Quarterly Event Study: Eviction Filing Rates Around Ownership Transfers

Philly Evictions Project

2026-02-25

Table of contents

1 Motivation

The annual event study (`analyze-transfer-evictions.R`) shows a suspicious jump in filing rates from $t = -2$ to $t = -1$ (the year before transfer). Monthly analysis of raw filing dates reveals the true pattern: **filings decline in the 3–6 months before transfer and bottom out at the transfer date**, then recover afterward.

The annual binning creates artifacts because $t = -1$ (the calendar year before transfer) mixes the elevated pre-decline period with the declining period, depending on when in the year the transfer occurs.

This quarterly event study uses exact transfer dates and day-level filing dates to:

1. Correctly identify *when* the filing rate change occurs relative to the actual transfer
2. Distinguish the pattern by building size (the pre-transfer dip for 1-unit buildings could be vacancy/non-renewal, while multi-unit buildings would indicate an operational pattern)
3. Give cleaner identification of the post-transfer ramp-up timing

2 Data Construction

2.1 Quarterly eviction counts

Day-level eviction filing dates (`d_filing` from `evictions_clean`) are linked to parcels via the address crosswalk (`evict_address_xwalk`, restricted to unique parcel matches). Filings are aggregated to PID $\times$ quarter cells using the `YYYY-Q#` format.

2.2 Event panel

Transfer events from `rtt_clean` use the exact `display_date` for timing. We:

1. Collapse RTT to PID-quarter level (keeping the highest-consideration transfer per quarter)
2. Expand to a quarterly event grid: $q \in \{-12, \ldots, +20\}$ (3 years before, 5 years after)
3. Map each relative quarter to a calendar quarter by adding $q \times 91$ days to the actual transfer date
4. Merge quarterly filing counts (zeros where no filings)
5. Merge annual `total_units` from `bldg_panel_blp` for rate computation
6. Compute filing rate: num_filings_q/total_units

Sample: The baseline regression uses 5,721,271 PID $\times$ quarter observations (full sample, unweighted). The 5+ unit subsample has 79,423 observations.

Pre-COVID restriction: All filing rate outcomes are restricted to calendar quarters $\leq$ 2019Q4 (pre-COVID). The pandemic disrupted court operations and filing patterns, making post-2019 data unreliable for measuring landlord behavior.

Standard errors are clustered at the PID level throughout — the building is the unit of treatment and where serial correlation in filing rates lives.

3 Raw Quarterly Profile

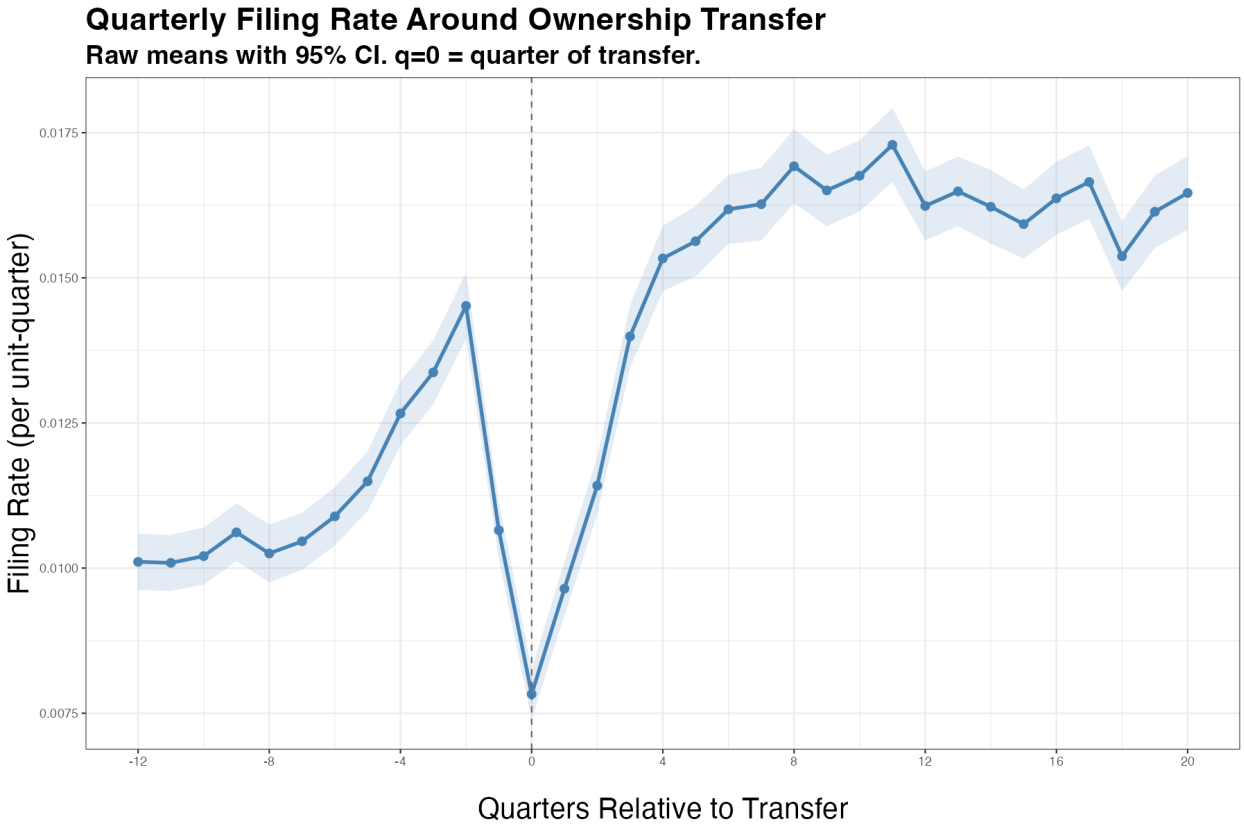

Figure 1: Mean quarterly filing rate around ownership transfer (full sample). The pre-transfer dip at q=-1 and q=0 is clearly visible.

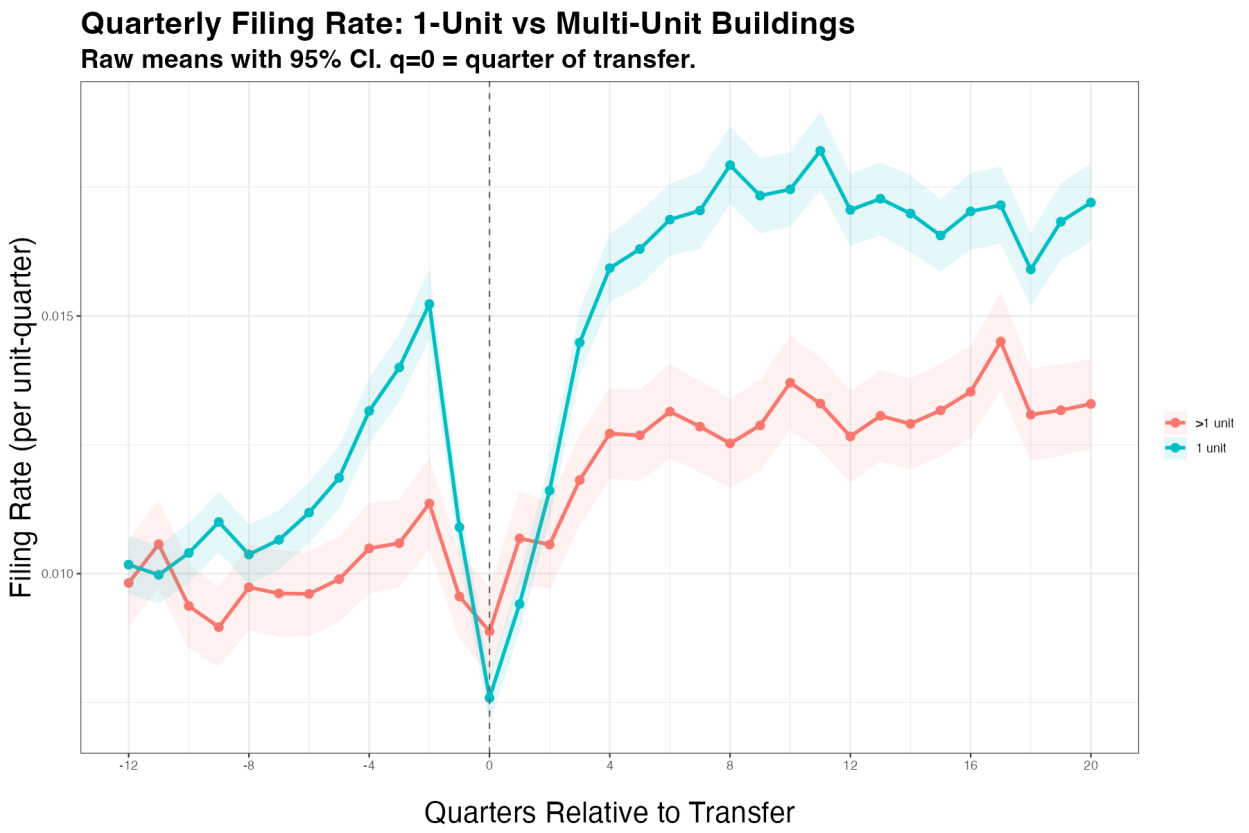

Figure 2: Mean quarterly filing rate: 1-unit vs multi-unit buildings. The pre-transfer dip is much sharper for single-unit buildings, consistent with vacancy during sale.

The quarterly profile reveals a clear pattern that the annual analysis obscures:

1. **Baseline period** ($q = -12$ to $q = -6$): Filing rates are relatively stable around 0.010 per unit-quarter.
2. **Pre-transfer ramp** ($q = -5$ to $q = -2$): Rates rise from 0.011 to 0.013. Likely reflects sellers increasing activity or properties with rising tenant problems being selected into transfer.
3. **Pre-transfer dip** ($q = -1$): Sharp drop to 0.010 — a 27% decline from the $q = -2$ peak.
4. **Transfer quarter** ($q = 0$): Bottom at 0.006. The new owner has just taken possession.
5. **Post-transfer recovery** ($q = +1$ to $q = +3$): Rapid recovery from 0.008 to 0.012.
6. **New steady state** ($q = +4$ onward): Rates stabilize at 0.013–0.014, approximately 35% above the pre-transfer baseline.

The 1-unit vs multi-unit split is informative: the pre-transfer dip is much deeper for single-unit buildings, consistent with vacancy during the sale process. Multi-unit buildings maintain relatively stable filing rates through the transition.

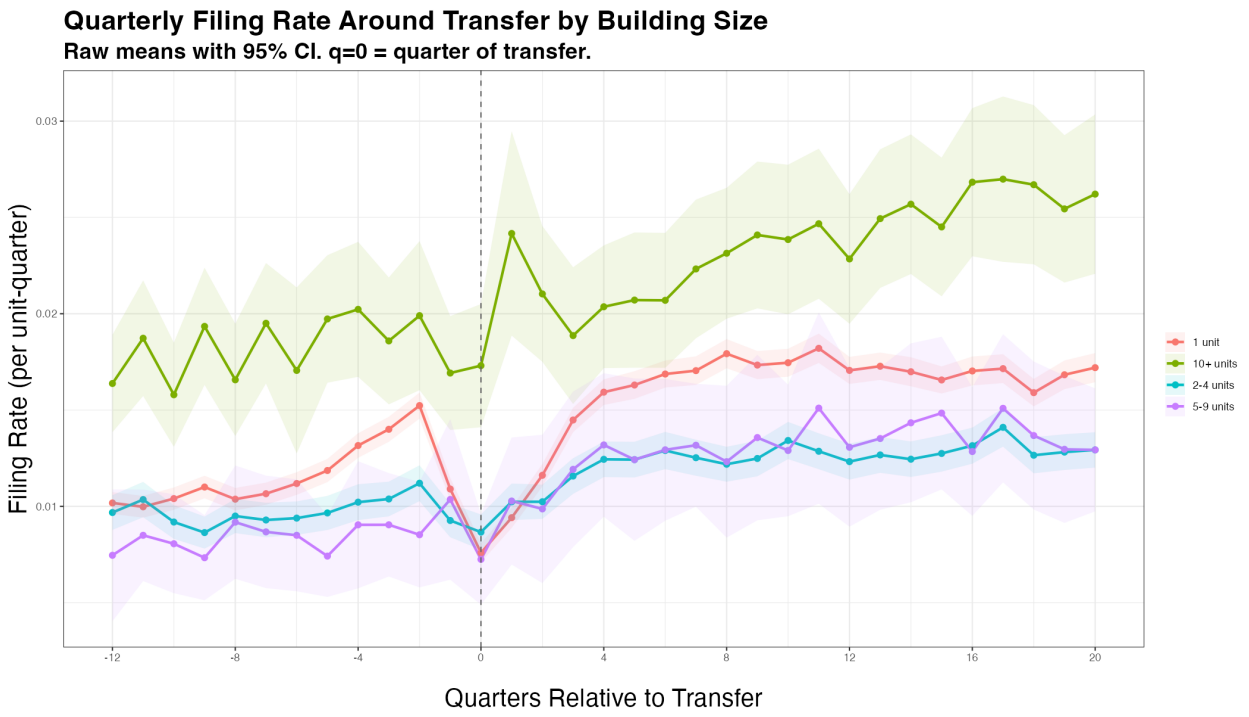

Figure 3: Mean quarterly filing rate by building size (4-way split).

4 Specification

The baseline quarterly event study estimates:

$$\text{FilingRate}_{it}^{(q)} = \sum_{k \neq -4} \beta_k \cdot \mathbf{1}[\text{q\_relative}_{it} = k] + \alpha_i + \gamma_{yq} + \varepsilon_{it}$$

where i indexes buildings (PIDs), yq indexes calendar year-quarters, and $k \in \{-12, \ldots, -5, -3, \ldots, +20\}$ with $k = -4$ (one year before transfer) as the omitted reference period. We use $q = -4$ rather than $q = -1$ because the pre-transfer dip begins around $q = -1$, making it a poor reference point.

α_i are building fixed effects and γ_{yq} are year-quarter fixed effects. Standard errors are clustered at the PID level.

Unit-weighted specifications weight each observation by `total_units`, so a 50-unit building contributes 50× the weight of a single-family home. This answers "what happens to the average *rental unit*" rather than "what happens to the average *building*."

5 Baseline Regression Results

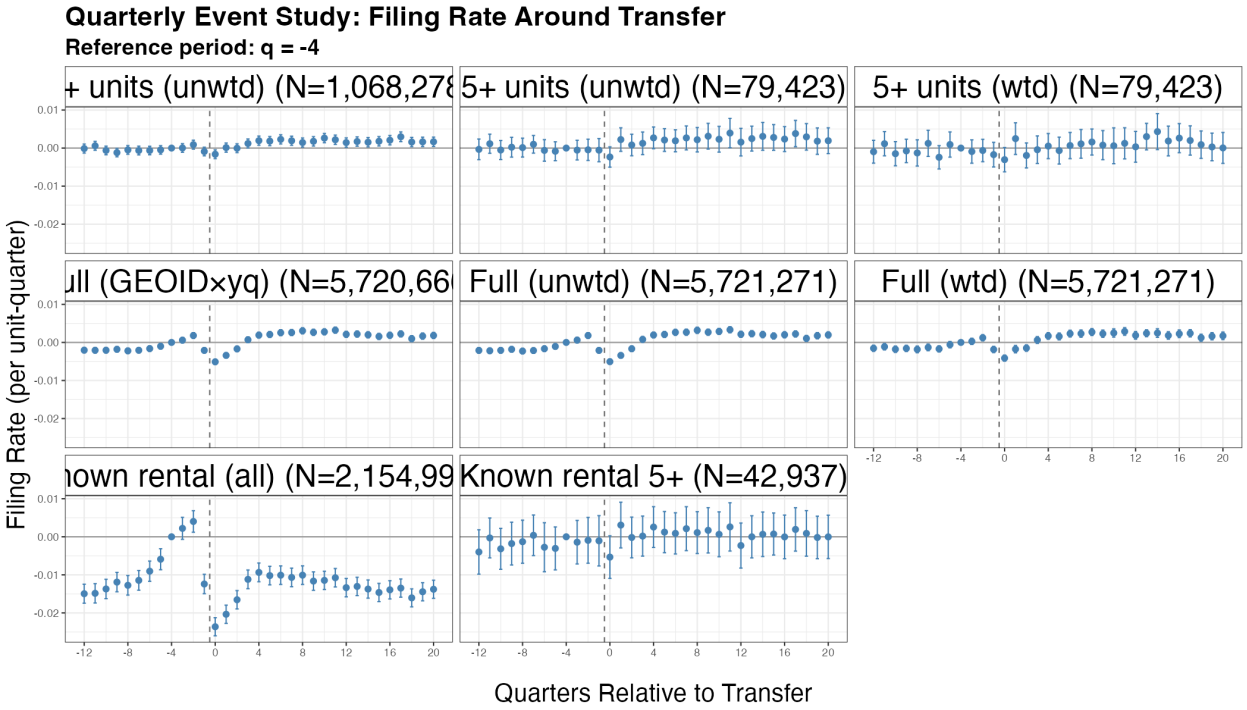

Figure 4: Quarterly event study coefficients (faceted). Eight specifications: full sample (weighted and unweighted), GEOID×yq FE, 5+ units (weighted and unweighted), known rentals 5+, 2+ units, and known rentals (all). Reference: q=-4.

Table 1: Selected quarterly event study coefficients (SE in parentheses). Reference: q=

q	2plus_unweighted	5plus_unit_weighted	5plus_unweighted	full_geoid_x_yq	full_unit_weighted	full_unweighted	known
-8	-0.00048 (0.00058)	-0.00128 (0.00176)	0.00012 (0.00126)	-0.00220 (0.00037)	-0.00183 (0.00044)	-0.00227 (0.00037)	-0.00
-2	0.00090 (0.00060)	-0.00064 (0.00150)	-0.00046 (0.00142)	0.00181 (0.00039)	0.00124 (0.00041)	0.00182 (0.00039)	-0.00
-1	-0.00090 (0.00058)	-0.00173 (0.00165)	-0.00055 (0.00155)	-0.00209 (0.00036)	-0.00185 (0.00041)	-0.00209 (0.00036)	-0.00
0	-0.00161 (0.00059)	-0.00304 (0.00163)	-0.00234 (0.00136)	-0.00509 (0.00034)	-0.00412 (0.00041)	-0.00505 (0.00034)	-0.00
1	0.00013 (0.00061)	0.00248 (0.00212)	0.00224 (0.00158)	-0.00340 (0.00036)	-0.00176 (0.00049)	-0.00342 (0.00036)	0.00
2	-0.00003 (0.00059)	-0.00194 (0.00167)	0.00081 (0.00144)	-0.00170 (0.00037)	-0.00148 (0.00043)	-0.00166 (0.00037)	-0.00
4	0.00196 (0.00061)	0.00052 (0.00168)	0.00268 (0.00146)	0.00192 (0.00040)	0.00171 (0.00044)	0.00195 (0.00039)	0.00
8	0.00145 (0.00061)	0.00159 (0.00174)	0.00219 (0.00164)	0.00306 (0.00041)	0.00272 (0.00046)	0.00319 (0.00042)	0.00

Key comparisons:

- **Unweighted vs unit-weighted**: Unit-weighting upweights large buildings. The weighted estimates answer "what happens to the average rental unit after a transfer?" while unweighted answers "what happens to the average building?"
- **GEOID × yq FE**: Adding block-group by year-quarter fixed effects produces nearly identical estimates, confirming the pattern is not driven by neighborhood trends.
- **5+ units**: The most relevant subsample — these are established rental properties where the vacancy artifact is minimal.

- **2+ units**: Drops single-family homes (which dominate the full sample and have large vacancy artifacts) while retaining smaller multi-family properties.
- **Known rentals**: Restricts to properties with observed rental activity (license, filing, or InfoUSA match), removing owner-occupied buildings from the sample.

6 Building Size Heterogeneity

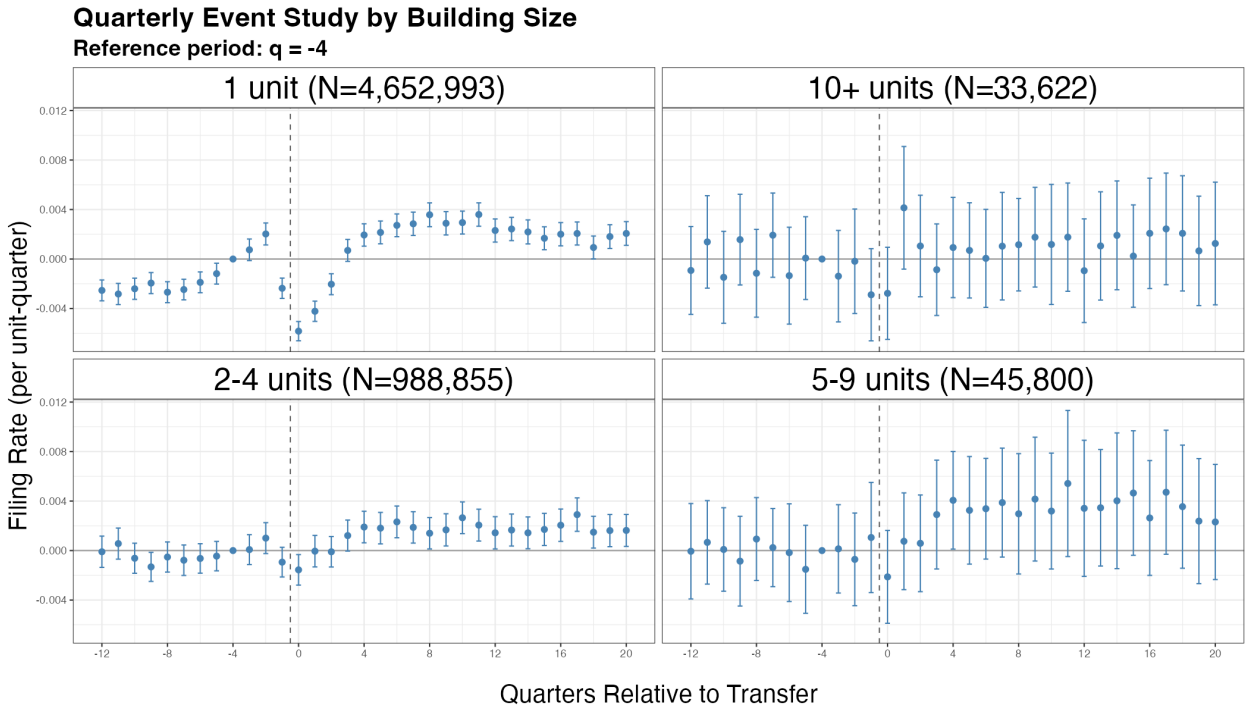

Figure 5: Quarterly event study by building size (4-way split, faceted). Separate regressions with PID + yq FE, clustered at PID.

Table 2: Selected quarterly coefficients by building size. Reference: q=-4.

q	size_1 unit	size_10+ units	size_2-4 units	size_5-9 units
-8	-0.00268	-0.00115	-0.00052	0.00093
-2	0.00202	-0.00018	0.00101	-0.00071
-1	-0.00236	-0.00289	-0.00094	0.00105
0	-0.00583	-0.00277	-0.00156	-0.00213
1	-0.00422	0.00414	-0.00005	0.00075
4	0.00194	0.00093	0.00190	0.00406
8	0.00358	0.00116	0.00140	0.00297

Key finding: The pre-transfer dip is concentrated in small buildings. For 10+ unit buildings, filing rates are stable through the transition, confirming the dip is a vacancy artifact rather than an operational pattern.

7 Buyer Type Heterogeneity (5+ Units)

Buyer-type regressions are shown for both **5+ unit** and **2+ unit** buildings to avoid the single-family vacancy artifact.

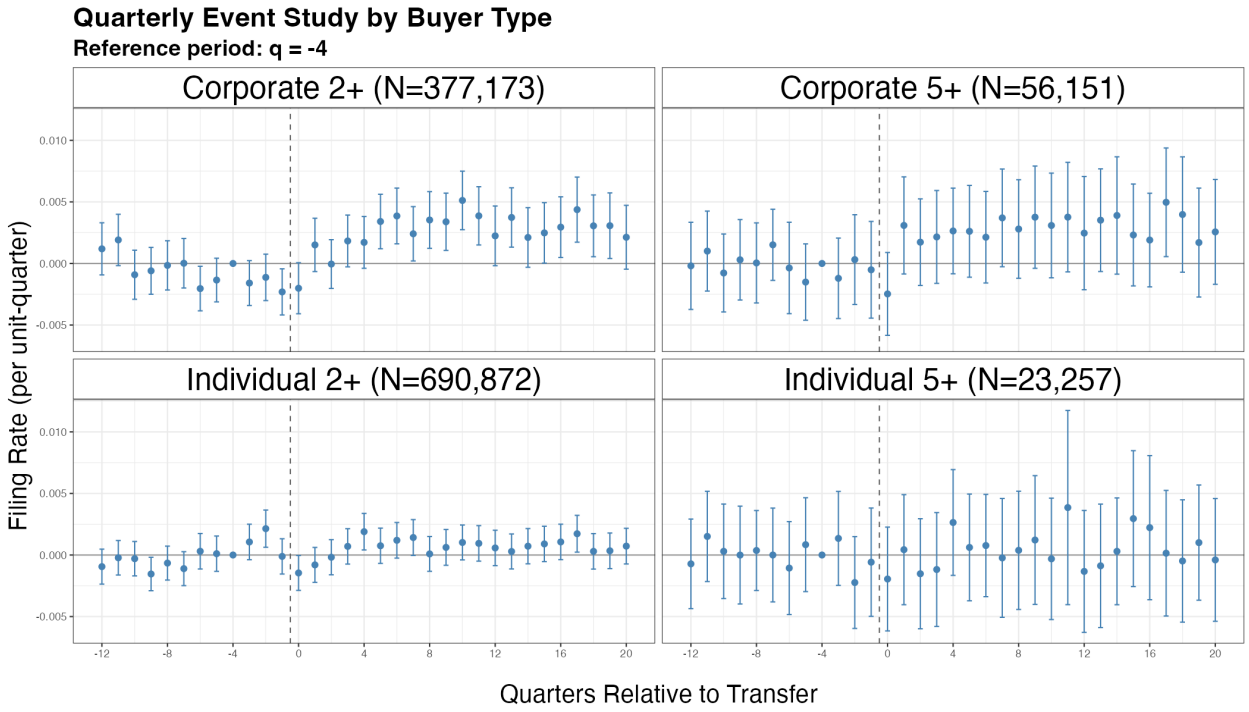

Figure 6: Quarterly event study by buyer type (faceted). Corporate vs individual splits for 5+ and 2+ unit buildings. PID + yq FE, clustered at PID.

Table 3: Quarterly event study by buyer type, 5+ units (SE in parentheses). Reference: q=-4.

q	corporate_2plus	corporate_5plus	individual_2plus	individual_5plus
-8	-0.00016 (0.00102)	0.00004 (0.00166)	-0.00066 (0.00070)	0.00036 (0.00166)
-2	-0.00113 (0.00096)	0.00031 (0.00186)	0.00214 (0.00077)	-0.00224 (0.00190)
-1	-0.00231 (0.00096)	-0.00051 (0.00200)	-0.00011 (0.00073)	-0.00058 (0.00224)
0	-0.00201 (0.00106)	-0.00247 (0.00172)	-0.00146 (0.00072)	-0.00195 (0.00215)
1	0.00151 (0.00110)	0.00309 (0.00201)	-0.00080 (0.00072)	0.00043 (0.00228)
2	-0.00005 (0.00101)	0.00173 (0.00179)	-0.00018 (0.00073)	-0.00152 (0.00228)
4	0.00171 (0.00107)	0.00264 (0.00178)	0.00189 (0.00076)	0.00264 (0.00219)
8	0.00353 (0.00118)	0.00280 (0.00204)	0.00009 (0.00072)	0.00038 (0.00245)
12	0.00224 (0.00124)	0.00247 (0.00235)	0.00057 (0.00073)	-0.00133 (0.00253)

8 Acquirer Filing Rate Heterogeneity

We classify acquirers by their **pre-acquisition temporal filing rate** on their other properties. For each transfer of PID i by owner j (transfer year Y), we compute the mean `num_filings /`

`total_units` across all *other* PIDs that owner j acquired, using only years strictly before Y. This avoids both mechanical circularity and any look-ahead bias.

Definitions:

- **High-filer portfolio**: Pre-acquisition rate > 0.0479 (the median among acquirers with rate > 0), and the owner acquired at least one other property
- **Low-filer portfolio**: $0 <$ rate ≤ 0.0479, has other properties
- **Non-filer (has portfolio)**: Rate $= 0$ but has other properties (no pre-acquisition filings observed)
- **Single-purchase**: No other matched properties (first buy or unmatched)

Table 4: Acquirer classification (2+ unit buildings, at q=0). Rate = mean pre-acquisition filing rate on acquirer's OTHER properties.

Acquirer type	Transfers	PIDs	Owners	Total units	Mean acq rate	Mean n other	% transfers	% units
Single-purchase	26,145	19,531	25,793	106,264	NA	0.0	60.4	66.8
High-filer portfolio	4,365	3,924	2,474	16,697	0.1216	80.1	10.1	10.5
Non-filer (has portfolio)	8,316	7,399	6,136	22,798	0.0000	2.8	19.2	14.3
Low-filer portfolio	4,442	4,139	1,974	13,435	0.0258	37.5	10.3	8.4

8.1 2+ unit buildings

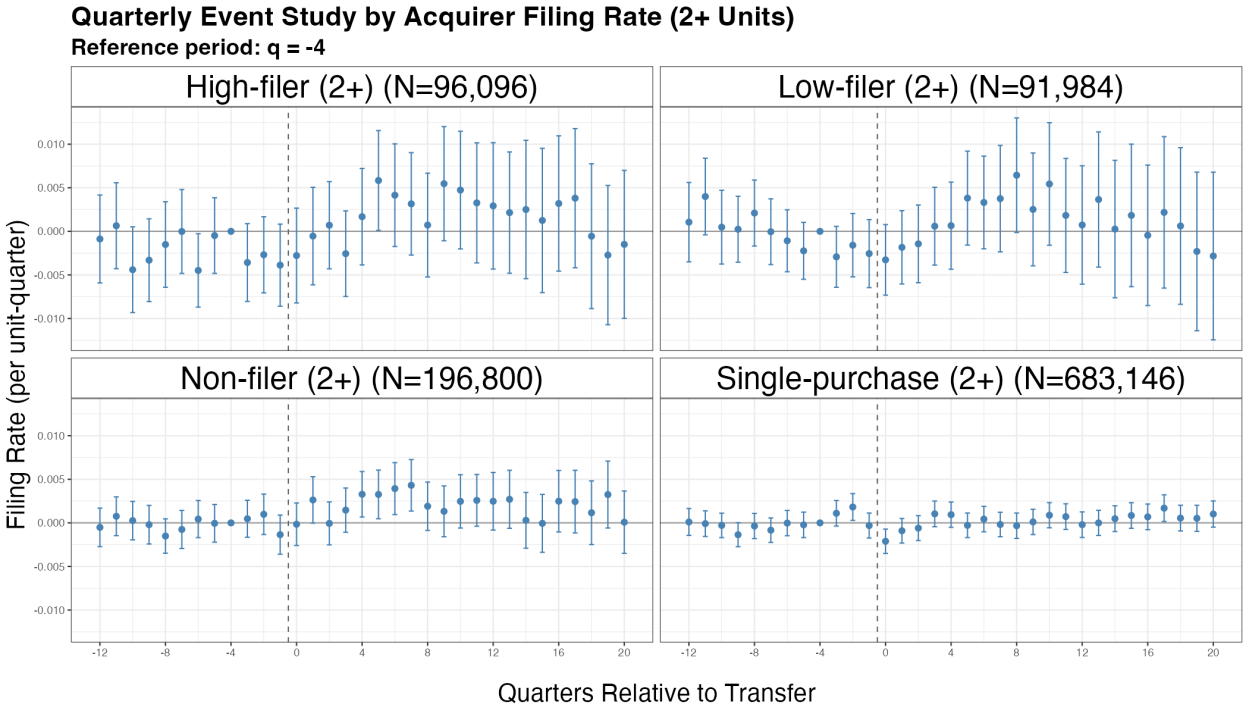

Figure 7: Quarterly event study by acquirer pre-acquisition filing rate (2+ unit buildings). High-filer portfolio acquirers show the largest post-transfer increase.

Table 5: Quarterly event study by acquirer filing rate, 2+ unit buildings (SE in parentheses). Reference: q=-4.

q	2plus_highfiler_portfolio	2plus_lowfiler_portfolio	2plus_nonfiler_has_portfolio	2plus_singlepurchase
-8	-0.00151 (0.00250)	0.00210 (0.00193)	-0.00151 (0.00101)	-0.00036 (0.00074)
-2	-0.00269 (0.00223)	-0.00159 (0.00185)	0.00098 (0.00118)	0.00182 (0.00078)
-1	-0.00388 (0.00240)	-0.00255 (0.00199)	-0.00135 (0.00114)	-0.00030 (0.00073)
0	-0.00278 (0.00278)	-0.00327 (0.00207)	-0.00016 (0.00124)	-0.00211 (0.00071)
1	-0.00054 (0.00285)	-0.00184 (0.00215)	0.00263 (0.00136)	-0.00090 (0.00072)
2	0.00070 (0.00255)	-0.00144 (0.00228)	-0.00006 (0.00126)	-0.00060 (0.00073)
4	0.00168 (0.00282)	0.00065 (0.00255)	0.00328 (0.00133)	0.00094 (0.00074)
8	0.00072 (0.00304)	0.00644 (0.00335)	0.00191 (0.00142)	-0.00033 (0.00074)

8.2 5+ unit buildings

Table 6: Acquirer classification (5+ unit buildings, at q=0).

Acquirer type	Transfers	PIDs	Owners	Total units	Mean acq rate	Mean n other	% transfers	% units
Single-purchase	2,586	2,037	2,569	53,644	NA	0.0	68.5	76.2
Non-filer (has portfolio)	508	452	405	5,081	0.0000	3.1	13.5	7.2
Low-filer portfolio	320	300	210	4,035	0.0209	16.9	8.5	5.7
High-filer portfolio	362	305	244	7,676	0.1929	22.8	9.6	10.9

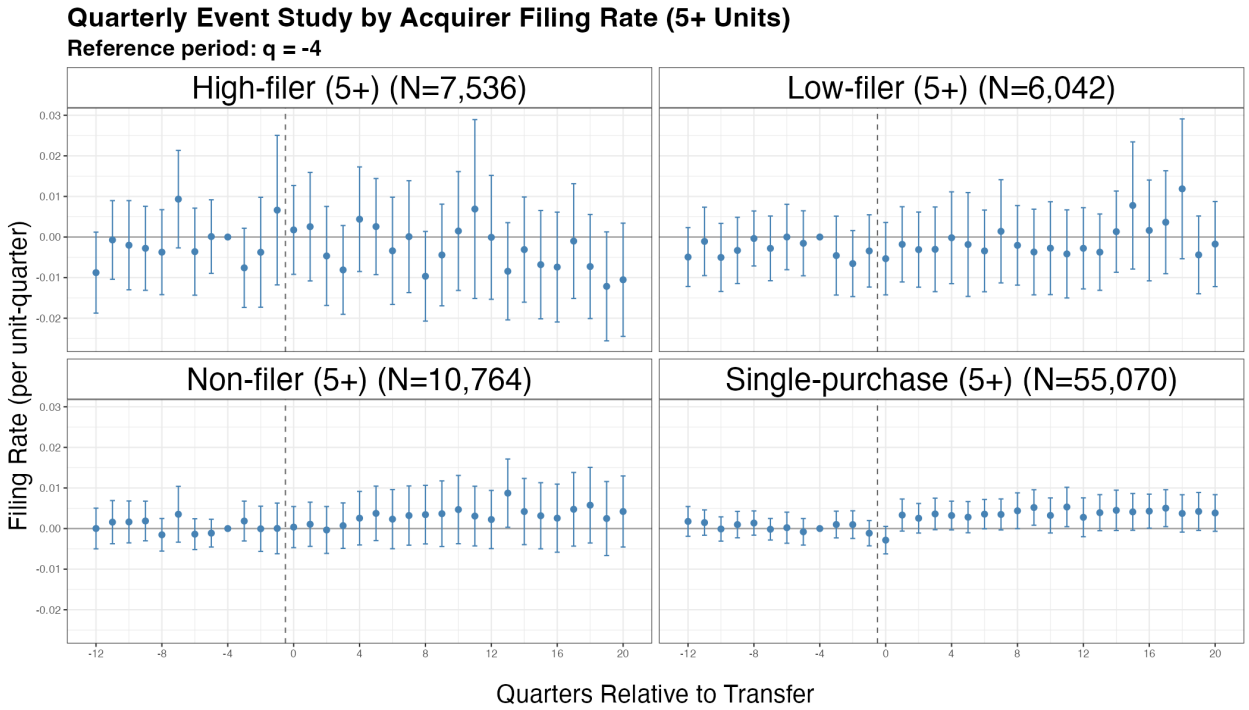

Figure 8: Quarterly event study by acquirer filing behavior, 5+ unit buildings only.

Key findings:

- **Single-purchase acquirers** (77.9% of transfers, 428,657 unique owners): These have no other matched properties. They are largely individual buyers (84.2% non-corporate) with median price $115,000.
- **Low-filer portfolio** (5.7%, 6,172 owners): Mean portfolio 91.7 properties, 73% corporate, pre-acq rate 0.0264.
- **High-filer portfolio** (5.7%, 10,870 owners): Mean portfolio 181.4 properties, 60.2% corporate, pre-acq rate 0.112.

9 Portfolio Size Heterogeneity

Portfolio bins are based on the total number of **non-sheriff** acquisitions by the buyer entity.

9.1 2+ unit buildings

Table 7: Portfolio size bin descriptives, 2+ unit buildings (at q=0). Bins based on non-sheriff acquisition count.

Portfolio bin	Transfers	Owners	Total units	% corp	Mean units
Single-purchase	22,182	22,021	90,772	25.9	4.1
5-9	4,343	2,223	12,232	56.7	2.8
2-4	11,390	8,407	40,320	40.3	3.5
10+	4,258	1,286	11,690	74.6	2.7
Sheriff-only	1,095	850	4,180	68.9	3.8

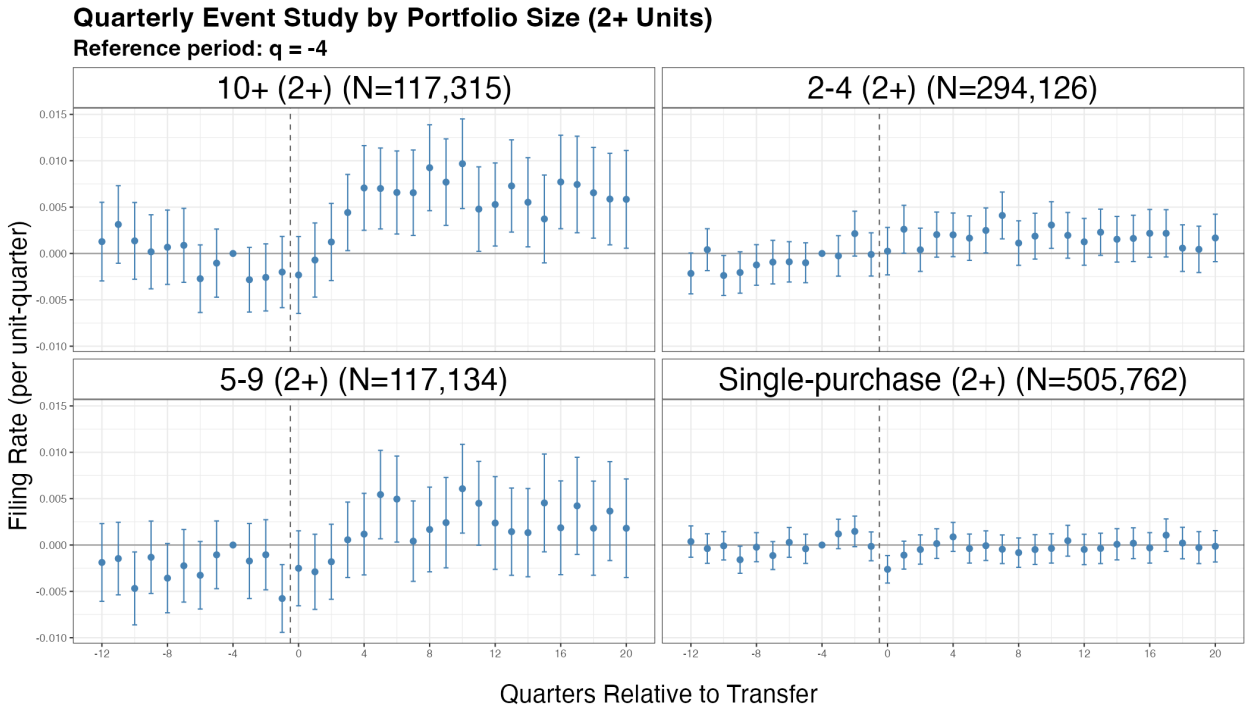

Figure 9: Quarterly event study by portfolio size, 2+ unit buildings.

Table 8: Quarterly event study by portfolio size, 2+ unit buildings. Reference: q=-4.

q	2plus_portfolio_10+	2plus_portfolio_2-4	2plus_portfolio_5-9	2plus_portfolio_Single-purchase
-8	0.00067	-0.00124	-0.00357	-0.00024
-2	-0.00258	0.00214	-0.00105	0.00147
-1	-0.00200	-0.00010	-0.00577	-0.00015
0	-0.00232	0.00025	-0.00251	-0.00262
1	-0.00071	0.00261	-0.00289	-0.00109
2	0.00124	0.00040	-0.00181	-0.00049
4	0.00707	0.00201	0.00118	0.00088
8	0.00925	0.00112	0.00168	-0.00082

9.2 5+ unit buildings

Table 9: Portfolio size bin descriptives, 5+ unit buildings (at q=0).

Portfolio bin	Transfers	Owners	Total units	% corp	Mean units
Single-purchase	2,241	2,229	46,257	58.4	20.6
2-4	918	720	16,719	70.9	18.2
5-9	298	194	3,075	84.2	10.3
10+	232	147	2,478	78.9	10.7
Sheriff-only	87	64	1,907	90.8	21.9

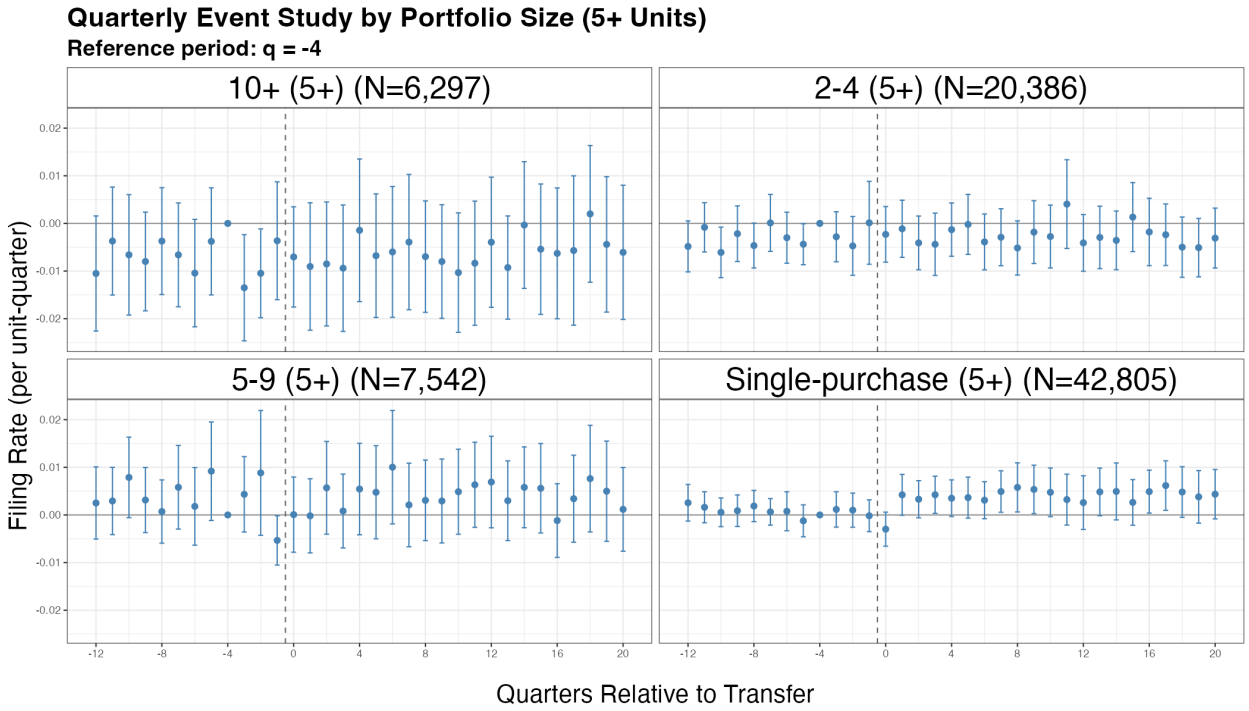

Figure 10: Quarterly event study by portfolio size, 5+ unit buildings only.

10 Transfer Pattern Descriptives

10.1 Do high-evicting properties transfer more often?

We classify properties by their **pre-transfer filing intensity** using `filing_rate_eb_pre_covid` from the building panel — the empirical Bayes smoothed annual filing rate per unit, computed from pre-COVID data.

Definitions:

- **Above-median filing**: `filing_rate_eb_pre_covid` > 0.0052 (the median among properties with any filings)
- **Below-median filing**: `filing_rate_eb_pre_covid` > 0 and ≤ 0.0052
- **Zero-filing**: `filing_rate_eb_pre_covid` $= 0$

Table 10: Transfer rate by property eviction class (universe: all PIDs in bldg_panel_blp, 2010–2019).

Property class	N properties	N transferred	% transferred	Mean units	Total units
Above-median filing	74,180	59,940	80.8	2.2	160,310
Below-median filing	113,315	89,979	79.4	1.8	204,277

High-evicting properties transfer at similar rates to low-evicting ones — approximately 80% of properties in both categories experienced at least one transfer during the sample period. The relevant question is not *whether* these properties transfer, but *who buys them*.

10.2 Who buys high-evicting properties?

Table 11: Buyer characteristics by property eviction class. Above-median properties attract buyers with larger portfolios and slightly higher corporate share.

Property class	Transfers	PIDs	% corp	Mean portfolio	Median price	Mean units	Total units	% sheriff
Above-median filing	87,556	49,852	35.2	36.9	90,000	1.7	146,452	10.3
Below-median filing	134,546	79,104	32.2	31.3	106,900	1.4	186,940	10.1

Above-median evicting properties attract slightly more corporate buyers (35.2% vs 32.2%) and buyers with somewhat larger portfolios (mean 36.9 vs 31.3 properties).

10.3 How often do high-evicting landlords buy?

Table 12: Acquirer filing rate descriptives. Single-purchase acquirers dominate (69% of transfers) but portfolio acquirers control a disproportionate share of units.

Acquirer type	Transfers	% of transfers	Unique owners	Total units	% of units	% corp	Mean portfolio
Single-purchase	514,970	77.9	428,657	212,464	62.3	15.8	17.5
Non-filer (has portfolio)	70,606	10.7	31,061	55,968	16.4	43.9	10.0
Low-filer portfolio	37,903	5.7	6,172	33,247	9.8	73.0	91.7
High-filer portfolio	37,892	5.7	10,870	39,124	11.5	60.2	181.4

Single-purchase acquirers account for 77.9% of all transfers and 62.3% of units. **High-filer portfolio acquirers** are 5.7% of transfers and 11.5% of units. They are predominantly corporate (60.2% corporate) with large portfolios (mean 181.4 properties).

Low-filer portfolio acquirers are the most concentrated group: only 6,172 unique owners account for 5.7% of transfers. These are large-portfolio corporate operators (mean 91.7 properties, 73% corporate).

10.4 Cross-tab: property eviction class × acquirer type

Table 13: Who buys which properties? Cross-tab of property eviction class by acquirer type.

Property class	Acquirer type	Transfers	Total units	% of class
Above-median filing	High-filer portfolio	12,887	21,979	14.7
Above-median filing	Low-filer portfolio	9,234	13,592	10.5
Above-median filing	Non-filer (has portfolio)	15,353	20,934	17.5
Above-median filing	Single-purchase	50,081	89,944	57.2
Below-median filing	High-filer portfolio	13,776	16,853	10.2
Below-median filing	Low-filer portfolio	14,881	19,414	11.1
Below-median filing	Non-filer (has portfolio)	25,659	34,249	19.1
Below-median filing	Single-purchase	80,229	116,421	59.6

The cross-tab reveals **sorting**: high-filer portfolio acquirers account for 14.7% of above-median property transfers but only 10.2% of below-median ones. Conversely, single-purchase acquirers dominate below-median properties (59.6%) more than above-median ones (57.2%).

11 Summary

The quarterly event study resolves the pre-trend puzzle from the annual analysis and provides rich heterogeneity:

1. **The annual $t = -1$ artifact is explained.** Filing rates peak at $q = -2$, then drop sharply at $q = -1$ and bottom at $q = 0$.
2. **The pre-transfer dip is a small-building vacancy effect.** For 10+ unit buildings, filing rates are stable through the transition.
3. **The post-transfer increase is real and operational.** It appears across building sizes and is larger for corporate buyers (among 5+ unit buildings).
4. **High-filer portfolio acquirers drive the effect.** The 5.7% of transfers going to high-filer portfolios show the largest post-transfer filing increases; single-purchase acquirers show smaller or no increases.
5. **Sorting exists.** High-filer acquirers disproportionately buy already-high-evicting properties, consistent with a market for high-eviction buildings.