Price Effects of the Special Housing Areas in Auckland

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Based on Fernandez, M. A., Sánchez, G., and Bucaram, S. Price effects of the special housing areas in Auckland. *New Zealand Economic Papers* (2019): 1-14.

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I. Introduction: Special Housing Areas (SHA)

HASHA Act 2013

The purpose of this Act is to enhance housing affordability by facilitating an increase in land and housing supply in certain regions or districts, listed in Schedule 1, identified as having housing supply and affordability issues.

Auckland Housing Accord

1 The Auckland Housing Accord between the Council and the Government is intended to result in increased housing supply and improved housing affordability in Auckland in the interim period until the Auckland Unitary Plan becomes operative.

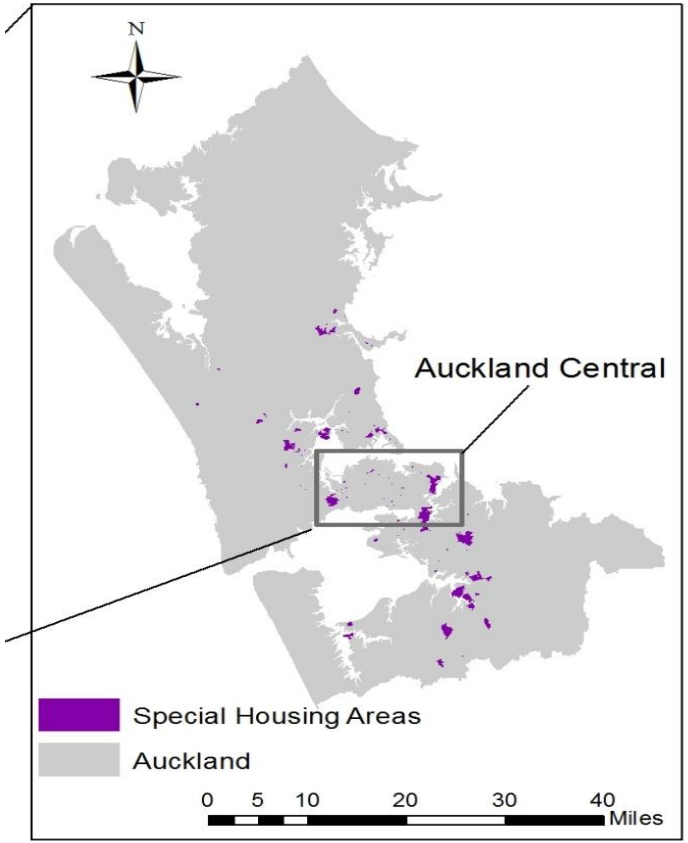
I. Introduction: Special Housing Areas

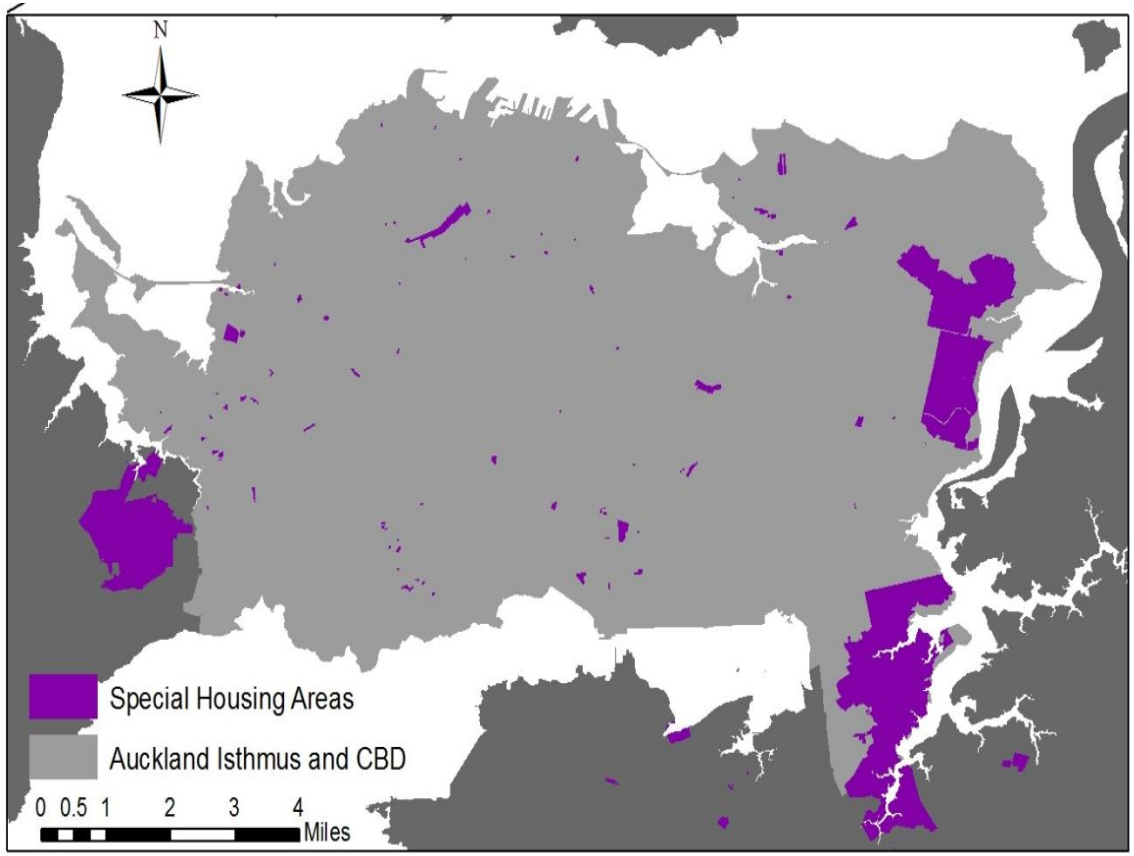
- Developers requested designation: fast-tracking
- Inclusionary zoning?
- Two affordability criteria:
  - **Criteria A:** Price less than 75% of the median
  - **Criteria B**:
    - Sold/rented to households ~ 120% of median income,
    - Price ~ mortgage payments $\leq 30\%$ of income

http://www.newshub.co.nz/home/election/2017/09/houses-built-on-fewer-than-half-of-auckland-s-special-housing-areas.html

https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11887795

I. Introduction: Special Housing Areas





Literature review

- **Mandatory IZ:** increasing prices (Schuetz, Meltzer and Been, 2011), supply constrains (Powell and Stringham 2004), size decreases (Bento *et al.* 2009), creates distortions (Tombari 2005)
- Affordable housing lags but increases over time (Crook and Whitehead, 2002; Monk, Crook and Lister, 2005; Norris and Shiels, 2007).
- Mixing low- and high-income (Calavita and Grimes, 1998; Mallach and Calavita, 2010), segregation (Diagne et al 2018), decrease segregation (Ihlanfeldt and Mayock 2018)
- **Voluntary IZ:** not effective (Mukhija *et al.*, 2010)

Motivation

- **Purpose of the paper:** SHAs and affordability: price effects
- Research questions:
  - Effective?
  - Policy implications

Land supply → Housing supply →
Lower prices → Affordability improves

- Causality approach: Difference in Difference

12 MARCH 2019

Costs outweigh benefits for Special Housing Area extension

HON PHIL TWYFORD

"Research found that in some cases houses were 5 per cent more expensive inside Special Housing Areas than outside them.

https://www.nzherald.co.nz/hamilton-news/news/article.cfm?c_id=1503366&objectid=12036355

II. Methods

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II. Methods: Empirical Strategy

- Price effects: Average treatment effects
  - Treatment: SHAs designation (not random)
  - Counterfactuals
    - Houses outside SHAs
    - 1 Km around SHAs

Average Prices by Treatment Status ($‘000s)

	Inside SHAs	Outside SHAs	Price Difference	SE of Difference
Before treatment	488.94	593.52	-104.58	4.38
After treatment	733.15	792.19	-59.04	5.16

II. Methods: Empirical Strategy

- Basic specification

$$\log(price_{i(t)t}) = \alpha + \beta SHA_{i(t)} + \gamma D_{i(t)} + \theta\left(SHA_{i(t)} * D_{i(t)}\right) + u_{i(t)}$$

$SHA_{i(t)}$ equals one if inside a SHA.

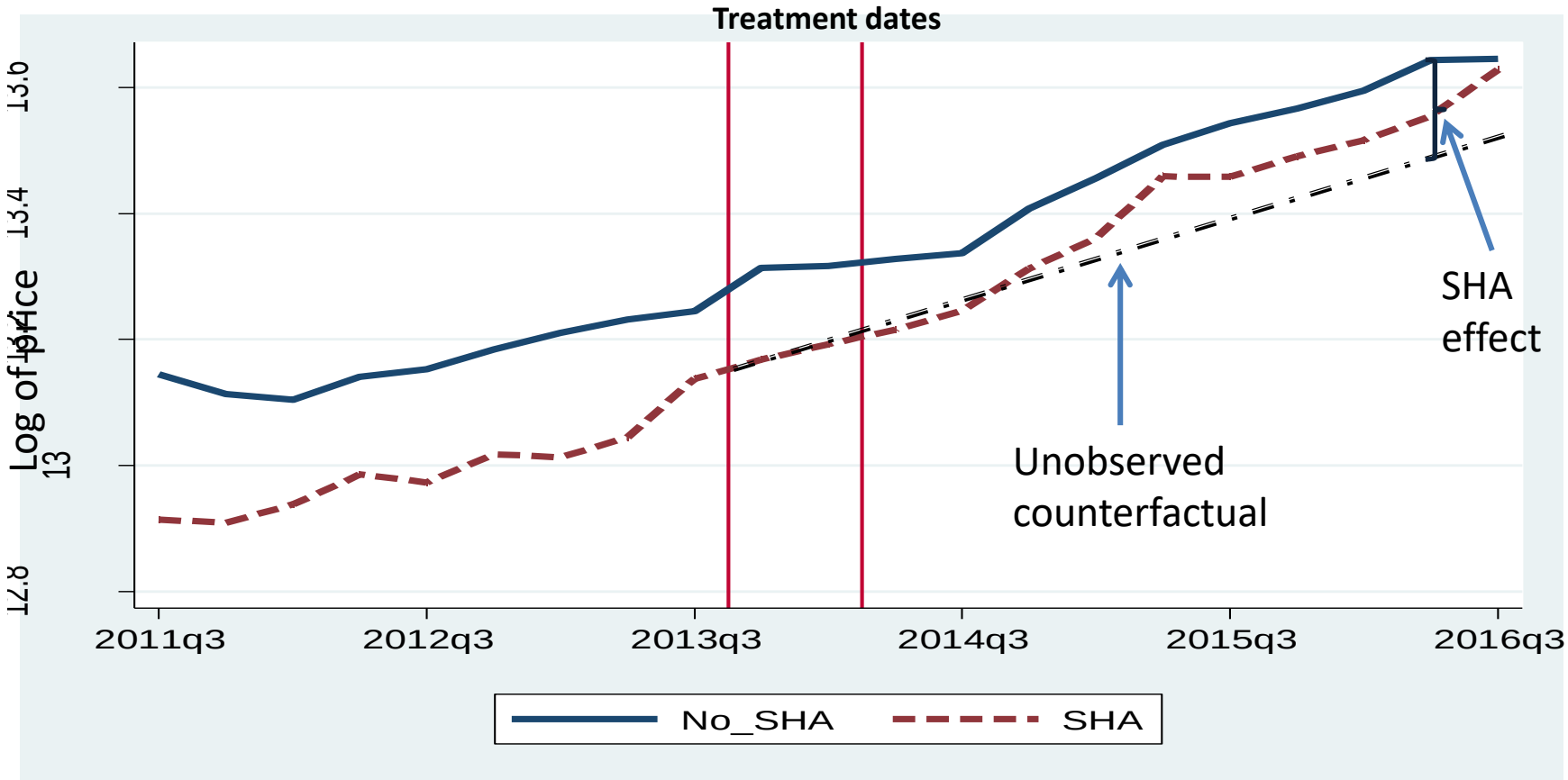
$D_{i(t)}$ equals one for the after treatment period.

θ: treatment effect

II. Methods: Empirical Strategy

- Extended specifications
  - Month-by-year fixed effects and area unit fixed effects
  - Interactions: legacy districts and quarter-by-year indicators
  - Age
  - Leading indicators
    - 3 months prior treatment dates
    - Quarter prior treatment dates

Identification – Parallel trends (log of price)



II. Methods: Data

- 170 thousand transactions between 2011Q1 and 2016Q4.
- Trimming: 1st and 99th percentiles
- ~ 4% of sales located inside a SHA, 67% after September 2013
- ~ 3% of sales: treatment effect

III. Results

Average Treatment Effects: Log of Housing Price - OLS

	(1)	(2)	(3)	(4)	(5)	(6)
After Treatment	-0.043***	-0.040**	-0.045**	-0.041**	-0.036*	-0.033
	(0.016)	(0.018)	(0.018)	(0.019)	(0.020)	(0.021)
SHA	-0.049	-0.055	-0.053	-0.050	-0.052	-0.052
	(0.049)	(0.049)	(0.051)	(0.051)	(0.050)	(0.050)
SHA*After Treatment	0.056*	0.060**	0.062**	0.056*	0.057*	0.057*
	(0.029)	(0.030)	(0.031)	(0.030)	(0.031)	(0.031)
AU & month-by-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Quarter-by-year*District FE	No	Yes	Yes	Yes	Yes	Yes
Age	No	No	Yes	Yes	Yes	Yes
Distance SHA < 1 km	No	No	No	Yes	Yes	Yes
Monthly leading indicators	No	No	No	No	Yes	No
Quarterly leading indicator	No	No	No	No	No	Yes

Average Treatment Effect: Probability of Affordable Transactions - LPM

	(1)	(2)	(3)	(4)	(5)	(6)
After Treatment	0.079**	0.071**	0.077**	0.073**	0.079**	0.077**
	(0.031)	(0.032)	(0.031)	(0.032)	(0.036)	(0.036)
SHA	0.064	0.071*	0.071*	0.067	0.065	0.065
	(0.041)	(0.040)	(0.042)	(0.041)	(0.041)	(0.041)
SHA*After Treatment	-0.042	-0.046	-0.049	-0.039	-0.037	-0.037
	(0.034)	(0.031)	(0.032)	(0.030)	(0.030)	(0.030)
AU & month-by-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Quarter-by-year*District FE	No	Yes	Yes	Yes	Yes	Yes
Age	No	No	Yes	Yes	Yes	Yes
Distance SHA < 1 km	No	No	No	Yes	Yes	Yes
Monthly leading indicators	No	No	No	No	Yes	No
Quarter Leading indicator	No	No	No	No	No	Yes

Average Treatment Effect: Probability of Costly Transactions - LPM

	(1)	(2)	(3)	(4)	(5)	(6)
After Treatment	-0.020	-0.020	-0.026	-0.022	-0.001	0.002
	(0.017)	(0.020)	(0.021)	(0.022)	(0.023)	(0.023)
SHA	-0.014	-0.014	-0.016	-0.015	-0.021	-0.021
	(0.070)	(0.069)	(0.072)	(0.072)	(0.070)	(0.070)
SHA*After Treatment	0.055*	0.054*	0.058*	0.058*	0.064*	0.064*
	(0.031)	(0.032)	(0.033)	(0.033)	(0.036)	(0.036)
AU & month-by-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Quarter-by-year*District FE	No	Yes	Yes	Yes	Yes	Yes
Age	No	No	Yes	Yes	Yes	Yes
Distance SHA < 1 km	No	No	No	Yes	Yes	Yes
Monthly leading indicators	No	No	No	No	Yes	No
Quarter Leading indicator	No	No	No	No	No	Yes

Average Treatment Effect: Probability of Transactions of Single-Units - LPM

	(1)	(2)	(3)	(4)	(5)	(6)
After Treatment	-0.023	-0.024	-0.019	-0.019	0.005	0.005
	(0.018)	(0.018)	(0.018)	(0.019)	(0.021)	(0.021)
SHA	-0.034	-0.036	-0.042*	-0.041*	-0.048**	-0.048**
	(0.024)	(0.025)	(0.024)	(0.024)	(0.024)	(0.024)
SHA*After Treatment	0.001	0.003	0.007	0.005	0.011	0.011
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
AU & month-by-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Quarter-by-year * District FE	No	Yes	Yes	Yes	Yes	Yes
Age	No	No	Yes	Yes	Yes	Yes
Distance SHA < 1 km	No	No	No	Yes	Yes	Yes
Monthly leading indicators	No	No	No	No	Yes	No
Quarter Leading indicator	No	No	No	No	No	Yes

IV. Discussion

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IV. Discussion

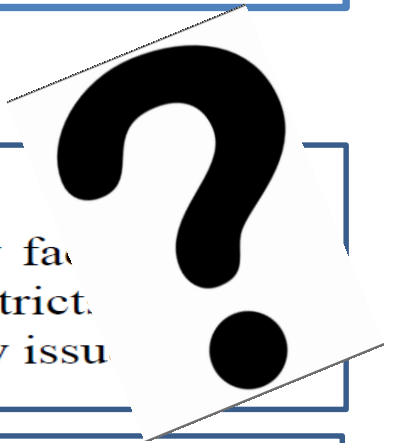
- SHAs caused price increases: 5.6%
- Negligible or questionable effects on affordability
- Caveats:
  - Housing characteristics
  - Different treatment dates

IV. Discussion

- What weakened the SHAs?

1. Weak incentives
2. Uncertainty
3. Voluntary vs mandatory

Land supply → Housing supply → Lower prices → Affordability improves



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RIMU Research and Evaluation Unit

Current/future research

- Changes in the price distribution
- Simulation of mandatory IZ and complementary policies
- Institutional aspects of mandatory IZ

Thank you

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RIMU

Research and Evaluation Unit