

**Appendix B: Hausman Tests and Additional Results
for**

**Government Programs Can Improve Local Labor Markets:
Evidence from State Enterprise Zones, Federal Empowerment
Zones and Federal Enterprise Communities**

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Table B1: ENTZ Hausman Tests**(a) Unemployment Rate**

Compared	model 1		model 2	
	chi2(1)	P-value	chi2(7)	P-value
(A3) vs (A2)	5.12	(0.0237)	54.69	(0.0000)
(A3) vs (A1)	1.64	(0.2000)	26.77	(0.0004)
(A2) vs (A1)	3.59	(0.0581)	6.45	(0.4887)

(b) Poverty Rate

Compared	model 1		model 2	
	chi2(1)	P-value	chi2(7)	P-value
(A3) vs (A2)	46.82	(0.0000)	263.45	(0.0000)
(A3) vs (A1)	31.71	(0.0000)	119.28	(0.0000)
(A2) vs (A1)	10.42	(0.0012)	22.61	(0.0020)

(c) Fraction of Households with Wage and Salary income

Compared	model 1		model 2	
	chi2(1)	P-value	chi2(7)	P-value
(A3) vs (A2)	177.51	(0.0000)	38.48	(0.0000)
(A3) vs (A1)	0.88	(0.3485)	11.63	(0.1136)
(A2) vs (A1)	0.27	(0.6025)	3.03	(0.8822)

(d) Average Wage and Salary Income

Compared	model 1		model 2	
	chi2(1)	P-value	chi2(7)	P-value
(A3) vs (A2)	-1.92	.	-168.29	.
(A3) vs (A1)	-2.12	.	-470.11	.
(A2) vs (A1)	0.09	(0.7646)	19.96	(0.0056)

(e) Employment

Compared	model 1		model 2	
	chi2(1)	P-value	chi2(7)	P-value
(A3) vs (A2)	12.25	(0.0005)	-31.50	.
(A3) vs (A1)	1.23	(0.2666)	8.95	(0.2566)
(A2) vs (A1)	0.10	(0.7560)	0.44	(0.9996)

Table B2: OLS Estimation of the Effect of ENTZ Designation on the Unemployment Rate

	1	2	3	4
	No Overlap with EMPZs or ENTCS		Overlap with EMPZs or ENTCS	
Covariates	model 1	model 2	model 1	model 2
ENTZ	-1.617*** (0.42)		-2.433*** (0.51)	
ENTZ*California		-2.166** (1.07)		-1.876* (1.01)
ENTZ*Florida		-0.839 (0.76)		-0.839 (0.76)
ENTZ*Massachusetts		-2.494*** (0.58)		-2.410*** (0.59)
ENTZ*New York		-3.222*** (0.73)		-3.187*** (0.73)
ENTZ*Ohio		-0.0587 (0.93)		-0.336 (0.88)
ENTZ*Oregon		0.467 (1.94)		0.227 (2.04)
ENTZ*Other states		0.39 (0.77)		0.187 (0.77)
Constant			0.0362 (0.16)	
State Dummies	No	Yes	No	Yes
Comparison Group	Contiguous	Contiguous	All	Contiguous
Observations	1310	1310	24986	1350
Number of ENTZs	1310	1310	1458	1350
Number of Counties	115	115	534	115

*** p<0.01, ** p<0.05, * p<0.1

Standard Errors are adjusted for correlation across tracts in the same county.

Table B3: OLS Estimation of the Effect of ENTZ Designation on the Poverty Rate

	1	2	3	4
	No Overlap with EMPZs or ENTCS		Overlap with EMPZs or ENTCS	
Covariates	model 1	model 2	model 1	model 2
ENTZ	-7.673*** (2.30)		-7.772*** (2.22)	
ENTZ*California		0.269 (2.64)		-0.184 (2.39)
ENTZ*Florida		-6.889** (2.76)		-6.889** (2.76)
ENTZ*Massachusetts		-15.76*** (2.71)		-15.49*** (2.75)
ENTZ*New York		-6.728* (3.83)		-7.294* (3.94)
ENTZ*Ohio		1.935 (1.96)		1.628 (2.02)
ENTZ*Oregon		-9.148*** (2.97)		-9.304*** (2.85)
ENTZ*Other states		-1.634 (3.65)		-2.829 (3.54)
Constant				
State Dummies	No	Yes	No	Yes
Comparison Group	Closest	Closest	Closest	Closest
Observations	1331	1331	1373	1373
Number of ENTZs	1331	1331	1373	1373
Number of Counties	115	115	115	115

See notes to Table B2.

Table B4: OLS Estimation of the Effect of ENTZ Designation on the Fraction of Households with Wage and Salary Income

	1	2	3	4
	No Overlap with EMPZs or ENTCS		Overlap with EMPZs or ENTCS	
Covariates	model 1	model 2	model 1	model 2
ENTZ	0.614 (0.42)		0.675 (0.43)	
ENTZ*California		2.028** (0.85)		2.225** (0.94)
ENTZ*Florida		2.197** (1.03)		2.197** (1.03)
ENTZ*Massachusetts		-0.507 (0.52)		-0.58 (0.51)
ENTZ*New York		1.553** (0.72)		1.545** (0.71)
ENTZ*Ohio		-0.0415 (0.90)		0.314 (0.92)
ENTZ*Oregon		3.887*** (1.17)		3.672*** (1.15)
ENTZ*Other states		1.323 (0.89)		1.445* (0.85)
Constant				
State Dummies	No	Yes	No	Yes
Comparison Group	Contiguous	Contiguous	Contiguous	Contiguous
Observations	1325	1325	1365	1365
Number of ENTZs	1325	1325	1365	1365
Number of Counties	115	115	115	115

See notes to Table B2.

Table B5: OLS Estimation of the Effect of ENTZ Designation on Average Wage and Salary Income

	1	2	3	4
	No Overlap with EMPZs or ENTCS		Overlap with EMPZs or ENTCS	
Covariates	model 1	model 2	model 1	model 2
ENTZ	510.7 (726)		441.9 (721)	
ENTZ*California		858.8 (1196)		1195 (1185)
ENTZ*Florida		1016 (1968)		1016 (1968)
ENTZ*Massachusetts		87.98 (1507)		17.39 (1487)
ENTZ*New York		1059 (1980)		1161 (1944)
ENTZ*Ohio		2203 (1763)		1607 (1862)
ENTZ*Oregon		-2758* (1395)		-2824** (1401)
ENTZ*Other states		46.42 (1458)		90.28 (1385)
Constant				
State Dummies	No	Yes	No	Yes
Comparison Group	Contiguous	Closest	Contiguous	Closest
Observations	1304	1302	1344	1341
Number of ENTZs	1304	1302	1344	1341
Number of Counties	115	115	115	115

See notes to Table B2.

Table B6: OLS Estimation of the Effect of ENTZ Designation on Employment

	1	3	4	6
	No Overlap with EMPZs or ENTCS		Overlap with EMPZs or ENTCS	
Covariates	model 1	model 3	model 1	model 3
ENTZ	10.42 (42.7)		11.19 (41.5)	
ENTZ*California		4.731 (58)		16.48 (53)
ENTZ*Florida		144.3** (64)		144.3** (64)
ENTZ*Massachusetts		-77.1 (70)		-79.3 (68)
ENTZ*New York		97.03 (72)		85.15 (73)
ENTZ*Ohio		98.21 (108)		99.28 (104)
ENTZ*Oregon		117.5 (89)		112.5 (87)
ENTZ*Other states		54.34 (103)		63.08 (97)
Constant				
State Dummies	No	Yes	No	Yes
Comparison Group	Contiguous	Contiguous	Contiguous	Contiguous
Observations	1351	1351	1393	1393
Number of ENTZs	1351	1351	1393	1393
Number of Counties	115	115	115	115

See notes to Table B2.

Table B7: EMPZ Hausman Tests**(a) Unemployment Rate**

Compared	chi2(1)	P-value
(A3) vs (A2)	1.06	(0.3036)
(A3) vs (A1)	0.66	(0.4154)
(A2) vs (A1)	0.11	(0.7427)

(b) Poverty Rate

Compared	chi2(1)	P-value
(A3) vs (A2)	56.70	(0.0000)
(A3) vs (A1)	34.22	(0.0000)
(A2) vs (A1)	1.13	(0.2884)

(c) Fraction of Households with Wage and Salary Income

Compared	chi2(1)	P-value
(A3) vs (A2)	14.69	(0.0001)
(A3) vs (A1)	11.47	(0.0007)
(A2) vs (A1)	0.06	(0.8055)

(d) Average Wage and Salary Income

Compared	chi2(1)	P-value
(A3) vs (A2)	3.80	(0.0511)
(A3) vs (A1)	3.56	(0.0590)
(A2) vs (A1)	0.18	(0.6673)

(e) Employment

Compared	chi2(1)	P-value
(A3) vs (A2)	0.43	(0.5108)
(A3) vs (A1)	0.65	(0.4219)
(A2) vs (A1)	2.06	(0.1509)

Table B8: ENTC Hausman Tests**(a) Unemployment Rate**

Compared	chi2(1)	P-value
(A3) vs (A2)	0.52	(0.4720)
(A3) vs (A1)	1.10	(0.2951)
(A2) vs (A1)	0.62	(0.4311)

(b) Poverty Rate

Compared	chi2(1)	P-value
(A3) vs (A2)	36.03	(0.0000)
(A3) vs (A1)	38.70	(0.0000)
(A2) vs (A1)	5.41	(0.0201)

(c) Fraction of Households with Wage and Salary income

Compared	chi2(1)	P-value
(A3) vs (A2)	0.06	(0.8017)
(A3) vs (A1)	0.51	(0.4747)
(A2) vs (A1)	1.60	(0.2058)

(d) Average Wage and Salary Income

Compared	chi2(1)	P-value
(A3) vs (A2)	-20.37	.
(A3) vs (A1)	-34.54	.
(A2) vs (A1)	0.01	(0.9269)

(e) Employment

Compared	chi2(1)	P-value
(A3) vs (A2)	1.76	(0.1847)
(A3) vs (A1)	0.52	(0.4707)
(A2) vs (A1)	0.75	(0.3868)

Table B9: OLS Estimation of the Effect of EMPZ or ENTC Designation on the Unemployment Rate

	1	2	3	4
Covariates	No Overlap with ENTZs	Overlap with ENTZs	No Overlap with ENTZs	Overlap with ENTZs
EMPZ	-8.743*** (3.36)	-7.622*** (2.93)		
ENTC			-2.612*** (0.91)	-2.871*** (0.83)
Observations	26652	26751	45125	45251
Number of EMPZs	235	334		
Number of ENTCs			402	528
Number of Counties	572	572	1560	1561
Comparison Group	All	All	All	All

See Notes to Table B2.

Table B10: OLS Estimation of the Effect of EMPZ or ENTC Designation on the Poverty Rate

	1	2	3	4
Covariates	No Overlap with ENTZs	Overlap with ENTZs	No Overlap with ENTZs	Overlap with ENTZs
EMPZ	-6.953** (3.20)	-6.471** (2.92)		
ENTC			-19.95*** (3.05)	-20.58*** (2.64)
Observations	239	272	341	376
Number of EMPZs	239	272		
Number of ENTCs			341	376
Number of Counties	14	15	57	61
Comparison Group	Contiguous	Contiguous	Closest	Contiguous

See Notes to Table B2.

Table B11: OLS Estimation of the Effect of EMPZ or ENTC Designation on the Fraction of Households with Wage and Salary Income

	1	2	3	4
Covariates	No Overlap with ENTZs	Overlap with ENTZs	No Overlap with ENTZs	Overlap with ENTZs
EMPZ	1.626 (2.02)	1.419 (1.83)		
ENTC			5.261*** (0.76)	5.512*** (0.67)
Observations	234	265	45641	45767
Number of EMPZs	234	265		
Number of ENTCs			408	534
Number of Counties	14	15	1597	1598
Comparison Group	Contiguous	Contiguous	All	All

See Notes to Table B2.

Table B12: OLS Estimation of the Effect of EMPZ or ENTC Designation on Average Wage and Salary Income

	1	2	3	4
Covariates	No Overlap with ENTZs	Overlap with ENTZs	No Overlap with ENTZs	Overlap with ENTZs
EMPZ	7391*** (2697)	4143*** (1390)		
ENTC			3460*** (598)	3002*** (648)
Observations	27094	268	375	402
Number of EMPZs	242	268		
Number of ENTCs			375	402
Number of Counties	602	15	59	63
Comparison Group	All	Contiguous	Contiguous	Contiguous

See Notes to Table B2.

Table B13: OLS Estimation of the Effect of EMPZ or ENTC Designation on Employment

	1	2	3	4
Covariates	No Overlap with ENTZs	Overlap with ENTZs	No Overlap with ENTZs	Overlap with ENTZs
EMPZ	273.9*** (50.5)	232.3*** (70.0)		
ENTC			149.6*** (33.20)	167.4*** (38.00)
Observations	27158	27259	46208	46337
Number of EMPZs	241	342		
Number of ENTCs			413	542
Number of Counties	613	614	1679	1681
Comparison Group	All	All	All	All

See Notes to Table B2.

**Table B14: Random Effects Estimation of the Effect of EMPZ or ENTC Designation on the Unemployment Rate
1999 Zones Included.**

	1	2	3	4
Covariates	No Overlap with ENTZs	Overlap with ENTZs	No Overlap with ENTZs	Overlap with ENTZs
EMPZ	-6.231*** (0.330)	-6.568*** (0.300)		
ENTC			-2.680*** (0.320)	-2.807*** (0.280)
Comparison Group	All	All	All	All
Observations	33799	33892	46358	46486
Number of EMPZs	405	498		
Number of ENTCs			427	555
Number of Counties	1094	1094	1601	1602
rho	0.0639	0.0619	0.1014	0.1019

See Notes to Table B2.

**Table B15: Random Effects Estimation of the Effect of EMPZ or ENTC Designation on the Poverty Rate
1999 Zones Included.**

	1	2	3	4
Covariates	No Overlap with ENTZs	Overlap with ENTZs	No Overlap with ENTZs	Overlap with ENTZs
EMPZ	-9.156*** (2.190)	-9.775*** (2.150)		
ENTC			-21.13*** (2.610)	-21.53*** (2.480)
Comparison Group	Contiguous	Contiguous	Contiguous	Contiguous
Observations	384	388	369	399
Number of EMPZs	384	388		
Number of ENTCs			369	399
Number of Counties	26	26	64	69
rho	0.0000	0.0000	0.1418	0.1422

See Notes to Table B2.

Table B16: Random Effects Estimation of the Effect of EMPZ or ENTC Designation on the Fraction of Households with Wage and Salary Income - 1999 Zones Included.

	1	2	3	4
Covariates	No Overlap with ENTZs	Overlap with ENTZs	No Overlap with ENTZs	Overlap with ENTZs
EMPZ	2.557*** (0.910)	2.584*** (0.900)		
ENTC			4.794*** (0.450)	5.053*** (0.400)
Comparison Group	Contiguous	Contiguous	All	All
Observations	383	388	46875	47003
Number of EMPZs	383	388		
Number of ENTCs			436	564
Number of Counties	28	28	1639	1640
rho	0.0000	0.0000	0.0639	0.0629

See Notes to Table B2.

Table B17: Random Effects Estimation of the Effect of EMPZ or ENTC Designation on Average Wage and Salary Income 1999 Zones Included.

	1	2	3	4
Covariates	No Overlap with ENTZs	Overlap with ENTZs	No Overlap with ENTZs	Overlap with ENTZs
EMPZ	3861*** (877)	4117*** (867)		
ENTC			3510*** (490)	3096*** (530)
Comparison Group	Contiguous	Contiguous	Contiguous	Contiguous
Observations	387	391	397	425
Number of EMPZs	387	391		
Number of ENTCs			397	425
Number of Counties	28	28	66	71
rho	0.0000	0.0000	0.0018	0.0000

See Notes to Table B2.

Table B18: Random Effects Estimation of the Effect of EMPZ or ENTC Designation on Employment
1999 Zones Included.

	1	2	3	4
Covariates	No Overlap with ENTZs	Overlap with ENTZs	No Overlap with ENTZs	Overlap with ENTZs
EMPZ	168.2*** (44.70)	163.6*** (40.50)		
ENTC			91.76** (44.80)	117.2*** (39.50)
Comparison Group	All	All	All	All
Observations	34478	34573	47463	47594
Number of EMPZs	415	510		
Number of ENTCs			441	572
Number of Counties	1173	1174	1721	1723
rho	0.0882	0.0880	0.1234	0.1240

See Notes to Table B2.