

Are Minimum Wages Absorbed by Price Increases?

ASSA/LERA annual meetings

January 3, 2016

San Francisco, CA

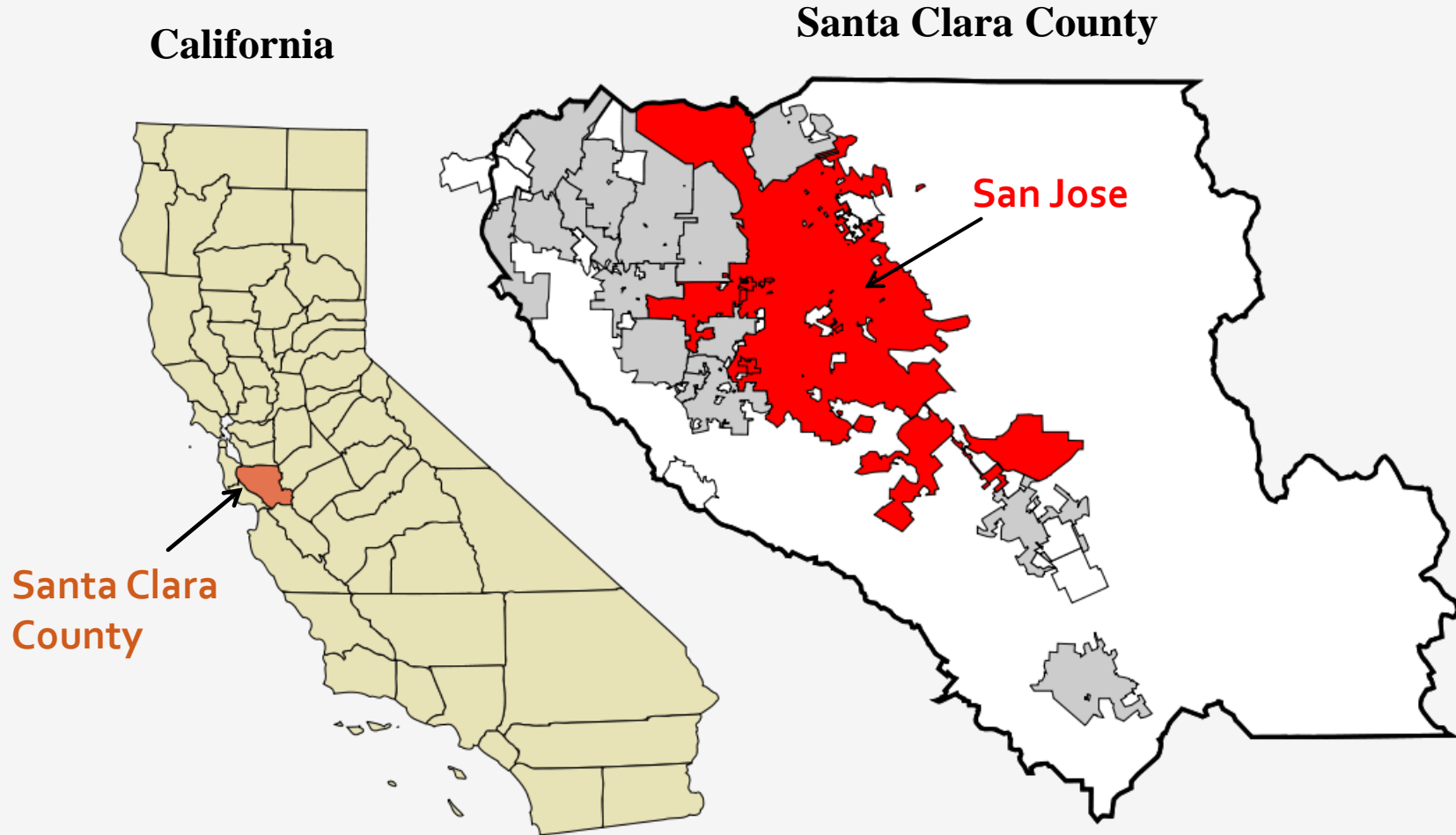
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San Jose citywide MW

- Motivated by San Jose State University students
 - November 2012, ballot initiative passed by 59 percent
 - March 2013 one step increase from \$8 to \$10, affecting over 20 percent of SJ covered workers (Reich 2012) versus 6 percent in all state and federal increases since 1990 (Autor, Manning & Smith 2015)
- Great opportunity for a local quasi-experiment
 - First study on price effects of a citywide MW policy
 - Use of internet-based data to compile a unique data set
 - Study restaurant menu prices given RIs use of MW workers
 - San Jose location within a larger labor market

Study area & research design



QCEW wages & employment

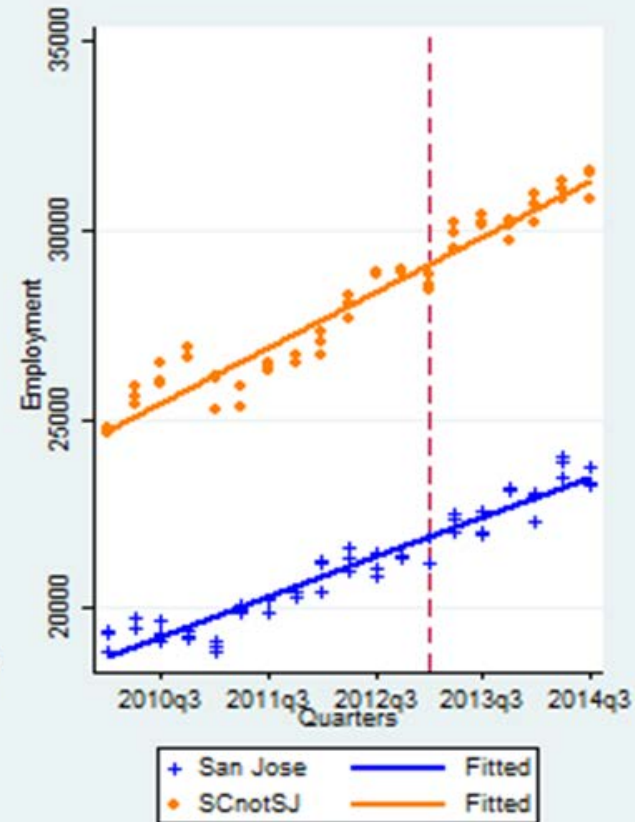
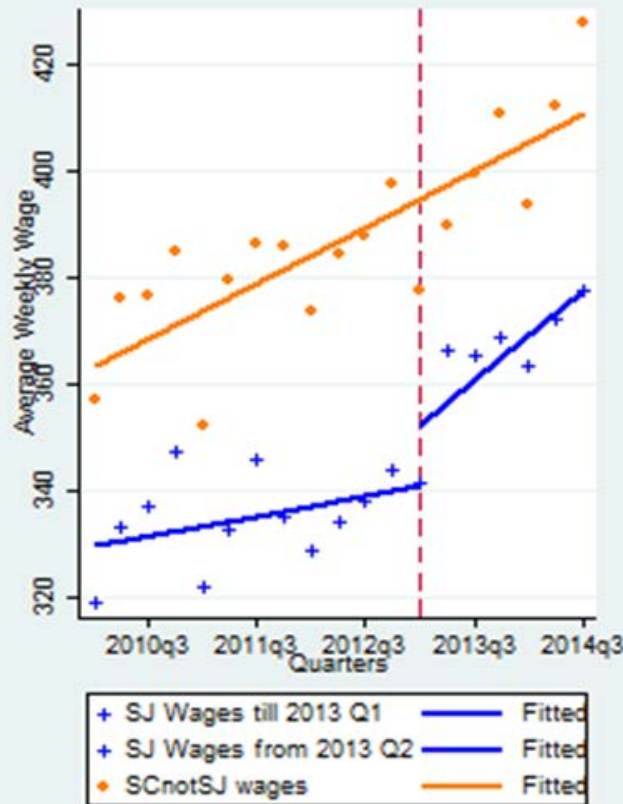
(Combined FSR & LSR)

Wages

Employment

Outside SJ

San Jose



Getting to our final sample

Sample process	N
Santa Clara County active food facilities	5,747
Screen for full- and limited-service restaurants	3,285
Restaurants with online menus—first wave	1,211
Restaurants with online menus—second wave	1,009
Final sample of restaurants with menu pairs	884

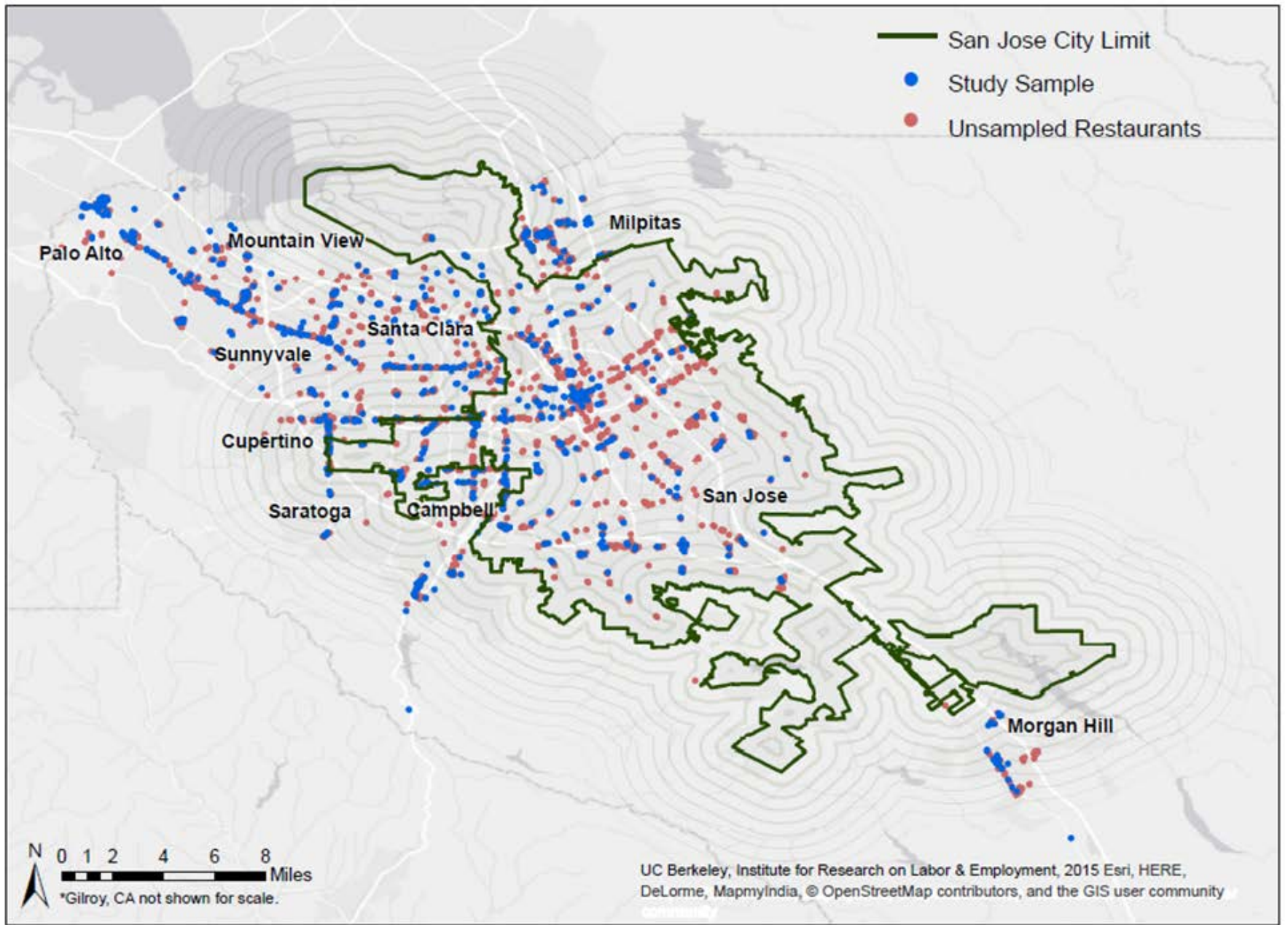
➤ **EVERY Pre- & Post-MENU ITEM WAS DIGITIZED!!** (n = 60,509)

Information on each restaurant

- **From the Santa Clara County AFF List:**
 - Name, exact address, phone number
 - Three employee size bins: 1-7, 8-39 & 40+.
- **From recoding:**
 - Full-service or limited service
 - Chain or independent
 - Number of menu items
 - Distance to the San Jose border
 - Restaurant density
- **Additional coding of 3 main dishes:**
 - Chicken N=7,291 for chicken dishes,
 - Hamburger N=899
 - Pizza N=644

Representativeness of sample

	AFF List	Sample
A. Distribution		
San Jose	0.44	0.37
Number of observations	1,460	326
Outside-San Jose	0.56	0.63
Number of observations	1,825	558
B. Distribution by employment size bins		
San Jose		
1-7 employees	0.63	0.58
8-39 employees	0.31	0.33
40+ employees	0.07	0.09
Outside-San Jose		
1-7 employees	0.56	0.52
8-39 employees	0.37	0.39
40+ employees	0.07	0.08



D-n-D Specifications

- Eq. 1: basic model

$$[\log(\text{post-price})_i - \log(\text{pre-price})_i] = \alpha + \beta_1(SJ)_i + \epsilon_i$$

$$E = \frac{e^{(\beta_1)} - 1}{0.25}$$

- Eq. 2+: build on basic model

$$[\log(\text{post-price})_i - \log(\text{pre-price})_i] = \alpha + \beta_1(SJ)_i + \beta_2(SJ \times FS)_i + \epsilon_i$$

$$E_{LS} = \frac{e^{(\beta_1)} - 1}{0.25}$$

$$E_{FS} = \frac{(e^{(\beta_1)} - 1) - (e^{(\beta_2)} - 1)}{0.25}$$

Main results & by sector

	Elasticities (se)
A. Overall	0.058*** (0.016)
B. Sector	
Full-service	0.040** (0.019)
Limited-service	0.083*** (0.027)

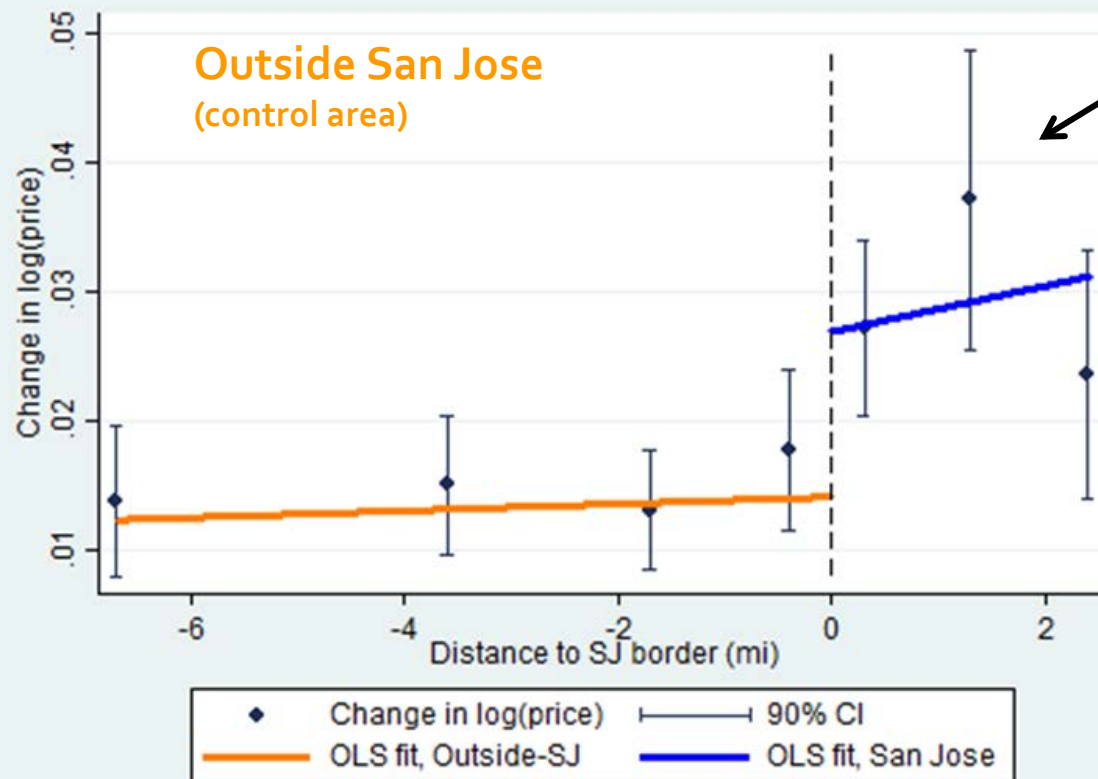
Significance levels: ***1%, **5%, *10%

Results by chain status

	Elasticities (se)
C. Chain analyses	
<i>1. Indicator for chain using the whole sample</i>	
Chain (at least two locations)	0.098*** (0.030)
Non-chain	0.030* (0.016)
<i>2. Sample using only chains with outlets in both the treatment and control areas</i>	
Within-chain effect	0.062** (0.027)

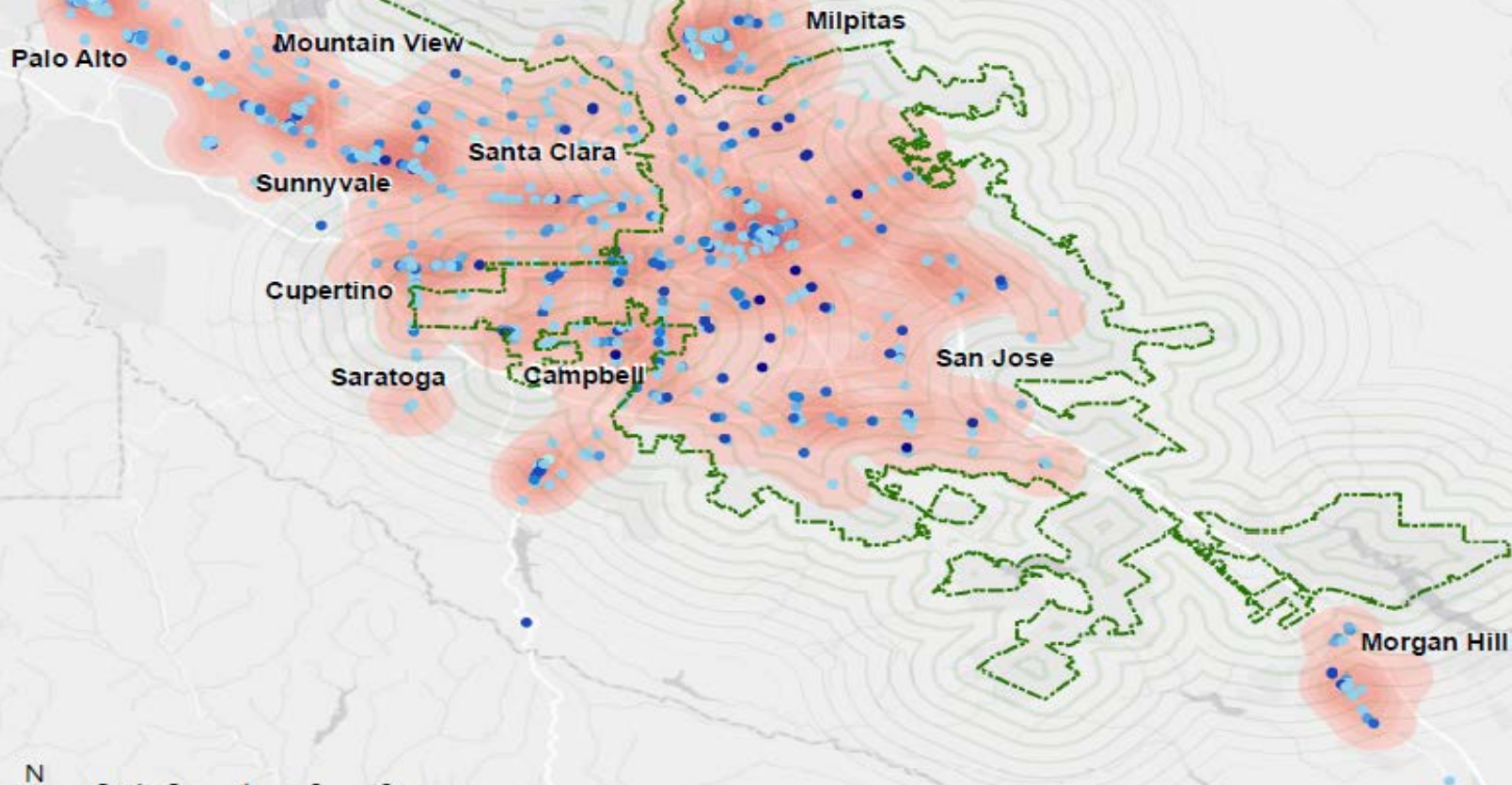
Significance levels: ***1%, **5%, *10%

San Jose border effects



Density matters

Dark blue high price change
Light blue low price change




0 1 2 4 6 8 Miles

1:351,709

*Gilroy, CA not shown for scale.

Christopher Stern, Berkeley Institute for Research on Labor & Employment, 2015
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Cost increase for restaurants

- Net payroll increase = earnings elasticity (0.20 DLR) less 15 percent reduction in hiring and retention costs (turnover).
 - $0.20 * 0.85 = 0.17$
- To get cost pressure, multiply the net payroll increase by the labor share of operating costs (one-third in restaurants).
 - $0.17 * (1/3) = 0.057$ percent
- Thus, our estimated price elasticity of 0.058 along with the cost increase to restaurants of 0.057  suggests a full-price pass through.

Summary

- SJ restaurant price elasticity overall = 0.058
 - 0.040 for FS restaurants, 0.083 for LS restaurants
 - 0.077 for small, 0.039 for mid-size, 0.008 for small
 - 0.098 and 0.030 for chains and non-chains
 - 0.062 for within-chain estimate
 - Border effects
 - Restaurant density matters
- Cost of MW increase was absorbed by price increases

Caveats

- Do our results extend to restaurants without an internet presence?
- Need data on market basket—quantities of each purchased item— for proper weights
- Revisit preliminary result of no employment effect
- Cost pressure depends on wage effects, which are imprecisely estimated.

Future research

- Improve local earnings and employment elasticity estimates with updated data
- Scraping of internet data a feasible approach to studying restaurant price patterns and MW effects
- Scrape data from Grub-Hub and similar sites such as Oakland, LA, other cities

THANK YOU!



“Are Local Minimum Wages Absorbed by Price Increases? Estimates from Internet-based Restaurant Menus” by Sylvia Allegretto & Michael Reich