



# The Effect of Market-Rate Housing Development on Surrounding Housing Prices: A Preliminary Study

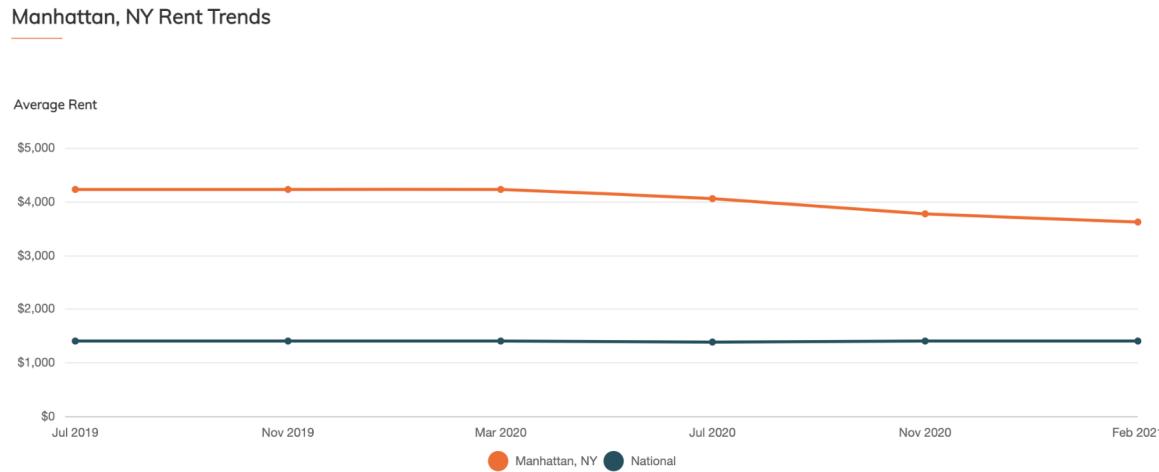
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# Introduction: Housing Affordable

Housing in American urban areas has become increasingly unaffordable



Median household income (in 2019 dollars): \$63,998 (Census 2015-2019)



# Introduction: Solutions

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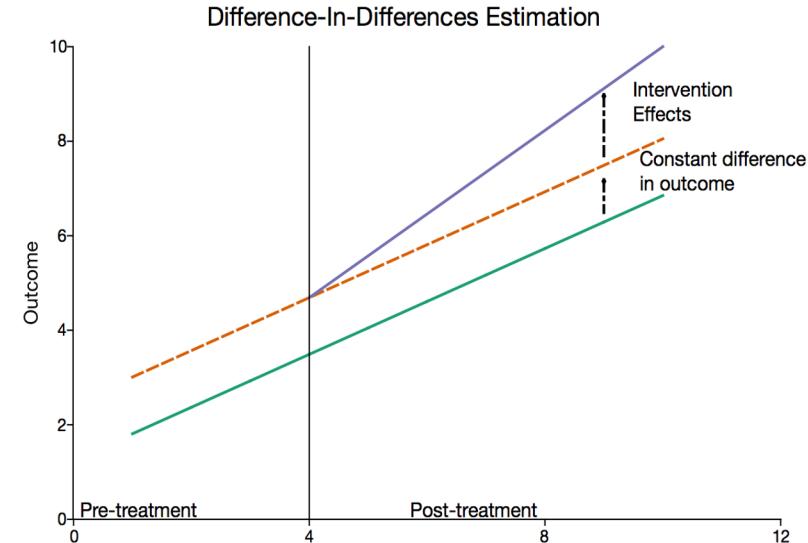
- Debate on solutions to create affordable housing:
  - Economists argue for more supply of housing: new developments at market-rate
  - Supply skeptics argue for more regulation, zoning laws and subsidized affordable housing
- New developments at market-rate prices may displace current residents as neighborhoods become unaffordable
  - Prior studies have shown that there may be a price “spill over effect” from new developments
- Studying this phenomenon can inform future housing policy, placement of new developments



# Methods - Difference in Differences

*Do New York rental prices rise when a new development is completed close by?*

- Treatment - completion of a new market rate building development
  - Comparing difference in rent price between control/treatment groups after project completion
- Control for other factors that can lead to higher rent price





# Data: Gathering Candidate Buildings

- Constructed rings around new buildings ( $r=250m$ )
  - Buildings that fall in the ring: in proximity to new development (treatment)
  - Outside of the ring: not in proximity (control)
- New developments were gathered from the “Housing New York” dataset
  - Only buildings completed in 2018 were considered new developments ( $n=326$ )
  - Control group not in proximity to any new developments in dataset
- Treatment and control group sampled ( $n=2,000$ )





# Data: Web-Scraping

The screenshot shows a StreetEasy rental listing for a studio apartment at 1600 Broadway #9F. The listing includes a large image of the interior, a price of \$3,200 per month, and a 'NO FEE' note. A red box highlights the price information. Below the main image are 12 smaller thumbnail images of the apartment. To the left, there's a sidebar with 'Description' and 'TIME SQUARE BEAUTY' sections, along with availability and market statistics. At the bottom, there's a 'REQUEST A TOUR' button and a 'LISTED BY' section featuring a photo of the agent.

## About the Building

1600 Broadway on The Square 1600 Broadway New York, NY 10019

Condo in Midtown

137 Units | 25 Stories | 2005 Built

Sales listings: 7 active, 2 in contract and 312 previous

Rentals listings: 12 active, 1 in contract and 364 previous

Documents and Permits: 618 documents

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## Price History

03/31/2021	Re-listed by Douglas Elliman	\$3,200
02/22/2021	Off market temporarily	\$3,200
07/13/2020	Listed by Douglas Elliman	\$3,200
03/18/2020	Previously Listed in StreetEasy, but no longer available	\$3,395
03/18/2019	Douglas Elliman Listing is no longer available	\$3,250
11/02/2018	Previously Listed by Douglas Elliman	\$3,500

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# Final Dataset

- 123 buildings successfully scraped from StreetEasy
  - 162 apartments units considered “in proximity” to a new development and 100 units used as control





# Results

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## Linear Regression Model with Ordinary Least Squares

Factors	Coefficient	p-value	0.025 CI	0.975 CI
Number of Bedrooms	573.27	0.00	490.06	656.48
Number of Baths	-77.62	0.48	-292.35	137.114
Amenities	600.77	0.00	404.25	797.30
Time ( $T_i$ )	-194.28	0.12	-438.73	50.17
In Proximity ( $PROX$ )	-606.34	0.00	-841.83	-370.85
Diff. in Diff. ( $PROXT_i$ )	284.86	0.07	-26.01	595.74
Manhattan	2481.97	0.00	2192.64	2771.30
Bronx	1306.60	0.00	659.07	1954.14
Brooklyn	1902.79	0.00	1574.44	2231.14
Queens	1340.11	0.00	948.37	1731.85



# Discussion

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- The difference in differences estimator is not significant ( $p=0.07$ ); more data is needed
  - Skewed distribution of apartments across the boroughs: 132 (from Brooklyn), 108 (from Manhattan), 22 (Queens and Bronx together)
  - The study used a ring of 250 meters: smaller ring size can yield better statistical dependence on the treatment group's rental prices
  - Housing Preservation and Development Dataset uses mixed affordable and market-rate housing prices: future studies can focus on only market-rate housing to yield stronger conclusions
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# Appendix



# Analysis

- In general, we expect prices close to a new development to have a higher median post completion
- Medians are very close in Manhattan and Brooklyn

Apartment Rent Price by Borough: Proximity to New Development

