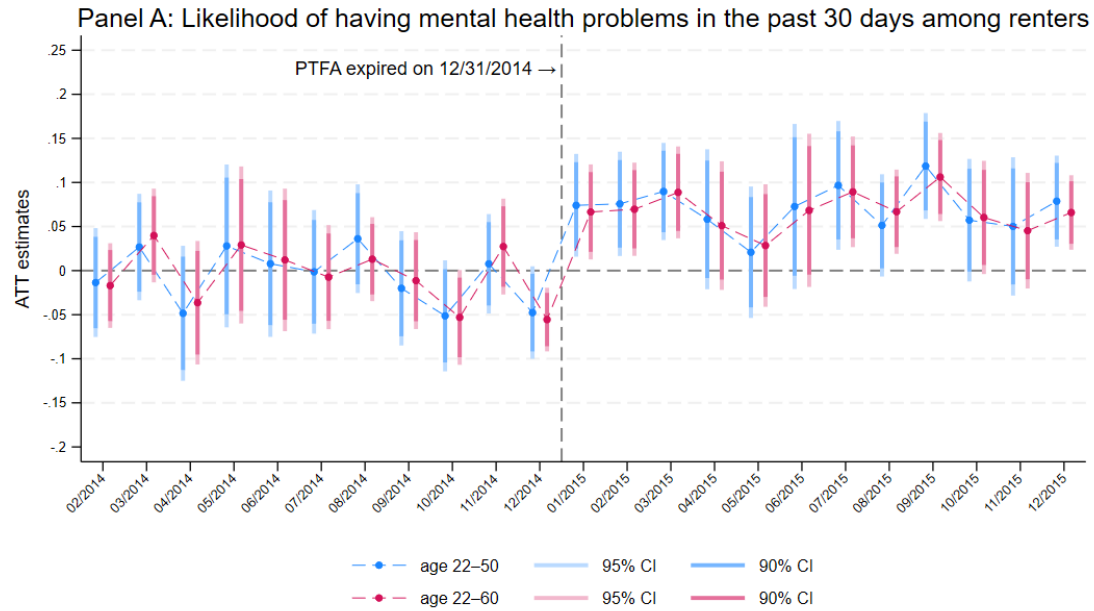
Table: DID Estimates for Child Maltreatment Related to Inadequate Housing or Financial Problems of the Child's Family

	(1)	(2)
<i>Panel A: Alleged child maltreatment related to inadequate housing or financial problems of the child's family</i>		
ATT (overall aggregation) estimate	8.269 ***	7.819 ***
(Standard error)	(2.995)	(2.589)
[P-value]	[0.006]	[0.003]
Mean of the dep. var. in the treated group and in the pre-period	55.700	55.700
(Estimate/mean) × 100%	14.8%	14.0%
Number of observations	26,003	26,003
Covariates included	No	Yes
<i>Panel B: Substantiated child maltreatment related inadequate housing or financial problems of the child's family</i>		
ATT (overall aggregation) estimate	3.141 **	2.831 ***
(Standard error)	(1.282)	(0.943)
[P-value]	[0.014]	[0.003]
Mean of the dep. var. in the treated group and in the pre-period	18.333	18.333
(Estimate/mean) × 100%	17.1%	15.4%
Number of observations	26,003	26,003
Covariates included	No	Yes
<i>Panel C: Alleged child maltreatment related to inadequate housing</i>		
ATT (overall aggregation) estimate	3.229 *	3.076 ***
(Standard error)	(1.684)	(1.029)
[P-value]	[0.055]	[0.003]
Mean of the dep. var. in the treated group and in the pre-period	20.157	20.157
(Estimate/mean) × 100%	16.0%	15.3%
Number of observations	26,003	26,003
Covariates included	No	Yes
<i>Panel D: Substantiated child maltreatment related to inadequate housing</i>		
ATT (overall aggregation) estimate	1.913 *	1.857 ***
(Standard error)	(1.038)	(0.590)
[P-value]	[0.065]	[0.002]
Mean of the dep. var. in the treated group and in the pre-period	10.146	10.146
(Estimate/mean) × 100%	18.9%	18.3%
Number of observations	26,003	26,003
Covariates included	No	Yes

Table: DID Estimates for Having Mental Health Problems by Homeownership

	Age 22–50	Age 22–60
<i>Panel A: Likelihood of having mental health problems in the past 30 days among Renters</i>		
ATT (overall aggregation) estimate	0.071 **	0.068 **
(Standard error)	(0.030)	(0.027)
[P-value]	[0.019]	[0.013]
Mean of the dep. var. in the treated group and in the pre-period	0.448	0.452
(Estimate/mean) × 100%	15.7%	14.9%
Number of observations	85,547	113,285
Covariates included	Yes	Yes
<i>Panel B: Likelihood of having mental health problems in the past 30 days among Homeowners</i>		
ATT (overall aggregation) estimate	0.003	-0.003
(Standard error)	(0.023)	(0.019)
[P-value]	[0.899]	[0.879]
Mean of the dep. var. in the treated group and in the pre-period	0.355	0.336
(Estimate/mean) × 100%	0.8%	-0.8%
Number of observations	158,261	286,093
Covariates included	Yes	Yes

DID Estimates for Having Mental Health Problems by Homeownership



DID Estimates for Child Maltreatment Related to Inadequate Housing or Financial Problems of the Child's Family, by the Demographics of the Child and the Perpetrator

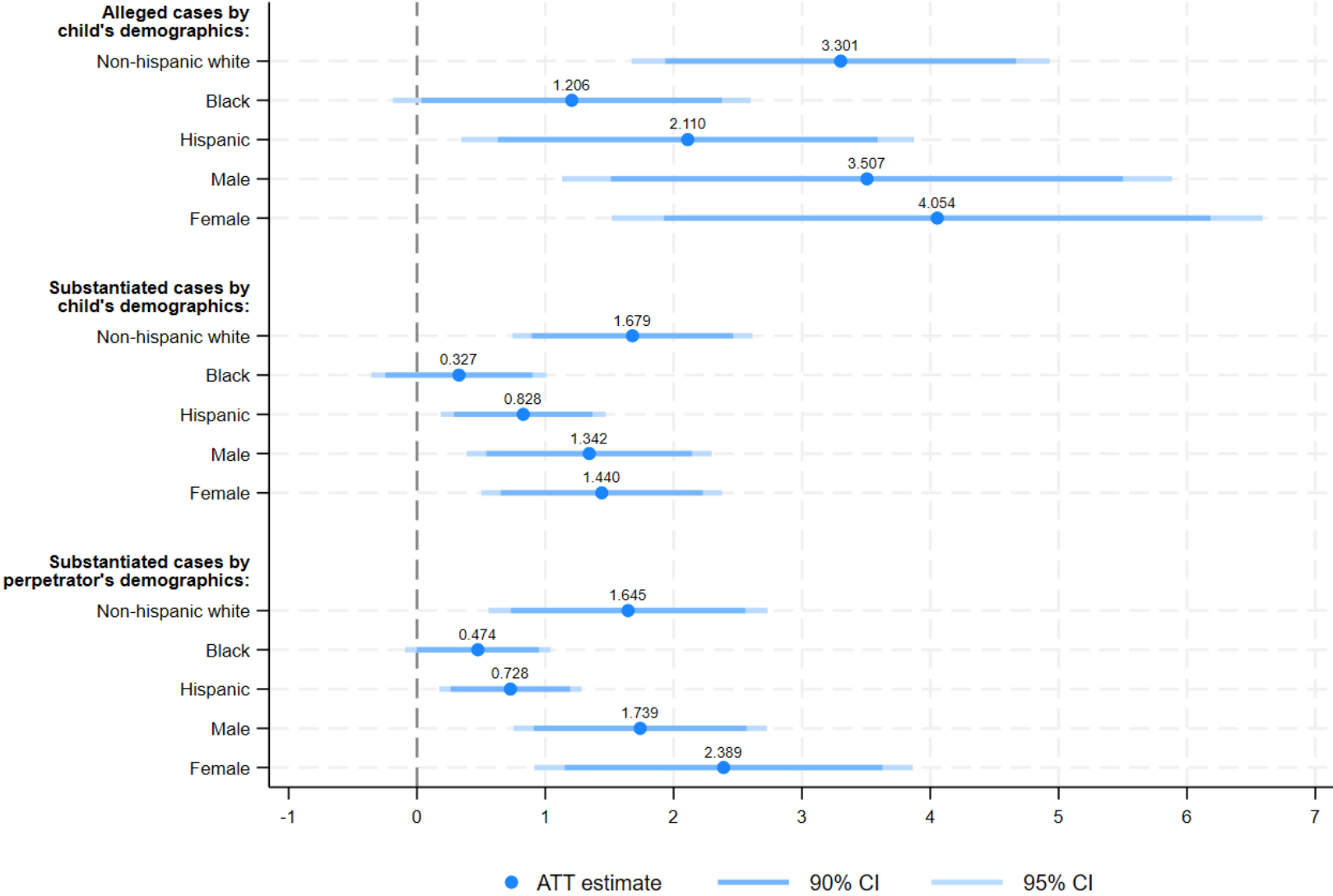


Table: DID Estimates for Child Maltreatment Related to Clinically Diagnosed Conditions of the Child and the Caregiver

	Caregiver's intellectual disability or chronic emotional disorder	Child's intellectual disability or chronic emotional disorder
<i>Panel A: Alleged child maltreatment</i>		
ATT (overall aggregation) estimate	0.663	-0.512
(Standard error)	(1.556)	(1.028)
[P-value]	[0.670]	[0.618]
Number of observations	26,003	26,003
Covariates included	Yes	Yes
<i>Panel B: Substantiated child maltreatment</i>		
ATT (overall aggregation) estimate	0.271	-0.137
(Standard error)	(0.401)	(0.251)
[P-value]	[0.499]	[0.584]
Number of observations	26,003	26,003
Covariates included	Yes	Yes

Robustness Checks

- Results are similar when using alternative samples and estimators.
- No pre-trends in the extended pre-period (01/2011–12/2014) and presence of treatment effect dynamics in the extended post-period (01/2015–12/2019)
- Results are not disproportionately influenced by any single state.
- Results remain the same when using only counties identified in the Child File data.
- Results are similar when using alternative definitions of the treatment and control groups.
- Results are similar when using a dynamic TWFE model.
- Validation checks: reporting source
- Validation checks: counties with high vs. low delinquency rates
- Validation checks: pro-renter vs. pro-business states
- No direct evidence of children moving between the treatment and control groups throughout our sample period

Conclusion

- We found a statistically significant increase in housing instability-induced child maltreatments (as much as 18%) in states that lacked PTFA protection during the gap period compared with states with continued protections.
 - Focused on the impact of unexpected evictions faced by tenants living in foreclosed properties. This is distinct from evictions caused by tenant actions like non-payment of rent.
 - Forced displacement due to foreclosure-related evictions can lead to a cycle of housing instability, pushing renters into substandard housing and precarious living situations.
 - This cycle of instability can exacerbate the risks to child well-being, highlighting the critical need for protective measures like the PTFA.
- The reinstatement of the PTFA in 2018 as a permanent federal law is a clear recognition of the need for continuous and long-term protection for tenants.

Conclusion (continued)

- Today, more people in the U.S. are renting their homes than at any time since at least 1965. In 2024, 34% of Americans were renters.
- Among these renters, a disproportionate number are individuals of low socioeconomic status, for whom the stability of rental housing is particularly important.
- The unique period of PTFA discontinuity that we examined provides valuable insights into the critical role of federal-level tenant protections, especially for vulnerable populations.
- In light of ongoing housing market pressures, such as affordability crises, our study emphasizes the need to incorporate housing stability into child protection and welfare policies.