HOUSING SUBMARKETS AND THE EFFECTS OF NEW CONSTRUCTION ON EXISTING RENTS

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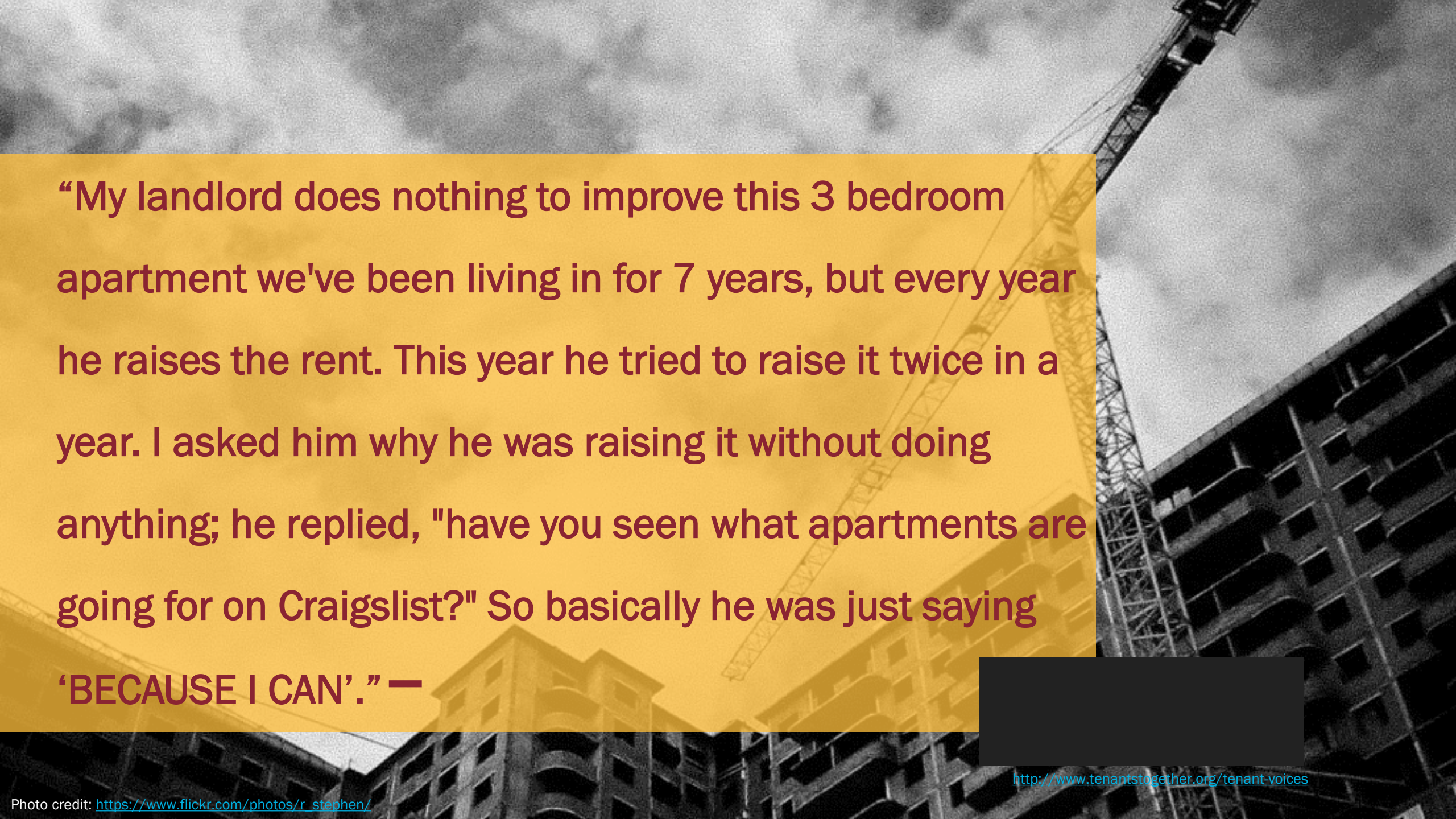
W/ADDITIONAL SUPPORT FROM THE MINNESOTA HOUSING PARTNERSHIP (MHP)

Updated 2.12.20

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"My landlord does nothing to improve this 3 bedroom apartment we've been living in for 7 years, but every year he raises the rent. This year he tried to raise it twice in a year. I asked him why he was raising it without doing anything; he replied, "have you seen what apartments are going for on Craigslist?" So basically he was just saying 'BECAUSE I CAN'." —

https://www.sfexaminer.com/news/tensions-over-mission-district-gentrification-flare-at-hearing-on-16th-street-project/

STOP DEFENDING LA'S ANTI-HOUSING AGENDA

by Randy Shaw on February 11, 2020

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Homeowner and "Equity" Groups Unite to Preserve Exclusionary Zoning

Why did Los Angeles' Senate delegation vote against SB50? Some cite "cultural" differences with the Bay Area, the power of "equity" groups and the bill not fitting well into Los Angeles' transit and existing housing landscape.

But seeking progressive explanations for killing the bill misses the key point: opposition to SB50 came from the same political forces that has brought Los Angeles the nation's worst homelessness crisis, arguably the longest car commutes, and extreme housing affordability.

http://beyondchron.org/stop-defending-las-anti-housing-agenda/

SB 827 rallies end with YIMBYs shouting down protesters of color

JOE FITZGERALD RODRIGUEZ / Apr. 5, 2018 12:00 a.m. / NEWS / NEWS COLUMNISTS / THE CITY

https://www.sfexaminer.com/news/sb-827-rallies-end-with-yimbys-shouting-down-protesters-of-color/

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Changes In Twin Cities Neighborhoods Have Some Residents Fearing Displacement

By Jeff Wagner   March 12, 2018 at 10:41 pm   Filed Under: Gentrification, Jeff Wagner, Local TV, Minneapolis News, St. Paul News, University Of
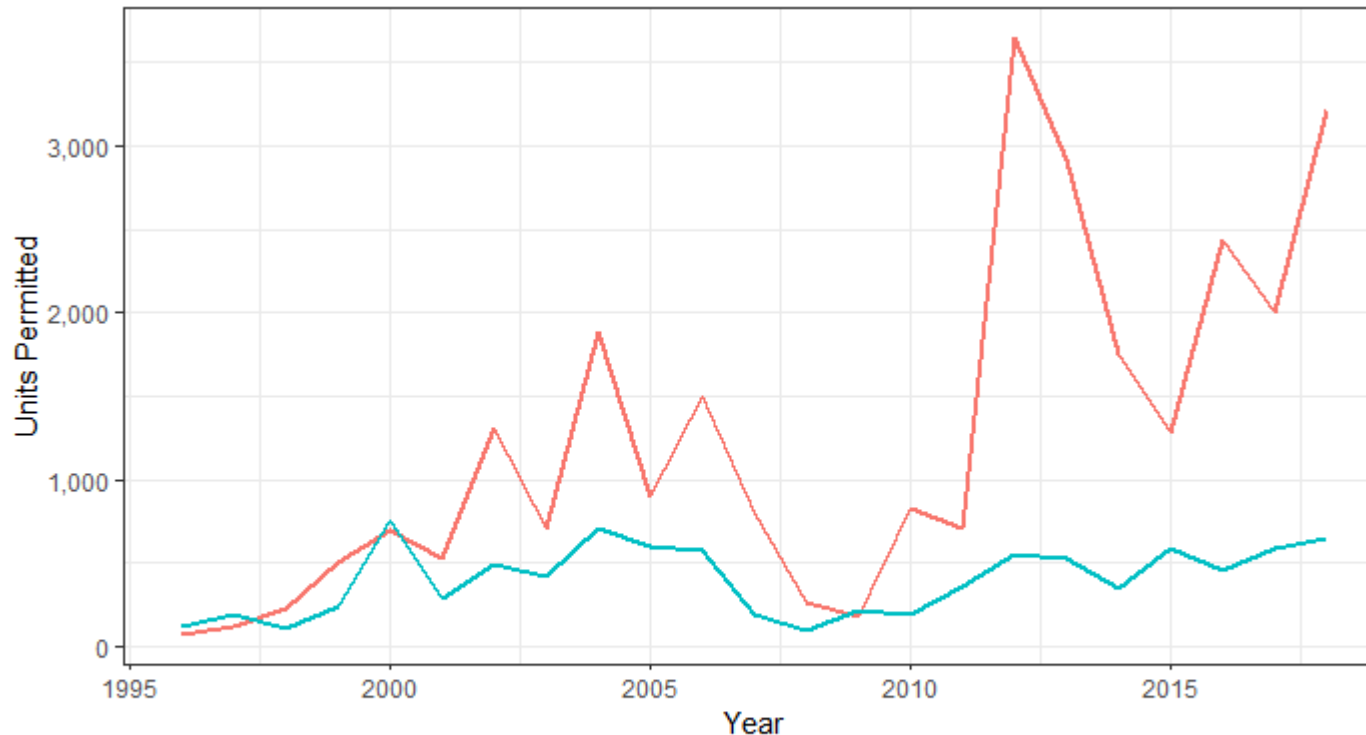
NEIGHBORHOOD STUDY

https://minnesota.cbslocal.com/2018/03/12/u-of-m-twin-cities-gentrification-study/
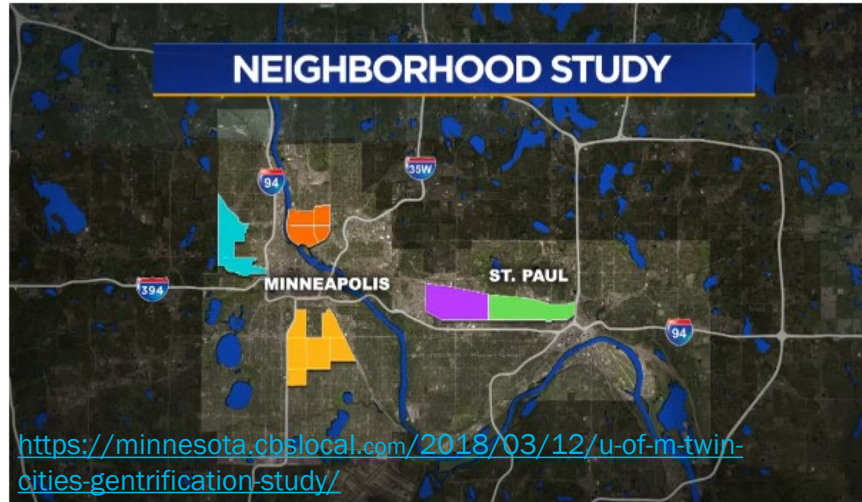
If Twin Cities gentrification is a myth, what's the real problem?

By Bill Lindeke | 01/14/2016

Email   Facebook   Twitter   Print

https://www.minnpost.com/cityscape/2016/01/if-twin-cities-gentrification-myth-whats-real-problem/

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New Construction in Minneapolis

Source: Author calculations, Metropolitan Council

- Between 2010 and 2018 city averaged 4.5x as many market-rate permits as subsidized permits.

- Vast majority of subsidized units are not affordable for very low-income families.

- Only 1.3% of *subsidized* units affordable to households making less than 30% of Area Median Income.

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Findings Summary

Data/Methods
- Building level data from analytics firm CoStar on rents in Minneapolis, MN between 2000-2018
- Measure changes in rents for existing buildings close (within 300m) and farther away (300m-800m) from new large (>50 units) market-rate apartment buildings.

Results
- Overall, new market-rate apartments do not have a significant effect on nearby rents
- HOWEVER, looking at a singular rental market as a whole is misleading
- When we account for housing submarkets, we find higher rents for lower-tier housing near new market-rate apartments ↑ (6%-14%)
- Slightly lower rents for higher-tier existing housing close to new market-rate apartments ↓ (0%-2.5%)

Implications
- Demonstrates need for policies to mitigate potential negative effects for lower-income renters
- Importance of studying housing submarkets

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What happens to rents when new market-rate apartments get built?

Hypothesis 1) Supply effect

- Addition of new housing supply, even expensive housing, results in a net lowering of rents due to the shift in the supply curve (Saks, 2008).
- Over time as housing ages, it filters down market and becomes more affordable to lower income
- households (Rosenthal, 2014).
- General consensus that this dynamic holds at the metropolitan area scale. (Been et al., 2019)

Hypothesis 2) Amenity effect

- New market rate construction is an amenity due to affluent residents and additional retail services creates feedback loop inducing more demand from wealthier households and this increases rents and lowers welfare of low-income residents (Guerrieri et al., 2013; Couture et al. 2019).
- Hypothesized to work at the neighborhood scale

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Housing Submarket Theory

1. There is not a singular housing market, but rather an interconnected set of submarkets defined by housing quality, size, location and tenure (Galster & Rothenberg, 1991)

2. Theory recognizes the importance of "substitutability" (Grigsby, 1963)
   (E.g. - 3BR ranch a poor substitute for a studio apartment)

3. Most urban neighborhoods contain a variety of housing types

4. We hypothesize the effects of new construction could vary depending on market-tier of existing housing.

5. Important for policy as lower-tier housing is likely occupied by lower-income households

6. We define submarkets by rent levels in 2000 (Susin 2002)

Housing Submarket Theory
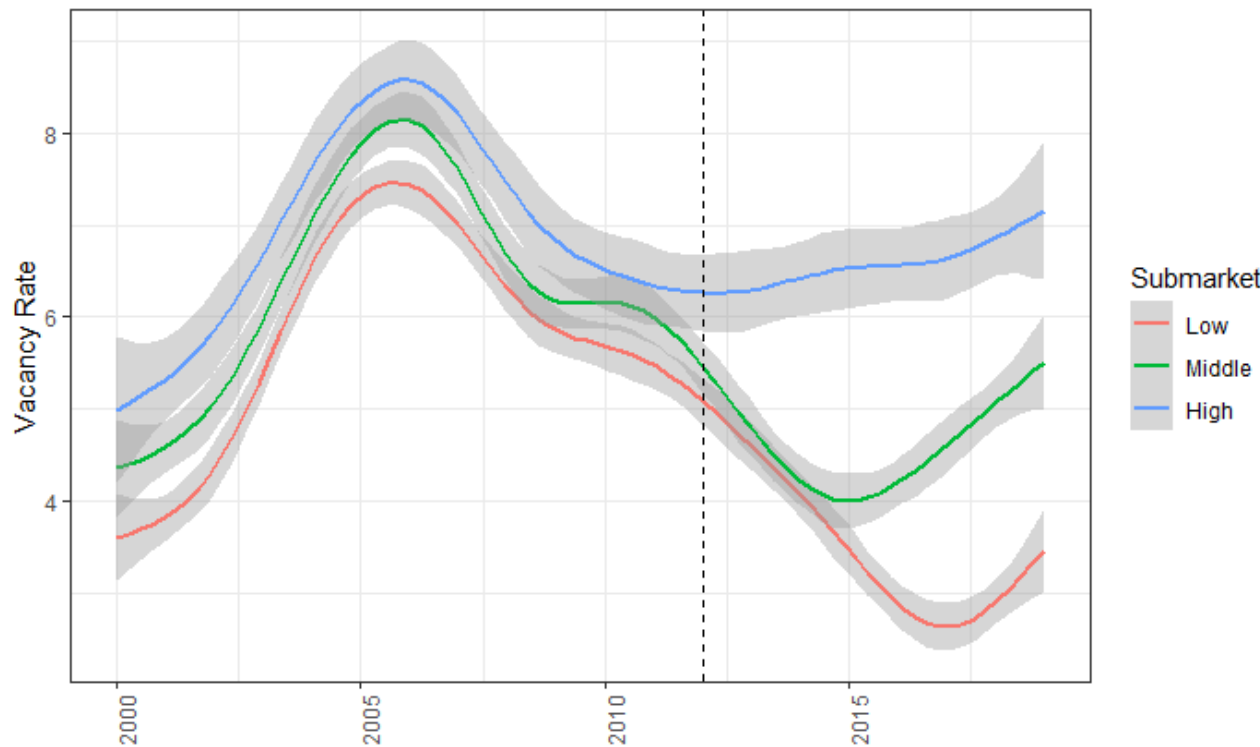
Source: author calculations, CoStar

- Vacancy rates between submarkets correlated

- Consistently lower vacancy rates in less expensive buildings

- By 2012, half of new units in sample are completed (most into top-tier submarket)

- Vacancy rates in middle and lower submarkets do respond but it takes time.

- Filtering may not extend far enough to lower-tier buildings in the short-term

Data

Existing Rents – Panel of buildings constructed pre-2000 City of Minneapolis from CoStar firm

- Longitudinal quarterly rental data (2000 Q1- 2018-Q4)
- Each data row represents a building-bedroom-quarter average rent
- 401 buildings in sample (N = 46,662)
- "Treated" = within 300m of new construction
- "Control" = between 300m - 800m of new construction
- We define submarket tiers by rent levels in 2000.

New Construction also from CoStar (2003-2018)

- Market-rate construction > 50 units in project
- Observe total units, year built, average rents (N = 55)

Sample Characteristics

	Treatment	Comparison	New Construction
Effective Rent	983.56	836.54	1,745.67
	(409.99)	(224.67)	(558.82)
Total Units	51.89	35.95	144.99
	(69.04)	(66.16)	(75.73)
Year Built	1,937.11	1,944.08	2,010.21
	(26.62)	(26.46)	(4.28)
Vacancy Rate	7.99	5.62	9.94
	(11.63)	(9.39)	(14.53)
N Buildings	136	265	55
N Observations	15,631	31,031	2,680

Note: Standard deviations in parentheses. Treated buildings defined as less than 300m of new construction. Comparison buildings are between 300m and 800m of new construction

- High rents in treatment group closer to new construction

- New Construction rents 77% higher than existing rents on average

- Almost exclusively targeted at upper-tier of housing market

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Market-Rate Apartment Construction 2000-2018
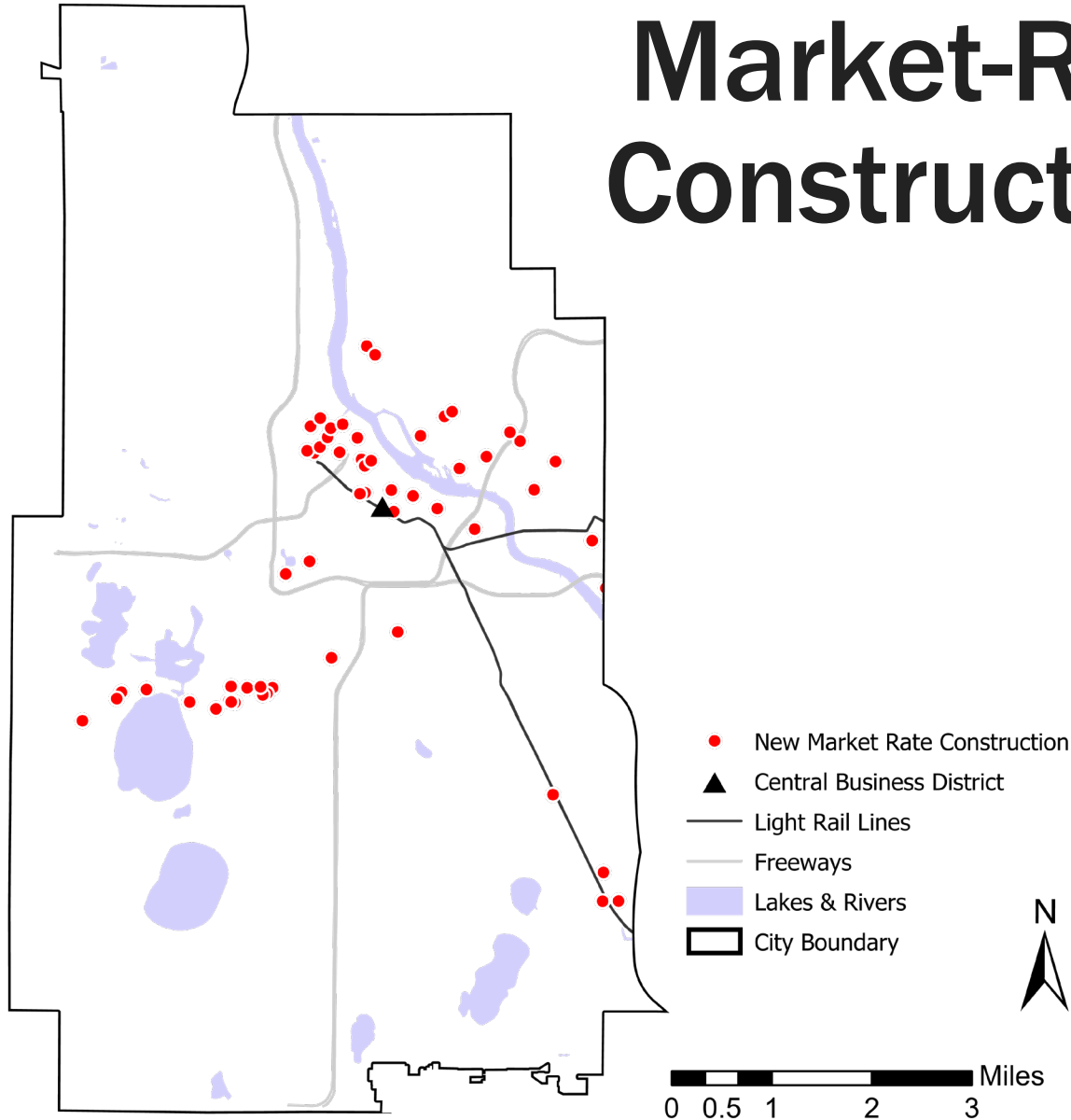
- Development highly concentrated in 21/121 (17%) census tracts

- Clustered in Downtown, Northeast, University Uptown and around Blue Line stations

- Tracts that received new construction had higher home values, more college educated residents, fewer black residents than no build tracts

- Tracts with new construction have high shares of lower-quality rentals which is of concern.

Legend:
- ● New Market Rate Construction
- ▲ Central Business District
- Light Rail Lines
- Freeways
- Lakes & Rivers
- City Boundary

N

Miles
0 0.5 1 2 3

Methods

Three Sets of Models
- ◦ Pooled Difference-in-Differences
- ◦ Difference-in-Differences with Heterogenous Treatments (Submarket / Distance)
- ◦ Event Study

All models estimated with a linear *high dimensional fixed effects* estimator and standard errors clustered at the building-level

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Methods – DID Framework

$$\ln(rent_{it}) = \delta\, Treat_{it} + \alpha_i + \tau_t + \varepsilon_{it}$$

$Treat_{it}$ "turns on" for unit$_i$ if there is a new building located within 300m in quarter$_t$

δ is the parameter of interest and is the average treatment effect on the treated (ATET)

α_i and τ_t are unit and time fixed effects

Methods – DID Framework

$$\ln(rent_{it}) = \delta\, Treat_{it} + \delta_{high}(Treat_{it} * highqual_i) + \delta_{low}\,(Treat_{it} * lowqual_i) + \alpha_i + \tau_t + \varepsilon_{it}$$

Conceptually similar, but δ_{high} and δ_{low} capture the differential effect of treatment on bottom and top tercile buildings

Ex: ATET for first tercile buildings is $\delta + \delta_{low}$

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Methods – Event Study

$$\ln(rent_{it}) = \sum_{k=-20}^{20} \delta_k \ 1\{K_{it} = k\} + \sum_{k=-20}^{20} \delta_{high,k} \ (1\{K_{ik} = k\} * highqual_i) +$$
$$\sum_{k=-20}^{20} \delta_{low,k} \ (1\{K_{ik} = k\} * lowqual_i) + \alpha_i + \tau_t + \varepsilon_{it}$$

Sigma terms are indexed to "event time" – quarters until/since new construction

δ_k is the ATET in quarter k until/since new construction

$\delta_{high,k}$ and $\delta_{low,k}$ are differential effects in quarter k until/since new construction

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Difference-in-Difference Results

	Pooled	Median	Terciles
Pooled	0.00176		
	(0.22)		
Median - Low		0.0402*	
		(2.37)	
Median - High		-0.00952	
		(-1.14)	
Tercile - Low			0.0671**
			(2.69)
Tercile - Mid			0.0119
			(1.30)
Tercile - High			-0.0172
			(-1.74)
Constant	6.741***	6.741***	6.741***
	(6,922.2)	(7,100.88)	(7,418.2)
Observations	46,662	46,662	46,662

t statistics in parentheses

- Pooled model shows no significant effect of new construction on rents

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Difference-in-Difference Results

	Pooled (1)	Median (2)	Terciles (3)
Pooled	0.00176		
	(0.22)		
Median - Low		0.0402*	
		(2.37)	
Median - High		-0.00952	
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- Pooled model shows no significant effect of new construction on rents (model 1)

- However, this null result masks significant differences in what is happening in different parts of the market.

- Models 2 & 3 which separate the market into tiers based on rent levels.

- Models 2 & 3 show consistently higher rents in lower-tier apartment units within 300 meters of new construction. 4% and 6.7% respectively

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- Pooled model shows no significant effect of new construction on rents (model 1)

- However, this null result masks significant differences in what is happening in different parts of the market.

- Models 2 & 3 which separate the market into tiers based on rent levels show significant differences.

- Models 2 & 3 show consistently higher rents in lower-tier apartment units within 300 meters of new construction. 4% and 6.7% respectively

- Small decrease in rents at the top and no change in the middle of the market

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Varying Treatment Distance
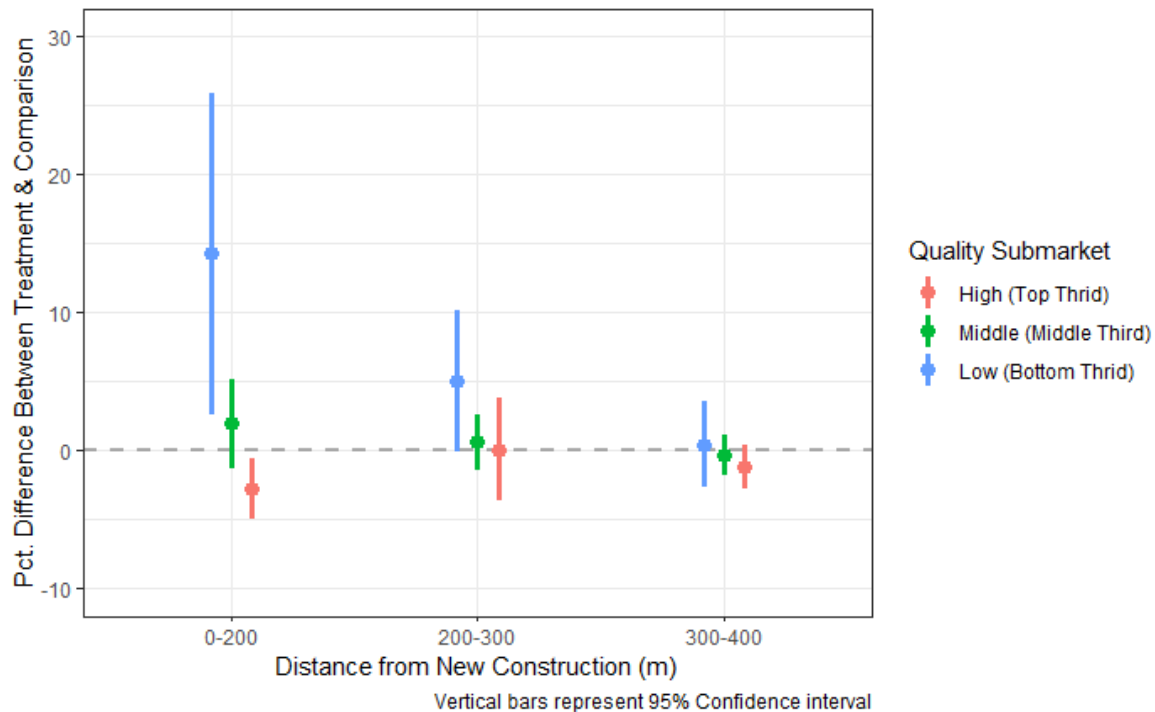
- Model breaks down treatment effect by housing market-tier and distance from new construction.

- Consistently larger effects within <u>200m of new construction.</u>
  - <u>2.5% lower rents for higher-tier housing</u>
  - <u>14% higher rents</u> for lower-tier housing

- Effect declines and reaches 0 by 400 meters (1/4 mile)

Event Study Model

- Rents begin to rise comparatively approximately a year before building completion.

- We find statistically significantly higher rents in lower-tier treated buildings in the first two years.

- Lower rents in higher quality buildings close to new construction for two years after new construction.

- Due to a limited sample, we have less precise estimates after two years, but trend is consistent.

Shaded area represents 95% Confidence interval
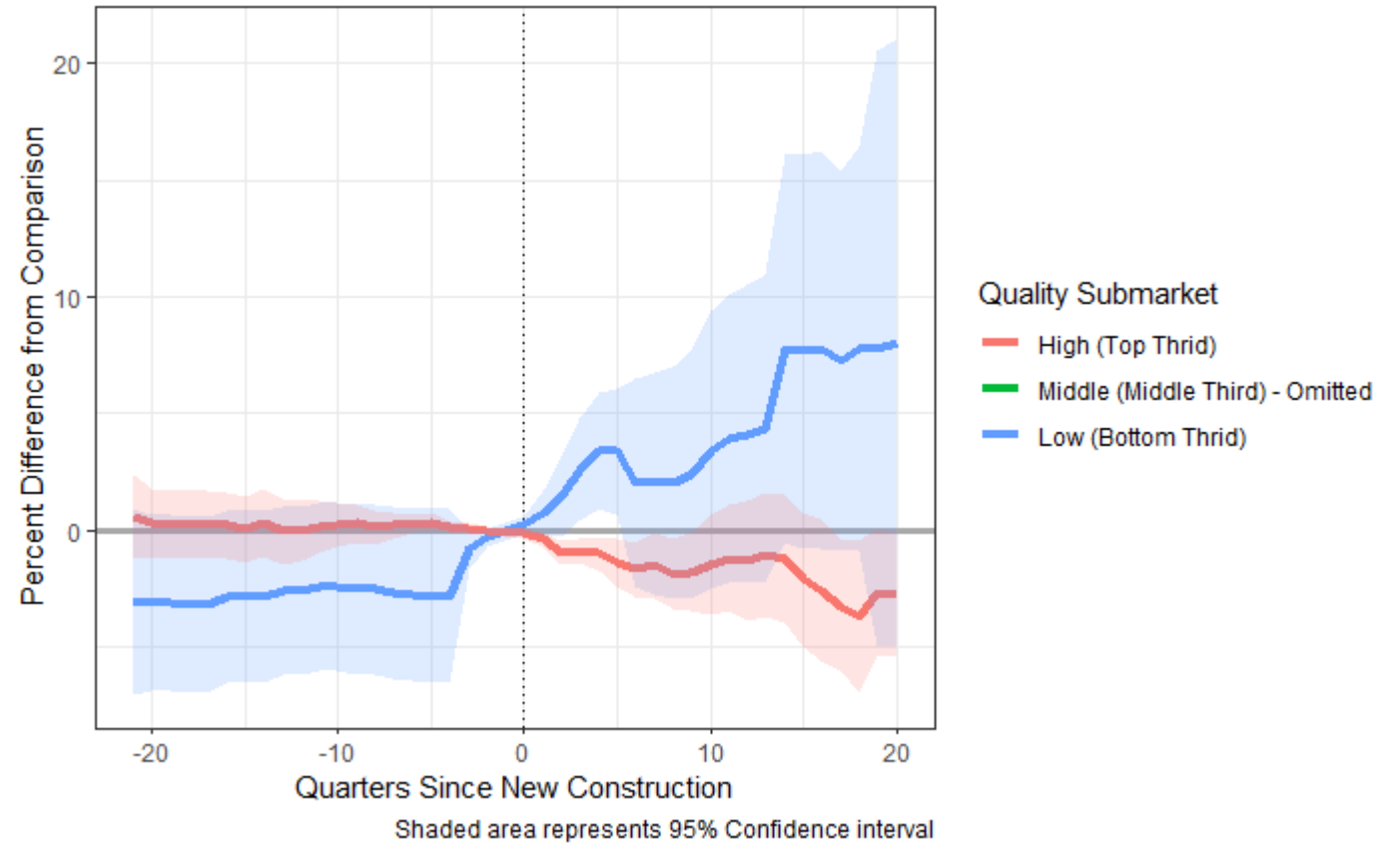
Explaining our Findings

- We find evidence for both a supply effect AND an amenity effect in neighborhoods with new market-rate apartments in the short-term.

- Supply effect at the top of the market
  - New expensive units directly compete with existing high-tier units
  - Results in smaller rent increases compared to our comparison group

- Amenity effect at lower part of rental market
  - New market-rate buildings signal higher local demand and potential arrival of new amenities to landlords
  - Landlords in lower-tier buildings can raise rents and still be below rents in higher-tier buildings

Conclusion

Long-term effects
- Expensive rental housing can filter down through the market and becomes affordable for lower-income families.

Short-term effects
- Housing submarkets and demand matter
- Higher rents for lower-tier housing near new market-rate apartments ↑ (6%-14%)
- Slightly lower rents for higher-tier existing housing close to new market-rate apartments ↓ (0%-2.5%)
- Effects will persist at least two years after construction

Limitations
- Study only covers one city (Minneapolis, MN)
- Possible that finding could be different in different housing market conditions.

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