Lecture 6

Political Institutions and Policy Outcomes:

Within Country Evidence

- Here, I will look selectively at two sets of empirical work:

- Work looking at cross-state differences in the U.S.

- Work looking at the impact of political reservation in India.

- This is clearly very arbitrary, but will give a flavor of how things migth be looked at.

Cross-State U.S. evidence

- Advantages:

  - Plentiful compatable panel data on a wide range of policy outcomes and political variables

  - Similar economic and constitutional setting

- Disadvantages – relatively limited differences in institutional variation:

- **Policy Making Institutions**. Restrictions on the governor's and legislators' freedoms, including tax and expenditure limitations; super-majority requirements for tax increases; the governor's possession of a line item

veto; rules for appointing regulators and judges; rules governing whether a state permits direct democracy, such as citizens' initiatives; and rules on whether governors face term limits.

- **Electoral Institutions** . Rules affecting who can run for office and who can vote, including those affecting the costs of registering to vote (such as poll taxes and literacy tests); those regulating campaign contributions in state elections; and those governing the conduct of primary elections.
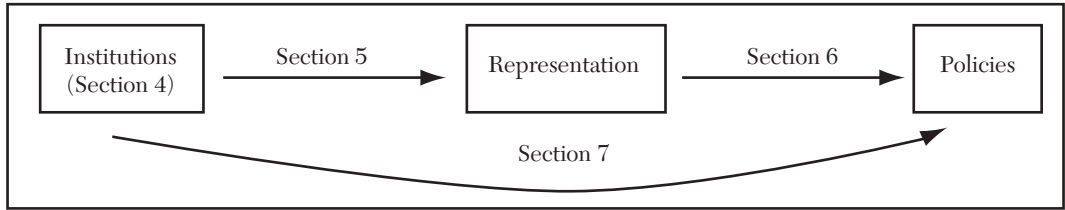
- So let's look at the evidence

Figure 1. Organization of the Text

basis of which policy is made. First, institutional reforms are frequently on the agenda and we need to have a framework (and empirical knowledge) for judging them. Second, the policy advice and insights that economists offer are mediated through the political system. It may be that once the workings of the political system are understood, then we would change the policy advice that we give. Policies that appeared suboptimal may be desirable because of the way in which they are operated in political equilibrium. But this raises the larger question of whether it is better to change the rules by which policies are formed than to advocate policy changes themselves. This, then, requires an understanding of the mapping from institutional rules to policy outcomes.

One rather grand view of policy making, suggested by Buchanan, is to think of there being two stages of analysis. At the first stage, a constitution is designed.[3] This has two components. A *procedural constitution* sets the terms by which decisions are made (electoral rules, term limits, the separation of powers, and such). A *fiscal constitution* builds in constraints on the policies that can be adopted within the framework of the procedural constitution. This might include, for example, limits on taxation or particular forms of public spending. After the constitution is determined, policies are chosen. These are autonomous, however, and the

key role for the policy advisor at stage one is to anticipate the outcome at stage two.[4]

While useful as a benchmark, the distinction between a rule and policy is quite narrow (the discussion in Dixit 1996, for example, addresses this issue). A good example is the rule that prohibited many U.S. states from levying an income tax, but which was overturned by most states during the twentieth century. This kind of fiscal rule then looks much closer to what we would ordinarily call a policy than a rule. In practice, there may be larger costs associated with changing some aspects of the policy framework than others—the need for ratification by two-thirds majorities is a good example. Thus, it is probably a little dangerous to try to draw a hard-and-fast distinction between the immutable constitution and the pliable policy arena.

The notion of designing an optimal constitution is tinged with hubris. In practice, the optimizing approach to policy analysis can be solved only under very stylized assumptions about the economic environment and incentive problems. Moreover, the bewildering array of different policy issues needing to be solved makes the notion of specifying the optimal constitution a distant dream. On a more practical level, we might hope to understand the workings of particular institutional changes. Much as in policy economics, we can debate how particular interventions—such as minimum wages or publicly

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[3] Jean-Jacques Laffont (2000) provides a conception of the optimal constitution problem from a mechanism design perspective.

[4] Timothy Besley and Stephen Coate (2001) develop a very simple model that illustrates the issues that might arise in the design of a fiscal constitution.

TABLE 1
INSTITUTIONS, LEGISLATIVE OUTCOMES AND POLICY OUTCOMES,
U.S. STATES 1950 TO 1999

	1950	1960	1970	1980	1990
Institutions: electoral rules	Percent of states covered by the following institutions				
Poll taxes	15.2	10.9	0	0	0
% state population affected by a literacy test	13.5	13.5	1.8	0	0
Voter registration through vehicle registration	0	0	0	4.2	22.9
Voter registration on polling day or no registration	0	2.1	2.1	6.3	6.3
Open primaries	29.2	14.6	14.6	20.8	27.1
Restrictions on corporate campaign contributions	62.8	76.2	71.4	65.1	64.6
Gubernatorial term limits	40.8	43.8	50.0	54.2	58.3
Citizens initiatives	na	39.6	41.7	45.8	45.8
Institutions: decision-making rules					
Tax and expenditure limitations	0	0	0	2.1	22.9
Super-majority requirements	na	2.1	6.3	14.6	14.6
Gubernatorial line-item veto	81.3	81.3	85.4	85.4	85.4
Legislative outcomes					
Fraction Dem in lower house	58.5	69.0	55.4	61.6	59.7
Fraction Dem in upper house	54.5	65.7	55.2	64.8	60.2
Indicator: Dem governor	60.4	68.8	35.4	62.5	56.3
Fraction Female lower house	na	na	na	11.4	18.0
Fraction Female upper house	na	na	na	5.5	13.4
Voter turnout (presidential election years)	63.6	63.6	62.2	55.5	52.2
Party competition in legislature	−.092	−.079	−.058	−.054	−.034
Policy outcomes					
Total taxes per capita $1982	161.4	249.8	464.4	568.2	734.9
Total spending per cap $1982	370.5	534.3	974.1	1200.7	1526.0
Family assistance per capita $1982	na	17.2	44.9	50.5	42.8
Workers compensation per capita $1982	5.03	7.39	9.17	18.0	34.7
Income, demographic and state controls					
Ideology: Citizen COPE score	na	49.7	48.7	43.9	49.7
State income per capita ($1982)	5554	6725	9058	10636	12985
State population (millions)	3.13	3.72	4.21	4.68	5.13
Percentage aged 65 and above	8.13	9.18	9.77	11.2	12.7
Percentage aged 5 to 17	21.5	25.2	26.3	21.2	18.9

Notes: Poll taxes and literacy test data do not include Nebraska or Minnesota. The first column for corporate campaign restrictions presents results for 1952. Tax and expenditure limitations present an indicator for potentially binding tax and expenditure limitations. Voter turnout is the turnout for the highest office in the race in that year, divided by the state's age-eligible voting population, reported here for election years: 1952, 1960, 1968, 1976, 1988.

in allowing registration on polling day or that required no registration (MN, ND, WI, WY, NH, ID) were exempt from the NVRA. The fraction of states in compliance with NVRA, and those with flexible registration, has in-creased over time, as can be seen in the first panel of table 1.

There has been much variation over time and between states in the types of primaries parties have run, with the fraction of states

TABLE 2
REGIONAL DIFFERENCES IN INSTITUTIONS,
LEGISLATIVE OUTCOMES AND POLICY OUTCOMES

	South	Non-South	South	Non-South
Institutions: electoral rules	1960		1990	
Poll taxes	31.3	0°	0	0
% state population affected by a literacy test	33.6	2.8°	0	0
Voter registration through vehicle registration	0	0	12.5	28.1
Voter registration on polling day or no registration	0	3.1	0	9.4
Open primaries	0	21.9°	12.5	28.1
Restrictions on corporate campaign contributions	71.4	78.6	75.0	59.4
Citizens initiatives	12.5	53.1°	18.8	59.4°
Institutions: decision-making rules				
Tax and expenditure limitations	0	0	12.5	28.1
Super-majority requirements	6.3	0	31.3	6.3°
Gubernatorial line-item veto	93.8	75.0	93.8	81.3
Legislative outcomes				
Fraction Dem in lower house	93.4	60.0°	71.7	53.6°
Fraction Dem in upper house	91.8	51.9°	76.5	51.8°
Indicator: Dem governor	87.5	59.4°	56.3	56.3
Fraction Female lower house	na	na	11.3	21.4°
Fraction Female upper house	na	na	9.6	15.3°
Voter turnout (presidential election years)	47.1	71.8°	46.5	55.1°
Party competition in legislature	−.190	−.020°	−.068	−.015°
Policy outcomes				
Total taxes per capita $1982	251.1	249.1	691.5	756.6
Total spending per cap $1982	500.1	551.4	1388.4	1594.7°
Family assistance per capita $1982	16.1	17.8	28.9	49.7°
Workers compensation per capita $1982	2.89	9.64	19.3	42.3
Income, demographic and state controls				
Ideology: Citizen COPE score	32.1	58.5°	47.2	51.0
State income per capita ($1982)	5687	7243°	12028	13463°
State population (millions)	3.40	3.87	5.30	5.05
Percentage population aged 65 and above	8.43	9.55°	12.8	12.6
Percentage population aged 5 to 17	26.2	24.7°	19.2	18.8

Notes: An asterisk (°) notes that the difference between the South and the Non-South is significant at a 5 percent level. States in the South are AL, AR, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, and WV. Tax and expenditure limitations present an indicator for potentially binding tax and expenditure limitations. Voter turnout is the turnout for the highest office in the race in that year, divided by the state's age-eligible voting population, reported here for election years: 1960 and 1988.

their association with measurable political outcomes—such as party control, political competition and ideology. From a theoretical point of view, these exercises can best be thought of as getting an empirical handle on (3), while bearing in mind that the institutional effect may be working through the choice of candidates c_{jst} ($j \in \{D, R\}$) as well as through the process by which a given candidate is elected.

TABLE 3
DEPENDENT VARIABLE:
ELECTION TURNOUT OF AGE-ELIGIBLE VOTERS

	(1)	(2)	(3)	(4)	(5)
Poll tax	−.140 (.010)				−.157 (.013)
Literacy test	−.117 (.011)	—	—	—	−.138 (.012)
Citizen initiatives	—	.033 (.014)	—	—	—
Indicator: voter registration through vehicle agency	—	—	.003 (.008)	—	.004 (.007)
Indicator: voter registration possible on polling day or no registration necessary	—	—	.017 (.013)	—	.025 (.014)
Indicator: restriction on corporate campaign contributions	—	—	—	.021 (.006)	.018 (.005)
State fixed effects included?	Yes	No	Yes	Yes	Yes
Years over which regression run	even years 1950–98	even years 1960–98	even years 1950–98	even years 1952–98	even years 1952–98
Number of observations	1174	958	1198	1060	1038

Notes: Standard errors in parentheses. All regressions control for year effects, and include controls for the proportion of population aged 65 and above; the proportion of population aged 5 to 17; state income per capita in $1982 and income per capita squared; state population and population squared. Omitted voter registration category in columns 3 and 5 is "conventional" registration. We do not include state fixed effect in column 2 because only four states changed whether they allowed initiatives over the period 1960–98. In column 2, we estimate robust standard errors, and allow for correlation in the unobservables from the same state. Campaign finance data are currently not available for 1950.

on were those where it was most difficult to encourage people to vote.

Voter turnout is significantly correlated with restrictions on corporate campaign contributions. Controlling for state fixed effects, in those states that adopted restrictions on corporate campaign contributions, turnout was 2 percentage points higher (a point we return to below). These results are robust to estimating the impact of poll taxes, literacy tests, voter registration and corporate campaign finance requirements simultaneously (column 5), where these institutional rules are jointly highly significant (F-test $= 66.09$, p-value $= .0000$).

That institutional rules may also affect the political composition of the legislature is clear from table 4, where we regress three outcome measures—the fraction of the seats in the states' upper houses held by Democrats, whether the governor is a Democrat, and measures of party competition—on indicators that the state has a poll tax, a literacy test, voter registration through vehicle registration, day-of-polling registration, and an indicator for restrictions on campaign contributions. We control for state and year effects and the same time-varying state-level controls introduced above. In table 4, all controls have been lagged one period, to represent conditions in the state in the year in which these office-holders were elected.

Table 4 shows that literacy tests protect the seats of Democrats in those Southern states that had these restrictions on voting. The effects of poll taxes and literacy tests are identified from the timing of the changes in state laws relative to the timing of changes

TABLE 4
POLITICAL INSTITUTIONS AND REPRESENTATION

	Fraction Democrat in State Upper House			Party Competition in Legislature			Indicator: Democratic Govenor		
Poll tax	.032 (.028)	.031 (.030)	—	−.025 (.009)	.004 (.010)	—	.148 (.130)	.046 (.138)	—
Literacy test	.081 (.025)	.082 (.027)	—	−.022 (.008)	.001 (.009)	—	.006 (.116)	−.101 (.124)	—
Indicator: voter registration through vehicle agency	−.015 (.015)	−.015 (.015)	—	−.002 (.005)	−.003 (.005)	—	.048 (.069)	.052 (.069)	—
Indicator: voter registration possible on polling day or no registration necessary	.056 (.029)	.056 (.029)	—	−.039 (.010)	−.043 (.010)	—	.007 (.136)	.025 (.136)	—
Indicator: restriction on corporate campaign contributions	.021 (.011)	.020 (.011)	—	.010 (.004)	.007 (.004)	—	.038 (.049)	.053 (.049)	—
F-test: institutional variables (*p*-value in parentheses)	4.47 (.0005)	4.10 (.0011)	—	8.36 (.0000)	5.05 (.0001)	—	0.48 (.7913)	0.50 (.7772)	—
Voter turnout	—	−.002 (.067)	—	—	.178 (.022)	—	—	−.693 (.312)	—
IV estimation: Voter turnout	—	—	−.309 (.116)	—	—	.169 (.038)	—	—	−.340 (.531)
F-test:	—	—	3.79 (.0021)	—	—	5.88 (.0000)	—	—	0.54 (.7467)
Number of observations	1027	1025	1025	1027	1025	1025	1040	1038	1038

Notes: Standard errors in parentheses. All regressions run over odd-years from 1953 to 1999. All regressions control for year and state fixed effects, and include controls for the proportion of population aged 65 and above; the proportion of population aged 5 to 17; state income per capita in $1982 and income squared; and state population and population squared. Omitted voter registration category is "conventional" registration. All control variables are lagged one year, to reflect the conditions in place at the time of the election. Results in column 3 are for instrumental variables estimation, where voter turnout is instrumented on the institutional rules that appear in columns 1 and 2. The *F*-test in column 3 compares the fit of the regression using the predicted value to that in column 1, where the institutional rules are allowed to enter in an unrestricted fashion. Results in column 6 report an analogous comparison for party competition in the legislature. We reject that these institutional rules are affecting fraction Democrats and party competition solely through their effect on voter turnout.

observed in the composition of the legislatures. The relationship between the two can be seen most clearly in figure 2, which displays the fraction of seats in state upper houses held by Democrats in four of the five states that had literacy tests in the 1950s and early 1960s. These tests were eliminated with the 1965 Voting Rights Act, a point in time marked in figure 2 by the vertical line.[20] In three of these states (LA, MS, SC), 100 percent of seats in the state upper house were held by Democrats until 1965. Starting in 1966, Democratic control began to erode. The fourth state (VA) begins with a slightly

[20] The fifth state, Georgia, looks very much like these four, but is not shown in order to make it easier to follow the changes across the states over time.

TABLE 5
THE IMPACT OF PRIMARY RULES ON TURNOUT, IDEOLOGY AND PARTY COMPETITION

	Turnout		Fraction Democrats in state lower house		Fraction women in state lower house		Absolute difference (citizen-government COPE score)	
				Dependent Variable:				
Indicator: open primaries	.011 (.007)	.015 (.007)	.001 (.012)	−.001 (.013)	−.015 (.007)	−.014 (.007)	−3.47 (2.30)	−3.41 (2.44)
Poll tax	—	−.155 (.134)	—	.014 (.025)	—	—	—	—
Literacy test	—	−.137 (.012)	—	.045 (.022)	—	—	—	—
Indicator: voter registration through vehicle agency	—	.010 (.009)	—	.021 (.017)	—	.009 (.007)	—	−2.42 (2.25)
Indicator: voter registration possible on polling day or no registration necessary	—	.020 (.016)	—	.039 (.029)	—	−.056 (.017)	—	2.95 (3.72)
Indicator: restriction on corporate campaign contribution	—	.018 (.005)	—	.020 (.010)	—	.015 (.006)	—	1.89 (1.43)
Years over which regression run	even years 1950–1990, 1996, 1998		odd years 1951–1991, 1997, 1999		odd years 1975–1991, 1997, 1999		even years 1960–1990	
Number of observations	1099	942	1067	934	525	498	768	709

Notes: Standard errors in parentheses. All regressions control for year and state effects, and include controls for the proportion of population aged 65 and above; the proportion of population aged 5 to 17; state income per capita in $1982 and income squared; and state population and population squared. Omitted voter registration category in columns 3 and 5 is "conventional" registration. No registration was necessary in North Dakota from 1951 to 1998, and we have added that state to "registration possible on polling day." For regressions in columns 3–6, all control variables have been lagged one period, to reflect the conditions in place at the time of the election.

(columns 7 and 8). In line with the findings of Gerber and Morton (1998a), this suggests that open primaries may have a systematic effect on political representation, perhaps being indicative of greater empowerment of less ideologically motivated voters.

5.3 *Campaign Finance*

Campaign finance reform has been a major political issue of late, given a general popular concern about the level of political spending. It is estimated, for example, that more than $3 billion was spent on political campaigns in the year 2000 elections.[26] Current campaign financing rules raise many difficult issues, including the possibility that public officials may become beholden to special interests, and that the sums of money necessary to launch a campaign may discourage able challengers, to the benefit of incumbents. Steven Levitt (1994) takes a more sanguine view, at least

[26] Public Campaign, www.publicampaign.org.

TABLE 7
REDUCED FORM IMPACT OF INSTITUTIONAL RULES ON STATE TAXES AND SPENDING PER CAPITA

	Dependent Variable:				
	Total taxes per capita	Total government spending per capita	Total transfer payments per capita	Total family assistance per capita	Total workers compensation payments per capita
Open primaries	−19.25 (8.03)	−18.24 (13.7)	31.8 (10.9)	2.73 (1.37)	−6.31 (1.80)
Indicator: voter registration through vehicle agency	35.76 (7.10)	9.78 (11.5)	52.8 (10.1)	9.41 (1.27)	6.98 (1.66)
Indicator: voter registration possible on polling day or no registration necessary	120.38 (13.41)	114.7 (22.2)	0.77 (18.5)	20.5 (2.34)	1.64 (3.08)
Indicator: restriction on corporate campaign contributions	−16.00 (5.33)	8.35 (8.54)	34.1 (7.57)	5.73 (0.95)	−0.62 (1.25)
F-test: joint significance institutional variables (*p*-value in parentheses)	28.46 (.0000)	7.55 (.0000)	13.87 (.0000)	35.94 (.0000)	7.83 (.0000)
Years over which regression run	All years 1958, 1960–97	All years 1958, 1960–96	All years 1958, 1960–98	All years 1958, 1960–98	All years 1958, 1960–98
Number of observations	1822	1781	1877	1877	1877

Notes: Standard errors in parentheses. All dependent variables are in 1982 dollars. All regressions control for year and state effects, and include controls for the proportion of population aged 65 and above; the proportion of population aged 5 to 17; state income per capita in $1982 and income squared; and state population and population squared. Omitted voter registration category is "conventional" registration. No registration was necessary in North Dakota from 1951 to 1998, and we have added that state to "registration possible on polling day." Rules governing registration and voting have been lagged one or two periods, to reflect the conditions in place at the time of the election.

Moreover, many of the key approaches to modeling representative democracy hinge on assumptions about parties' strategies and motivations. While parties are frequently characterized as ideologically based organizations with distinct agendas, there remains an important empirical question about whether party control really does deliver measurable policy differences and whether particular policies appear to be more responsive to party identity. In light of its centrality, it is not surprising that a large literature has developed that attempts to gauge how the process of representation works

empirically, and whether party control makes a difference in determining policy outcomes.[31] Finding that parties do not matter would deal a blow to the stereotypical characterization of party differences that most commentators take for granted. There is a huge literature in political science using cross-country and within-country evidence

[31] It should be borne in mind that this leads to exclusion of Nebraska, since it holds nonpartisan elections and, in early years, Minnesota, since its parties were not comparable to Democratic and Republican parties in other states.

TABLE 8
LEGISLATIVE COMPOSITION AND POLICY CHOICE

	Dependent Variable:			
	Total taxes per capita	Total spending per capita	Family assistance per capita	Workers compensation per capita
Fraction Democrat in state lower house	78.71 (19.79)	101.38 (33.33)	28.78 (4.28)	−2.09 (4.56)
Fraction Democrat in state upper house	10.49 (18.64)	2.49 (31.50)	9.03 (3.87)	9.42 (4.29)
F-test: Coefficient on fraction upper house = fraction lower house	4.15 (.0417)	3.06 (.0802)	8.30 (.0040)	2.23 (.1359)
Indicator: Democrats control both lower and upper house	12.68 (5.51)	−1.99 (9.36)	3.88 (1.10)	−2.15 (1.26)
Indicator: Dem governor	−5.79 (3.20)	4.56 (5.39)	−0.78 (0.64)	2.17 (0.73)
Party competition in legislature	−101.13 (41.37)	29.72 (70.10)	4.40 (9.74)	−53.0 (9.39)
F-test: joint significance of party variables (*p*-value)	11.92 (.0000)	3.43 (.0043)	31.19 (.0000)	10.98 (.0000)
Years over which regression run	all years 1950–58 1960–97	all years 1950–58 1960–96	all years 1958, 1960–98	all years 1950–58 1960–98
Number of observations	2131	2091	1817	2185

Notes: Standard errors in parentheses. All regressions control for year and state effects, and include controls for the proportion of population aged 65 and above; the proportion of population aged 5 to 17; state income per capita in $1982 and income squared; and state population and population squared. Nebraska is removed from the analysis, because it has a unicameral, non-partisan legislature. Observations for Minnesota are present only from 1973 on.

the study of party elite liberalism by looking at the conservatism of congressional candidates, local party chairmen, national convention delegates and state legislators. Public opinion is measured using CBS/*New York Times* surveys from the period 1976–82. Using a range of measures of policy liberalism in key areas, such as AFDC and Equal Rights Amendment ratification, they find a *negative* correlation between Democrats' policy liberalism and Democratic strength in the legislature after controlling for liberalism in public opinion. While provocative,

their empirical models use only small numbers of observations, and cannot include state fixed effects.[32]

Robert Brown (1995) disaggregates party support among different sub-groups to reflect the different cleavages between the parties that dominate in different states. He uses polling data to show that there are distinct differences in partisan support among socio-

[32] Charles Barrilleaux (2000) provides further discussion of these results.

TABLE 9
IDEOLOGY AND POLICY CHOICE

	Dependent Variable:			
	Total taxes per capita	Total spending per capita	Family assistance per capita	Workers compensation per capita
State citizens' COPE score	.400 (.188)	.545 (.3310)	.201 (.038)	−.119 (.050)
Fraction Democrat in state lower house	53.15 (22.12)	87.95 (39.39)	26.8 (4.56)	9.17 (5.97)
Fraction Democrat in state upper house	49.02 (19.90)	47.05 (35.41)	12.6 (4.10)	−1.46 (5.37)
F-test: Coefficient on fraction upper house = lower house	0.01 (.9064)	0.43 (.5137)	3.82 (.0508)	1.25 (.2629)
Indicator: Democrats control both lower and upper house	1.08 (5.69)	−11.74 (10.16)	3.00 (1.18)	−1.88 (1.54)
Indicator: Dem governor	−1.01 (3.23)	−2.35 (5.74)	−.314 (.664)	1.21 (0.87)
Party competition in legislature	71.28 (54.75)	149.05 (96.78)	−5.78 (11.2)	−76.8 (14.7)
F-test: all political variables included	5.53 (.0000)	2.33 (.04040)	27.01 (.0000)	8.62 (.0000)
Years over which regression run	all years 1960–93	all years 1960–93	all years 1960–93	all years 1960–93
Number of observations	1576	1583	1583	1583

Notes: Standard errors in parentheses. The *F*-tests in row 8 are for the joint significance of fraction Democrat in lower house, fraction Democrat in upper house, an indicator that the Democrats control both houses, and indicator for Democratic governor, and our measure of party competition in the legislature. All regressions control for year and state effects, and include controls for the proportion of population aged 65 and above; the proportion of population aged 5 to 17; state income per capita in $1982 and income squared; and state population and population squared. Nebraska is removed from the analysis, because it has a unicameral, non-partisan legislature. Observations for Minnesota are present only from 1973 on. All dollar-denominated variables are in 1982 dollars.

the percentage of time that the governorship and the state legislature were controlled by the Democratic party. This is readily computed using state-level data. The measure that we use here is more limited, being based only on the share of seats held by each party in the upper and lower houses of the state legislature. Other measures can be based on more disaggregated data, such as those used by Holbrook and van Dunk (1993), which rely on the percentage of the votes won by the winning candidate and the winning candidate's margin of victory in each district.

Rogers and Rogers (2000) examine whether party competition in gubernatorial races, measured as the percentage of the votes won by the current governor in the most recent election, is related to growth in the size of government. They acknowledge

TABLE 10
WOMEN'S LEGISLATIVE REPRESENTATION AND POLICY CHOICE

	Family assistance per capita ($1982)		Child support: immediate withholding upon delinquency		Child support: paternity establishment to age 18	
			Dependent Variable:			
Fraction female state lower house	.025 (.008)	.038 (.009)	−.053 (.237)	−.321 (.311)	−.369 (.236)	−.555 (.310)
Fraction female state upper house	−.006 (.006)	−.011 (.008)	.712 (.188)	1.06 (0.26)	.311 (.187)	.883 (.255)
F-test joint significance female representation (*p*-value)	4.85 (.0000)	8.96 (.0000)	7.21 (.0000)	8.62 (.0002)	2.26 (.1044)	6.71 (.0000)
State citizens' COPE score	—	.000 (.0000)	—	−.000 (.001)	—	.001 (.001)
Years over which regression run	all years 1975–98	all years 1975–93	all years 1975–97	all years 1975–93	all years 1975–97	all years 1975–93
Number of observations	1152	912	1104	912	1104	912

Notes: Standard errors in parentheses. All regressions control for year and state effects, and include controls for the proportion of population aged 65 and above; the proportion of population aged 5 to 17; state income per capita in $1982 and income squared; and state population and population squared. All dollar-denominated variables are in 1982 dollars.

but for quite different reasons. They develop a model in which initiatives affect electoral outcomes. This also motivates why the availability of citizens' initiatives appears in equation (3). They argue initiatives have an impact via *issue unbundling*. In general elections, many issues are decided at once, which may result in issues that are not electorally salient being distorted away from what a majority desire.[34] Initiatives allow such issues to be unbundled from the rest as voters can have a direct say on them. Besley and Coate (2000b) show that this can change the probability distribution of a range of policy outcomes and the composition of candidates who are chosen to run.

Both of these theoretical approaches, as well as many popular discussions of initiatives, imply that citizens' initiatives are a device for bringing policy into line with public opinion.[35] Gerber (1996) and Besley and Coate (2000b) both argue that the effect of an initiative can be felt even if an initiative is not actually called. For empirical purposes, this suggests that the actual conduct of initiatives in states that have them need not be a very good indicator of their influence. Hence, it does make sense to study the availability, rather than use, of

[34] A large body of empirical evidence from political science supports the lack of congruence of policy and voter preferences on a variety of issues—Besley and Coate (2000b) provide references.

[35] This is not universally believed. Some, such as David Broder (2000), are concerned that voters are easily influenced by slick advertising campaigns, in which case the initiative process in the United States may actually enhance the power of special interests. From a welfare point of view, there is also the concern that initiatives will lead to minorities being unfairly targeted and with citizens being forced to choose on issues on which they are ill-informed.

TABLE 11
CITIZENS' INITIATIVES AND STATE POLICY CHOICES

	Dependent Variable:			
	Total taxes per capita	Total income taxes per capita	Government spending per capita	Family Assistance per capita
	OLS with robust standard errors			
Indicator: State Allows Citizens' Initiatives	−30.78 (30.22)	−34.02 (32.96)	−35.00 (51.34)	−.995 (4.69)
	Random effects models			
Indicator: State Allows Citizens' Initiatives	−38.40 (11.82)	−51.98 (9.62)	20.57 (19.25)	−1.76 (2.11)
Years over which regression run	all years 1960–97	all years 1960–97	all years 1960–96	all years 1960–98
Number of observations	1817	1824	1776	1872
	Regression on state means			
Indicator: State Allows Citizens' Initiatives	−28.50 (36.11)	−45.83 (37.20)	−74.42 (58.83)	−1.14 (5.26)
Number of observations	48	48	48	48

Notes: Standard errors in parentheses. All regressions include year indicators and controls for the proportion of population aged 65 and above; the proportion of population aged 5 to 17; state income per capita in $1982 and income squared; and state population and population squared. We do not include state fixed effects because only 4 states changed whether they allowed initiatives over the period 1960 to 1998. (These were: FL 1972, IL 1971, MS 1992, and WY 1968). For all regressions in panel one, we estimate robust standard errors, and allow for an unspecified pattern of correlation in the unobservables from the same state. Panel two allows for state random effects. Panel three estimates between state regressions on state means.

government are punished, with spending being the "primary bad."[39]

In section 3.1.3 above, we discussed how empirical models of elections can incorporate this possibility, through the addition of history H_{st} into estimating equations. From a theoretical point of view, these claims are best justified in political agency models where there is private information about an incumbent's type (representing his competence or his willingness to consume rents at the citizens' expense) or there is uncer-

tainty about the true state of public finances. Models along these lines were first developed by Barro (1973) and Ferejohn (1986). It is straightforward to see how they can generate an aversion to tax increases, if the latter are correlated with greater incompetence or greater likelihood of rent-seeking behavior.

A key feature of these models is that voters will condition their voting decision on incumbent behavior, either to curb moral hazard problems or else to sort in politicians with desirable characteristics. Hence, we would expect to see voters punish indicators of poor effort, and reward the opposite. Electoral accountability is in large measure

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[39] There is a long-standing tradition of studying the determinants of retrospective voting in U.S. national elections. See, for example, Morris Fiorina (1981).

TABLE 12
POLITICAL BUSINESS CYCLES

	State income per capita			State unemployment rate		
	Dependent Variable:					
Indicator: gubernatorial election in $t+1$	−36.80 (197.53)	−5.41 (149.95)	16.48 (54.73)	−.122 (.145)	.011 (.154)	.012 (.113)
Indicator: gubernatorial election in $t+2$	161.98 (196.34)	48.17 (120.60)	25.95 (44.05)	−.050 (.145)	−.088 (.124)	−.081 (.090)
Indicator: gubernatorial election in $t+3$	108.00 (197.20)	26.44 (149.74)	7.07 (54.69)	.136 (.145)	.061 (.154)	.048 (.112)
F-test: joint significance of election variables (p-value)	0.44 (.7246)	0.08 (.9710)	0.13 (.9417)	1.15 (.3270)	0.35 (.7865)	.051 (.6756)
Year effects?	no	yes	yes	no	yes	yes
State effects?	no	no	yes	no	no	yes
Number of observations	1820	1820	1820	1606	1606	1606

Notes: Standard errors in parentheses.

legislative elections where blame is harder to attribute.

Lowry, Alt, and Ferree (1998) find that there are fewer votes for incumbents who experience a shock when there is unified rather than divided government, and that the effect is larger in gubernatorial elections. In their study, voters also respond to the difference between state income growth and national income growth. Susan Kone and Winters (1993), in pooled time series and cross-sectional regressions from 1957–85 that do not include year or state fixed effects, find that Democratic governors are punished for putting up taxes. Besley and Case (1995a), in a model that includes year and state fixed effects, find that a governor is more likely to be defeated if he puts up taxes, but is more likely to win if his geographic neighbors do.

Richard Niemi, Harold Stanley, and Ronald Vogel (1995) also test for the importance of tax increases on gubernatorial elections using individual data from exit polls for 34 states in 1986. They model the probability that a respondent voted Republican in a particular state as a function of respondent, state, and national variables. They allow the effect of the state-level economic and policy variables to vary according to whether the incumbent governor was a Democrat or a Republican. Consistent with the results of Besley and Case (1995a), they find that support for the incumbent party falls when taxes are increased, and that state-level income appears to be an important determinant of voting decisions.

Justin Wolfers (2002) also considers the nature of gubernatorial electoral accountability in U.S. states. He shows that events beyond the control of a governor (specifically oil prices) appear to be correlated with whether or not the governor is reelected. He interprets this as irrational behavior by voters.[41]

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[41] If the management skills of a governor are more in evidence when there are good times rather than bad, then this would be consistent with rational updating on the part of voters.

TABLE 13
BINDING TERM LIMITS AND POLICY CHOICE

| | Dependent Variable: | | | |
	Total taxes per capita		Total spending per capita	
Indicator: Incumbent governor cannot stand for reelection	−6.40 (4.28)	1216.73 (514.32)	14.80 (6.73)	1968.81 (820.91)
Indicator: Incumbent cannot stand for reelection × year	—	−0.619 (0.260)	—	−0.990 (0.416)
Years over which regression run	all years 1950–97	all years 1950–97	all years 1950–96	all years 1950–96
Number of observations	2249	2249	2208	2208

Notes: Standard errors in parentheses. All regressions control for year and state effects, and include controls for the proportion of population aged 65 and above; the proportion of population aged 5 to 17; state income per capita in \$1982, income squared and cubed; and state population, population squared and cubed. All dollar-denominated variables are in 1982 dollars.

the incentive effects of term limits that have been uncovered.

7.5 *Budgetary Institutions*

Central to much of the public choice literature is the idea that a fiscal constitution should limit the policy choices of elected representatives—see, for example, Brennan and Buchanan (1985). In this section we study a variety of budgetary institutions that affect budgetary procedures, mostly in the direction of greater fiscal conservatism. Stricter budgetary institutions are generally motivated by the notion that governments tend to be too large relative to voters' wishes. This view can be motivated either by the Leviathan model of Brennan and Buchanan (1980) or a more sophisticated agency view as in Barro (1973) and Ferejohn (1986). Daphne Kenyon and Karen Benker (1984) characterize the proliferation of such measures as part of a broader "Tax Revolt" in the 1970s, with California's Proposition 13 leading the way. It is interesting to note that a number of the restrictive budgetary institutions that are now observed were imposed by citizens' initiatives, fuelling the notion of

a popular rebellion against government profligacy.

In terms of the theoretical structure of section 3, budgetary institutions are best thought of as belonging to the vector I_{1st} in equation (1). However, they would belong to I_{2st} if they changed the kinds of representatives who were elected. The six main institutional categories that we discuss here are as follows.

Tax and Expenditure Limitations. These fall into three broad categories: (i) indexed limits on the growth of revenues or expenditures, for example, to the population growth rate; (ii) requirements that voters approve all new taxes; and (iii) supermajority requirements that require anywhere between three-fifths and three-quarters of the legislature to approve tax increases. There are 24 states with indexed limits, thirteen allow an override with a supermajority vote, and five require a simple majority if the governor has declared a state of emergency. Kim Rueben (1997) gives a useful overview of the history and content limitations in category (i) above. Half the states with such limitations restrict the growth in state expenditures to the

TABLE 14
INCUMBENT DISCRETION AND POLICY CHOICE

	Dependent Variable:							
	Total taxes per capita				Total spending per capita			
Indicator: Non-binding tax or expenditure limitation	4.79 (7.61)	—	—	−16.28 (7.87)	−10.07 (12.17)	—	—	−44.71 (13.45)
Indicator: Potentially binding tax or expenditure limitation	24.13 (9.09)	—	—	38.84 (9.41)	10.37 (14.58)	—	—	41.45 (16.07)
Supermajority needed to increase taxes	—	−46.12 (8.51)	—	−52.28 (10.16)	—	−46.27 (13.94)	—	−8.61 (17.15)
Indicator: Governor has a line item veto	—	—	−25.99 (13.82)	−37.73 (16.03)	—	—	3.01 (23.34)	4.00 (27.42)
Indicator: Governor's party is not that of the united majority party in the legislature	—	—	10.37 (8.12)	9.07 (8.36)	—	—	32.44 (13.71)	33.15 (14.29)
Line item veto × divided government	—	—	−25.34 (8.83)	−21.33 (9.14)	—	—	−45.47 (14.91)	−44.14 (15.63)
Years over which regression run	all years 1960–97	all years 1960–97	all years 1950–91	all years 1960–91	all years 1960–96	all years 1960–96	all years 1950–91	all years 1960–91
Number of observations	1817	1817	1961	1529	1776	1776	1968	1536

Notes: Standard errors in parentheses. All regressions control for year and state effects, and include controls for the proportion of population aged 65 and above; the proportion of population aged 5 to 17; state income per capita in $1982, income squared; and state population and population squared. All dollar-denominated variables are in 1982 dollars. "Non-binding" tax and expenditure limitations are those that are either advisory or require only a simple legislative majority to amend or overrule.

there is divided government and a line-item veto.

Overall, the evidence that we have presented, alongside that from the existing literature, supports an emerging consensus that government behavior can be influenced by budgetary rules. However, the exact form of the rules is important.

7.6 *Indirect Effects of Institutional Rules*

The theoretical discussion suggested a possible distinction between institutional rules that affect the policy process ex post and those that primarily have an effect on electoral outcomes. Institutions such as open primaries, voter registration laws and restrictions on corporate campaign contributions seem most likely to be examples of the insti-

tutions I_{2st} which enter equation (3). These may in turn affect the equilibrium strategies chosen by parties. We would then expect the impact of these variables on policy to be mediated via their effect on election outcomes such as party competition or Democratic control of the legislature. We already know from section 5.5 that there are policy effects of these institutions. Table 15 explores whether their effect works via ℓ_{st}.

Column 1 of table 15 shows that these institutions are highly significantly correlated with total taxes per capita. Specifically, open primaries and corporate restrictions are negatively and significantly correlated with taxes, while less-costly voter registration is positively and significantly correlated with taxes. The *F*-statistic of their joint significance is

TABLE 15
INSTITUTIONAL RULES AND LEGISLATIVE CONTROL

	Dependent Variable: Total taxes per capita			
Open primaries	−19.37 (7.04)	—	—	—
Indicator: voter registration through vehicle agency	32.02 (6.86)	—	—	—
Indicator: voter registration possible on polling day or no registration necessary	100.68 (15.92)	—	—	—
Indicator: restriction on corporate campaign contributions	−18.10 (4.95)	—	—	—
F-test: joint significance of institutional variables (p-value in parentheses)	20.22 (.0000)	—	—	—
IV: Party competition in legislature	—	−3434.63 (776.53)	—	−3376.73 (928.31)
IV: Democrats control both lower and upper house	—	—	165.27 (39.08)	8.44 (76.38)
F-test (see notes to table) (p-value in parentheses)	—	0.764 (.5483)	13.57 (.0000)	0.753 (.5561)
Years over which regression run	All years 1950–1958, and 1960–1996			
Number of observations	1925	1925	1925	1925

Notes: Standard errors in parentheses. All regressions control for year and state effects, and include controls for the proportion of population aged 65 and above; the proportion of population aged 5 to 17; state income per capita in \$1982 and income squared; state population and population squared. All dollar-denominated variables are in 1982 dollars. In an auxiliary regression, we regress total taxes on all other right side variables and the predicted value of party competition in the legislature, where we use open primaries, voter registration through vehicle agency, voter registration on polling day, and restrictions on corporate contributions as instruments. The *F*-test in column 2 compares the fit of the regression using the predicted value to that in column 1, where the institutional rules are allowed to enter in an unrestricted fashion. Results in column 3 report an analogous comparison when an indicator that Democrats control both houses is instrumented using the institutional rules. We cannot reject that these institutional rules are affecting total taxes solely through their effect on party competition in the legislature.

section a look at some of the systematic determinants of institutional rules.

Even if institutions do not change over time, there is no guarantee that it is legitimate to treat them as exogenous. Moreover, as we observed in our study of citizens' initiatives, it may be difficult to control for sources of unobserved heterogeneity with state fixed effects when institutions are fixed over time. Thus, it remains difficult to distinguish between a genuine institutional ef-

fect and the possibility that tastes for citizens' initiatives and taxation are correlated. The main hope here is that some kind of comparative static with respect to some exogenously changing variable can be identified and tested. For example, Besley and Coate (2000a) used the comparative static with respect to fuel prices to gauge the influence of elected versus appointed regulators even where the latter institution did not change.

Indian Evidence on Reservation

- Political reservation is a very interesting social experiment

    - reserves seats for either women or low caste groups

    - In some cases, this has been done on a rolling randomized basis.

- Key issue is how these reservations change policy outcomes.

- The equation to be estimated is of the form:

$$x_{kst} = \alpha_{ks} + \beta_{kt} + \omega_k r_{st} + \gamma^k y_{st} + \eta_{kst}.$$

where r_{st} is a variable denoting whether there is reservation.

- We look at evidence from:

  - Chattopadhyay and Duflo (forthcoming in Econometrica)

  - Pande (AER, 2003).

Table 1: Fraction of Women among Pradhans in Reserved and Unreserved GP

	Reserved GP (1)	Non reserved GP (2)
West Bengal		
Total number	54	107
Proportion of female Pradhans	100%	6.5%
Rajasthan		
Total number	40	60
Proportion of female Pradhans	100%	1.7%

Table 2: Village Characteristics in Reserved and Unreserved GP, 1991 Census

| Dependent variables | West Bengal | | | Rajasthan | | |
	Mean, reserved GP	Mean, unreserved GP	Difference	Mean, reserved GP	Mean, unreserved GP	Difference
	(1)	(2)	(3)	(4)	(5)	(6)
Total population	974	1022	-49	1249	1564	-315
	(60)	(46)	(75)	(123)	(157)	(212)
Female literacy rate	0.35	0.34	0.01	0.05	0.05	0.00
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Male literacy rate	0.57	0.58	-0.01	0.28	0.26	0.03
	(.01)	(.01)	(.01)	(.02)	(.02)	(.03)
% cultivated land that is irrigated	0.45	0.43	0.02	0.05	0.07	-0.02
	(.03)	(.02)	(.04)	(.01)	(.01)	(.02)
Dirt road	0.92	0.91	0.01	0.40	0.52	-0.11
	(.02)	(.01)	(.02)	(.08)	(.07)	(.10)
Metal road	0.18	0.15	0.03	0.31	0.34	-0.04
	(.03)	(.02)	(.03)	(.07)	(.06)	(.10)
Bus stop or train station	0.31	0.26	0.05	0.40	0.43	-0.03
	(.04)	(.02)	(.04)	(.08)	(.07)	(.10)
Number of public health facilities	0.06	0.08	-0.02	0.29	0.19	0.10
	(.01)	(.01)	(.02)	(.08)	(.06)	(.1)
Tube well is available	0.05	0.07	-0.02	0.02	0.03	-0.01
	(.03)	(.02)	(.07)	(.02)	(.02)	(.03)
Handpump is available	0.84	0.88	-0.04	0.90	0.97	-0.06
	(.04)	(.03)	(.05)	(.05)	(.02)	(.05)
Wells	0.44	0.47	-0.02	0.93	0.91	0.01
	(.07)	(.04)	(.08)	(.04)	(.04)	(.06)
Tap water	0.05	0.03	0.01	0.12	0.09	0.03
	(.03)	(.02)	(.03)	(.05)	(.04)	(.06)
Number of primary schools	0.95	0.91	0.04	0.93	1.16	-0.23
	(.07)	(.03)	(.08)	(.09)	(.10)	(.15)
Number of middle schools	0.05	0.05	0.00	0.43	0.33	0.10
	(.01)	(.01)	(.01)	(.08)	(.07)	(.10)
Number of high schools	0.09	0.10	-0.01	0.14	0.07	0.07
	(.01)	(.01)	(.02)	(.06)	(.04)	(.07)

Notes:
1. There are 2120 observations in the West Bengal regressions, and 100 in the Rajasthan regressions.
2. Standard errors, corrected for clustering at the GP level in the West Bengal regressions, are in parentheses.

Table 3: Effect of Women's Reservation on Women's Political Participation

Dependent variables	Mean, reserved GP	Mean, unreserved GP	Difference
	(1)	(2)	(3)
West Bengal			
Fraction of women among participants in the	9.80	6.88	2.92
Gram Samsad (in percentage)	(1.33)	(.79)	(1.44)
Have women filed a complaint to	0.20	0.11	0.09
the GP in the last 6 months	(.04)	(.03)	(.05)
Have men filed a complaint to the GP in the	0.94	1.00	0.06
last 6 months	(.06)		(.06)
Observations	54	107	
Rajasthan			
Fraction of women among participants in	20.41	24.49	-4.08
the Gram Samsad (in percentage)	(2.42)	(3.05)	(4.03)
Have women filed a complaint to	0.64	0.62	0.02
the GP in the last 6 months	(.07)	(.06)	(.1)
Have men filed a complaint to the GP	0.95	0.88	0.073
in the last 6 months	(.03)	(.04)	(.058)
Observations	40	60	

Notes:
1. Standard errors in parentheses.
2. Standard errors are corrected for clustering at the GP level in the West Bengal regressions, using the
   Moulton (1986) formula.

Table 4: Issues Raised by Women and Men in the Last 6 Months

	West Bengal						Rajasthan					
	Women			Men	Average	Difference	Women			Men	Average	Difference
	Reserved	Unreserved	All				Reserved	Unreserved	All			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Other Programs												
Public works	0.84	0.84	0.84	0.85	0.84	-0.01	0.60	0.64	0.62	0.87	0.74	-0.26
Welfare programs	0.12	0.09	0.10	0.04	0.07	0.06	0.25	0.14	0.19	0.03	0.04	0.16
Child care	0.00	0.02	0.01	0.01	0.01	0.00	0.04	0.09	0.07	0.01	0.02	0.06
Health	0.03	0.04	0.04	0.02	0.03	0.02	0.06	0.08	0.07	0.04	0.03	0.03
Credit or employment	0.01	0.01	0.01	0.09	0.05	-0.08	0.06	0.06	0.05	0.04	0.09	0.01
Total number of issues	153	246	399	195			72	88	160	155		
Breakdown of public works issues												
Drinking water	0.30	0.31	0.31	0.17	0.24	0.13	0.63	0.48	0.54	0.43	0.49	0.09
Road improvement	0.30	0.32	0.31	0.25	0.28	0.06	0.09	0.14	0.13	0.23	0.18	-0.11
Housing	0.10	0.11	0.11	0.05	0.08	0.05	0.02	0.04	0.03	0.04	0.04	-0.01
Electricity	0.11	0.07	0.08	0.10	0.09	-0.01	0.02	0.04	0.03	0.02	0.02	0.01
Irrigation and ponds	0.02	0.04	0.04	0.20	0.12	-0.17	0.02	0.02	0.02	0.04	0.03	-0.02
Education	0.07	0.05	0.06	0.12	0.09	-0.06	0.02	0.07	0.05	0.13	0.09	-0.09
Adult education	0.01	0.00	0.00	0.01	0.00	0.00	0	0	0.00	0.00	0.00	0.00
Other	0.09	0.11	0.10	0.09	0.09	0.01	0.19	0.21	0.20	0.12	0.28	0.05
Number of public works issues	128	206	334	166			43	56	99	135		
Public works												
Chi-square		8.84		71.72				7.48		16.38		
p value		0.64		0.00				0.68		0.09		

Notes:
1. Each cell lists the number of times an issue was mentioned, divided by the total number of issues in each panel.
2. The data for men in West Bengal comes from a subsample of 48 villages.
3. Chi-square values placed across two columns test the hypothesis that issues come from the same distribution in the two columns.

Table 5: Effect of Women's Reservation on Public Goods Investments

Dependent variables	West Bengal			Rajasthan		
	Mean, reserved GP	Mean, unreserved GP	Difference	Mean, reserved GP	Mean, unreserved GP	Difference
	(1)	(2)	(3)	(4)	(5)	(6)
A. VILLAGE LEVEL						
Number of drinking water facilities	23.83	14.74	9.09	7.31	4.69	2.62
newly built or repaired	(5.00)	(1.44)	(4.02)	(.93)	(.44)	(.95)
Condition of roads (1 if in good	0.41	0.23	0.18	0.90	0.98	-0.08
condition)	(.05)	(.03)	(.06)	(.05)	(.02)	(.04)
Number of panchayat run	0.06	0.12	-0.06			
education centers	(.02)	(.03)	(.04)			
Number of irrigation facilities	3.01	3.39	-0.38	0.88	0.90	-0.02
newly built or repaired	(.79)	(.8)	(1.26)	(.05)	(.04)	(.06)
Other public goods (ponds, biogas, sanitation,	1.66	1.34	0.32	0.19	0.14	0.05
community buildings)	(.49)	(.23)	(.48)	(.07)	(.06)	(.09)
B. GP LEVEL						
1 if a new tubewell was built	1.00	0.93	0.07			
		(.02)	(.03)			
1 if a metal road was built or repaired	0.67	0.48	0.19			
	(.06)	(.05)	(.08)			
1 if there is an informal education	0.67	0.82	-0.16			
center in the GP	(.06)	(.04)	(.07)			
1 if at least one irrigation pump was built	0.17	0.09	0.07			
	(.05)	(.03)	(.05)			

Notes:
1. Standard errors in parentheses.
2. In West Bengal, there are 322 observations in the village level regressions, and 161 in the GP level regressions.
   There are 100 observations in the Rajasthan regressions.
3. Standard errors are corrected for clustering at the GP level in the village level regressions, using the Moulton (1986) formula, for the West Bengal regressions.

Table 6: OLS regressions: Determinants of public good provision

	West Bengal					Rajasthan			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Reserved for a woman	0.23	-0.17	0.00	0.18	0.17	0.16	-0.29	0.04	0.16
	(.101)	(.123)	(.159)	(.136)	(.111)	(.115)	(.19)	(.16)	(.118)
Reserved*D_i	1.63		1.22	1.56	1.67	4.40		4.66	4.29
	(.501)		(.799)	(.629)	(.554)	(1.454)		(1.6)	(1.491)
Reserved*S_i		2.04					1.78		
		(.642)					(.728)		
Reserved*$D_{\{ij\}}$ (village level)			0.03					-0.37	
			(.047)					(.169)	
Reserved*$S_{\{ij\}}$ (village level)			-0.01					0.05	
			(.155)					(.27)	
Pradhan is new					-0.09				
					(.079)				
Pradhan is new*D_i					-0.10				
					(.323)				
Reservation in 2003					0.03				
					(.093)				
Reservation in 2003* D_i					-0.19				
					(.326)				
Reserved for SC/ST					-0.07				0.00
					(.075)				(.18)
Reserved for SC/ST* D_i					0.10				0.03
					(.145)				(.315)
$D_{\{ij\}}$	No	No	Yes	No	No	No	No	Yes	No
$S_{\{ij\}}$	No	No	Yes	No	No	No	No	Yes	No
Pradhan's characteristics	No	No	No	Yes	No	No	No	No	No
Pradhan's characteristics* D_i	No	No	No	Yes	No	No	No	No	No

Notes:
1. The dependent variable is a standardized measure of investment in each good. There are 5 types of goods in West Bengal (drinking water, roads, informal education, formal education, irrigation, others) and 4 types of goods in Rajasthan (drinking water, roads, formal education, others).
2. Standard errors (corrected for clustering at the GP level using Moulton (1986) in West Bengal) are in parentheses below the coefficients.
3. The regressions include a good-specific fixed effect.
4. D_i, S_i, $D_{\{ij\}}$ and $S_{\{ij\}}$ are defined in the text. D_i is the relative strength of women's preference for good i in the district. S_i is the average strength of preference in the district, $D_{\{ij\}}$ is the difference of indicators for whether good i was mentioned by women and men in village j. $S_{\{ij\}}$ is the sum of the indicators for whether good i was mentioned by women and men in village j.
5. Pradhan characteristics include all variables in table 7.
6. There are 323 village level observations in West Bengal, and 100 village level observations in Rajasthan.

Table 7: Pradhan's Characteristics in Reserved and Unreserved GP (West Bengal)

	West Bengal		
	Mean, reserved GP	Mean, unreserved GP	Difference
Dependent variables	(1)	(2)	(3)
A. PRADHAN'S BACKGROUND			
Age	31.87	39.72	-7.85
	(1.08)	(.87)	(1.45)
Years of Education	7.13	9.92	-2.79
	(.48)	(.29)	(.54)
Literacy	0.80	0.98	-0.19
	(.06)	(.01)	(.04)
Married	0.89	0.87	0.02
	(.04)	(.03)	(.06)
Number of children	2.45	2.50	-0.05
	(.20)	(.15)	(.26)
Below poverty line	0.46	0.28	0.18
	(.07)	(.04)	(.08)
Number of household assets	1.72	2.36	-0.64
	(.18)	(.14)	(.23)
Population of Pradhan's own village	1554	2108	-554
	(204)	(179)	(291)
Hesitates when answering the questions	0.75	0.41	0.34
(interviewer's impression)	(.06)	(.05)	(.08)
B. PRADHAN'S POLITICAL ASPIRATIONS AND EXPERIENCE			
Was elected to the GP council	0.11	0.43	-0.32
before 1998	(.04)	(.05)	(.07)
Was elected Pradhan before 1998	0.00	0.12	-0.12
		(.03)	(.04)
Took part in Panchayat activities	0.28	0.78	-0.50
prior to being elected	(.06)	(.04)	(.07)
Knew how GP functioned	0.00	0.35	-0.35
		(.05)	(.07)
Did not receive any formal training	0.06	0.00	0.06
	(.03)		(.02)
Spouse ever elected to the Panchayat	0.17	0.02	0.15
	(.05)	(.01)	(.04)
Spouse helps	0.43	0.13	0.30
	(.07)	(.03)	(.07)
Will not run again	0.33	0.21	0.13
	(.06)	(.04)	(.07)
C. PRADHAN'S POLITICAL PARTY			
Left Front	0.69	0.69	-0.01
	(.06)	(.04)	(.08)
Right (Trinamul or BJP)	0.19	0.18	0.01
	(.05)	(.04)	(.06)
Observations	54	107	

Note:

1. Standard errors, corrected for clustering at the GP level using the Moulton (1986) formula, are in parentheses.

Table 8: Effect of Women's Reservation in Selected Sub-Samples

	All GPs	Difference between GP reserved for women and unreserved GP		
		Previous pradhan barred from running for re-election	GP will be reserved in 2003	GP is reserved for SC/ST
	(1)	(2)	(3)	(4)
PANEL A: PRADHAN'S BACKGROUND AND EXPERIENCE				
Pradhan's education	-2.79	-2.58	-3.31	-2.65
	(.54)	(.68)	(.61)	(.86)
Number of assets	-0.64	-0.70	-0.60	-0.37
	(.23)	(.26)	(.26)	(.27)
Pradhan is below the poverty line	0.18	0.12	0.18	0.12
	(.08)	(.1)	(.09)	(.12)
Population of Pradhan's village	-554	-482	-357	14
	(291)	(312)	(349)	(381)
Elected in GP council	-0.32	-0.24	-0.31	-0.14
before 1998	(.07)	(.08)	(.08)	(.09)
Elected as Pradhan before 1998	-0.12	0.00	-0.08	-0.02
	(.04)	(.)	(.04)	(.03)
Will not run again	0.13	0.14	0.13	0.16
	(.07)	(.09)	(.09)	(.1)
PANEL B: WOMEN'S PARTICIPATION				
Have women addressed a complaint to	0.09	0.10	0.11	0.10
the GP in the last 6 months	(.05)	(.06)	(.06)	(.06)
PANEL C: PUBLIC GOODS				
Number of drinking water facilities	9.09	8.44	10.14	10.59
newly built or repaired	(4.02)	(5.5)	(5.25)	(6.01)
Condition of roads (1 if in good	0.18	0.21	0.21	0.25
condition)	(.06)	(.07)	(.06)	(.08)
1 if there is an informal education	-0.16	-0.14	-0.13	-0.14
center in the GP	(.07)	(.09)	(.09)	(.11)
PANEL D: RELATIONSHIP TO WOMEN'S NEEDS				
Coefficient of the interaction	1.63	1.63	1.63	1.54
Reserved for woman*D_i	(.501)	(.469)	(.469)	(.595)

Notes:

1. Column 2 presents the difference between the mean of the dependent variable in GPs reserved for women and
   GP where the previous Pradhan was prevented from re-election due to a reservation of his seat.
   There are 55 GP (110 villages) reserved for women, and 51 GP (102 villages) where the previous pradhan's seat is reserved.
2. Column 3 presents the difference between the mean of the dependent variable in GP reserved for women and GP
   that will be reserved for woman in 2003.
   There are 55 GP (110 villages) reserved for women in 1998, and 52 GP (146 villages) that will be reserved in 2003.
3. Column 4 presents the difference between the mean of the dependent variable in GP reserved
   for a woman SC/ST and GP reserved for a SC/ST.
   There are 78 GP (146 villages) reserved for SC and ST, including 28 reserved for women as well.
4. Standard errors are in parentheses, and are corrected for correlation at the GP level in the village level regressions
   using the Moulton (1986) formula.

TABLE 6 -- POLITICAL RESERVATION AND GENERAL POLICY OUTCOMES

	Total spending				Education spending				Land Reform			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
SC reservation	-0.005	-0.009	-0.006	-0.004	-0.15	-0.141	-0.129	-0.115	0.007	0.008	0.01	0.016
	(0.005)	(0.005)	(0.005)	(0.007)	(0.122)	(0.121)	(0.116)	(0.146)	(0.013)	(0.013)	(0.013)	(0.015)
ST reservation	0.023***	0.028***	0.019***	0.019***	-0.542***	-0.385***	-0.252*	-0.380**	0.008	0.007	0.003	0.013
	(0.003)	(0.006)	(0.006)	(0.006)	(0.082)	(0.136)	(0.151)	(0.155)	(0.010)	(0.019)	(0.019)	(0.019)
SC census population share		0.011***	0.006	0.006		-0.039	-0.044	-0.068		-0.001	-0.005	-0.007
		(0.004)	(0.006)	(0.006)		(0.050)	(0.070)	(0.079)		(0.006)	(0.008)	(0.008)
ST census population share		-0.004	-0.011**	-0.011**		-0.168	0.015	0.078		0	-0.001	0.001
		(0.005)	(0.005)	(0.005)		(0.104)	(0.128)	(0.121)		(0.015)	(0.016)	(0.017)
SC current population share			0.012	0.011			0.025	0.17			0.01	0.016
			(0.008)	(0.009)			(0.101)	(0.141)			(0.015)	(0.015)
ST current population share			0.028***	0.029***			-0.587***	-0.691***			0.009	-0.014
			(0.007)	(0.008)			(0.177)	(0.192)			(0.020)	(0.020)
Other controls	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES
Adjusted R-squared	0.96	0.96	0.96	0.96	0.72	0.73	0.76	0.78	0.11	0.11	0.11	0.11
Number of observations	519	519	519	505	513	513	513	499	519	519	519	505

Robust standard errors are in parentheses. Regressions include state and year dummies. The Data Appendix describes the construction and source of variables. The

data are for the sixteen main states, and the period 1960-1992. For Haryana, which split from Punjab in 1965, the data starts in 1967, and for Jammu-Kashmir in 1962.

This gives 519 observations. Deviations from this are due to missing data (on which, see Data Appendix). Total spending is the log real state per capita expenditure.

Education spending is expressed as a share of total spending. Land reform is a dummy variable which equals one in years a state passes a land reform act. SC/ ST

population variables are expressed as a share of total state population. SC/ST census population share refers to population shares as measured by the census when

reservation was determined; SC/ST current population share is the population share measured in the current year. Other controls include census population density,

state income per capita lagged one period and the election dummy. * denotes significance at 10%, ** at 5% and *** at 1%.

TABLE 7 -- POLITICAL RESERVATION AND TARGETED POLICY OUTCOMES

	Job quotas				SC welfare spending				ST welfare spending			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
SC reservation	0.539***	0.493***	0.659***	0.675***	0.011	0.082	0.083	0.126	-0.524	-0.511	-0.436	-0.305
	(0.120)	(0.115)	(0.108)	(0.135)	(0.181)	(0.196)	(0.200)	(0.198)	(0.324)	(0.324)	(0.289)	(0.301)
ST reservation	0.199*	-0.316	-0.301	-0.371*	0.092	0.067	0.076	-0.024	0.713**	0.693**	1.019***	0.863***
	(0.109)	(0.204)	(0.225)	(0.223)	(0.103)	(0.104)	(0.108)	(0.127)	(0.335)	(0.330)	(0.301)	(0.325)
SC census population share		0.188***	-0.071	-0.113		-0.052	-0.055	-0.104		-0.063	-0.145	-0.195
		(0.065)	(0.073)	(0.081)		(0.077)	(0.080)	(0.068)		(0.151)	(0.170)	(0.169)
ST census population share		0.559***	0.842***	0.861***		-0.033	-0.028	0.07		0.033	0.19	0.317*
		(0.170)	(0.190)	(0.192)		(0.077)	(0.080)	(0.081)		(0.138)	(0.161)	(0.187)
SC current population share			0.648***	0.699***			-0.052	-0.092			-0.435**	-0.347**
			(0.132)	(0.172)			(0.121)	(0.123)			(0.189)	(0.172)
ST current population share			-0.675**	-0.689**			-0.12	-0.163			-0.576**	-0.706***
			(0.294)	(0.313)			(0.136)	(0.131)			(0.233)	(0.257)
Other controls	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES
Adjusted R-squared	0.88	0.9	0.9	0.91	0.76	0.76	0.76	0.76	0.83	0.83	0.84	0.84
Number of observations	519	519	519	505	274	274	274	274	298	298	298	298

Robust standard errors are in parentheses. Regressions include state and year dummies. The Data Appendix describes the construction and source of variables. The

data are for the sixteen main states, and the period 1960-1992. For Haryana, which split from Punjab in 1965, the data starts in 1967 and for Jammu-Kashmir in 1962.

This gives 519 observations. Deviations from this are due to missing data (on which, see Data Appendix). Total spending is log real state per capita expenditure.

Education spending is expressed as a share of total spending. Land reform is a dummy variable which equals one in years a state passes a land reform act. SC/ ST

population variables are expressed as a proportion of total state population. SC/ST census population share is population shares as measured by the census when

reservation was determined; SC/ST current population share is the population share measured in the current year. Other controls include census population density,

state income per capita lagged one period and the election dummy. * denotes significance at 10%, ** at 5% and *** at 1%.