

**Fiscal Zoning and Sales Taxes:
Do Higher Sales Taxes Lead to More Retailing and Less Manufacturing?**

RESULTS AVAILABLE UPON REQUEST

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**Appendix Table 1A: Regression Results Explaining Retail Employment
at Big Box and Anchor Stores, County-Level Analysis**

Explanatory variables	(1)	(1')	(2)	(2')	(3)	(3')
	Unwgt.	Wgt.	Unwgt.	Wgt.	Unwgt.	Wgt.
Sales tax rate, current	0.312 (0.210)	0.266 (0.097)	0.033 (0.157)	0.157 (0.084)	-0.004 (0.229)	0.167 (0.093)
Sales tax rate, lagged	-	-	0.470 (0.432)	0.216 (0.118)	0.521 (0.421)	0.214 (0.123)
Sales tax rate, current, x (BYP/100,000)	-0.097 (0.088)	-0.075 (0.027)	0.017 (0.063)	-0.052 (0.025)	0.016 (0.070)	-0.054 (0.026)
Sales tax rate, lagged, x (BYP/100,000)	-	-	-0.195 (0.197)	-0.052 (0.035)	-0.188 (0.181)	-0.052 (0.035)
Sales tax rate, current, x (BYP ² /10,000,000)	5.6e-6 (4.2e-6)	4.0e-6 (1.1e-6)	1.7e-7 (2.9e-6)	3.2e-6 (1.0e-6)	1.6e-7 (3.3e-6)	3.3e-6 (1.1e-6)
Sales tax rate, lagged, x (BYP ² /10,000,000)	-	-	9.0e-6 (9.4e-6)	1.9e-6 (1.5e-6)	8.8e-6 (8.7e-6)	1.9e-6 (1.5e-6)
Neighboring sales tax rate, current	-	-	-	-	0.245 (0.489)	-0.035 (0.095)
Neighboring sales tax rate, lagged	-	-	-	-	-0.282 (0.220)	0.017 (0.077)
Effect of a unit increase in current local sales tax rate	0.140 (0.067)	0.131 (0.054)	-	-	-	-
Effect of a unit increase in current plus lagged local sales tax rate	-	-	0.183 (0.097)	0.184 (0.068)	0.206 (0.118)	0.188 (0.071)
R ²	0.98	0.99	0.98	0.98	0.98	0.99
<p>The dependent variable is the log of employment in big box and anchor stores. BYP= base year (1992) level population. Marginal effects are evaluated at the mean of BYP distribution. BYP is used for the regression weights. There are 1,005 observations for the contemporaneous specifications, and 938 observations for the specifications with lags. The sales tax rate variable is the sum of the local sales tax plus the 6% general Florida sales tax, measured in units of 0-100. All specifications include county and year fixed effects, and county-time trend interactions. Standard errors are clustered at the county level.</p>						

**Appendix Table 1B: Regression Results Explaining Manufacturing Employment
County-Level Analysis**

Explanatory variables	(1)	(1')	(2)	(2')	(3)	(3')	(3)	(3')
	Unwgt.	Wgt.	Unwgt.	Wgt.	Unwgt.	Wgt.	Unwgt.	Wgt.
Sales tax rate, current	-0.061 (0.072)	-0.016 (0.049)	0.044 (0.068)	0.004 (0.033)	0.049 (0.078)	-0.023 (0.037)	-	-
Sales tax rate, lagged	-	-	-0.138 (0.077)	-0.010 (0.051)	-0.155 (0.076)	-0.040 (0.052)	-0.139 (0.083)	-0.049 (0.062)
Sales tax rate, current, x (BYP/100,000)	0.020 (0.034)	-0.002 (0.022)	-0.020 (0.033)	-0.001 (0.015)	-0.018 (0.035)	0.007 (0.015)	-	-
Sales tax rate, lagged, x (BYP/100,000)	-	-	0.052 (0.033)	-0.010 (0.019)	0.051 (0.033)	-0.005 (0.018)	0.044 (0.035)	-0.003 (0.023)
Sales tax rate, current, x (BYP ² /10,000,000)	-8.7e-7 (1.5e-6)	1.0e-9 (1.0e-6)	1.3e-6 (1.6e-6)	1.7e-7 (7.3e-7)	1.2e-6 (1.6e-6)	-1.7e-7 (6.9e-7)	-	-
Sales tax rate, lagged, x (BYP ² /10,000,000)	-	-	-2.8e-6 (1.6e-6)	1.2e-7 (8.3e-7)	-2.8e-6 (1.6e-6)	-1.1e-7 (7.8e-7)	-2.2e-6 (1.6e-6)	-1.4e-7 (1.0e-6)
Neighboring sales tax rate, current	-	-	-	-	-0.051 (0.112)	0.039 (0.044)	-0.030 (0.097)	0.037 (0.037)
Neighboring sales tax rate, lagged	-	-	-	-	0.080 (0.080)	0.068 (0.045)	0.076 (0.082)	0.066 (0.047)
Effect of a unit increase in current local sales tax rate	-0.025 (0.035)	-0.019 (0.032)	-	-	-	-	-	-
Effect of a unit increase in current plus lagged local sales tax rate	-	-	-0.036 (0.046)	-0.028 (0.042)	-0.048 (0.060)	-0.061 (0.048)	-0.059 (0.044)	-0.055 (0.036)
R ²	0.99	0.99	0.99	0.99	0.98	0.99	0.99	0.99

The dependent variable is the log of manufacturing employment. BYP= base year (1992) level population. Marginal effects are evaluated at the mean of BYP distribution. BYP is used for the regression weights. There are 1,005 observations for the contemporaneous specifications, and 938 observations for the specifications with lags. The sales tax rate variable is the sum of the local sales tax plus the 6% general Florida sales tax, measured in units of 0-100. All specifications include county and year fixed effects, and county-time trend interactions. Standard errors are clustered at the county level.

**Appendix Table 2:
Regression Results Explaining Total Retail, Big Box and Anchor Store Retail, and Manufacturing Employment, County-Level
Analysis, With and Without County-Specific Trends**

Explanatory variables	Total retail				Big box and anchor store retail				Manufacturing			
	(1)	(1')	(1'')	(1''')	(2)	(2')	(2'')	(2''')	(3)	(3')	(3'')	(3''')
	Unwgt.	Wgt.	Unwgt.	Wgt.	Unwgt.	Wgt.	Unwgt.	Wgt.	Unwgt.	Wgt.	Unwgt.	Wgt.
Sales tax rate, current	-0.013 (0.020)	-0.005 (0.013)	-0.015 (0.026)	-0.018 (0.021)	-0.004 (0.177)	0.074 (0.053)	-0.165 (0.209)	-0.016 (0.051)	0.034 (0.042)	-0.003 (0.025)	-0.072 (0.069)	-0.054 (0.044)
Sales tax rate, lagged	0.028 (0.021)	0.014 (0.012)	0.023 (0.032)	0.009 (0.016)	0.313 (0.233)	0.076 (0.048)	0.240 (0.241)	0.059 (0.055)	-0.102 (0.048)	-0.068 (0.026)	-0.093 (0.053)	-0.091 (0.031)
Neighboring sales tax rate, current	-0.010 (0.056)	-0.059 (0.020)	0.047 (0.069)	-0.002 (0.039)	0.293 (0.534)	0.029 (0.102)	0.413 (0.463)	0.037 (0.087)	-0.060 (0.111)	0.043 (0.041)	0.127 (0.127)	0.045 (0.097)
Neighboring sales tax rate, lagged	0.011 (0.023)	0.023 (0.014)	0.000 (0.038)	0.035 (0.029)	-0.288 (0.225)	0.033 (0.072)	-0.313 (0.207)	0.061 (0.078)	0.081 (0.079)	0.065 (0.045)	0.043 (0.088)	0.100 (0.061)
Effect of a unit increase in current plus lagged sales tax rate	0.015 (0.023)	0.009 (0.020)	0.008 (0.042)	0.009 (0.028)	0.309 (0.135)	0.150 (0.063)	0.075 (0.133)	0.043 (0.059)	-0.068 (0.068)	-0.071 (0.042)	-0.164 (0.099)	-0.146 (0.061)
County-specific time trends included	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No
R-Squared	0.99	0.99	0.99	0.99	0.98	0.99	0.97	0.97	0.99	0.99	0.98	0.99

Note: See notes to Tables 3A-3C. Specifications correspond to columns (3) and (3') in those tables. Estimates from specifications including county-specific time trends are the same as in those tables.

Retail sales tax rate on three lags of employment

Appendix Table 3: Regression Results Explaining Total Sales Tax Rate; County-Level Analysis						
Explanatory variables	All Retailing		BB/anchor store		Manufacturing	
	(1)	(1')	(2)	(2')	(3)	(3')
	unwtd	wtd	unwtd	wtd	unwtd	wtd
$L_1_D_ln(Employment_t)$	0.003 (0.073)	0.157 (0.351)	0.009 (0.008)	0.039 (0.025)	0.007 (0.019)	0.080 (0.090)
$L_2_ln(Employment_t) - ln(Employment_{t-1})$	0.012 (0.093)	-0.224 (0.245)	0.004 (0.005)	-0.021 (0.020)	-0.017 (0.017)	-0.101 (0.067)
$L_3_ln(Employment_t) - ln(Employment_{t-1})$	-0.036 (0.073)	0.018 (0.209)	0.001 (0.003)	0.013 (0.022)	0.021 (0.022)	0.118 (0.092)
$L_1_D_ln(Employment_{it}) + L_2_D_ln(Employment_{it}) + L_3_D_ln(Employment_{it})$	-0.021 (0.142)	-0.048 (0.407)	0.015 (0.011)	0.031 (0.040)	0.011 (0.042)	-0.062 (0.153)
R^2	0.07	0.10	0.07	0.10	0.07	0.10
<p>The dependent variable is the sum of the contemporaneous local sales tax plus the 6% general tax minus the sum of the lagged local sales tax plus the 6% general tax. There are 737 county-year observations. All specifications include year fixed effects and county-time trend interactions. Standard errors are clustered at the county level. 1992 population levels are used as weights in columns (1'), (2'), and (3'). $D_ln(Employment_t) = ln(\text{contemporaneous employment}) - ln(\text{one-year lagged employment})$ = the first difference of the employment growth rate. $L_j_D_ln(Employment_t)$ is the j^{th} lag of the first difference of the employment growth rate, for $j=1,2,3$ lags.</p>						

Results with 2-mile buffers

Appendix Table 4A: Regression Results Explaining Total Retail Employment, Border-Interior Analysis, 2-Mile Border Zones

Explanatory variables	(1)	(2)	(3)	(1')	(2')	(3')
Sales tax rate, current	-0.052 (0.046)	-0.046 (0.041)	-0.026 (0.048)	-0.011 (0.073)	-0.051 (0.056)	0.021 (0.085)
Sales tax rate, lagged	-	-0.020 (0.041)	-0.004 (0.049)	-	-0.010 (0.064)	0.021 (0.086)
Sales tax rate, current, x border dummy	-	-	-	0.052 (0.085)	0.005 (0.070)	-0.059 (0.084)
Sales tax rate, lagged, x border dummy	-	-	-	-	-0.013 (0.078)	-0.029 (0.090)
Neighboring sales tax rate, current	-	-	-0.064 (0.054)	-	-	-0.073 (0.061)
Neighboring sales tax rate, lagged	-	-	-0.034 (0.050)	-	-	-0.039 (0.055)
Effect of a unit increase in current plus lagged sales tax rate (in columns (2') and (3'), results are for interior regions)		-0.066 (0.063)	-0.030 (0.077)	-	-0.061 (0.088)	0.042 (0.120)
Effect of a unit increase in current sales tax rate on employment in border regions				-0.063 (0.053)	-	-
Effect of a unit increase in current plus lagged sales tax rate on employment in border regions					-0.068 (0.071)	-0.043 (0.078)
R ²	0.98	0.98	0.98	0.98	0.98	0.98

The dependent variable is the log of total retail employment. There are 4,290 observations for the contemporaneous specifications, and 4,004 observations for the specifications with lags. The sales tax rate variable is the sum of the local sales tax plus the 6% general Florida sales tax, measured in units of 0-100. All regressions include fixed effects for each sub-county area (each unique border area and county interior), year fixed effects, and county-time trend interactions. Standard errors are clustered at the sub-county region level. Estimates are not weighted.

Appendix Table 4B: Regression Results Explaining Big Box and Anchor Store Retail Employment, Border-Interior Analysis, 2-Mile Border Zones

Explanatory variables	(1)	(2)	(3)	(1')	(2')	(3')
Sales tax rate, current	0.003 (0.074)	0.004 (0.050)	0.012 (0.047)	0.202 (0.215)	-0.119 (0.158)	-0.123 (0.163)
Sales tax rate, lagged	-	-0.012 (0.072)	-0.006 (0.061)	-	0.252 (0.282)	0.325 (0.287)
Sales tax rate, current, x border dummy	-	-	-	-0.255 (0.217)	0.158 (0.175)	0.167 (0.182)
Sales tax rate, lagged, x border dummy	-	-	-	-	-0.338 (0.283)	-0.398 (0.286)
Neighboring sales tax rate, current	-	-	-0.027 (0.061)	-	-	0.003 (0.059)
Neighboring sales tax rate, lagged	-	-	-0.013 (0.064)	-	-	-0.081 (0.056)
Effect of a unit increase in current plus lagged sales tax rate (interior in columns (2') and (3'))		-0.009 (0.098)	0.006 (0.089)	-	0.132 (0.272)	0.202 (0.277)
Effect of a unit increase in current sales tax rate on employment in border regions				-0.053 (0.068)	-	-
Effect of a unit increase in current plus lagged sales tax rate on employment in border regions					-0.048 (0.084)	-0.030 (0.082)
R ²	0.96	0.97	0.97	0.96	0.97	0.97

The dependent variable is the log of the sum of big box and anchor store retail employment. Sample sizes are the same as in Table 4A. The sales tax rate variable is the sum of the local sales tax plus the 6% general Florida sales tax, measured in units of 0-100. All regressions include fixed effects for each sub-county area (each unique border area and county interior), year fixed effects, and county-time trend interactions. Standard errors are clustered at the sub-county region level. Estimates are not weighted. See notes to Table 4A for additional details.

**Appendix Table 4C: Regression Results Explaining Manufacturing Employment,
Border-Interior Analysis, 2-Mile Border Zones**

Explanatory variables	(1)	(2)	(3)	(1')	(2')	(3')
Sales tax rate, current	-0.020 (0.071)	0.019 (0.066)	0.009 (0.073)	-0.251 (0.119)	-0.169 (0.109)	-0.288 (0.132)
Sales tax rate, lagged	-	-0.071 (0.054)	-0.032 (0.064)	-	-0.139 (0.098)	-0.008 (0.136)
Sales tax rate, current, x border dummy	-	-	-	0.295 (0.153)	0.238 (0.138)	0.355 (0.153)
Sales tax rate, lagged, x border dummy	-	-	-	-	0.088 (0.126)	-0.034 (0.150)
Neighboring sales tax rate, current	-	-	0.061 (0.084)	-	-	0.120 (0.091)
Neighboring sales tax rate, lagged	-	-	-0.131 (0.068)	-	-	0.138 (0.078)
Effect of a unit increase in current plus lagged sales tax rate (interior in columns (2') and (3'))		-0.051 (0.098)	-0.023 (0.114)	-	-0.308 (0.145)	-0.295 (0.177)
Effect of a unit increase in current sales tax rate on employment in border regions				0.044 (0.087)	-	-
Effect of a unit increase in current plus lagged sales tax rate on employment in border regions					0.018 (0.116)	0.025 (0.123)
R ²	0.97	0.97	0.97	0.97	0.97	0.97

The dependent variable is the log of manufacturing employment. Sample sizes are the same as in Table 4A. The sales tax rate variable is the sum of the local sales tax plus the 6% general Florida sales tax, measured in units of 0-100. All regressions include fixed effects for each sub-county area (each unique border area and county interior), year fixed effects, and county-time trend interactions. Standard errors are clustered at the sub-county region level. Estimates are not weighted. See notes to Table 4A for additional details.