

**Property Tax Limitations
and Local Fiscal Conditions:
The Impact of Proposition 2½ in Massachusetts**

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Proposition 2½ in Massachusetts

- On November 4, 1980, Massachusetts voters approved Proposition 2½
 - Limited local property taxes to 2.5% of assessed value
 - Limited property tax revenue growth to no more than 2.5% a year + new growth
 - Local voters can vote to override the 2.5% increase. This results in a permanent increase in the city or town's levy limit.

Proposition 2½ Override

- Town or city council must by majority vote place the override on the ballot
- Simple majority of voters needed to pass
- Needs public services that property tax revenues were insufficient to fund, or in response to stagnation or loss of revenue due to insufficient property tax base growth and/or a reduction in state aid.
- The current economic conditions are a perfect case in point.
- Towns need to cut expenditures (the town of Brockton just handed out pink slips to 1/3 of its teachers) or raise revenues by passing override

Goals of Research

- The purpose of this paper is to evaluate the role that Proposition 2½ has played in the fiscal conditions of towns in Massachusetts and to analyze how the slowdown in the housing market is likely to affect its use and success during the current economic downturn.
- Has Proposition 2½ been a factor in putting towns in their current financial straits?
- What is the likelihood of passing overrides under the current economic conditions?
- Is the likelihood different for rich and poor towns?
- Has Proposition 2½ led to increased sorting between the “haves” and “have nots”?

Modeling Approach

- A model of Proposition 2½ overrides
 - what factors affect the likelihood of an override, passing an override, or amount of successful override?
- A model of local fiscal conditions (LFC)
 - What is the right way of specifying LFC?
 - What factors affect LFC?
- Jointly model Proposition 2½ and LFC
 - What is the relationship between these two?

Data

- We estimate the model using annual town-level data from the mid-1980's until fy 2009 on:
 - Proposition 2½ overrides
 - socioeconomic characteristics
 - fiscal information.
- This allows us to include town-level fixed effects to control for unobservable, time-invariant, town characteristics

Trends in Property Taxes and Local Fiscal Conditions in Massachusetts

- US ACIR: overall state and local tax effort
1975: 129 1977: 133 1979: 144
- Local government property tax burden per capita (\$2007)

	Mass	US
1981	\$1,332	\$ 716
2007	\$1,699	\$1,228

Figure 1: Tax Revenue Percentage Change

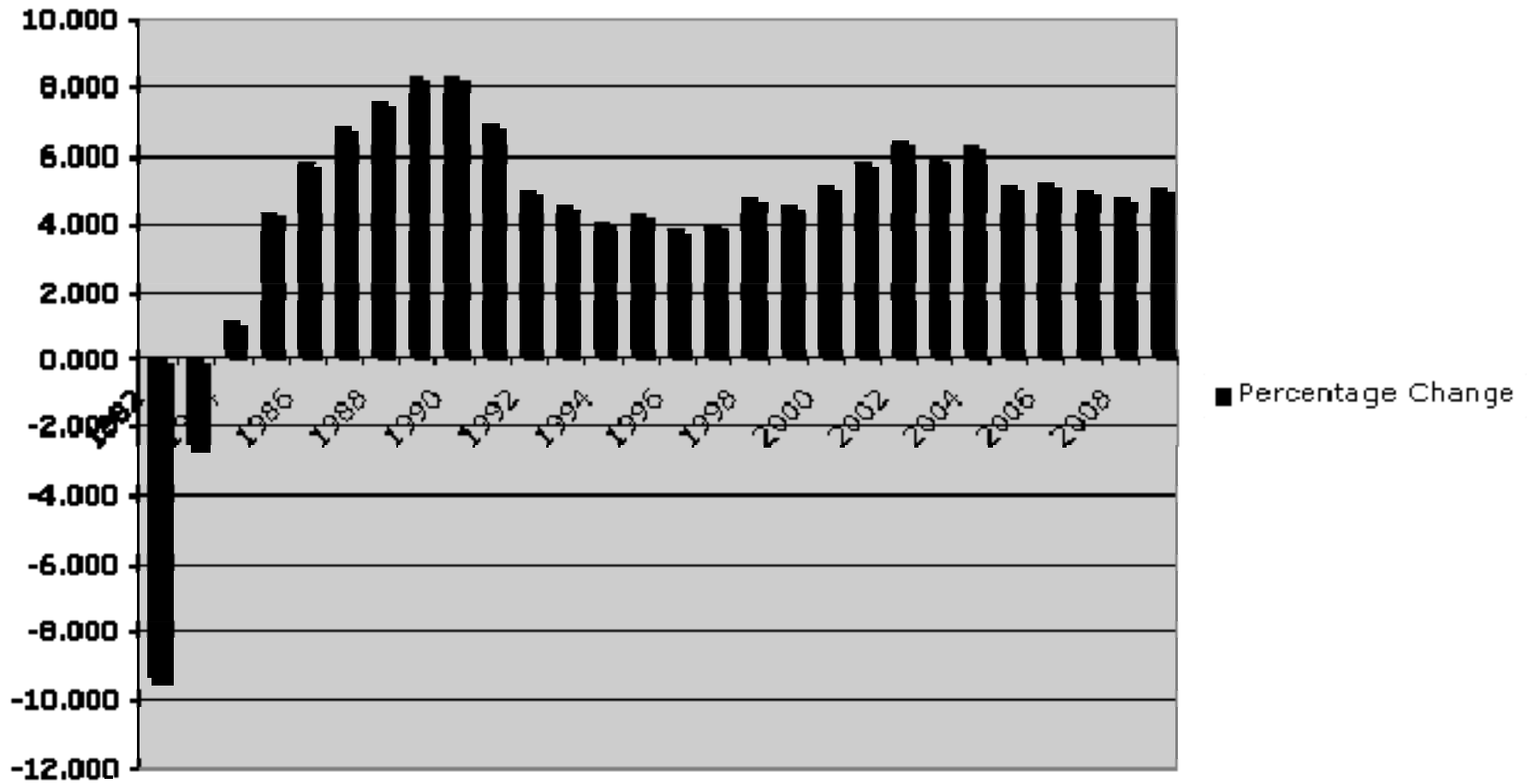
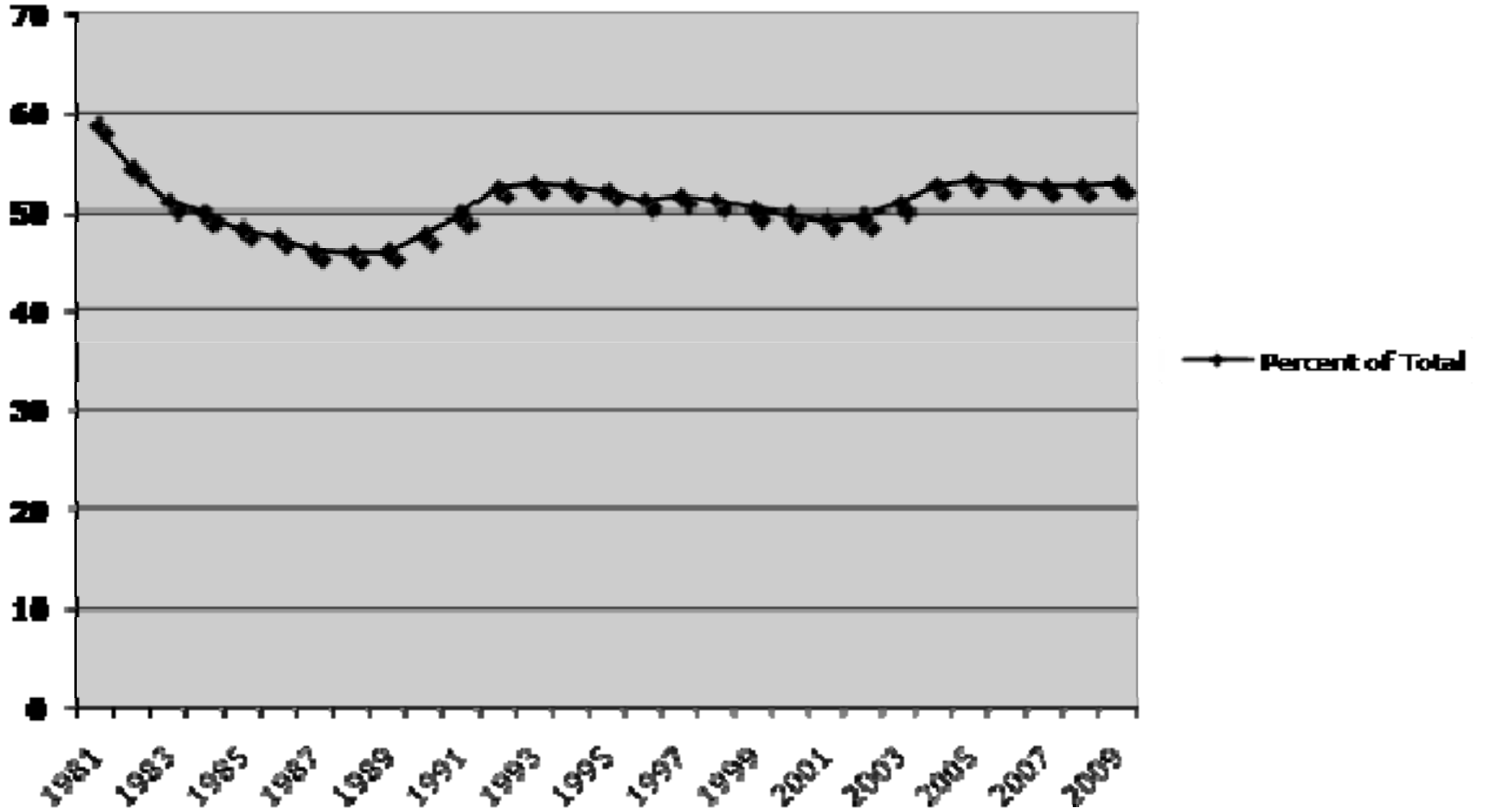


Figure 2: Tax Lay as Percent of Total



Changes in Assessments and Tax Levies

- Average real growth rate between 1984 and 2009
 - Residential property assessment: 5.9%
 - Total residential property assessment: 5.2%
 - Tax levies: 2.2% (4.6% nominal): WHY?
 - New Growth added between 1.77% - 2.85%
 - Successful overrides

Table 1
Annual Real Assessed Values and Tax Levy; State level

Fy	Residential		Total		Tax Levy	% Change
	Assessed Value	% Change	Assessed Value	% Change		
1984	206.02		292.52		6.50	
1985	216.54	5.11	306.95	4.93	6.50	-0.11
1986	260.85	20.47	371.29	20.96	6.71	3.22
1987	343.41	31.65	461.25	24.23	6.87	2.39
1988	386.57	12.57	514.80	11.61	6.97	1.44
1989	466.94	20.79	617.58	19.97	7.14	2.48
1990	510.43	9.31	660.74	6.99	7.31	2.38
1991	492.71	-3.47	639.39	-3.23	7.49	2.46
1992	447.19	-9.24	576.04	-9.91	7.68	2.53
1993	410.66	-8.17	526.30	-8.63	7.81	1.68
1994	401.28	-2.28	511.17	-2.88	8.02	2.75
1995	393.33	-1.98	499.38	-2.31	8.17	1.90
1996	389.89	-0.87	492.95	-1.29	8.25	0.86
1997	390.43	0.14	492.79	-0.03	8.34	1.19
1998	398.93	2.18	504.26	2.33	8.55	2.48
1999	413.65	3.69	524.40	4.00	8.73	2.05
2000	427.57	3.36	543.37	3.62	8.80	0.84
2001	471.08	10.18	594.99	9.50	8.93	1.50
2002	526.52	11.77	658.60	10.69	9.26	3.73
2003	577.60	9.70	711.61	8.05	9.47	2.27
2004	658.91	14.08	795.57	11.80	9.79	3.31
2005	733.39	11.30	872.78	9.70	9.97	1.83
2006	788.87	7.57	932.74	6.87	10.18	2.11
2007	831.16	5.36	981.99	5.28	10.49	3.07
2008	803.70	-3.30	958.18	-2.43	10.62	1.25
2009	788.12	-1.94	949.71	-0.88	11.24	5.82

Figure 4: Tax Levy vs State Aid

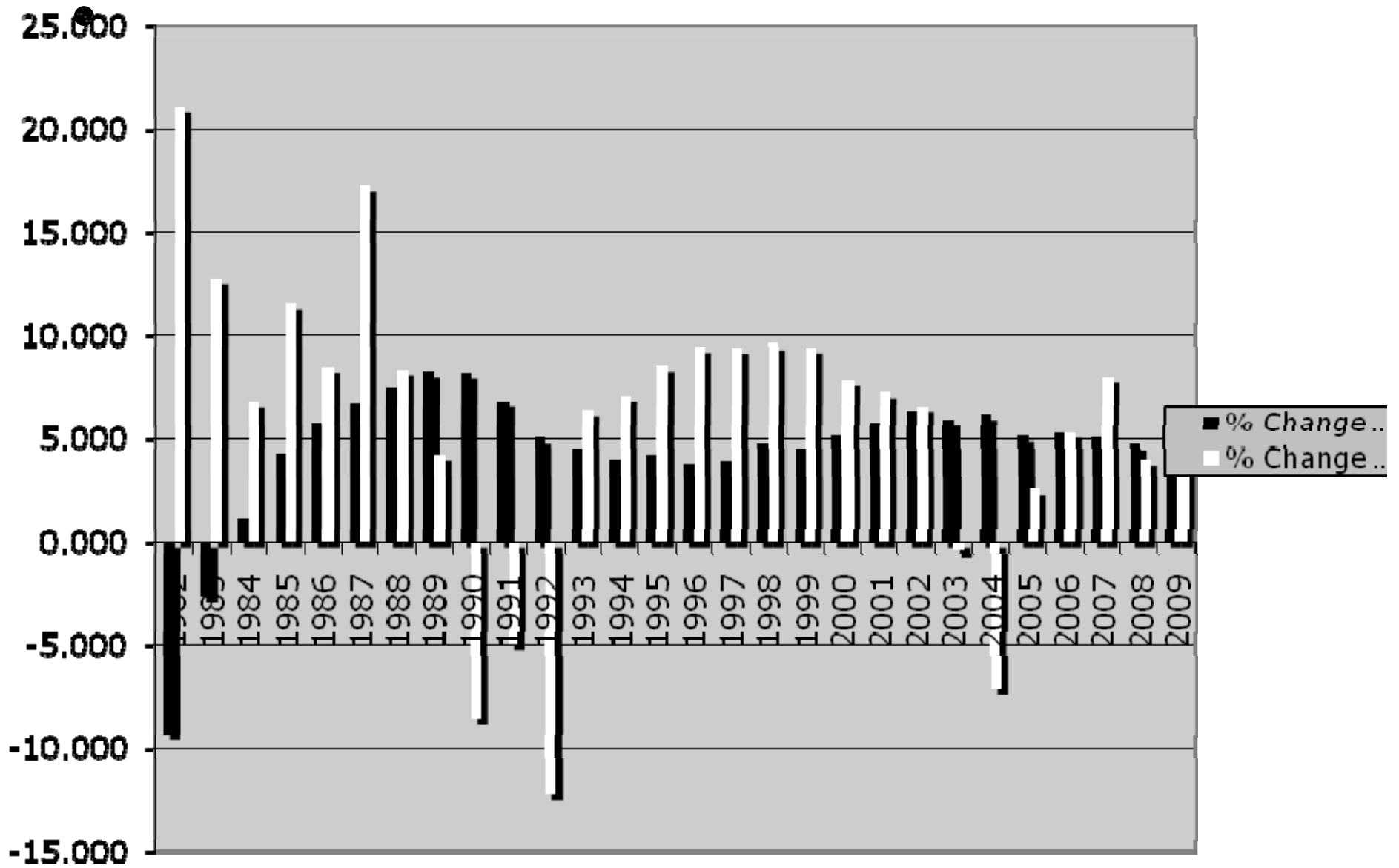


Table 3: Overrides, Amount from Wins (millions), Percent Change in State Aid, Total Receipts, and Employment, and Unemployment Rate

FY	Total Number Overrides	Amount from Wins	% Chng Stateaid	% Chng Total Receipts	% Change Employment	Unemp Rate
1988	153	46.43	1.26	0.79	1.20	3.3
1989	374	35.32	-1.32	2.16	0.19	4.2
1990	540	103.53	-15.33	-3.23	-1.28	6.4
1991	547	48.97	-8.97	-1.49	-3.16	9
1992	326	24.84	-14.07	-2.38	-0.53	8.9
1993	317	16.33	3.53	0.72	1.21	7.2
1994	229	12.96	5.51	3.01	1.47	6.2
1995	204	14.48	5.67	2.37	1.31	5.5
1996	86	7.48	5.49	1.90	1.97	4.5
1997	84	7.89	6.13	0.09	2.27	4.1
1998	79	12.42	6.66	2.73	1.56	3.4
1999	51	9.30	6.84	4.00	1.00	3.4
2000	70	25.11	0.19	-1.49	0.67	2.7
2001	92	28.21	2.03	1.42	0.19	3.7
2002	105	65.35	3.63	3.21	-0.91	5.4
2003	134	42.91	-4.08	-0.61	-1.28	6
2004	155	28.88	-9.26	-0.30	0.13	5.2
2005	173	48.98	-0.32	1.21	0.55	4.8
2006	133	36.41	1.54	1.92	1.02	4.8
2007	101	34.94	5.49	3.35	0.75	4.4
2008	125	38.15	-0.20	0.58	0.24	5.3
2009	95	17.54	5.02	5.55	-3.36	8.7

Figure 5: Number of Override Votes and Wins

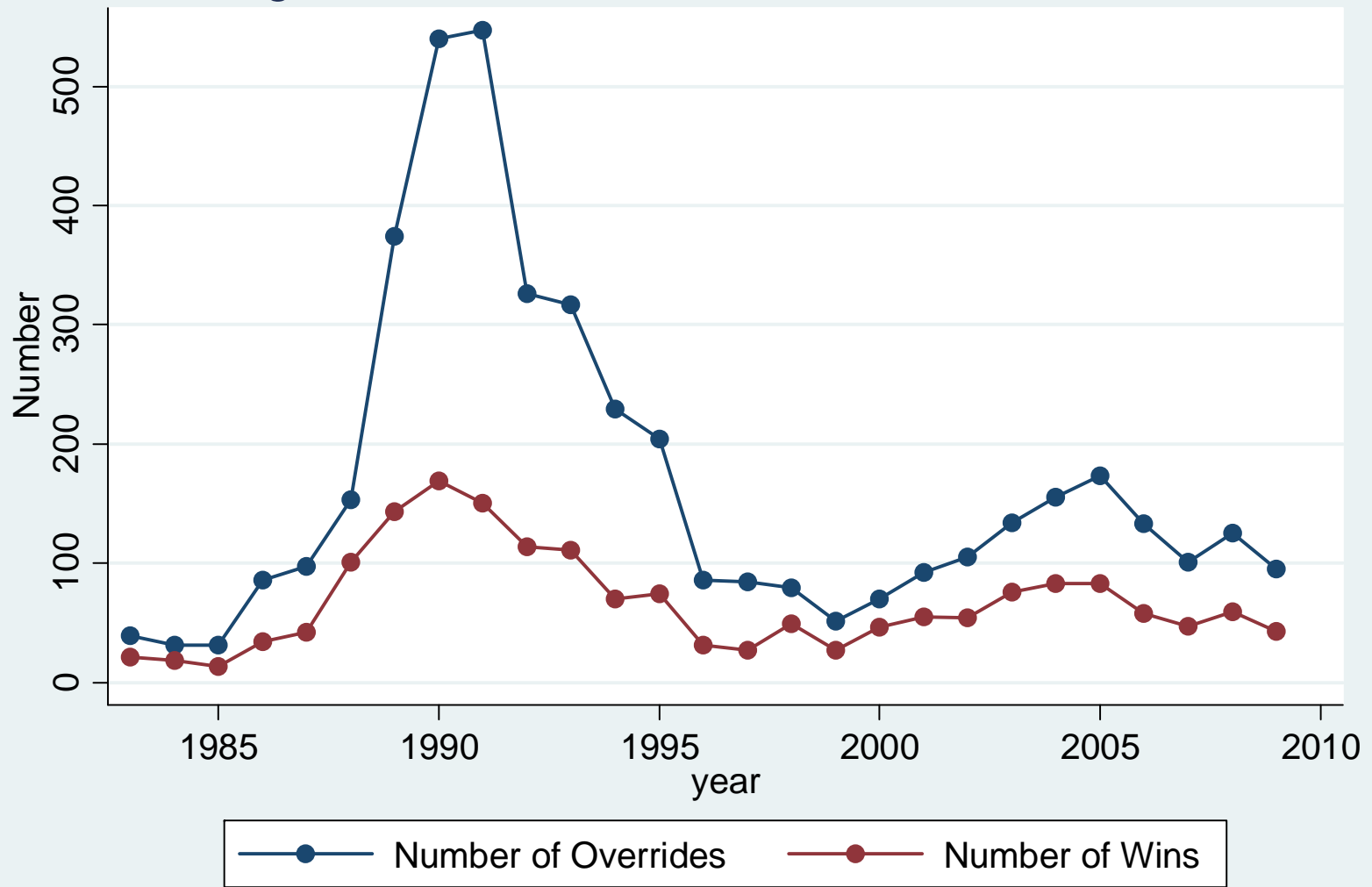


Figure 6: Percent Excess Capacity and Tax Rate



Model of Overrides

$$O_{it} = \beta_{0t} + X_i\beta_1 + Z_{it}\beta_2 + u_{1i} + v_{lit}$$

O_{it} - 1 if at least one override in town i in fy t

X_i - vector of time invariant variables,

Z_{it} - vector of time-varying variables,

u_{1i} - unobserved (time-invariant) town effect

Override Win

$$\text{WIN}_{it} = \alpha_{0t} + X_i \alpha_1 + W_{it} \alpha_2 + u_{2i} + v_{2it}$$

W_{it} - 1 if at least one override win in town i in
year t (conditional on override vote)

X_i - vector of time invariant variables,

W_{it} - vector of time-varying variables, includes
amount of override

u_{2i} - unobserved (time-invariant) town effect

Override Amount

$$\text{amount}_{it} = \delta_{0t} + X_i \delta_1 + Z_{it} \delta_2 + u_{3i} + v_{3it}$$

amount_{it} - amount of override win in town i in
fy t

u_{3i} - unobserved town effect

Modeling Local Fiscal Conditions

$$\begin{aligned} \text{LFC}_{it} &= \text{Total Revenues}_{it} - \text{Costs}_{it} \\ &= \varphi_{0t} + X_{2i} \varphi_{1t} + W_{2it} \varphi_{2t} + u_{4it} + v_{4it} \end{aligned}$$

Total Revenues_{it} - per capita real total town revenues
Costs_{it} - per capita real total town costs

LFC reflects past successful overrides which is why we use actual total revenues whereas costs reflect “exogenous” cost factors that are not affected by successful overrides. Hence Costs is the predicted value from a regression of real per capita expenditures on a set of regressors. We estimate a separate expenditure equation each year by OLS.

Modeling Proposition 2½ and Local Fiscal Conditions

We specify a simultaneous equations model of Proposition 2½ and Local Fiscal Conditions to be able to determine the joint relationship between these two variables

Table 5: Regression Results for Override and Successful Override Models

Variable	Dependent Variable			
	Override		Win	
	OLS (1)	FE (2)	OLS (3)	FE (4)
Prior Override	0.1854***	0.0996***	0.1598***	0.3364***
Years since Last Override	-0.0176***	-0.0076***	0.0062	-0.0129*
Prior Win	0.0306	-0.0677***	0.1569***	-0.1194**
Years Since last Win	-0.0032	-0.0018	-0.0193***	-0.0040
Amount of Override (PC)			0.0060**	0.0038
City form of Govt	0.0384*		-0.0302	
Pct Yes on Prop 2½ Vote	-0.0027***		-0.0056***	
Open Town Meeting	0.0564***		-0.0998	
Representative Town Mtng	0.0278		-0.0497	

Table 5: Regression Results for Override and Successful Override Models

Variable	Dependent Variable			
	Override		Win	
	OLS (1)	FE (2)	OLS (3)	FE (4)
Property Tax Rate	-0.1142***	-0.1631***	-0.0377	-0.1743**
Median Household Income	0.0162**	-0.0213	0.0749***	0.0264
Excess Capacity (Pct)	-0.0089***	-0.0104***	-0.0065	-0.0125*
New Growth (Pct)	-0.0023	-0.0010	-0.0184	0.0004
Residential New Growth (Pct)	-0.0002	-0.0007**	-0.0007	-0.0007
State Aid (PC)	-0.0037*	0.0040	-0.0135**	-0.0364**
Residential Assess Value (PC)	0.0003	-0.0006	0.0006	0.0016
Commercial AV (PC)	-0.0001	0.0003	0.0005	-0.0020
Industrial AV (PC)	-0.0003***	0.0001	-0.0008***	0.0058*
Percent Nonwhite	0.0040***	0.0037	0.0018	-0.0051
Percent ≤ 18 years old	0.0059***	0.0076**	0.0008	0.0076
Percent ≥ 65 years old	0.0000	0.0022	0.0028	0.0251***
Population	-0.0017***	0.0012	-0.0103***	-0.0147
Population ²	0.0025***	-0.0024	0.0687***	0.3782**
Enrollment (PC)	0.0398	0.1605	0.0126	-0.6311**
Registered Republicans (Pct)	0.0037***	0.0013	0.0058**	0.0118**

Table 7: Regression Results for Local Fiscal Condition

Variable	OLS (1)	FE (2)
y1988	0.0080	-0.0454**
y1989	0.0759	0.0888
y1990	-0.0209	-0.0445***
y1991	-0.0225	-0.0389**
y1992	-0.0055	-0.0202
y1993	0.0154	-0.0021
y1994	0.0110	-0.0159
y1995	0.0373	0.0073
y1996	0.0419	0.0123
y1997	0.0693	0.0362
y1998	0.0942**	0.0565**
y1999	0.0772*	0.0339
y2000	0.0712*	0.0427
y2001	0.0339	0.0067
y2002	0.0847**	0.0546**
y2003	0.0461	0.0213
y2004	0.0441	0.0227
y2005	0.0364	0.0140
y2006	0.1024**	0.0809***
y2007	0.1831***	0.1586***
y2008	0.2573***	0.1844***
y2009	0.2802***	0.1963***

Table 7: Regression Results for Local Fiscal Condition

Variable	OLS (1)	FE (2)
Density	-0.0199***	-0.0511
Population	0.0005	-0.0123
Population ²	-0.0041	-0.0332***
Registered Republicans (Pct)	0.0026	-0.0017
Employment (PC)	0.0000**	0.0000
Median Household Income	0.0324***	0.0662**
Enrollment (PC)	-0.0782***	-0.1125
State Aid (PC)	0.0017	0.0162**
Percent Nonwhite	0.0073***	0.0034
Percent ≤ 18 years old	-0.0161***	-0.0060
Percent ≥ 65 years old	0.0050*	0.0069
City form of Govt	0.0577**	
Pct Yes on Prop 2½ Vote	-0.0046***	
Open Town Meeting	0.0129	
Representative Town Mtng	0.0212	