

Buy-to-Live vs. Buy-to-Let: The Impact of Real Estate Investors on Housing Costs and Neighborhoods

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Motivation

"Large investor purchases of single-family homes and conversion into rental properties speeds the transition of neighborhoods from homeownership to rental and drives up home prices for lower cost homes, making it harder for aspiring first-time and first-generation home buyers, among others, to buy a home. At the same, these purchases are unlikely to meaningfully boost supply in the lower-cost portions of the rental market, as investors charge more for rent to recoup higher purchase costs."

- White House, September 2021

How do rental investors impact local housing markets and the composition of neighborhoods?

- 2022 Dutch policy reform allowed local governments to ban buy-to-let investment for a subset of the local housing stock.
 - Resulted in an exogenous shift in buyer composition and residents
- Variation in policy coverage used to measure:
 - Investor vs. first-time buyer purchase likelihood
 - Effect of buy-to-let investors on house and rent prices.
 - Impact of rent-own transitions on residential composition.

How do rental investors impact local housing markets and the composition of neighborhoods?

- Primary focus: Rotterdam
 - First city to introduce the policy
 - Applied selectively in certain neighborhoods
 - Policy evaluated in near-real time with city cooperation
- Secondary focus: national (The Netherlands)
 - 33 municipalities introduced the policy
 - Excluding 10 smaller municipalities (less than 30 investor purchases in 2021)
 - Compare with municipalities without ban

- **Growth and price impact of rental investors:** Allen et al. (2018), Mills et al. (2019), Bracke (2019), Lambie-Hanson et al. (2022), Ater et al. (2021), Austin (2022), Gargano & Giacoletti (2022), Garriga et al. (2023), Gurun et al. (2023).
 - Our policy experiment and data allows for precise measurement
 - We also look at the impact of investors on residential composition
- **Impact of home-ownership / rent-own transitions:** Coulson & Li (2013), Ihlanfeldt & Yang (2021), Sodini et al. (2021), Hausman et al. (2022)
 - We focus on measuring the impact of rent-own transitions on neighborhood composition

- Linked administrative data from Kadaster and Statistics Netherlands
 - All Dutch housing transactions (2009-dec 2022; focus on 2021 and 2022)
 - Properties sold by owner-occupiers
 - Details on individual transactions, properties, buyers, sellers
 - Property tax values
 - Personal characteristics, household income and residency
- Rental listings from Spotzi + some characteristics
 - Covers listings from various platforms: 70% of realtor-listings
- Link to regulatory status provided by Gemeente Rotterdam

The “Opkoopbescherming” Investor Ban

- Ban can be applied if *“necessary and suitable for combatting the scarcity of cheap and mid-priced owner-occupied housing, or for the livability of the local environment”*.
- Jan 1, 2022: Municipalities *choose* to ban investors from renting out property they buy if the previous owner did not rent out the property.
 - Up to 4 years after purchase, limited exceptions
 - Ban criteria based on area and property tax limit
 - Municipalities interpret “necessary and suitable” differently
 - We examine variation in policy coverage and implementation

Overview of Policies, 8 Largest Cities (> 200,000 pop.)

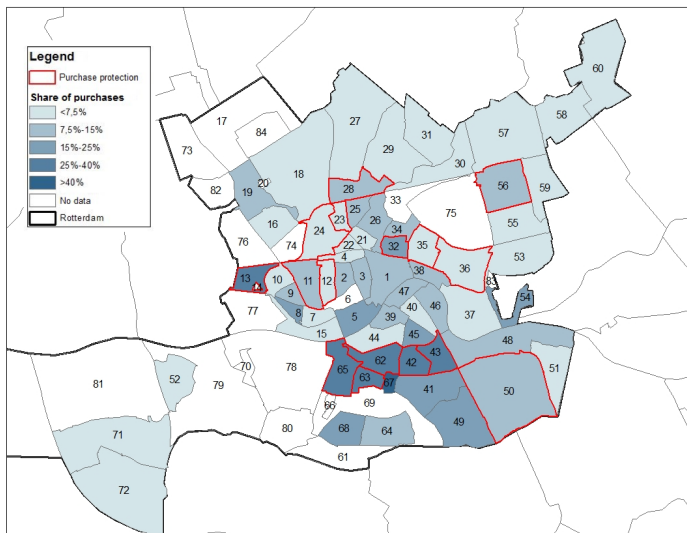
<i>City</i>	<i>Population</i>	<i>Introduction</i>	<i>Limit</i>	<i>Avg. Price</i>	<i>Coverage</i>
Amsterdam	882,633	1-Apr-22	512,000	569,890	Full
Almere	217,828	24-May-22	355,000	390,174	Full
Eindhoven	238,326	1-Apr-22	355,000	367,046	Full
Groningen	234,950	1-Mar-22	305,500	321,804	Near-Full
Rotterdam	655,468	1-Jan-22	355,000	364,018	Partial
The Hague	553,417	1-Mar-22	355,000	411,717	Full
Tilburg	224,459	1-Sep-22	355,000	342,612	Full
Utrecht	361,699	18-Mar-22	440,000	469,949	Full

33 municipalities introduced a policy in 2022. Our national sample excludes 10 smaller municipalities that introduced a policy but saw fewer than 30 investor purchases in the entirety of 2021.

Some Definitions

- *Investor*: any non-natural person owning property or any natural person owning other property at the day of purchase who does not move to the purchased property within one year (or before 31 Mar 2023)
 - Most investors in the market are buy-to-let investors. Non-rental investment is still allowed.
 - 50% of buy-to-let investors are private and 50% of investors are commercial.
 - Buy-to-let commercial investors are small-scale and domestic; institutional investors predominantly acquire buy-to-let property through resale of portfolios
- *Tax value (2022)*: estimated market (WOZ) value of a property on January 1, 2021, assuming full ownership of and access to the property.
- *Treated property*: Property in an area that gets covered by a policy in 2022, with a tax value below the local limit.

The Rotterdam Policy: Spatial Coverage



Notes: Share in 2021, the share in the figure excludes private investors with two properties

Signs Have Been Posted!



Hugo de Jonge
@hugodejonge

Mooie actie van @rotterdam. 🏡
Sinds 1 januari geldt daar in 16 wijken de #opkoopbescherming.
Beleggers kunnen huizen niet opkopen voor verhuur en zo blijven die beschikbaar voor gewone kopers.
Met deze borden 🚫 is dit direct duidelijk. 📌

Translated from Dutch by Google

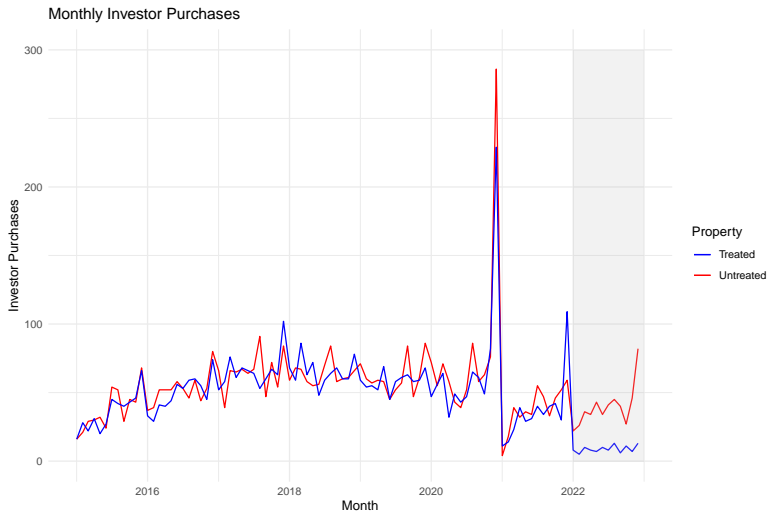
Nice action by @rotterdam. 🏡
Since January 1, the #opkoopbescherming has been in effect in 16 districts. Investors cannot buy houses for rent and so they remain available to ordinary buyers.
This is immediately clear with these signs 🚫. 📌

🏡 Gemeente Rotterdam @rotterdam · Feb 18, 2022

Dit bord al gezien 🚫? De borden zijn terug te vinden in 16 Rotterdamse wijken waar de #opkoopbescherming geldt. Hier kunnen woningen niet worden opgekocht om te verhuren. Zo krijgen starters en middeninkomens meer kans op een woning 🏡. Meer info 📌
bit.ly/3FmFXby



Trends in Investor Purchases: Rotterdam

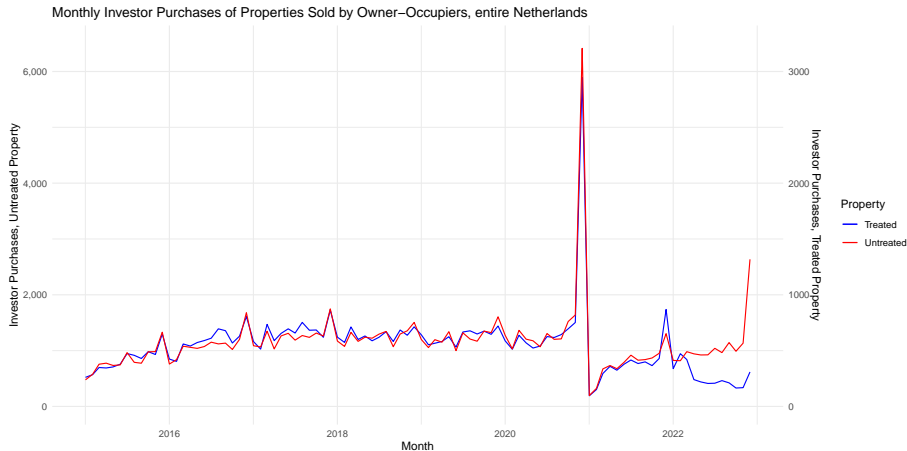


Notes: This figure plots investor purchases over time in Rotterdam of properties purchased by investors and sold by owner-occupiers for both regulated (in red) and unregulated properties (in blue). The spikes in December 2020 and 2022 reflects anticipation of increasing stamp-duty for investors.

Rotterdam Descriptives

	<i>Regulated (below limit)</i>				<i>Adjacent (below limit)</i>			
	Before		After		Before		After	
	Mean	Obs.	Mean	Obs.	Mean	Obs.	Mean	Obs.
<i>Transaction data (in euros, Q2 2021 - Q4 2022):</i>								
Sale price, all	266,783	1,130	307,782	1,149	290,227	1,048	325,327	1,246
Sale price, investor	232,783	394	260,917	106	250,582	189	298,808	228
Tax value (2022), all	231,565	1,130	234,810	1,149	258,083	1,048	256,359	1,246
Tax value (2022), investor	201,267	394	208,749	106	225,657	189	238,443	228
Investor share	0.349	1,130	0.092	1,149	0.18	1,048	0.183	1,246
Private investors, share	0.189	1,130	0.033	1,149	0.098	1,048	0.083	1,246
First-time buyer share	0.426	1,130	0.624	1,149	0.439	1,048	0.474	1,246
<i>Household-level data on residents, for property bought in 2021-2022</i>								
Income percentile (2021), all	42.44	1,083	46.98	764	48.09	1,094	50.41	763

Trends in Investor Purchases: Entire Country



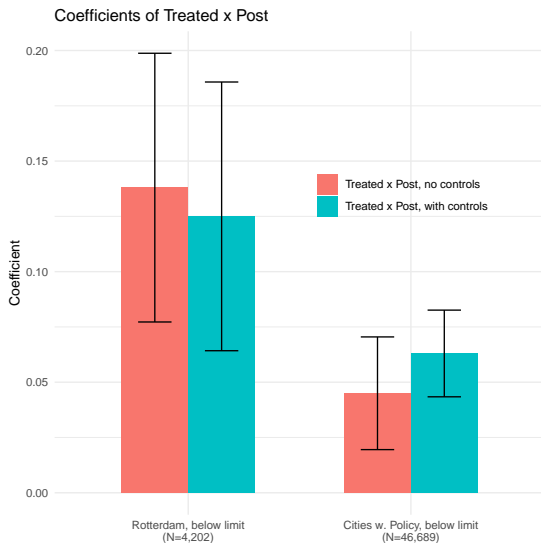
Notes: This figure plots investor purchases over time in the Netherlands of properties purchased by investors and sold by owner-occupiers for both regulated (in red) and unregulated properties (in blue). The spikes in December 2020 and 2022 reflects anticipation of increasing stamp-duty for investors.

Identification

$$y_i = \alpha_0 + \alpha_1 Post_i + \beta_1 Treated_i + \beta_2 Treated_i \quad Post_i + \chi^0 z_i + \epsilon_i \quad (1)$$

- $Post_i=1$ for transactions after introduction of policy, defined at municipality level
- $Treated_i=1$ for properties subject to the ban anytime in 2022
- i is a set of transactions
 - For Rotterdam: properties below the tax limit, regulated vs. adjacent neighborhoods
 - Nationally: properties below the tax limit, cities with vs. without ban

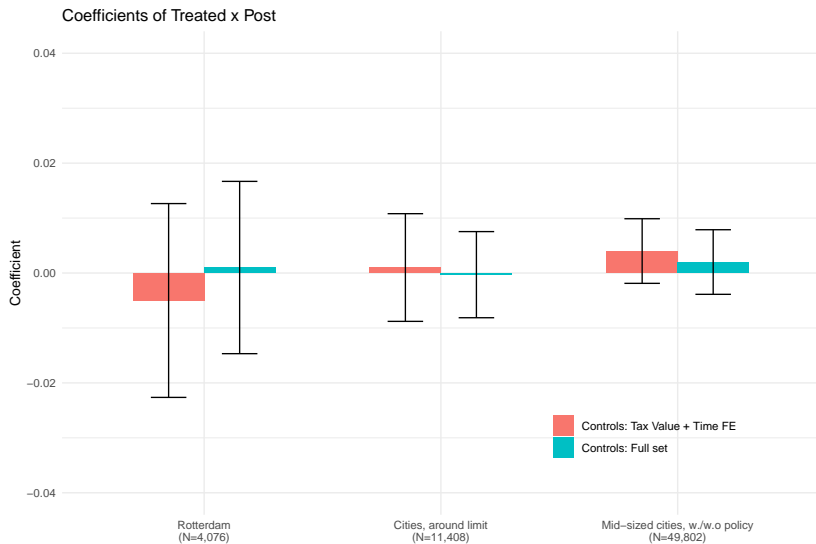
Impact on First-Time Buyers



Analyzing Impact on Prices

- $y = \log$ sale prices
- Sample period: 2021 Q2 to 2022 Q4
 - House prices: excl. 1 month pre-policy
 - Sample from 2019Q1 for parallel trends check + rent prices
- 3 samples:
 - Rotterdam: property below limit in regulated+adjacent neighborhoods
 - Cities with policy: property in areas with policy, within 10% of the limit
 - Discontinuity at tax limit
 - Mid-sized cities w/w.o policy, property below limit or below 389,000
- Controls
 - House prices: as before, plus tax value*time FE
 - Rent prices: no. rooms, $\log(\text{surface})$; building year, energy label, monumental status, time, neighborhood FE
- The smaller sample + lack of controls make the rent analysis less precise.

Impact on House Prices



Impact on Income Composition

		<i>Dependent variable:</i>							
		Household income, percentile						log(Household inc.)	
<i>Sample area:</i>	R'dam	Cities	R'dam	Cities	R'dam	Cities	R'dam	Cities	
<i>Transaction year:</i>	2021	2021	2021/22	2021/22	2021/22	2021/22	2021/22	2021/22	
Investor-owned	-19.36	-15.09			-19.51	-16.58	-0.219	-0.228	
	(1.680)	(0.723)			(1.492)	(0.546)	(0.031)	(0.012)	
Treated	Post		2.803	1.894	-0.407	0.697			
			(1.615)	(0.667)	(1.680)	(0.656)			
log(Tax Value)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Property controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Neighborhood FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Year–Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Observations	2,819	21,146	4,925	37,883	4,925	37,883	4,537	35,489	
R-squared	0.199	0.232	0.125	0.165	0.169	0.190	0.125	0.167	

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. SEs clustered at property-level. Sample only includes properties below the limit.

Impact on Residents

Tenants differ from owner-occupiers in equivalent properties on more than just income

	<i>Dependent variable:</i>							
	Non-Dutch		Age		#Adult Residents		% moved within 2y	
	R'dam	Cities	R'dam	Cities	R'dam	Cities	R'dam	Cities
<i>Sample area:</i>								
<i>Transaction year:</i>	2021	2021	2021	2021	2021	2021	2019/20	2019/20
Investor-owned	0.252 (0.022)	0.179 (0.009)	-3.553 (0.437)	-2.976 (0.198)	0.329 (0.073)	0.250 (0.031)	0.352 (0.017)	0.297 (0.006)
log(Tax Value)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Property controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Neighborhood FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,099	43,284	6,099	43,284	2,391	17,273	9,922	75,368
R-squared	0.135	0.236	0.132	0.164	0.094	0.141	0.222	0.188

* p<0.1; ** p<0.05; *** p<0.01. SEs clustered at property-level. Sample only includes properties below the limit.

Conclusion

- A policy ban of buy-to-let investors increased chances for first-time home-buyers at the expense of renting households.
- Price effects indicate investors activity did not significantly affect house prices around the reform, even in areas with high pre-reform investment activity.
 - Housing market context: turning point of a housing market boom
 - Owner-occupiers might value neighborhood with less buy-to-let, potentially counterbalancing the negative demand shock
- Investor purchases contribute to providing low-income housing, as renters have much lower incomes than owner-occupiers in similar properties.
 - Preliminary evidence suggests the ban may have boosted rental prices.
/ No impact on rental prices based on Pararius data.
 - Changes in property-ownership may primarily affect neighbourhoods through changes in resident characteristics.
- Home owners tend to be native Dutch, middle-class, whereas renters tend to have lower income, are young and more often immigrant.