Sticky Continuing Tenant Rents

Joshua Gallin [1] Lara Loewenstein [2] Hugh Montag [3] Randal Verbrugge [2]

[1]Federal Reserve Board

[2]Cleveland Federal Reserve

[3]Bureau of Labor Statistics

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Notes

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These notes reflect the views of the authors and don't necessarily reflect the official positions of the Federal Reserve Bank of Cleveland, the Federal Reserve Board, or the Federal Reserve System.

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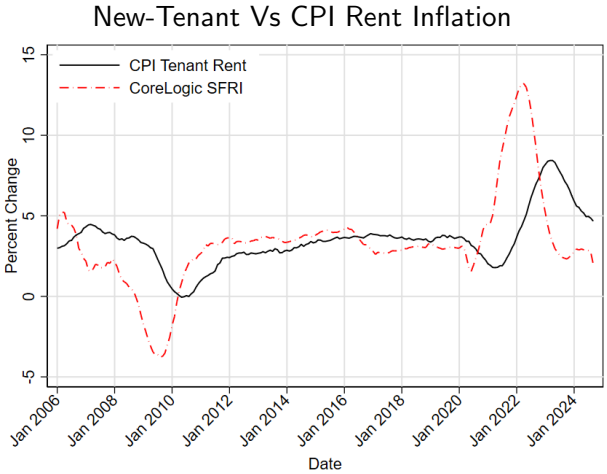
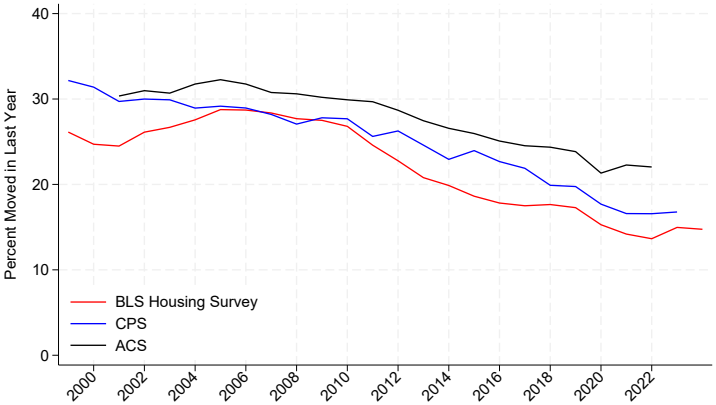
Understanding Rent Inflation



- Rent growth determines over 30 percent of CPI (rent and OER).
- Some people move (new tenants), but others remain in their unit (continuing tenants).
- New tenant rent inflation has declined, but CPI tenant rent remains high.
- What is happening with continuing tenant rent inflation?

Mobility in the BLS Housing Survey



This Paper

- This paper uses the BLS Housing Survey to analyze continuing tenant rents
- **Concept**: Posted rents for new tenants are flexible, but continuing tenant rents are sticky

Contributions

- Document decline in renter mobility and increasing significance of continuing tenant rents in inflation
- Investigate determinants of rent changes and study tenure lengths for continuing tenants
- Calculate "rent gap" measure: the differences between continuing tenant rent and new tenant rent for a unit

BLS Housing Survey

- ≈40,000 rental units surveyed every 6 months
- Data from 1999–present, with some changes in the survey design.
- Units are divided into 6-month panels (January-July, February-August, ...)
- Rental units selected within sampled Census Block Groups ("neighborhoods"), within each sampled metro areas
- Mostly continuing tenants, 18% are new tenants
- Data include:
  1. Tenant move-in date
  2. Unit information, such as structure type (single family detached, single family attached, apartment, other)
  3. Indicator for whether unit is rent controlled.
  4. Weights used in CPI
  5. Contract rents and "economic rents"
- Additional data sources: CoreLogic SFRI, QCEW, county-level population and unemployment rates, vacancy rates from CoStar, PSU-level CPI indices.

Rent Definitions | Summary Statistics

Estimating Contributions of New/Continuing and Increase/Decreases to Inflation

- Flag continuing tenants and new tenants from survey
- Use **contract** rents to flag rent increases and decreases
- Use **economic** rents to calculate inflation rates

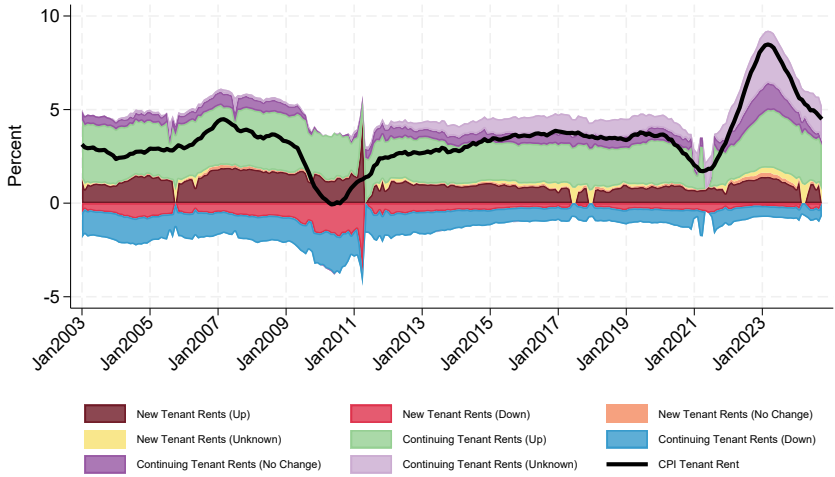
Decompose rent inflation into continuing and new tenants, rent increase/decrease/no change

1. $\pi_t = W_{cont,t}\pi_{cont,t} + (1 - W_{cont,t})\pi_{new,t}$
2. $\pi_{cont,t} = W_{change,cont,t}\pi_{change,cont,t} + (1 - W_{change,cont,t})\pi_{nochange,cont,t}$
3. $\pi_{change,cont,t} = W_{increase,cont,t}\pi_{increase,cont,t} + (1 - W_{increase,cont,t})\pi_{decrease,cont,t}$

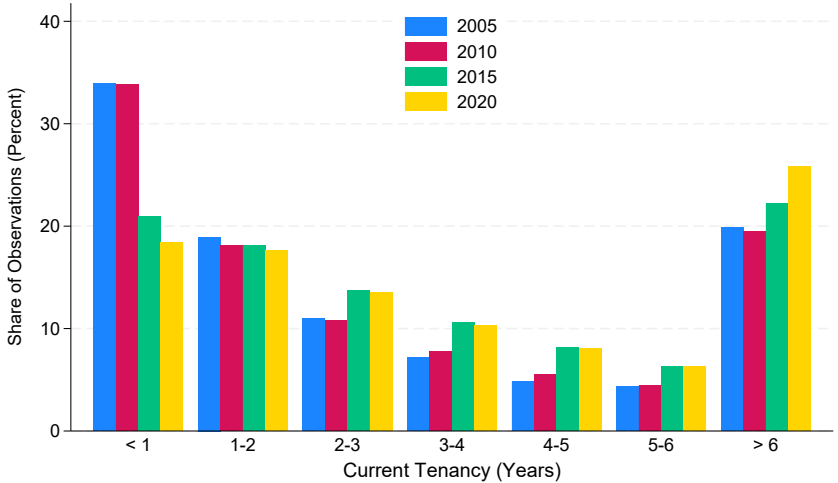
Calculate contribution as

$$Y_{increase,cont,t} = W_{increase,cont,t}\pi_{increase,cont,t}$$

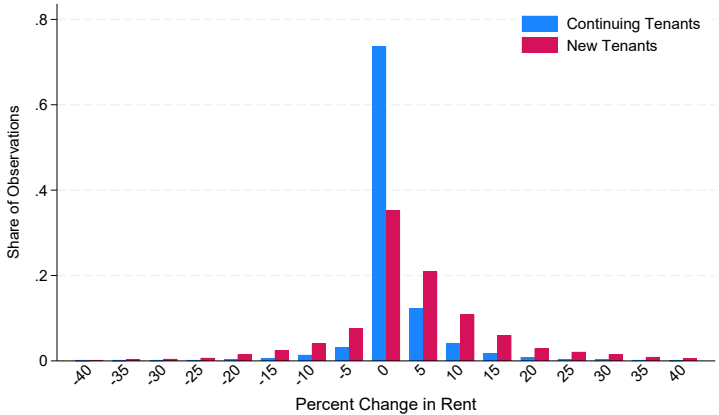
Contribution to Inflation



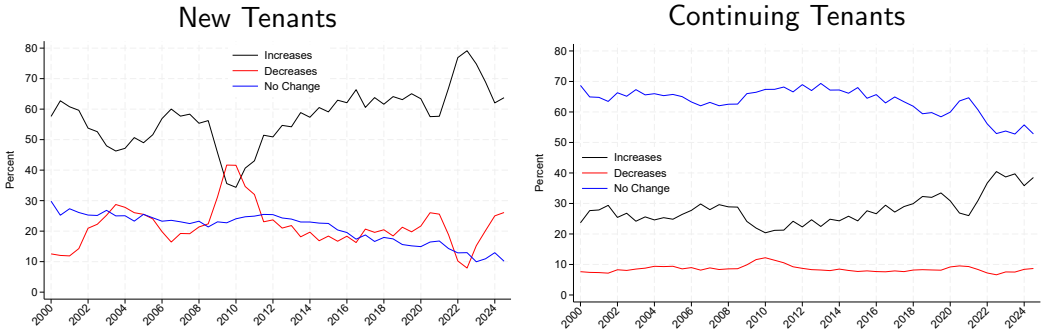
Tenure Over Time



Rent Changes By Tenancy

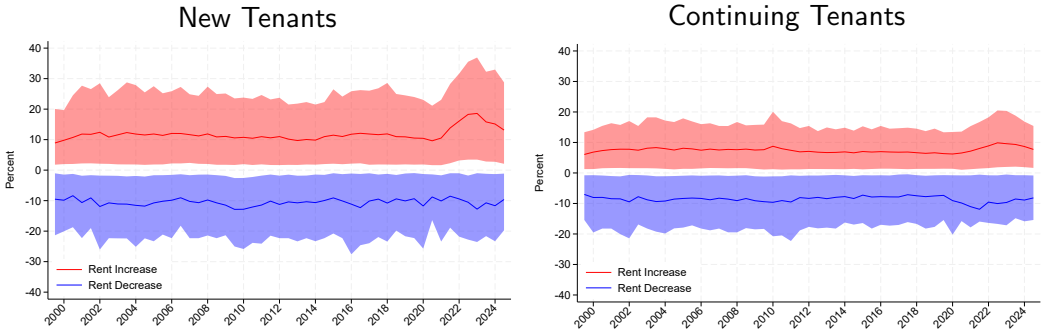


Frequency of Rent Changes



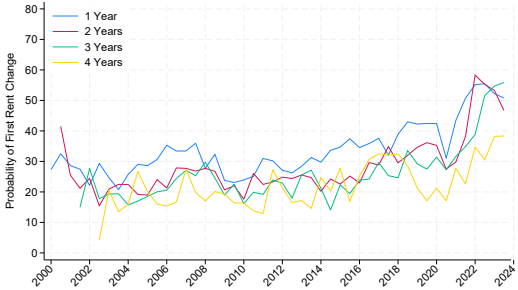
Percent of rents changed every half-year.

Size of Rent Changes

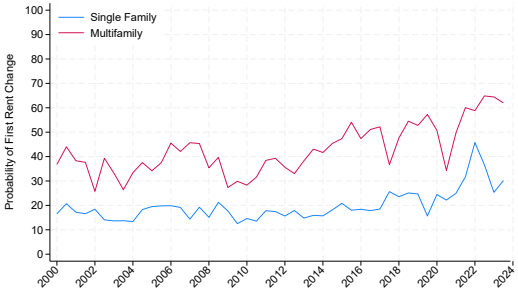


Size of rent change conditional on change.

Hazard Function for First Rent Change



Hazard after first year



$$\text{Hazard} = \frac{\#\text{ of People With First Rent Change}_t}{\#\text{ People With No Rent Change Yet }_{t-1}}$$

Rent Gap

Q: Do rents for continuing tenants keep up with new tenant rents?

- Let $R_{i,c,t}$ denote the rent for tenant i in structure type j at time t in geographic area c
- The move-in date for tenant i is tm
- Denote the initial move-in rent for tenant i as $R_{i,j,c,tm}$
  - We impute missing rent gaps by PSU, structure type, and tenure length
- Let $L_{j,c,t}$ denote the structure-specific PSU-level rent index at date t
  - We use CoreLogic SFRI for single-family units
  - We use CoStar for multi-family units
  - For areas without local CoreLogic index, we can use the national CoreLogic SFRI

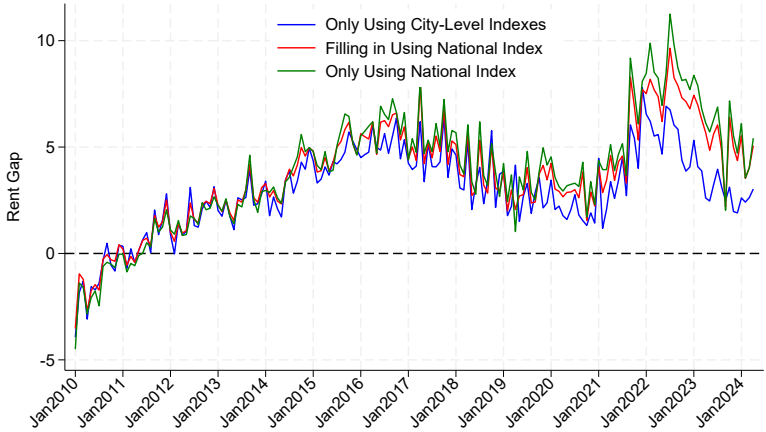
Let $\tilde{R}_{i,j,c,t}$ denote the "market rent" for tenant i. Then

$$\tilde{R}_{i,j,c,t} = R_{i,j,c,tm} \frac{L_{j,c,t}}{L_{j,c,tm}}$$

$$G_{i,j,c,t} = \ln \tilde{R}_{i,j,c,t} - \ln R_{i,j,c,t}$$

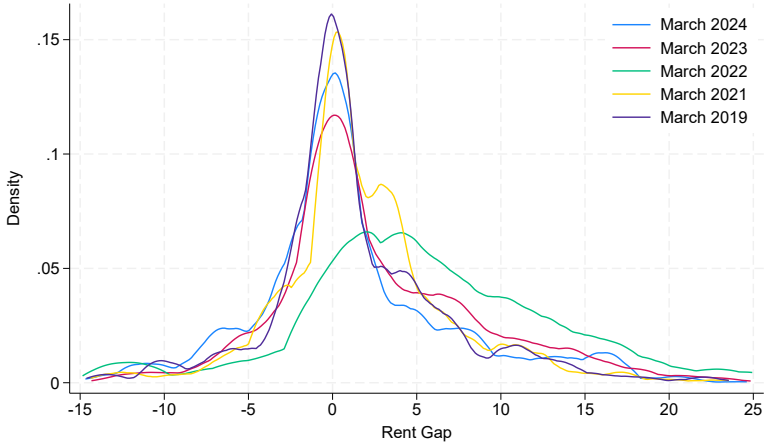
Rent Gap

$RentGap = \ln \tilde{R}_{i,c,t} - \ln R_{i,c,t}$



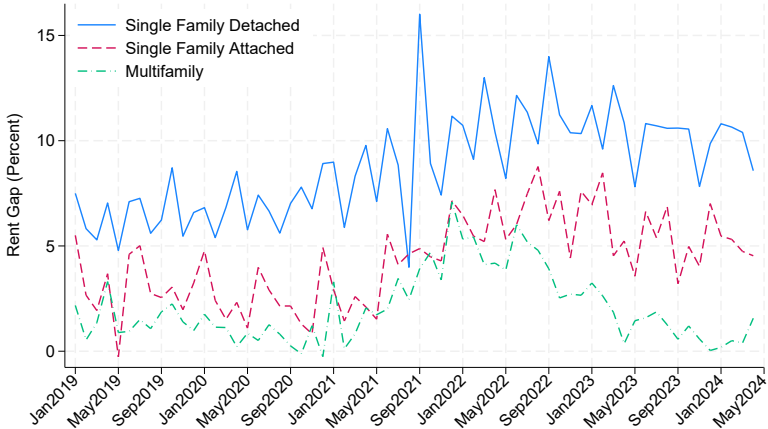
Rent Gap Comparisons

$RentGap = \ln \tilde{R}_{i,c,t} - \ln R_{i,c,t}$



Rent Gap by Structure Type

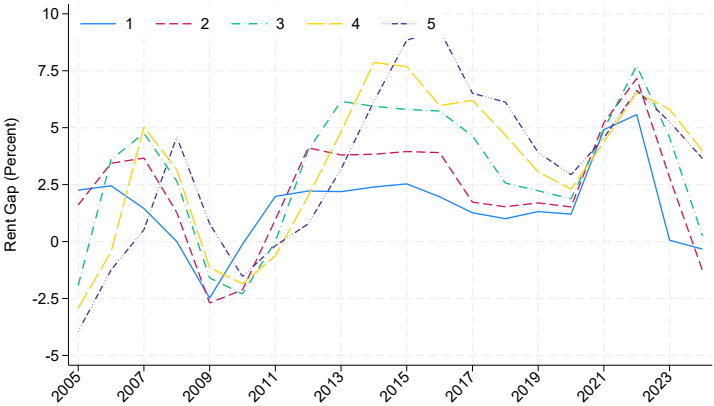
$RentGap = \ln \tilde{R}_{i,c,t} - \ln R_{i,c,t}$



Rent Gap By Region

Rent Gap By Year Since Move In

$RentGap = \ln \tilde{R}_{i,c,t} - \ln R_{i,c,t}$



The Rent Gap and Rent Changes

How does the rent gap affect rents changes?

- For continuing and new tenants i, consider rent change relative to a year ago in city c, at time t.

$$Y_{i,c,t} = \alpha + \beta_0 \text{Gap}_{c,t-1} + \beta_1 1[\text{Gap}_{c,t-1} > 0] + X_{i,c,t} + \gamma_t + \gamma_{p,c} + \varepsilon_{i,c,t}$$

- Let $Y_{i,c,t}$ represent
  - Rent change (binary variable), or
  - Rent increase (binary variable), or
  - Size of rent increase conditional on rent increase
  - Likewise with rent decrease
- X is a vector of controls including ex-shelter CPI inflation, new-tenant rent inflation, an indicator for whether the property is rent controlled, population growth, wage growth, the local multifamily vacancy rate, and the change in the local unemployment rate.

Effect of Rent Gap

$RentGap = \ln \tilde{R}_{i,c,t} - \ln R_{i,c,t}$

	Rent Change (%)		Rent Up		Rent Down		Rent Change (Up)		Rent Change (Down)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Rent Gap_{t-1}	-0.06**	0.02	0.08***	0.11**	-0.14***	-0.09***	0.08***	0.11***	0.10***	0.02
	(0.02)	(0.05)	(0.02)	(0.05)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)
$1[\text{Rent Gap}_{t-1} > 0] \times \text{Rent Gap}_{t-1}$		-0.10*		-0.02		-0.08***		-0.08**		0.08***
		(0.05)		(0.05)		(0.02)		(0.03)		(0.02)
$\Delta \ln \text{New-Tenant Rent}_{t-1}$	0.94***	0.92***	1.07***	1.03***	-0.13*	-0.11	0.11***	0.11***	0.21***	0.19**
	(0.15)	(0.15)	(0.13)	(0.13)	(0.07)	(0.07)	(0.02)	(0.02)	(0.06)	(0.07)
Rent Controlled	3.09**	3.68***	2.86**	3.40***	0.22	0.28	-1.17***	-1.14***	-0.30	0.25
	(1.40)	(1.20)	(1.28)	(1.04)	(0.28)	(0.24)	(0.15)	(0.14)	(0.61)	(0.36)
$\Delta \ln \text{CPI Ex Shelter}_{t-1}$	-0.01	-0.01	0.11	0.11	-0.13	-0.12	-0.00	0.00	0.08	0.09
	(0.14)	(0.16)	(0.13)	(0.15)	(0.08)	(0.09)	(0.05)	(0.05)	(0.14)	(0.15)
$\Delta \ln \text{Population}_{t-1}$	16.64**	15.51**	12.48**	11.35**	4.16**	4.16**	1.60***	1.50***	1.58*	1.17
	(6.13)	(6.30)	(4.80)	(4.91)	(1.91)	(1.95)	(0.31)	(0.39)	(0.80)	(0.85)
$\Delta \ln \text{Wage}_{t-1}$	0.76	-1.16	13.67	10.23	-12.91***	-11.38**	7.17***	6.38***	-2.57	1.23
	(10.98)	(10.66)	(12.44)	(12.69)	(3.86)	(4.81)	(1.28)	(1.53)	(3.84)	(3.45)
Vacancy Rate_{t-1}	-25.50	-35.35	-41.12**	-53.15***	15.62*	17.80**	1.61	0.82	-7.99	-7.41
	(20.08)	(22.06)	(16.61)	(18.52)	(7.93)	(7.63)	(2.76)	(2.95)	(6.34)	(8.33)
$\Delta \text{Unemp. Rate}_{t-1}$	-0.12	-0.19	-0.26	-0.33**	0.14	0.14	0.08	0.09	0.11	0.16
	(0.22)	(0.20)	(0.15)	(0.15)	(0.12)	(0.13)	(0.07)	(0.07)	(0.18)	(0.15)
Possible Remodel	12.29***	11.89***	5.56**	5.26**	6.73***	6.63***	3.33***	3.46***	-2.59***	-2.73***
	(2.27)	(2.03)	(2.47)	(2.26)	(0.91)	(0.93)	(0.83)	(0.76)	(0.64)	(0.61)
R^2_a	0.05	0.03	0.06	0.03	0.01	0.01	0.03	0.03	0.03	0.02
Observations	370,738	374,052	370,738	374,052	370,738	374,052	105,077	107,920	31,044	33,253
Month FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prop Type FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PSU FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Conclusion

- Continuing-tenant rent inflation is an increasingly important part of overall inflation.
- Continuing-tenant rents are sticky! Slightly more flexible recently
  - Continuing tenant rents affected by local market conditions.
  - Hazard of first rent change has increased since early 2010s. Technology?
  - Evidence for downward rigidity for both new and continuing.
  - Stickiness is not that cyclical, except during pandemic.
  - Intensive margin flat.
- Current outstanding "rent gap" is still elevated in our data.
  - Rent gaps vary by structure type and other characteristics.
  - Tenure discounts are length of residency discounts, not sit discounts.

Thank you

Contract and Economic Rents

Economic rent

- Includes adjustment for
  - Cost of included utilities
  - Aging of housing unit
  - In-kind work (e.g. shoveling the driveway)
- Used in BLS Rent of Primary Residence
- Best representation of cost paid by renter

Contract rent

- No adjustments
- Closer to rent stated on the lease
- "Market Rent" reported by Zillow
- Used in this presentation
- Best representation of price changes by landlord

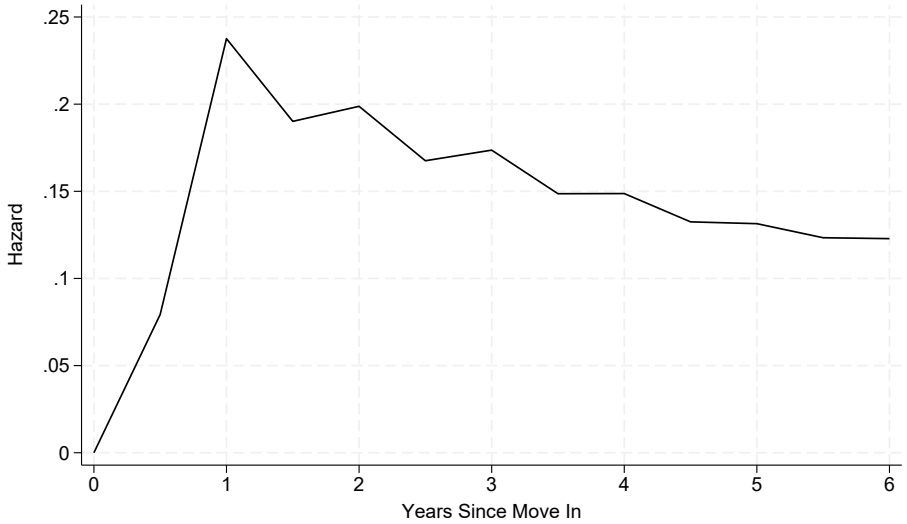
Summary Statistics

Structure Type	Obs. (#)	Share (%)	Mean Rent ($)	Median Rent ($)	Mean Tenure Length (months)	Median Tenure Length (months)	Mean Rent Spell Length (months)	Median Rent Spell Length (months)
Single Family Detached	278,017	22	1126	900	41	26	17	12
Single Family Attached	205,355	16	899	750	36	23	15	12
Apartment	768,602	60	991	835	33	20	13	12
All	1,287,177	100	999	825	34	21	14	12

- Tenure: how long a tenant lives in a housing unit before moving out
- Rent spell: how long is contract rent unchanged
- Covers observations from January 1999-June 2024

Back

Moveout Hazard



Rent Gap By Region