Milestone 6

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INTRODUCTION

On Replication

I have listed every table and figure from the paper in the order in which they appear. Those that I have successfully replicated are included, while there is a blank for those that I have not replicated. Hankinson's original paper includes 27 figures. I have replicated 21 of them. Those that I have not replicated are mainly explanatory tables, that is they include summary statistics, demonstrate theoretical results, or attempt to illustrate a hypothetical conjoint survey. I chose not to replicate these tables because they do not directly pertain to the actual analysis of Hankinson's data set and thus do not contribute to answering the research question about what factors are associated with renters exhibiting NIMBY behavior.

Proposed Extension

In his paper, Hankinson uses the San Francisco specific and Non-Conjoint National Survey data sets to explore differing levels of NIMBY-ism exhibited by renters and homeowners. He measures this outcome using two binary response variables, whether they indicate support for a 10% supply increase in housing and whether they support a ban on neighborhood development. In both the San Francisco city-specific set which he collects from exit-polling, and the nation-wide survey data, Hankinson considers the demographic controls through the following covariates: homeownership status, Ideology, Income, Race, Age, and Gender. For the San Francisco set he runs two models for each response variable using the lm command: a bivariate regression and a full model including all of the predictors. For the nation-wide data set, Hankinson runs three models: a bivariate regression, a full model, and a full model including municipal fixed effects (holding municipality constant).

I would like to extend Hankinson's analysis by going beyond an OLS linear model and using logistic regression. I think this would be appropriate for two reasons. First, using a linear approximation runs the risk of breaking axioms of probability when considering a binary response variable because while it is estimating probabilities, it is possible for the predicted value at certain values for the covariates to go outside of 0 and 1. Second, logistic regression allows us to consider the possibility that the relationship between home ownership status and NIMBY-ism is not linear. It enables one to model probabilities continuously while ols can only give discrete outcomes. I will then re-fit these four models for the SF data set and six models for the nation-wide set using logistic and interpret the results. Then I would like to compare the results with those found using the LM command. Finally, I will discuss the discrepencies (or lack thereof). This will be informed by Chapters 13 and 14 of RAOS.

Another extension I will consider is implementing variable selection. For example, are all the demographic controls Hankinson includes in his final regression outputs necessary? Or might they be causing overfitting to the data? I could use a step function using AIC.

REPLICATION RESULTS

IN-TEXT RESULTS

Table 1. Expected Support for New Housing Development by Spatial Scale (Macroscale v. Microscale).

Figure 1. Support for a Neighborhood Ban on New Development by Support for a 10% Increase in the City's Housing Supply

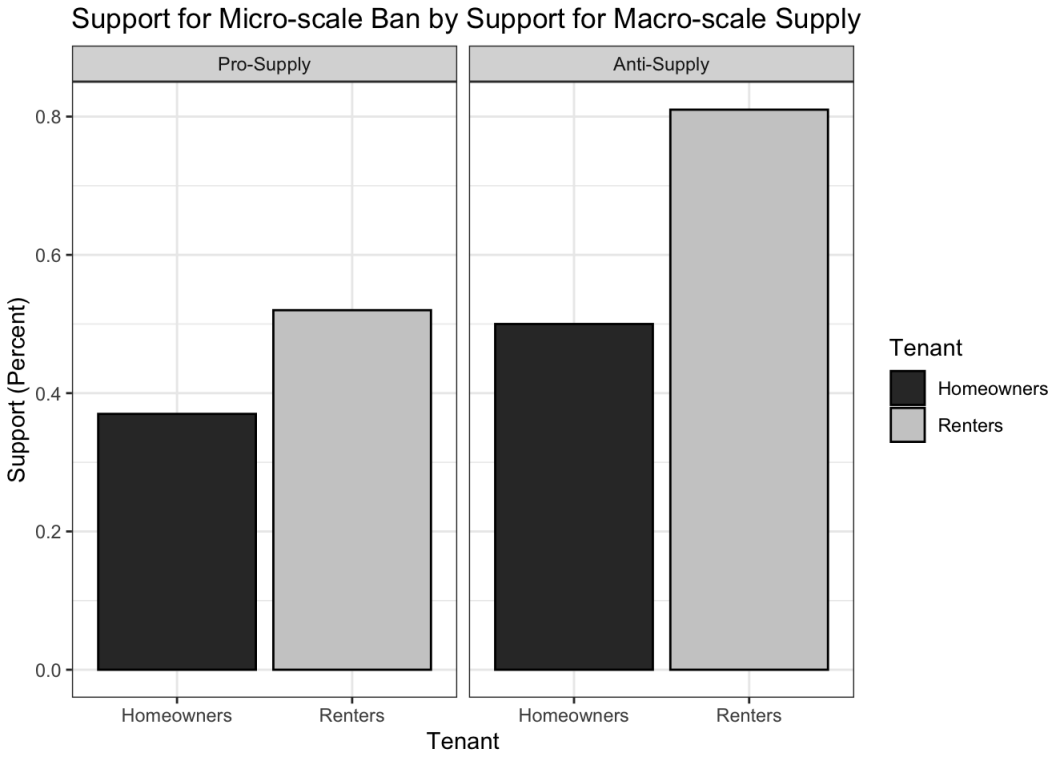


Figure 2. Example of the Conjoint Task

Table 2. Attributes and Levels

Figure 3. Effect of Proximity on Homeowners by Affordability of Proposed Housing

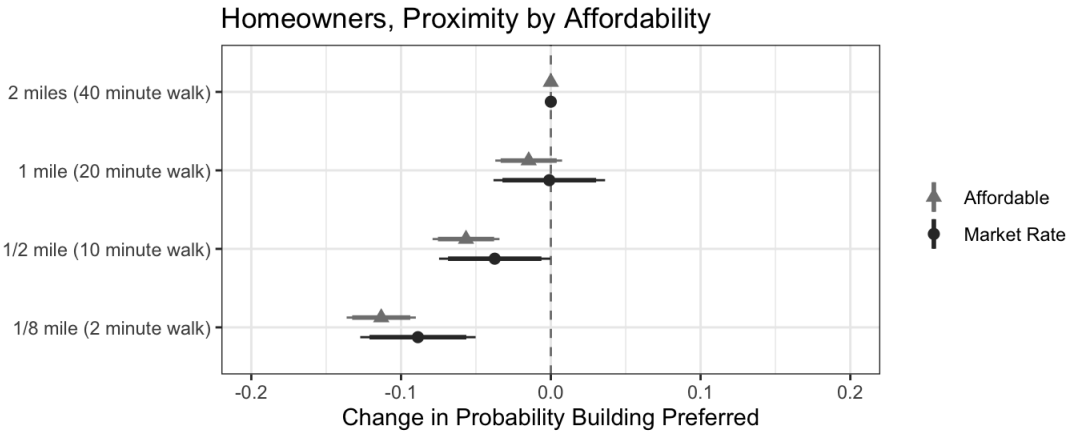


Figure 3. Supplement

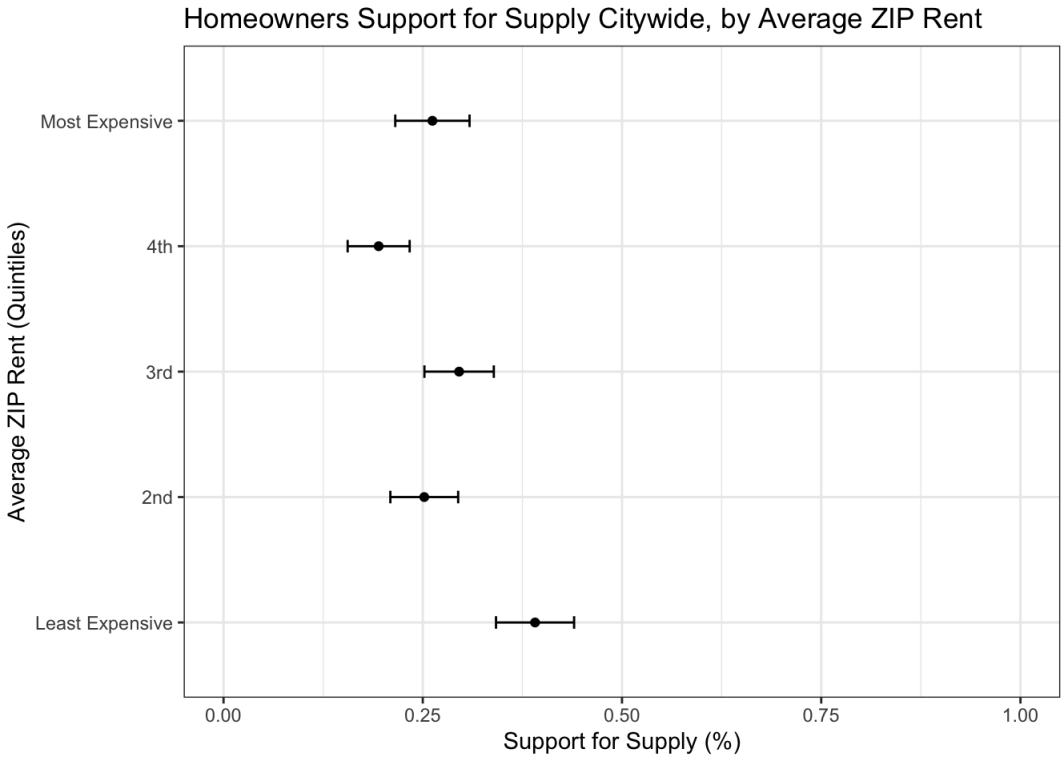


Figure 4 Effect of Proximity on Renters by Affordability of Proposed Housing

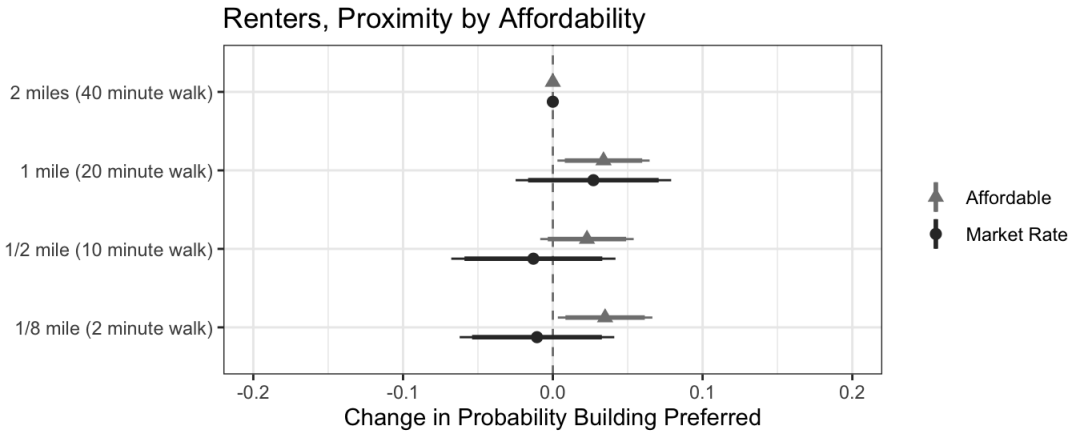


Figure 5 Effect of Proximity on Renters by Affordability of Proposed Housing, Grouped by Average Rent Citywide. Displayed Effect is Shift from Two Miles Away (Baseline) to an Eighth of a Mile Away. Quintile Cutpoints for Average Rent by City at $1,217, $1,480, $1,936, and $2,247

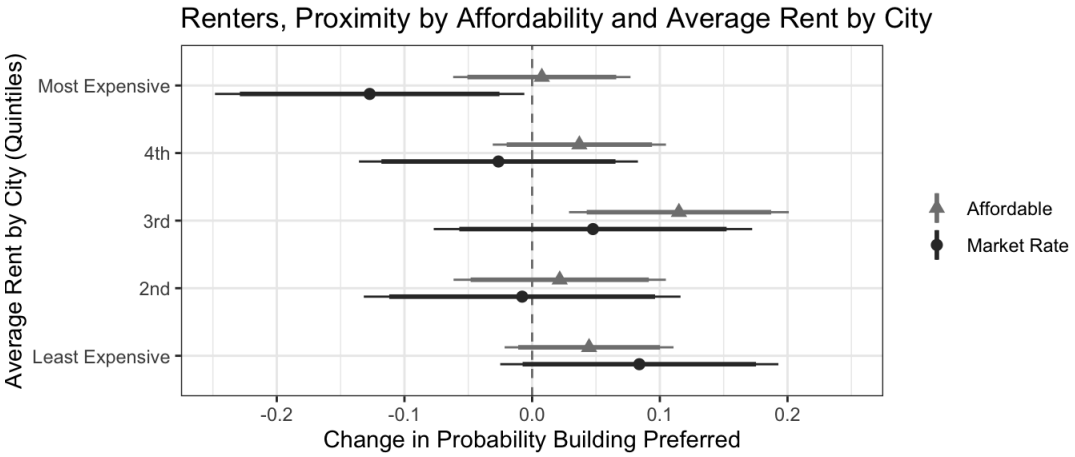


Figure 6. Renter Support for a 10% Increase in Their City/Town's Housing Supply, by Average Rent Citywide

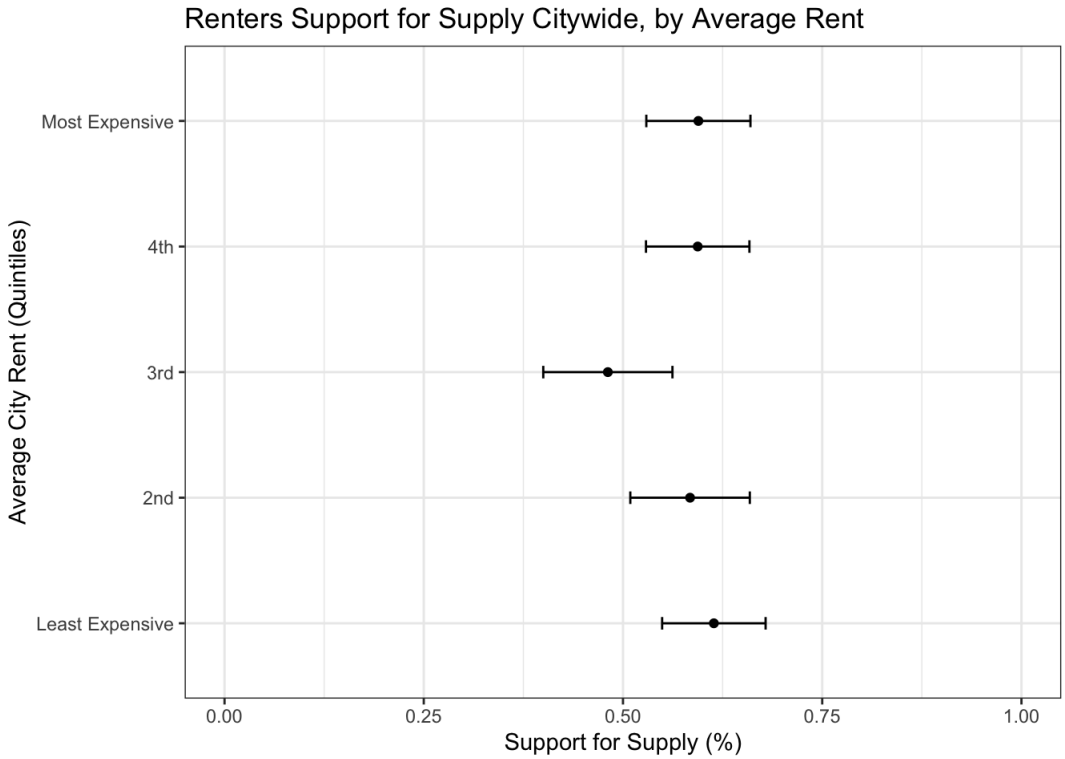
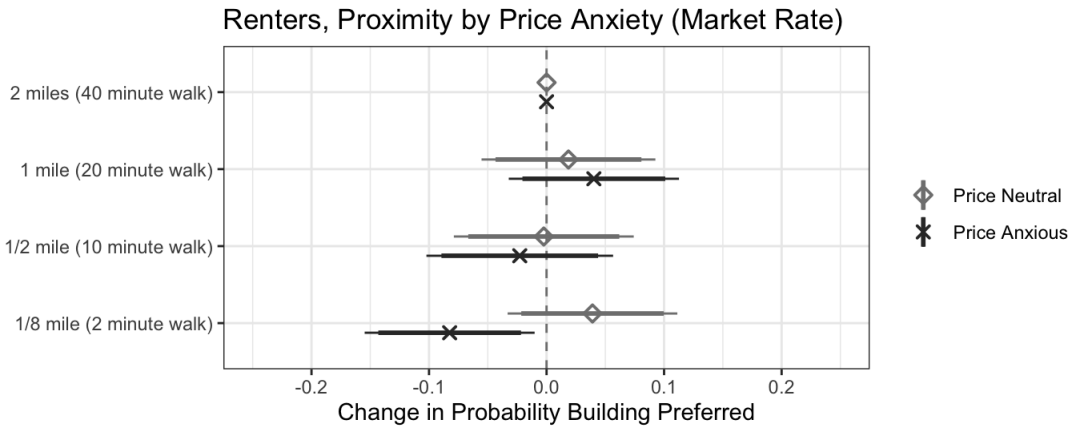


Figure 7. FIGURE 7. Effect of Proximity on Renters Toward Market-Rate Housing by Attitude Toward Housing Prices Citywide



APPENDIX

A San Francisco

Table A.1. Descriptive Statistics, San Francisco Sample

Table A.2. Proposition Vote Share, San Francisco Sample

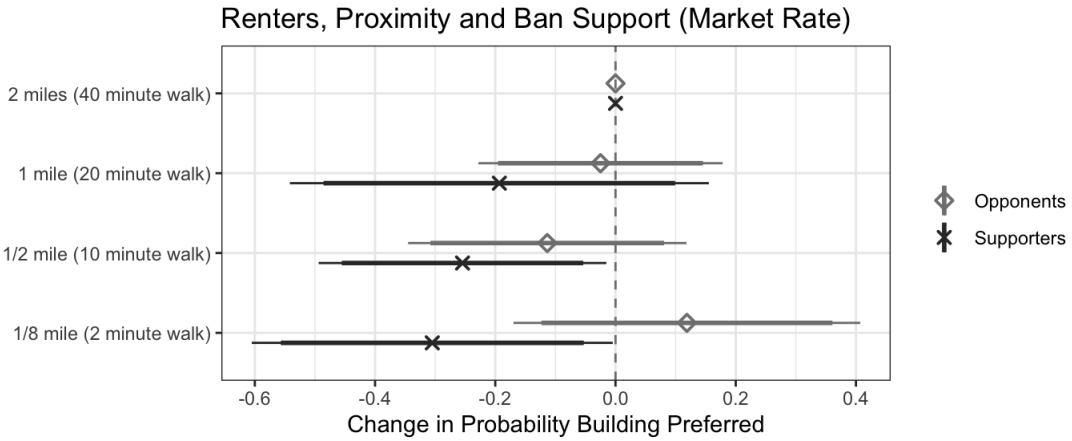
Table A.3. Policy Proposals, San Francisco Sample

Policy Proposals, San Francisco Sample

	Dependent variable:			
	10 Pct Supply		NIMBY Ban Proposal	
	(1)	(2)	(3)	(4)
Homeownership	-.10	-.05	-.22	-.09
	(.03)	(.06)	(.03)	(.04)
Ideology		.05		.10
		(.03)		(.01)
Income, Log		.05		-.13
		(.03)		(.02)
White, Non-Hispanic		.05		-.10
		(.05)		(.03)
Age		-.002		.003
		(.002)		(.001)
Male		.07		-.09
		(.05)		(.03)
Constant	.62	.86	.62	.55
	(.02)	(.08)	(.02)	(.05)
Observations	1,175	270	1,294	1,087
R^2	.01	.07	.04	.17
Adjusted R^2	.01	.05	.04	.17

Policy Proposals, San Francisco Sample

Figure A.1. Effect of Proximity on Recontacted San Francisco Renters Toward Market-Rate Housing by Support for Hypothetical Ban on Market-Rate Housing in own Neighborhood



NATIONAL SURVEY NON-CONJOINT

Table B.1. Descriptive Statistics, National Sample

Table B.2. Support for 10% Supply Increase

Support for 10 Percent Supply Increase

	Bivariate	Full	Full with Fixed Effects
	(1)	(2)	(3)
Homeownership	-.31	-.25	-.21
	(.02)	(.03)	(.04)
Ideology		.04	.04
		(.01)	(.01)
Income, Log		-.02	-.02
		(.01)	(.02)
White, Non-Hispanic		-.09	-.08
		(.02)	(.03)
Age		-.001	-.001
		(.001)	(.001)
Male		.06	.06
		(.02)	(.03)
Constant	.59	.63	.31
	(.02)	(.04)	(.08)
Observations	1,909	1,878	1,878
R^2	.09	.11	.36
Adjusted R^2	.09	.11	.11

Table B.3. Support for 10% Supply Increase—Seven-Point Scale

Support for 10 Percent Supply Increase - 7 Point Scale

	Bivariate	Full	Full with Fixed Effects
	(1)	(2)	(3)

Homeownership	-.90	-.69	-.60
	(.06)	(.07)	(.09)
Ideology		.13	.11
		(.03)	(.04)
Income, Log		-.09	-.07
		(.03)	(.04)
White, Non-Hispanic		-.24	-.18
		(.06)	(.08)
Age		-.01	-.01
		(.002)	(.002)
Male		.16	.15
		(.06)	(.07)
Constant	4.20	4.44	4.08
	(.05)	(.10)	(.20)
Observations	2,902	2,846	2,846
R^2	.07	.09	.31
Adjusted R^2	.07	.09	.11

Table B.4. Support for Ban on Neighborhood Development

Support for Ban on Neighborhood Development

	Bivariate	Full	Full with Fixed Effects
	(1)	(2)	(3)
Homeownership	.07	.07	.08
	(.02)	(.03)	(.03)
Ideology		-.03	-.03
		(.01)	(.01)
Income, Log		-.001	-.01
		(.01)	(.02)
White, Non-Hispanic		-.04	-.05
		(.02)	(.03)
Age		.001	.0004
		(.001)	(.001)
Male		-.03	-.02
		(.02)	(.03)
Constant	.35	.36	-.08
	(.02)	(.04)	(.06)
Observations	2,072	2,032	2,032
R^2	.005	.01	.29
Adjusted R^2	.004	.01	.03

Table B.5. Support for Ban on Neighborhood Development—Seven-Point Scale

Support for Ban on Neighborhood Development - 7 Point Scale

	Bivariate	Full	Full with Fixed Effects
	(1)	(2)	(3)
Homeownership	.26	.27	.25
	(.06)	(.07)	(.09)
Ideology		-.08	-.06
		(.03)	(.04)
Income, Log		-.01	-.02
		(.03)	(.04)
White, Non-Hispanic		-.12	-.17
		(.07)	(.08)
Age		.002	.003
		(.002)	(.002)
Male		-.12	-.11
		(.06)	(.08)
Constant	3.60	3.61	3.78
	(.05)	(.10)	(.20)
Observations	2,998	2,941	2,941
R^2	.01	.01	.24

Adjusted R^2	.01	.01	.02

C Conjoint Results

Figure C.1. Homeowner Spatial Sensitivity by Household Income. Above Median Income > $80,000, Below Median Income ≤ $80,000

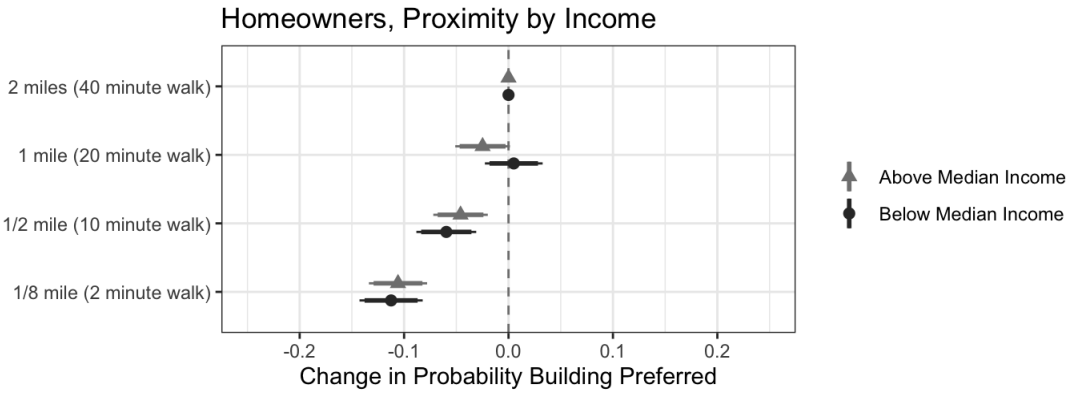


Figure C.2. Homeowner Spatial Sensitivity by Ideology

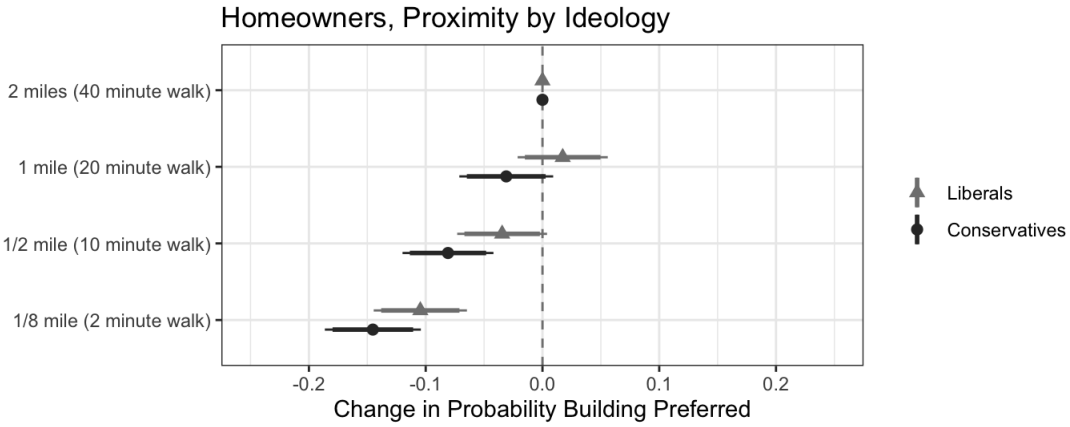


Figure C.3. Effect of an Eighth-Mile Away Compared to Baseline of Two Miles Away for Each Level of Affordability, by Homeownership Status

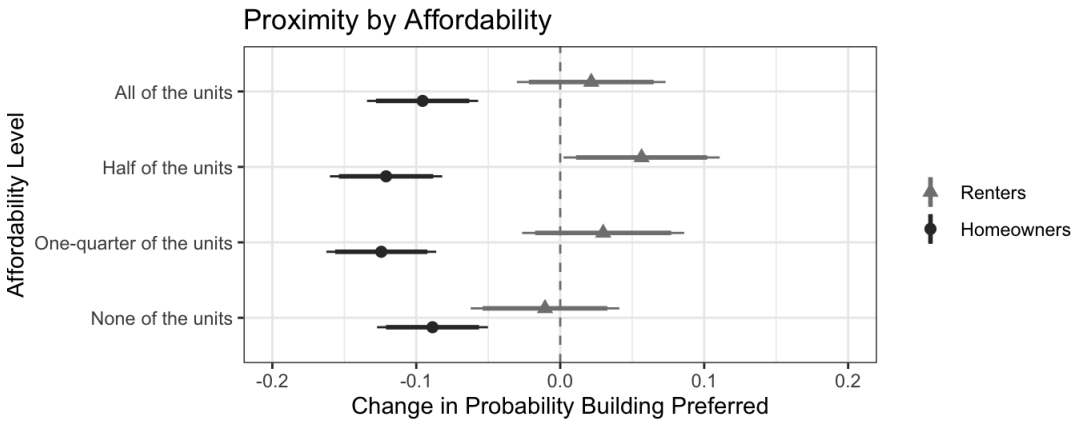


Figure C.4. Renter Spatial Sensitivity toward all Affordability Levels, by Citywide Average Rent

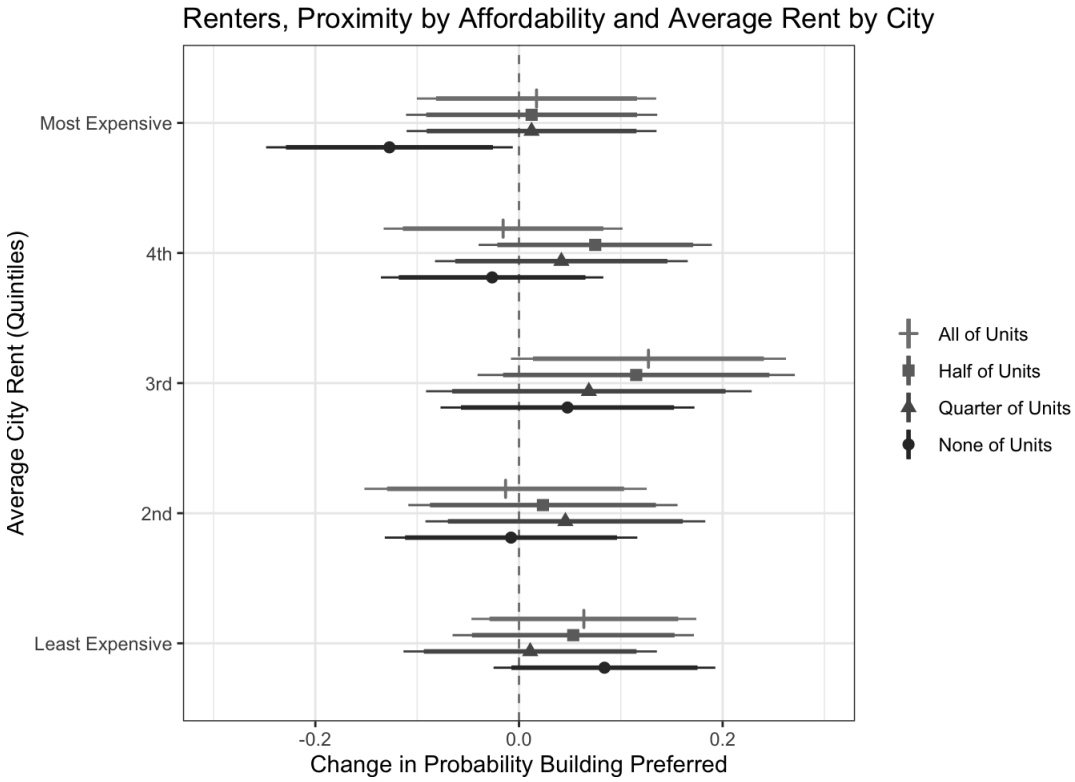


Figure C.5. Renter Spatial Sensitivity toward Affordability Levels, by ZIP Code Average Rent

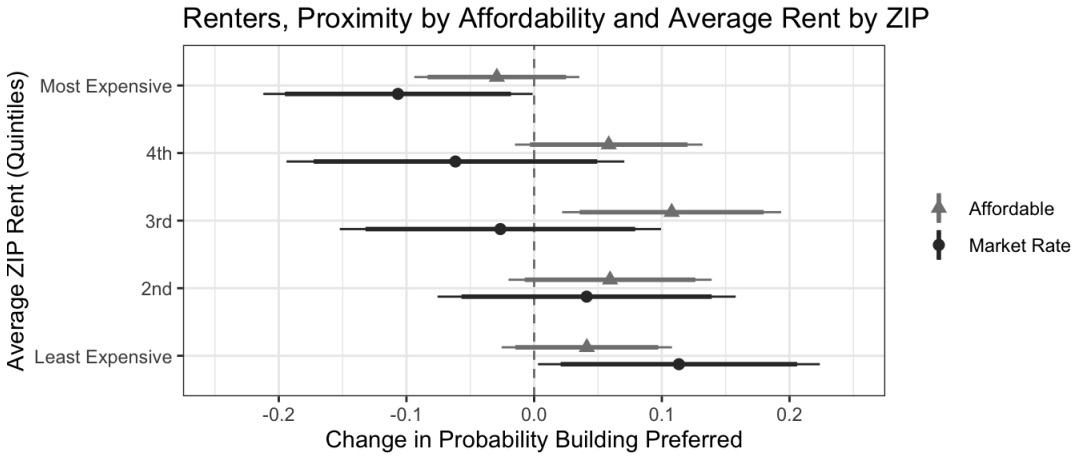


Figure C.6. Homeowner Spatial Sensitivity to all Affordability Levels, by Citywide Average Rent

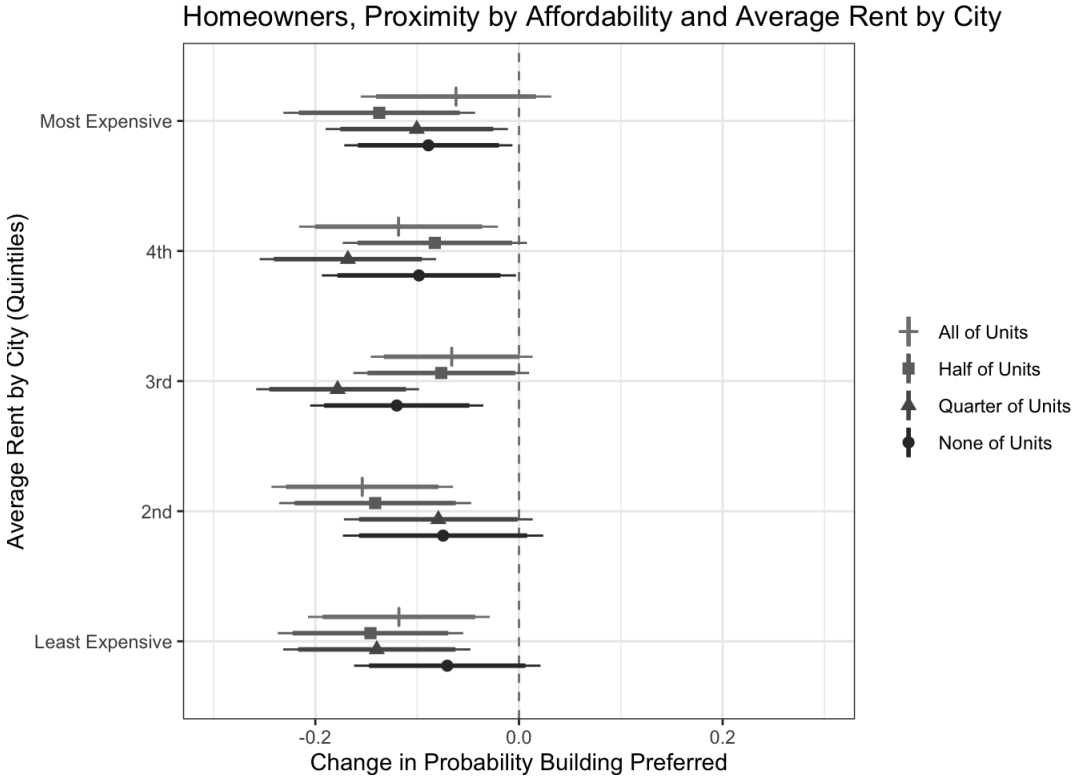


Figure C.7. Renter Spatial Sensitivity toward Affordable Housing, by Price Anxiety. Note Lack of Divergence between “Price Anxious” and “Price Neutral” Compared to Preferences toward Market-Rate Housing (Figure 7)

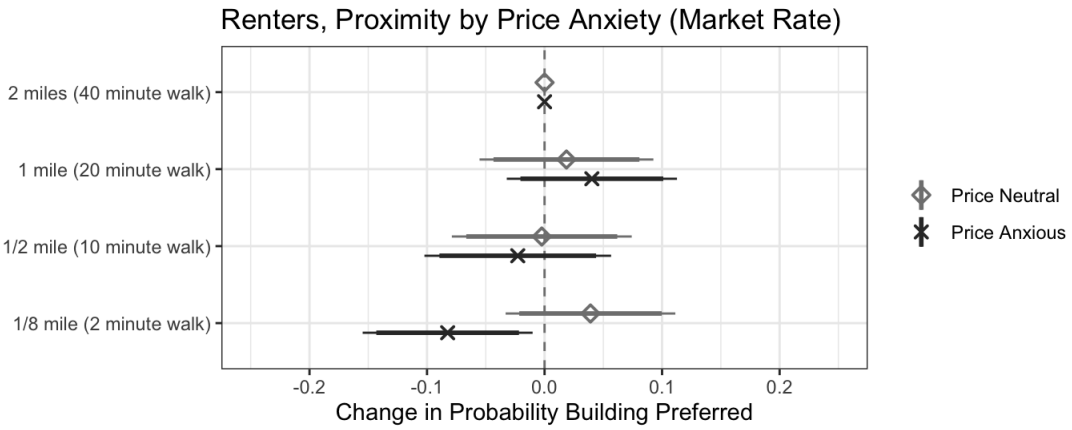


Figure C.8. Renter Support for a 10% Increase in Their City/Town's Housing Supply, Grouped into Quintiles by ZIP Code Average Rent

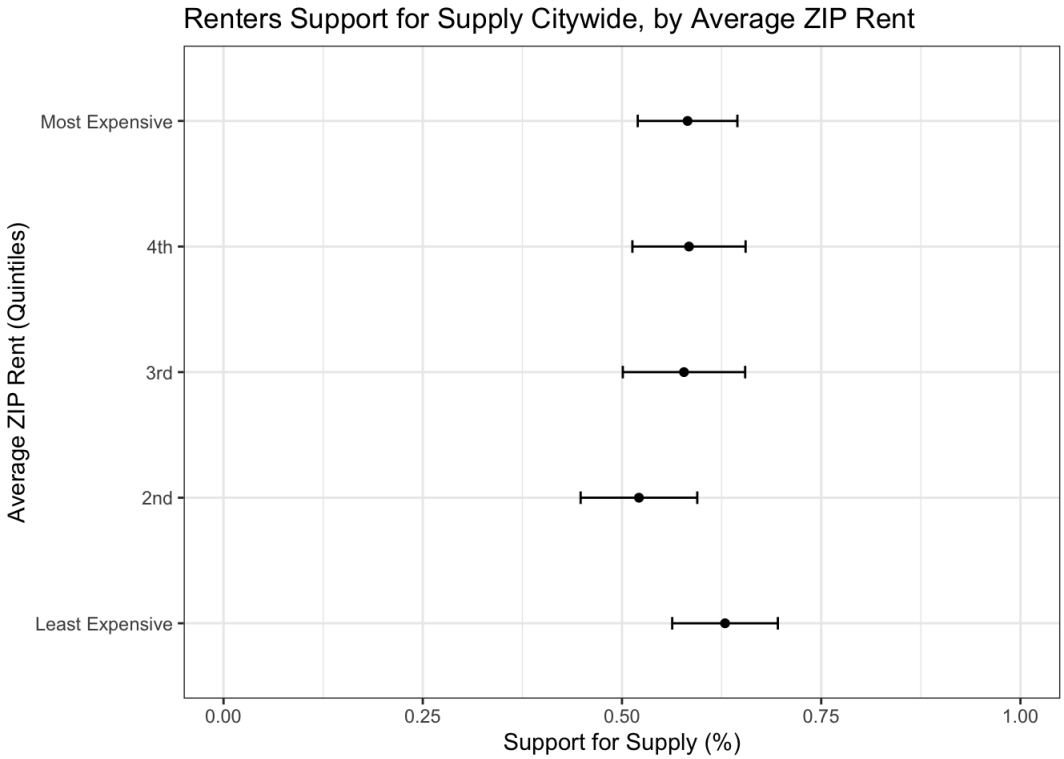
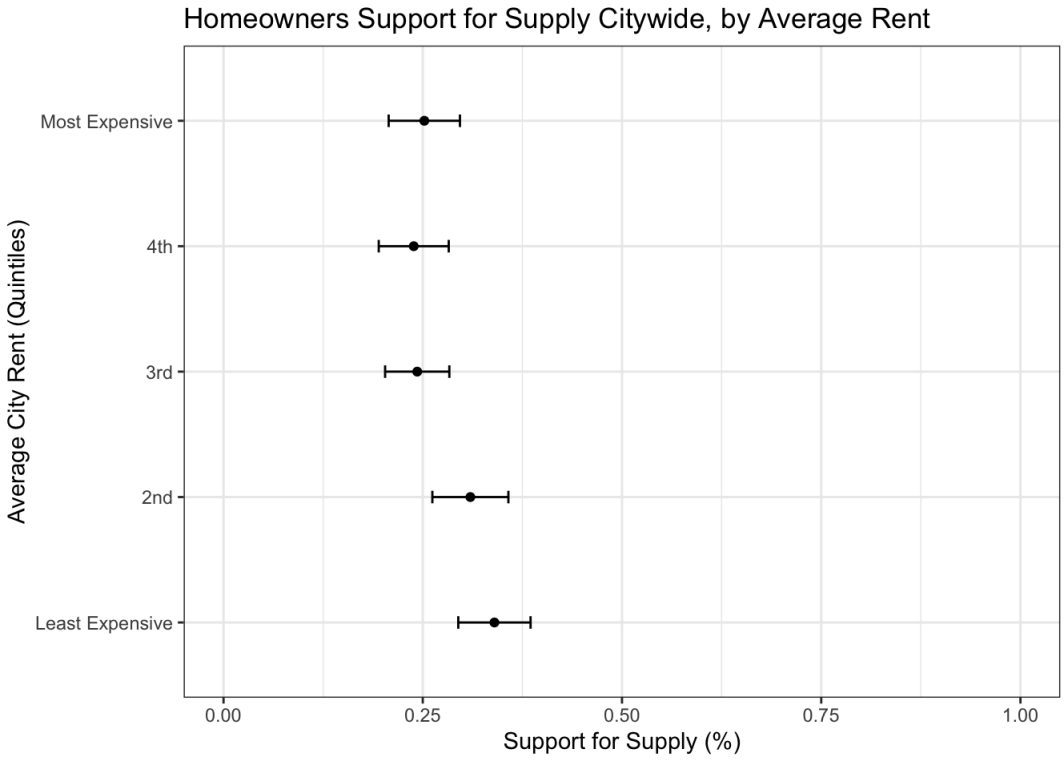


Figure C.9. Homeowner Support for a 10% Increase in City/Town's Housing Supply, by Citywide Average Rent


Homeowners Support for Supply Citywide, by Average Rent
Average City Rent (Quintiles)
Most Expensive
4th
3rd
2nd
Least Expensive
0.00
0.25
0.50
0.75
1.00
Support for Supply (%)