

TARGETED BUSINESS INCENTIVES AND LOCAL LABOR MARKETS

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Targeted Business Incentives



- Place-based programs are pervasive
 - ▣ Federal Empowerment Zones, New Markets Tax Credit, Low-Income Housing Tax Credit, etc.
 - ▣ 45+ states currently have enterprise zone (EZ) programs
- Notoriously difficult to evaluate
 - ▣ Heterogeneity in program characteristics
 - ▣ Selection into treatment
- Conflicting evidence on impacts

This study



- Exploit discontinuities created by the formula used to determine which areas are eligible for investment and hiring incentives in Texas' unique EZ program
 - ▣ Unlike other states, Texas designates areas EZs on a non-competitive basis
 - ▣ Any census block group that meets a minimum poverty rate criterion automatically qualifies
- Rule-based assignment of EZ status allows me to take advantage of an RD design to estimate impacts on low-income areas
 - ▣ Overcomes omitted variable and selection problems that have hampered past research on place-based programs

Main findings

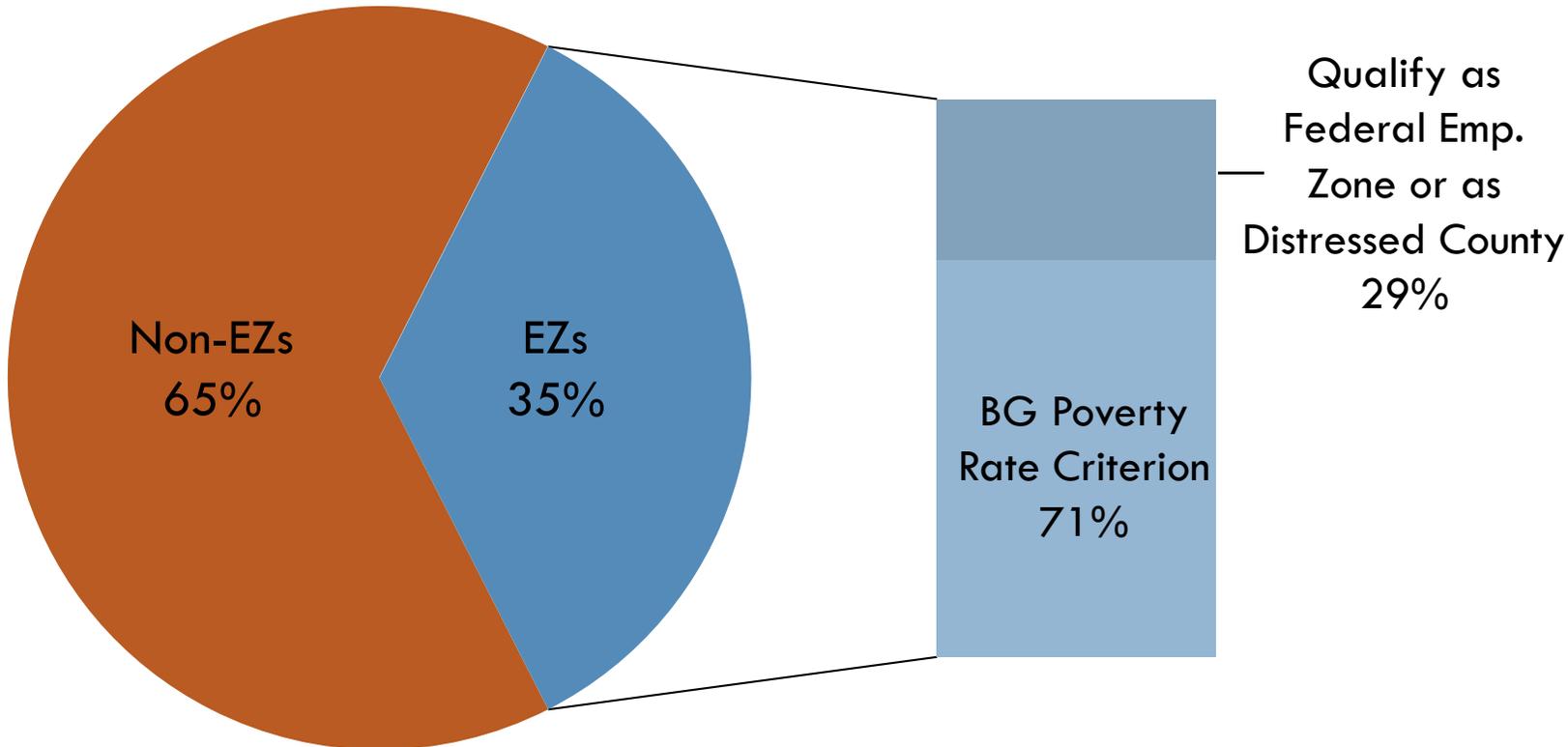


- Using quasi-experimental variation in hiring and investment incentives across geographic areas, find
 - ▣ EZ designation increases resident employment in high-poverty block groups near the cutoff by 1-2% per year
 - ▣ Most new jobs in lower paying industries
 - ▣ Consistent with program structure, less precisely estimated effect on business sitings and expansions
 - ▣ Measurable impacts on property values
- Positive, but small effects of designation on low-income communities

The Texas EZ Program

- In 2003, Texas revamped its EZ program
 - ▣ State legislature removed the ability of localities to nominate areas as EZs
 - ▣ Instituted a non-competitive, rule-based scheme to determine EZ status
- EZs include
 - ▣ all census block groups (defined by the most recent decennial census) with poverty rates $\geq 20\%$
 - ▣ federal Empowerment Zones
 - ▣ after 2005, counties with poverty rates $> 15.4\%$, adult population with less than a HS diploma $> 25.4\%$, and where the unemployment rate has remained $> 4.9\%$ for 5 consecutive years (“distressed counties”)

Texas EZ qualification (post-2005)



Note: 14,463 block groups.

Texas EZ eligibility



- Businesses need not locate in an EZ to receive incentives, nor does locating in an EZ guarantee benefits
 - ▣ Contrasts with most other state programs, which require that businesses locate in an EZ to be eligible for any incentives
- To be eligible, businesses must ensure that a fraction of new employees meet EZ residence requirements
 - ▣ For businesses located in an EZ, must ensure 25% live in an EZ
 - ▣ For businesses located outside an EZ, must ensure 35% live in an EZ

Texas EZ incentives

- Combination of state and local benefits for up to 5 years
 - ▣ State: sales and use tax refunds of up to \$1.25 million over 5 years on capital spending
 - ▣ Local: depending on locality, property tax abatements, waivers of permit fees, waivers of water/sewer fees, utility rate reductions, tax increment financing, expedited permitting, revolving loan funds, etc.
- Cost difficult to calculate
 - ▣ State and local governments share costs, and different localities supplement state's incentives with what are often project-specific benefits
 - ▣ State estimates that it spent \$33.6 million during fiscal years 2008 and 2009 alone

Empirical model

- Does EZ designation affect local labor markets and neighborhood conditions?

- Interested in β_1 from

$$\Delta y_i = \beta_0 + \beta_1 EZ_i + \mathbf{X}_i \Omega + \varepsilon_i$$

- Δy_i = change characteristic y in area i
- EZ_i = EZ status of area i
- \mathbf{X}_i = baseline area characteristics
- Problem: $\text{corr}(\varepsilon, EZ) \neq 0 \rightarrow$ biased estimate of β_1
 - If localities must apply for EZ status (as in most states), areas that apply likely differ in unobservable ways from areas that do not
 - Officials may cherry-pick areas for designation

Regression discontinuity



- Take advantage of rule-based assignment of EZ status to block groups (BGs) in Texas
 - ▣ Takes selection process out of the hands of state and local officials
- Exploit regression discontinuity (RD) design implicit in the formula structure of the program
 - ▣ Compare changes in outcomes among BGs very near the poverty rate threshold
 - ▣ Cost: Local average treatment effects

Main specification

- Reduced-form regression of interest:

$$\Delta y_i = \gamma_0 + \gamma_1 EZ_i + f(p_i) + \mathbf{X}_i \Psi + u_i$$

- $f(p_i)$ = polynomial in the BG poverty rate in which the polynomial coefficients are allowed to differ above and below the cutoff
- Consider only BGs within a narrow window around the 20% poverty rate cutoff that determines EZ designation
 - Show that estimates vary little with different sets of controls and different specifications for the control function f

Data: EZs and controls



- Economic Development and Tourism Division of the Texas Office of the Governor
 - ▣ Locations of state-designated EZs
 - ▣ List of Enterprise Projects
- 2000 Decennial Census
 - ▣ Rich set of baseline BG-level resident & housing characteristics (including values of the forcing variable)

Data: Employment outcomes



- Longitudinal Employer-Household Dynamics Program
 - ▣ Data derived from state UI records that capture 98% of private-sector employment
 - ▣ Employment by place of residence (“resident employment”) **and** employment by place of work (“workplace employment”) for all BGs in the state
 - Additional breakouts by broad industry and earnings categories
 - ▣ Use average annual change in BG employment between 2002 and 2009 as outcome

Data: Neighborhood outcomes



- Small-area estimates from the 2005-2009 American Community Survey
 - Survey-based (as opposed to administrative) information on average neighborhood characteristics over 5-year period
 - Employment, population, poverty rates, median household income, median house values, and vacancy rates
 - Use change in BG characteristics between 2000 and 2005-2009 as outcomes
 - To the extent that EZ designations took time to affect neighborhoods, ACS-based outcomes may not fully capture their impacts

Sample



- In main analysis, consider only BGs with poverty rates between 18% and 22% (4 percentage point window around the cutoff)
 - ▣ Robustness tests with variety of windows
- In main analysis, exclude areas that qualify as EZs on criteria other than the BG poverty rate criterion
 - ▣ Robustness tests including federal Empowerment Zones and distressed counties
- 995 block groups in main sample

Baseline demographics near cutoff

	Block Group Poverty Rate			
	[0.18, 0.19)	[0.19, 0.20)	[0.20, 0.21)	[0.21, 0.22]
Log Population	7.08	7.06	7.07	7.05
Share Black	0.15	0.18	0.16	0.17
Share Hispanic	0.32	0.37	0.37	0.42
Share Male	0.50	0.49	0.50	0.50
Share Under Age 30	0.46	0.47	0.47	0.48
Share Age 65+	0.12	0.12	0.11	0.11
Share Households Speak Spanish	0.28	0.30	0.32	0.36
Share Foreign Born	0.14	0.15	0.17	0.17
Share Same House as 5 Years Ago	0.51	0.52	0.50	0.50
Share Only HS Degree	0.29	0.28	0.28	0.28
Share Some College	0.21	0.20	0.19	0.19
Share College Degree	0.18	0.17	0.17	0.16
Unemployment Rate	0.07	0.08	0.08	0.08
Labor Force Participation Rate	0.61	0.60	0.61	0.59
Log Median Household Income	10.37	10.33	10.32	10.28

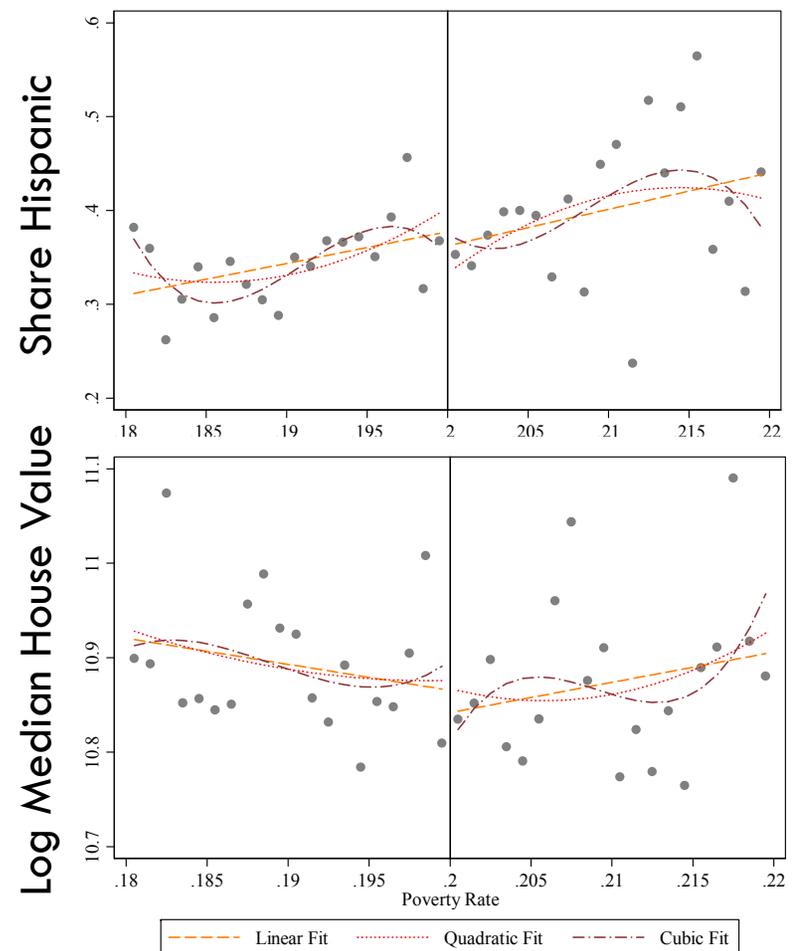
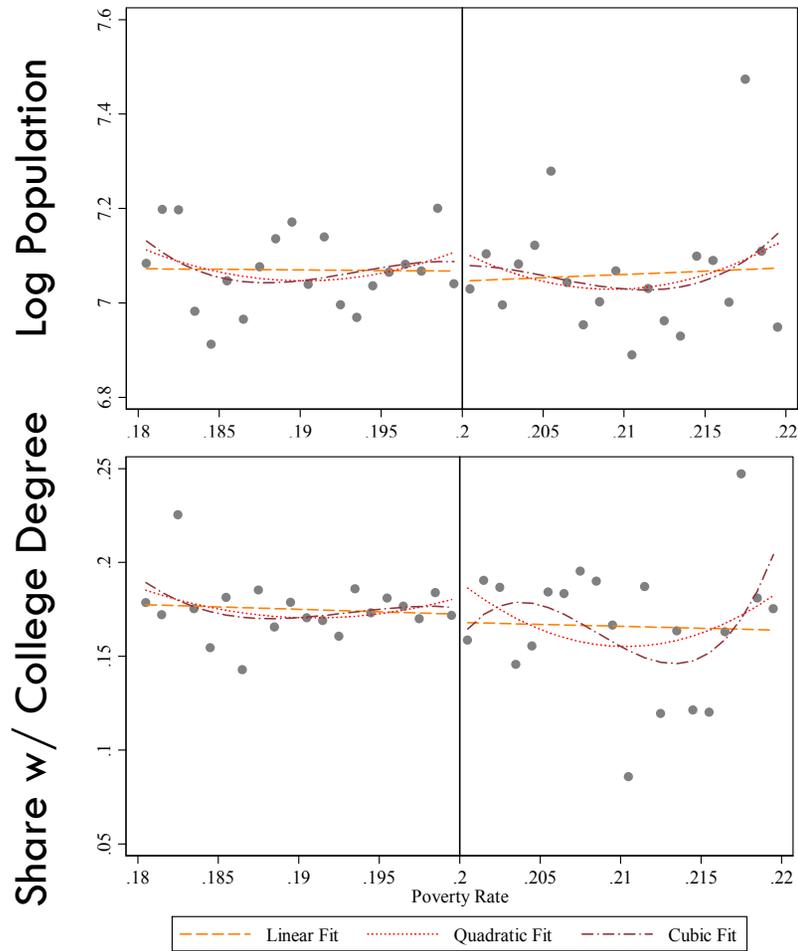
Notes: Includes census block groups in Texas that are not in distressed counties or federal EC/RZs and that are not missing 2000 Decennial Census information.

Baseline housing char. near cutoff

	Block Group Poverty Rate			
	[0.18, 0.19)	[0.19, 0.20)	[0.20, 0.21)	[0.21, 0.22]
Log Number of Households	6.16	6.15	6.15	6.09
Share of Homes Occupied	0.90	0.90	0.90	0.91
Share of Homes Vacant	0.10	0.10	0.10	0.09
Share of Homes Owner Occupied	0.61	0.59	0.57	0.57
Share of Homes Renter Occupied	0.29	0.31	0.33	0.34
Log Median House Value	10.91	10.87	10.88	10.86
Median House Age	31.69	34.24	32.79	34.68

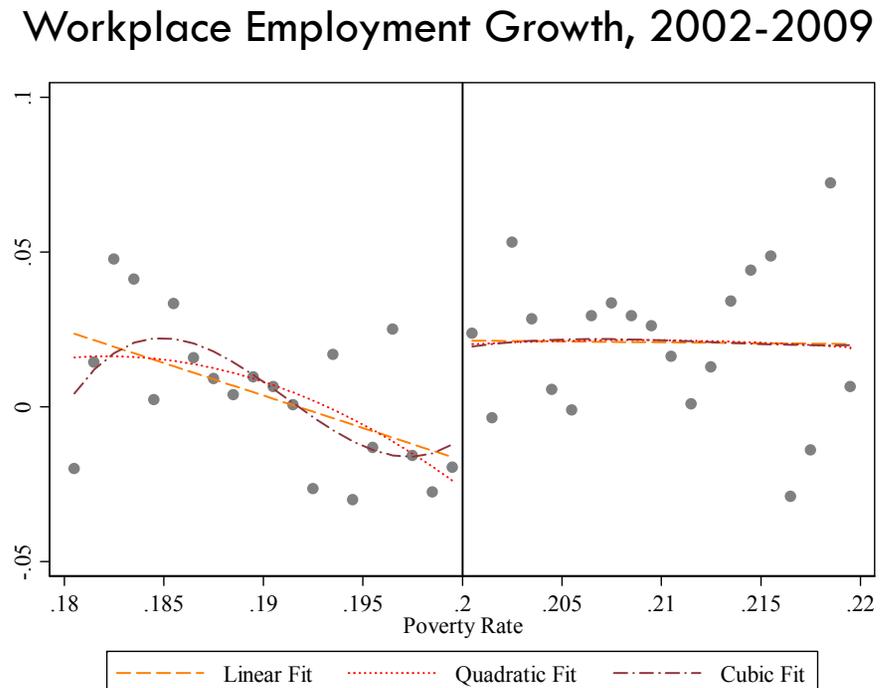
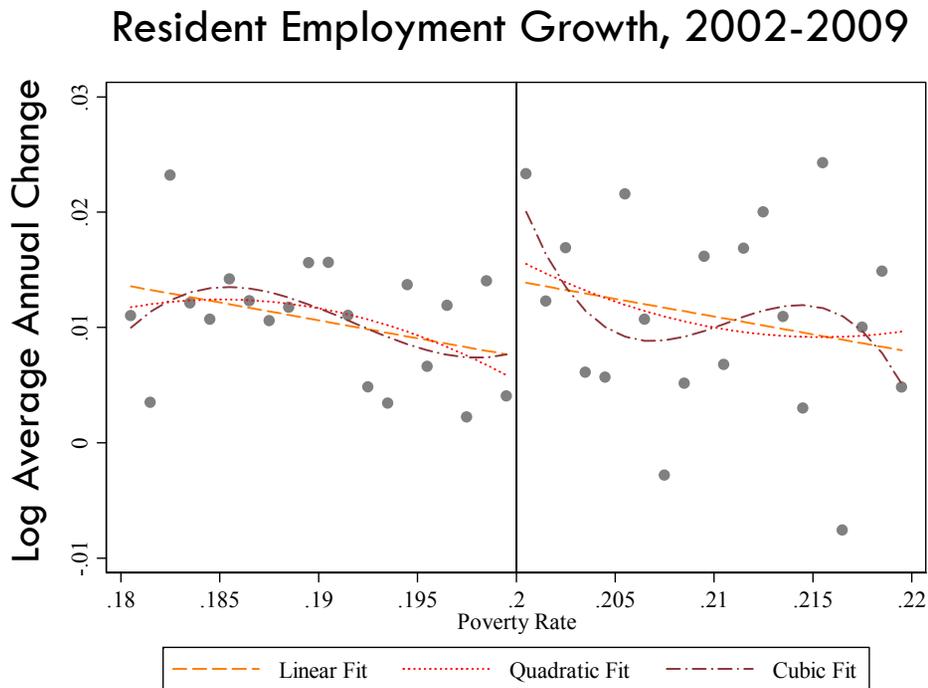
Notes: Includes census block groups in Texas that are not in distressed counties or federal EC/RZs and that are not missing 2000 Decennial Census information.

Selected baseline characteristics



Notes: Sample includes 995 block groups. Bin size=0.001.

Employment growth near the cutoff



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Employment growth near the cutoff

	(1)	(2)	(3)	(4)	(5)	(6)
A. Resident Employment Growth						
Enterprise Zone Dummy	0.014*	0.013*	0.019***	0.021**	0.019**	0.022***
	[0.008]	[0.008]	[0.007]	[0.010]	[0.010]	[0.008]
B. Workplace Employment Growth						
Enterprise Zone Dummy	0.032	0.030	0.047	0.051	0.050	0.078
	[0.033]	[0.033]	[0.042]	[0.046]	[0.045]	[0.058]
Cubic in Poverty Rate	Y	Y	Y			
Quartic in Poverty Rate				Y	Y	Y
Demog. & Housing Controls		Y	Y		Y	Y
County Dummies			Y			Y
Observations	995	995	995	995	995	995

Notes: Includes block groups in Texas with poverty rates between 0.18 and 0.22 (inclusive) that are not in distressed counties or federal Empowerment Zones and that are not missing 2000 Decennial Census information. Demographic controls and housing controls are listed in Table 1. Standard errors are adjusted for heteroskedasticity and clusters at the county level. Significant at the * 10% level, ** 5% level, and *** 1% level.

Alternative windows

	(1)	(2)	(3)	(4)	(5)	(6)
	A. Resident Employment			B. Workplace Employment		
Entire Sample	0.002	0.001	0.001	0.016*	0.015**	0.017**
Obs: 11,692	[0.002]	[0.002]	[0.002]	[0.008]	[0.007]	[0.008]
Window 0.1-0.3	0.004	0.003	0.005*	0.036**	0.034**	0.037**
Obs: 5,047	[0.004]	[0.004]	[0.003]	[0.015]	[0.016]	[0.017]
Window 0.15-0.25	0.011**	0.009**	0.009**	0.052**	0.044*	0.047*
Obs: 2,467	[0.005]	[0.004]	[0.004]	[0.023]	[0.023]	[0.024]
Window 0.16-0.24	0.014**	0.011**	0.013***	0.038	0.031	0.030
Obs: 1,940	[0.006]	[0.005]	[0.005]	[0.026]	[0.027]	[0.029]
Window: 0.17-0.23	0.013**	0.011*	0.013**	0.033	0.025	0.029
Obs: 1,460	[0.006]	[0.006]	[0.006]	[0.028]	[0.029]	[0.034]
Window 0.19-0.21	0.021**	0.021**	0.024**	0.034	0.035	0.043
Obs: 536	[0.011]	[0.010]	[0.010]	[0.046]	[0.043]	[0.055]
Cubic in Poverty Rate	Y	Y	Y	Y	Y	Y
Demog. & Housing Controls		Y	Y		Y	Y
County Dummies			Y			Y

Notes: Includes block groups in Texas with poverty rates between 0.18 and 0.22 (inclusive) that are not missing 2000 Decennial Census information. Demographic controls and housing controls are listed in Table 1. Standard errors are adjusted for heteroskedasticity and clusters at the county level. Significant at the * 10% level, ** 5% level, and *** 1% level.

By earnings level

	(1)	(2)	(3)	(4)	(5)	(6)
	A. Resident Employment			B. Workplace Employment		
Low-Wage	0.005	0.006	0.014*	0.035	0.034	0.056
(<\$15,000/year)	[0.009]	[0.008]	[0.008]	[0.038]	[0.038]	[0.048]
Mid-Wage	0.017*	0.015	0.023***	0.016	0.013	0.031
(\$15K-\$39,999/year)	[0.010]	[0.011]	[0.009]	[0.030]	[0.031]	[0.040]
High-Wage	0.022**	0.016	0.019	0.012	0.009	0.037
(\$40,000+/year)	[0.011]	[0.011]	[0.014]	[0.035]	[0.036]	[0.047]
Cubic in Poverty Rate	Y	Y	Y	Y	Y	Y
Demog. & Housing Controls		Y	Y		Y	Y
County Dummies			Y			Y
Observations	995	995	995	995	995	995

Notes: Includes block groups in Texas with poverty rates between 0.18 and 0.22 (inclusive) that are not in distressed counties or federal Empowerment Zones and that are not missing 2000 Decennial Census information. Demographic controls and housing controls are listed in Table 1. Standard errors are adjusted for heteroskedasticity and clusters at the county level. Significant at the * 10% level, ** 5% level, and *** 1% level.

For selected industries

	(1)	(2)	(3)	(4)	(5)	(6)
	A. Resident Employment			B. Workplace Employment		
Construction	0.027*	0.025*	0.035**	0.033	0.032	0.056
	[0.013]	[0.014]	[0.015]	[0.045]	[0.043]	[0.053]
Manufacturing	0.014	0.012	0.021**	-0.029	-0.030	-0.029
	[0.016]	[0.015]	[0.010]	[0.070]	[0.069]	[0.081]
Retail Trade	0.012	0.010	0.018**	0.032	0.028	0.092**
	[0.011]	[0.011]	[0.009]	[0.041]	[0.043]	[0.043]
Transp. & Warehousing	0.036**	0.032**	0.018	0.024	0.027	0.027
	[0.018]	[0.015]	[0.015]	[0.042]	[0.049]	[0.057]
Arts & Entertainment	0.025	0.026	0.031	0.018	0.027	0.023
	[0.025]	[0.024]	[0.027]	[0.040]	[0.038]	[0.042]
Information	-0.002	-0.005	-0.003	-0.039	-0.025	0.010
	[0.018]	[0.017]	[0.016]	[0.044]	[0.044]	[0.053]
Cubic in Poverty Rate	Y	Y	Y	Y	Y	Y
Demog. & Housing Controls		Y	Y		Y	Y
County Dummies			Y			Y

Notes: Includes block groups in Texas with poverty rates between 0.18 and 0.22 (inclusive) that are not missing 2000 Decennial Census information. Demographic controls and housing controls are listed in Table 1. Standard errors are adjusted for heteroskedasticity and clusters at the county level. Significant at the * 10% level, ** 5% level, and *** 1% level.

Other neighborhood characteristics

	(1)	(2)	(3)	(4)	(5)	(6)
	Log Resident Emp.	Log Pop.	Poverty Rate	Log Median HH Income	Log Median House Value	Share Housing Units Vacant
Enterprise Zone	0.085	0.023	-0.033	-0.009	0.107*	-0.040*
	[0.082]	[0.106]	[0.038]	[0.081]	[0.054]	[0.022]
Cubic in Poverty Rate	Y	Y	Y	Y	Y	Y
Demog. & Housing Controls	Y	Y	Y	Y	Y	Y
County Dummies	Y	Y	Y	Y	Y	Y
Observations	995	995	995	994	969	995

Notes: Includes block groups in Texas with poverty rates between 0.18 and 0.22 (inclusive) that are not in distressed counties or federal Empowerment Zones and that are not missing 2000 Decennial Census or 2005-2009 ACS information. Demographic controls and housing controls are listed in Table 1. Standard errors are adjusted for heteroskedasticity and clusters at the county level. Significant at the * 10% level, ** 5% level, and *** 1% level.

Conclusion



- Using quasi-experimental variation in hiring and investment incentives across areas in Texas, find
 - ▣ EZ designation increases resident employment in high-poverty neighborhoods by 1-2% per year
 - ▣ Most new jobs in lower paying industries
 - ▣ Consistent with program structure, less precisely estimated effect on workplace employment
 - ▣ Some benefits capitalized into local home values
- Positive, but small effects of EZ designation on low-income communities

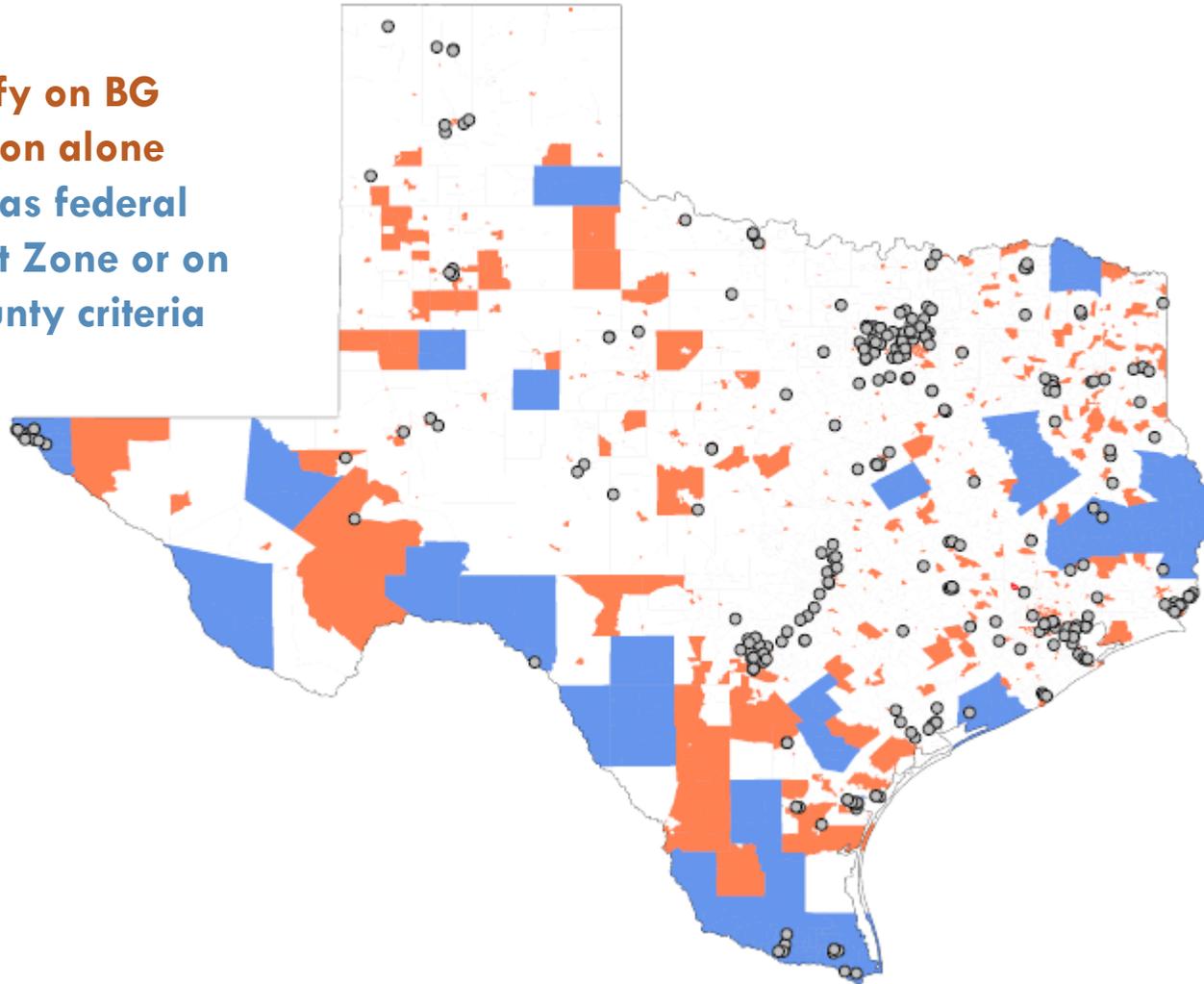
Refunds by project designation type

Designation Type	Level of Capital Investment	Maximum Number of Jobs Allocated	Maximum Potential Refund	Maximum Refund per Job Allocation
Single Project	\$40,000 to \$399,999	10	\$25,000	\$2,500
Single Project	\$400,000 to \$999,999	25	\$62,000	\$2,500
Single Project	\$1M to \$4,999,999	125	\$312,500	\$2,500
Single Project	\$5M to \$149,999,999	500	\$1,250,000	\$2,500
Double Jumbo Project	\$150M to \$249,999,999	500	\$2,500,000	\$5,000
Triple Jumbo Project	\$250M or more	500	\$3,750,000	\$7,500

Source: Texas State Office of the Governor, Economic Development and Tourism Division

Texas EZs and “Enterprise Projects”

Redish: Qualify on BG poverty criterion alone
Blue: Qualify as federal Empowerment Zone or on distressed county criteria



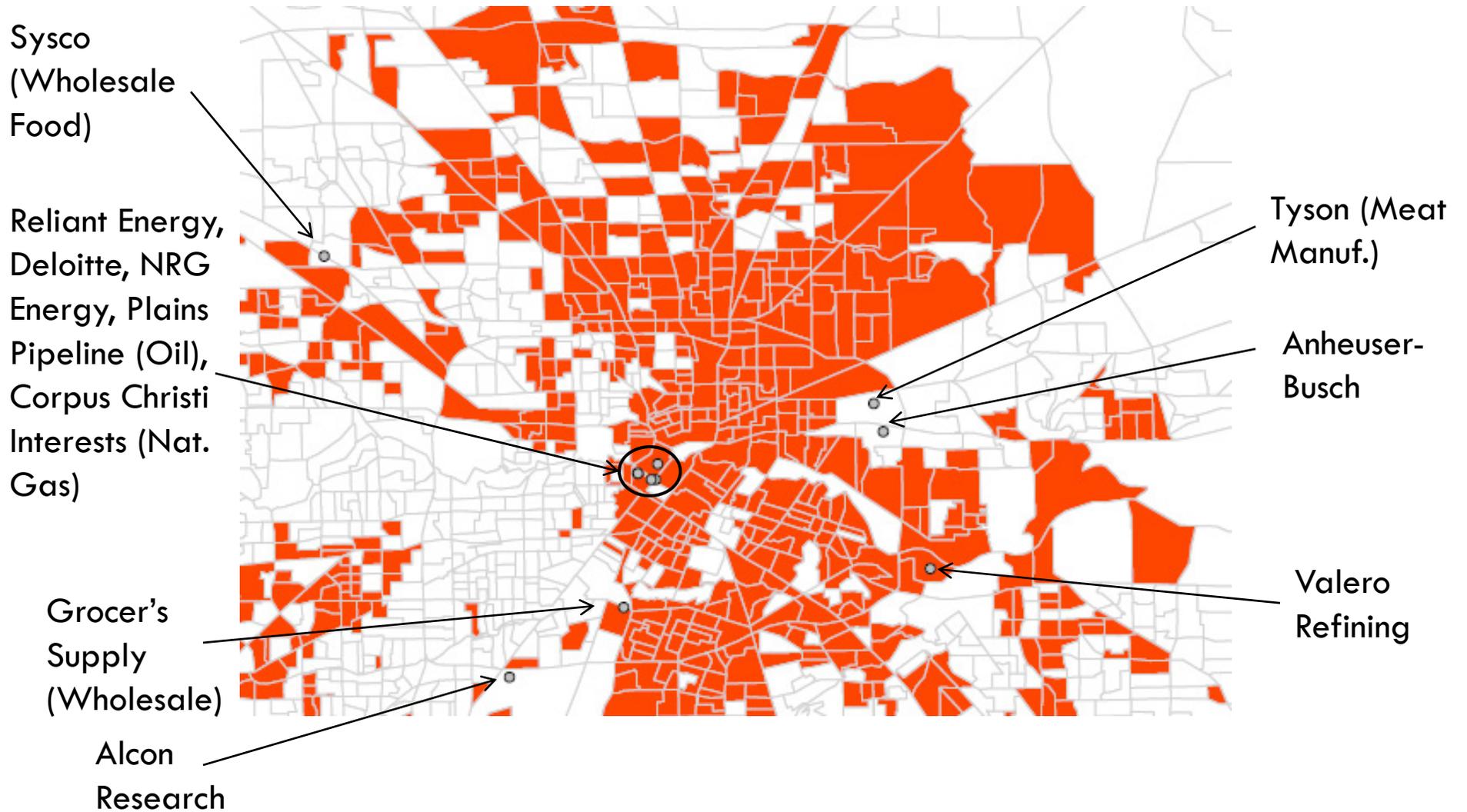
EZs in the Austin Area



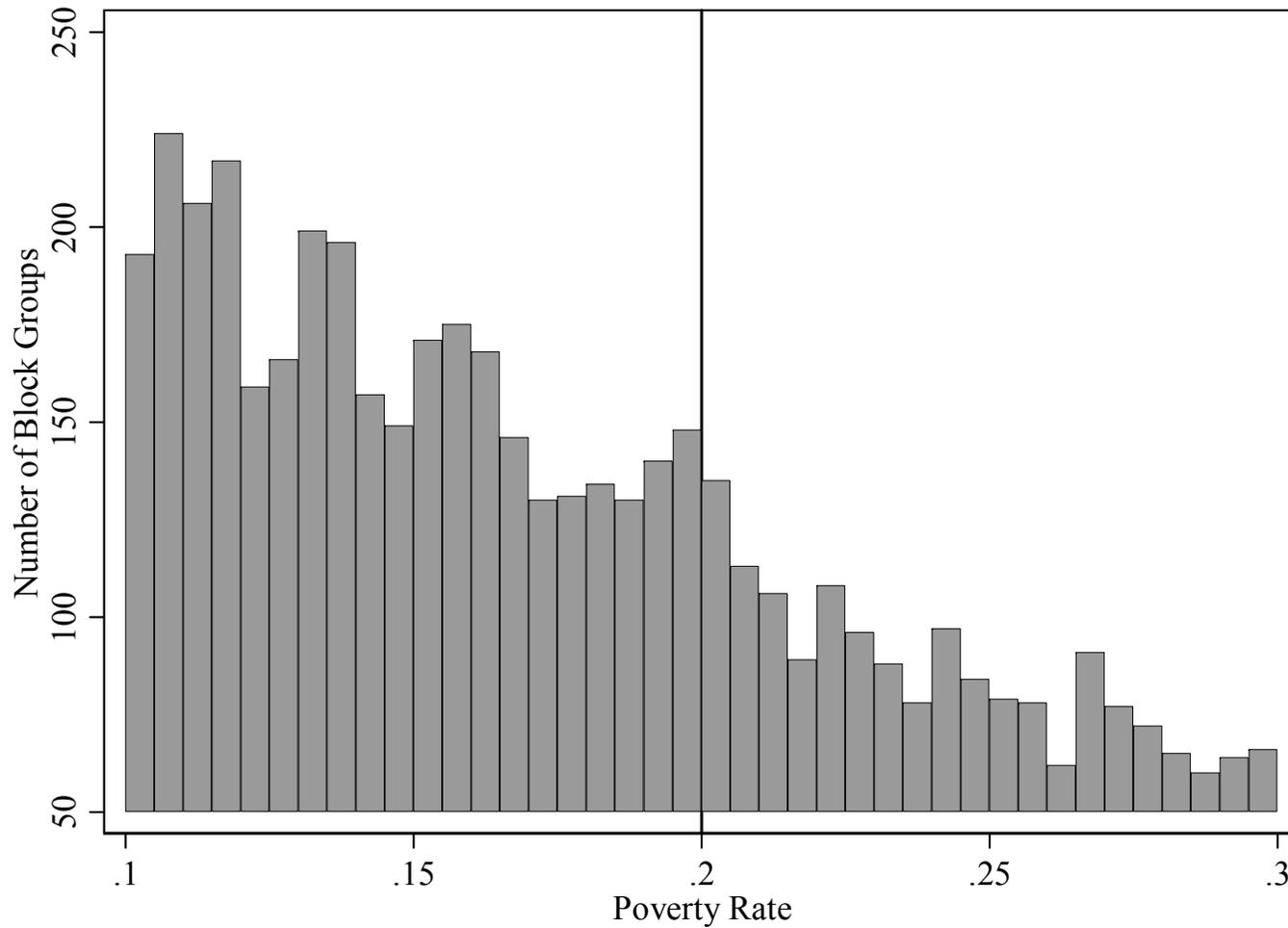
EZs & projects in the Austin Area



EZs & projects in the Houston Area



Density of the forcing variable



Spillovers

	(1)	(2)	(3)	(4)	(5)	(6)
Excl. non-EZ Block Groups...	A. Resident Employment			B. Workplace Employment		
Within 0.5km of an EZ	0.007	0.013	0.022*	-0.001	0.005	0.039
Obs: 722	[0.012]	[0.011]	[0.011]	[0.041]	[0.043]	[0.060]
Within 1km of an EZ	-0.004	0.004	0.017	0.009	0.022	0.074
Obs: 621	[0.015]	[0.014]	[0.017]	[0.051]	[0.053]	[0.076]
Within 2km of an EZ	-0.013	0.002	0.021	0.040	0.049	0.118
Obs: 552	[0.022]	[0.021]	[0.030]	[0.062]	[0.067]	[0.114]
Within 3km of an EZ	-0.005	0.010	0.020	0.024	0.039	0.132
Obs: 527	[0.022]	[0.021]	[0.029]	[0.065]	[0.069]	[0.126]
Within 4km of an EZ	0.003	0.022	0.032	0.060	0.078	0.179
Obs: 517	[0.027]	[0.026]	[0.028]	[0.078]	[0.083]	[0.134]
Within 5km of an EZ	-0.020	0.0004	0.009	0.091	0.110	0.194
Obs: 506	[0.019]	[0.020]	[0.019]	[0.094]	[0.102]	[0.176]
Cubic in Poverty Rate	Y	Y	Y	Y	Y	Y
Demog. & Housing Controls		Y	Y		Y	Y
County Dummies			Y			Y