

Appendix 1: Data Sources

In general, data were collected for the fifty states as well as the District of Columbia over the period 1986 to 2012, although in most reported regression analyses, some states were excluded, as described in the text.

Data on U.S. state corporate tax policies, including both tax rates and various rules, come from several sources. These include *The Book of the States* by the Council of State Governments (1986 to 2001), *Significant Features of Fiscal Federalism* (1986 to 1994) by the Advisory Commission on Intergovernmental Relations, and the Commerce Clearing House publications *The Multistate Corporate Tax Almanac* (1986-1989), the *Multistate Corporate Tax Guide* (1995-2000), the *State Tax Handbook* (2001-2008) and the *U.S. Master Multistate Corporate Tax Guide* (2006-2013).

Data on the share of corporate returns that are pass-through organizations are from a special tabulation from the IRS, based on data reported in publications 6149. This variable is defined as the number of returns filed by partnerships and S corporations relative to the total number of corporate tax returns.

Data on employment are from the U.S. Bureau of Economic Analysis [BEA]. For manufacturing employment, data for 1986 to 1990 are based on SIC industry codes, and data for 1990-2012 are based on NAICS codes. For manufacturing, the 1990 ratio of SIC to NAICS manufacturing data are used to adjust the late 1980s data to NAICS equivalents.

The BEA also provides data on total income, earnings, wages, corporate gross operating surplus, and gross state product, GSP. The GSP series are also affected by the change from SIC to NAICS codes, so the late 1980s data are similarly adjusted.

The BEA provides data on foreign direct investment into U.S. states, including the gross property, plant and equipment of affiliates, the number of affiliates, the employment of affiliates, and the manufacturing employment of affiliates. For the period 1986-2006, data are for all nonbank affiliates. Data for 2007 to 2010 are not strictly comparable, since they also include banks, but these data are adjusted to be comparable by using data on ratios of comparable series.

Data from the Annual Survey of Manufacturers is collected from several sources of the U.S. Census Bureau including CDs (1987-1991), publications on the Annual Survey of Manufacturers (1992-1996), web pages (2002-2011), and an excel spreadsheet emailed from a Census Bureau employee (1997-2001). These data include information on manufacturing employment, payroll, materials costs, shipments, value added, and capital expenditures.

The U.S. Census Bureau was the source of data on corporate tax revenues, corporate license fees, state populations, and the share of the population with a bachelor's degree or higher. For the bachelor's degree share data, data are inputted for the years 1986-1989 based on an average of the growth rates in this share between the years 1980 and 1990 and the years 1990 to 1998. For the years 1991 to 1997, data are inputted based on the growth rate over the period 1990 to 1998.

Missing data for 2001 are based on an average of 2000 and 2002, and data for 2012 are extrapolated based on 2011 data and the growth rate for the prior year.

The U.S. Bureau of Labor Statistics gives data on the unemployment rate and the labor force.

Data on political control variables comes from the online database of Klarner Politics. See <http://www.indstate.edu/polisci/klarnerpolitics.htm>.

Data on individual income tax rates were based on the top bracket. Data are from *The Book of the States* by the Council of State Governments in most years, though some years were not available. For the years 1987, 1989, 1991, 1993, rates came from *Significant Features of Fiscal Federalism* by the Advisory Commission on Intergovernmental Relations, for 1999, the *State Tax Handbook* by the Commerce Clearing House, for 2001 and 2013, the Tax Policy Center, and for 2012, the Tax Foundation. Missing data were interpolated in cases where the tax rate in prior and subsequent years was the same. For states where tax due is a fraction of the federal liability, the tax rate was imputed based on the federal top rate in the same year.

Data on state election years, the age distribution of the state population, federal aid to the states, and state debt levels were generously shared from a dataset of Jon Rork. The original sources of these data were the U.S. Statistical Abstract (for election years) the U.S. Census (for age distribution and federal aid), and *State Government Finances* (for debt).

Further information about the details of data acquisition and more detailed variable definitions are available from the author upon request.

Appendix 2: Results for Early Years of Sample, before 1996

Table A1: Employment Regressions, before 1996

Dependent Variable: Ln of Employment						
	(1)	(2)	(3)	(4)	(5)	(6)
payburden	-4.116*	-0.585	0.180	-0.957*	-0.552	0.198
	(0.772)	(0.375)	(0.193)	(0.442)	(0.367)	(0.198)
natlunem	-1.038*	-0.865*	-0.935*			
	(0.388)	(0.186)	(0.100)			
throwback		-0.00839	-0.000605		-0.00627	-0.000406
		(0.0105)	(0.00525)		(0.0104)	(0.00540)
combrep		-0.0211*	-0.00565		-0.0190*	-0.00546
		(0.00899)	(0.00445)		(0.00892)	(0.00457)
lngsppc		0.364*	-0.601*		0.596*	-0.608*
		(0.00996)	(0.0485)		(0.0501)	(0.0527)
pitax			-0.0189			-0.00819
			(0.0796)			(0.0831)
licgsp			-10.36*			-10.37*
			(3.099)			(3.150)
lngsp			0.816*			0.815*
			(0.0354)			(0.0364)
ba			0.000995			0.000672
			(0.00135)			(0.00154)
manufratio			1.770*			1.803*
			(0.132)			(0.141)
youngshare			-2.040*			-2.008*
			(0.194)			(0.200)
oldshare			0.0985			0.00980
			(0.370)			(0.409)
<i>Fixed</i>	yes	yes	yes	yes	yes	yes
<i>Effects?</i>						
<i>Year</i>	no	no	no	yes	yes	yes
<i>Effects?</i>						
<i>N</i>	423	408	374	423	408	374
<i>R</i> ²	0.090	0.808	0.955	0.728	0.822	0.955

Standard errors in parentheses

* $p < 0.05$

Table A2: Capital Expenditure Regressions, Before 1996

Dependent Variable: Ln of Capital Expenditures						
	(1)	(2)	(3)	(4)	(5)	(6)
assetbur	-8.337*	1.851	3.250	0.960	1.574	2.587
	(3.616)	(2.769)	(2.880)	(2.765)	(2.751)	(2.899)
unem	-5.645*	-4.581*	-3.595*	-7.079*	-4.856*	-3.178*
	(1.060)	(0.855)	(1.142)	(0.972)	(1.213)	(1.474)
throwback		0.0401	0.105		0.0264	0.0766
		(0.0710)	(0.0716)		(0.0718)	(0.0728)
combrep		-0.0240	0.00236		-0.0272	0.0246
		(0.0562)	(0.0553)		(0.0568)	(0.0560)
lngsppc		1.222*	-0.734		1.492*	-0.383
		(0.0734)	(0.667)		(0.376)	(0.721)
pitax			1.427			2.002
			(1.095)			(1.120)
licgsp			33.44			34.77
			(42.06)			(42.01)
lngsp			1.468*			1.709*
			(0.491)			(0.496)
ba			0.0177			0.0382
			(0.0180)			(0.0203)
manufratio			6.319*			5.032*
			(2.334)			(2.472)
youngshare			-5.256*			-4.280
			(2.497)			(2.590)
oldshare			6.004			7.581
			(4.950)			(5.495)
<i>Fixed Effects?</i>	yes	yes	yes	yes	yes	yes
<i>Year Effects?</i>	no	no	no	yes	yes	yes
<i>N</i>	385	370	340	385	370	340
<i>R</i> ²	0.095	0.522	0.560	0.512	0.545	0.583

Standard errors in parentheses

* $p < 0.05$

Table A3: Sales Regressions, before 1996

Dependent Variable: Ln of Sales						
	(1)	(2)	(3)	(4)	(5)	(6)
salesburden	5.677*	0.908	0.794	0.845	0.494	0.623
	(1.032)	(0.923)	(0.721)	(0.535)	(0.869)	(0.679)
unem	-3.855*	-2.304*	-0.826*	-3.990*	-1.053*	0.338
	(0.666)	(0.308)	(0.325)	(0.407)	(0.410)	(0.392)
throwback		-0.0122	0.0367		-0.0150	0.0288
		(0.0388)	(0.0309)		(0.0367)	(0.0296)
throwsb		-0.743	-1.665*		-0.529	-1.199
		(1.017)	(0.805)		(0.954)	(0.767)
combrep		-0.0255	-0.00937		-0.0171	0.00640
		(0.0201)	(0.0155)		(0.0192)	(0.0149)
lngspc		1.044*	0.127		1.790*	0.258
		(0.0267)	(0.189)		(0.128)	(0.190)
pitax			0.769*			0.763*
			(0.310)			(0.300)
licgsp			-6.885			-15.58
			(11.77)			(11.12)
lngsp			1.129*			1.259*
			(0.135)			(0.130)
ba			-0.0260*			-0.0167*
			(0.00511)			(0.00551)
manufratio			5.060*			4.846*
			(0.655)			(0.658)
youngshare			-0.0235			-0.964
			(0.702)			(0.691)
oldshare			0.419			4.627*
			(1.391)			(1.472)
<i>Fixed Effects?</i>	yes	yes	yes	yes	yes	yes
<i>Year Effects?</i>	no	no	no	yes	yes	yes
<i>N</i>	1084	1064	998	1084	1064	998
<i>R</i> ²	0.146	0.787	0.858	0.782	0.825	0.877

Standard errors in parentheses

* $p < 0.05$

Standard errors in parentheses

* $p < 0.05$

Appendix 3: Policy Probit Specifications

Over the entire sample, in 8% of observations, states increase the sales weight in their apportionment formulas, and in 3% of observations, states lower their corporate tax rate by at least nine-tenths of one percentage point. (Occasionally, states undertake very mild or gradual rate reductions, and I exclude these instances from the analysis.)

Tables A4 and A5 both show specifications that include varying numbers of independent variables. The baseline specification (column 1) models the policy change as depending on the mean policy of other states, the state unemployment rate, Republican control over both legislative and executive branches of state government, Democratic control over both branches (with the omitted category being split control), and whether it is an election year. Column 2 also includes other tax policies and state GSP per-capita, column 3 includes the debt/GSP and federal aid/GSP ratios for states as well as the share of the population that is young (18 and under) or old (65 and older), and column 4 includes lags of prior values for other states' policies, tax rates, gross state product, unemployment, and political outcomes.

The remarkable feature of the probit regressions is how few statistically significant determinants of policy changes are apparent in the results. Across four sales weight specifications, the only variable that is associated with higher sales weights is the mean weight in other states (in two columns) and the lag of the mean rate of the sales weight in other states (in column four). Across four tax rate change specifications, there is only one statistically significant coefficient, the mean tax rate in other states (in equation 4 only). These results provide substantial evidence that tax policy changes are not explained well by seemingly plausible observable variables, thus reducing possible policy endogeneity concerns.

Table A4: Probit Regressions on Probability of Raising Apportionment Weight on Sales

	(1)	(2)	(3)	(4)
meansalesw	1.379 (0.708)	1.003 (1.540)	5.140* (2.547)	36.03* (7.131)
unem	4.880 (3.041)	5.546 (3.458)	6.022 (3.797)	4.504 (7.750)
rep	0.128 (0.140)	0.0777 (0.152)	0.00606 (0.167)	0.500 (0.301)
dem	-0.189 (0.145)	-0.161 (0.148)	-0.177 (0.155)	-0.203 (0.270)
elecyr	0.00486 (0.127)	-0.0155 (0.132)	-0.00289 (0.135)	-0.206 (0.167)
lngsppc		0.122 (0.370)	-0.677 (0.596)	-0.856 (0.809)
rate		-1.726 (3.185)	1.400 (3.775)	14.69 (11.54)

pitax	-2.949 (2.666)	-2.253 (3.158)	-6.513 (15.47)
debtgsp		-2.453 (2.381)	-2.286 (2.974)
aidgsp		-15.57 (8.511)	-9.506 (9.458)
youngshare		-2.775 (4.769)	-1.924 (5.611)
oldshare		-6.505 (5.854)	-8.317 (6.693)
L.meansalesw			-24.64* (8.317)
L2.meansalesw			-6.710 (7.466)
L.rate			-11.75 (15.21)
L2.rate			-0.572 (11.31)
L.pitax			7.318 (21.57)
L2.pitax			-2.633 (15.35)
L.unem			5.262 (11.49)
L2.unem			1.284 (9.371)
L.lngsp			4.792 (3.284)
L2.lngsp			-4.634 (3.271)
L.rep			-0.343 (0.411)
L2.rep			-0.427 (0.323)
L.dem			-0.189 (0.362)
L2.dem			0.0450 (0.279)
<i>N</i>	1055	987	946
			885

Standard errors in parentheses

* $p < 0.05$

Table A5: Probit Regressions on Probability of Lowering Corporate Tax Rate

	(1)	(2)	(3)	(4)
meanrate	-7.343 (35.35)	-27.85 (53.02)	-62.69 (59.41)	-319.6* (111.9)
unem	0.0835 (4.229)	-1.132 (4.571)	3.114 (4.834)	9.957 (11.76)
rep	-0.0868 (0.193)	-0.0504 (0.201)	-0.0326 (0.222)	-0.0889 (0.403)
dem	-0.283 (0.204)	-0.300 (0.209)	-0.298 (0.217)	-0.184 (0.405)
elecyr	-0.153 (0.180)	-0.155 (0.184)	-0.161 (0.189)	-0.221 (0.223)
lngsppc		-0.192 (0.349)	-0.330 (0.414)	-0.963 (0.674)
salesw		-0.0251 (0.465)	-0.0111 (0.502)	-2.061 (1.933)
pitax		0.0701 (3.228)	3.796 (3.692)	-20.25 (14.89)
debtgsp			-0.986 (2.505)	-1.061 (3.351)
aidgsp			-12.59 (8.505)	-0.143 (10.55)
youngshare			-3.659 (6.669)	-5.587 (8.161)
oldshare			7.485 (6.979)	4.103 (8.433)
L.meanrate				243.0 (134.4)
L2.meanrate				88.07 (126.2)
L.salesw				0.00943 (2.712)
L2.salesw				2.050 (1.954)
L.pitax				36.39 (21.38)
L2.pitax				-10.44 (16.08)
L.unem				-12.37 (18.58)
L2.unem				6.343 (15.58)
L.lngsp				-0.636

L2.lngsp				(4.443)
				0.904
				(4.441)
L.rep				-0.612
				(0.538)
L2.rep				0.755
				(0.399)
L.dem				-0.00833
				(0.488)
L2.dem				-0.460
				(0.379)
<i>N</i>	1165	993	952	880

Standard errors in parentheses

* $p < 0.05$