Estimating the Impact of Gubernatorial Partisanship on Policy Settings and Economic Outcomes: A Regression Discontinuity Approach

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Abstract

Using panel data from US states over the period 1941-2002, I measure the impact of gubernatorial partisanship on a wide range of different policy settings and economic outcomes. Across 32 measures, there are surprisingly few differences in policy settings, social outcomes and economic outcomes under Democrat and Republican Governors. In terms of policies, Democratic Governors tend to prefer slightly higher minimum wages. Under Republican Governors, incarceration rates are higher, while welfare caseloads are higher under Democratic Governors. In terms of social and economic outcomes, Democratic Governors tend to preside over higher median post-tax income, lower post-tax inequality, and lower unemployment rates. However, for 26 of the 32 dependent variables, gubernatorial partisanship does not have a statistically significant impact on policy outcomes and social welfare. I find no evidence of gubernatorial partisan differences in tax rates, welfare generosity, the number of government employees or their salaries, state revenue, incarceration rates, execution rates, pre-tax incomes and inequality, crime rates, suicide rates, and test scores. These results are robust to the use of regression discontinuity estimation, to take account of the possibility of reverse causality. Overall, it seems that Governors behave in a fairly non-ideological manner.

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1. Introduction

What do Democrats and Republicans do? On one level, this is the question that millions of American voters ask themselves as they enter the ballot boxes. Yet in an empirical sense, we know surprisingly little about how policy choices and welfare outcomes differ under the two major political parties. This paper seeks to provide evidence on partisan differences, by using panel data to explore the policies and outcomes under US state governments over the past six decades.

Politico-economic models commonly characterize political parties as merely two teams of self-interested players, willing to present any set of policies that will win them a plurality of the vote. Under the classic model put forward by Downs (1957), candidates' motivations for competing for office are solely to enjoy its perquisites. This model is the dominant one in the literature. Indeed, as Roemer (2001) points out, the oft-cited "median voter theorem" is the Nash equilibrium result that follows from an application of the Downsian model, where voter preferences are unidimensional. Under Downs' model, party ideology is irrelevant – rather than labeling the two largest parties "left" and "right", one might as well call them "A" and "B".

Others, however, have attempted to explicitly model the role of ideology. Wittman (1973) proposes a model in which parties have policy preferences, which represent the aggregate utility of their members.[1] Dixit and Londregan (1998) characterize redistributive ideology as exogenous, and show how the choice of outcomes is a function of ideology, the "power hunger" of each party, the variance of pre-tax incomes, and the political power of poor and rich constituents.

Another strand in the literature goes further still, and models outcomes as a product not only of electoral competition between parties, but also competition within parties. Thus Dhami (2003) describes a system in which each party has two factions – opportunists and militants. Roemer (2001) goes further still – modeling three factions within each of the major parties (militants,

[1] Roemer (2001, 28) points out that Wittman's model has much in common with the work of Lipset (1960), who argued that political parties are the instruments of different economic classes.

opportunists, and reformists), a two-dimensional policy space (left-right and authoritarian-libertarian), and uncertainty about the mapping of policies onto outcomes. As examples of the issues that might characterize the left-right and authoritarian-libertarian divides, Roemer suggests taxation and race, respectively.

What empirical evidence exists on partisan differences? Most research on partisanship has tended to focus on macroeconomic outcomes. Hibbs (1987) and Alesina and Rosenthal (1995) present models in which an exploitable Phillips curve is available to policymakers.[2] They find that under Democratic Presidents, growth is higher, and unemployment lower; while under Republican Presidents, inflation is lower. Across developed democracies, Lange and Garrett (1985) and Scruggs (2001) find evidence that when countries have left-leaning governments or strong labor movements, they tend to grow more slowly, but the presence of both (or neither) leads to more rapid growth and investment.

Turning to income distribution, Stigler (1970) contended that as parties pursued the median voter, both will tend to redistribute towards the middle class, at the expense of rich and poor. Yet Bartels (2003) finds otherwise. Comparing the rate of growth of each quintile in the population, Bartels concludes that the partisan gap is greatest for those at the 20th percentile, who can expect their incomes to grow 2.4 percent faster under a Democratic President than under a Republican President. When unemployment, inflation and GDP growth rates are included in the model, the partisan effect disappears, suggesting that at the federal level, macroeconomic management is the main channel through which policymakers affect the distribution of income. None of these models account for the potential endogeneity of party choice (though this is hardly surprising, given the relatively small number of US federal elections for which good income distribution data exists).

At a US state level, several studies have found partisan effects that are close to zero. For example, Plotnick and Winters (1985) looked at partisanship and AFDC benefit generosity;

[2] The difference between the models is that Hibbs (1987) assumes backward-looking inflation expectations, while Alesina and Rosenthal (1995) assume rational expectations over inflation. In support of the rational partisan model, Alesina and Rosenthal present evidence that the partisan gap is largest in the first half of each election term (1995, 180-181).

Dilger (1998) estimated partisan impacts on nine tax and expenditure variables; Garand (1988) focused on the size of the state government; Erikson, Wright and McIver (1989) used as their dependent variable an eight-item measure of party liberalism; Poterba (1994) analyzed states' responses to unexpected budget deficits; and Gilligan and Matsusaka (1995) looked at partisanship and government expenditure. As Erikson, Wright and McIver (1989) note, the findings of these studies generally accord with the median voter theorem: "although state Republican and Democratic parties tend to represent ideological extremes, they also respond to state opinions – perhaps even to the point of enacting similar policies when in legislative control."

Others, however, have discerned state-level partisan differences in particular policy areas. Alt and Lowry (2000) show that Democrats in non-southern states tend to target a greater share of incomes towards government spending, with most of the effect driven by legislative partisanship. Consistent with this, Caplan (2001) finds that state taxation levels are positively correlated with the proportion of Democratic legislators, and Reed (2006) concludes that taxes are higher when the legislature is under Democratic control. Analyzing governors who are barred by term-limits from seeking re-election, Besley and Case (1995) find that Democratic governors raise taxes more than Republicans, while Republican governors allow the minimum wage to fall more than Democrats. Using panel data over a similar period to that covered in this paper, Besley and Case (2003) estimate the effect of partisanship on total taxes, total spending, family assistance, and workers' compensation spending. Measuring partisanship as the share of Democrats in the state upper house and lower house, and the party of the Governor, they find that although their individual partisanship variables are mostly insignificant, they are jointly significant for each of the four dependent variables.

This paper represents an advance over the previous literature in three respects. First, while some (though not all) of the previous papers use cross-sectional variation, it uses panel data, controlling for state and year fixed effects that might have a direct impact on policies and outcomes. Second, it tests the impact of partisanship on a much wider array of policy variables and outcomes than previous papers have done. Third, it explicitly models the impact of voter

ideology on political outcomes, and takes into account the possibility that party choice may be endogenous to expected economic circumstances in the future.

In analyzing differences between Democrats and Republicans, I consider three sets of outcomes. The first are pure policy variables, such as the minimum wage and tax rates, which can be cleanly measured and which reflect only the choices made by policymakers. The second category of outcomes are those that reflect both policy choices and economic conditions, such as expenditure on transfer programs (which is a function of both the supply of and demand for welfare), or the incarceration rate (a function of the strictness of the police and legal system and the number of crimes committed). The third category are pure welfare variables, such as mean incomes, unemployment, inequality, education, crime and suicide.

The remainder of this paper is organized as follows. Section 2 outlines the empirical strategy. Section 3 presents results, and the final section concludes.

2. An Empirical Strategy for Estimating Partisan Effects

To gauge the causal effect of partisanship on state outcomes, I focus on governors, rather than state legislatures. This is partly because most of the existing literature on partisanship has concerned itself with the affiliation of the chief executive, rather than the legislature. In addition, credible identification of election outcomes is more straightforward in a two-person contest. A governor who wins with 50.1 percent of the vote is considerably less constrained in her actions than a legislature in which one party holds the balance of power by a one-vote margin.

To model how partisanship affects a given outcome, I regress a given policy or outcome on an indicator for whether the Governor is a Democrat. Since policies and economic outcomes tend to be correlated within states and within years, all specifications include both state and year fixed effects.[3] To this parsimonious specification, I then progressively add the following additional controls:

[3] Indeed, policies may even be correlated with one another, suggesting that they should be estimated using a Seemingly Unrelated Regression model. The drawback with such an approach is that not all outcomes are available

(i) **Time-varying characteristics of the state:** The log of its population, and the fraction of the state's population that is under 15, over 65, and African-American. Since many policies will have a differential impact on large and small states, young or old voters, or on ethnic minorities, these controls take account of the possibility that demographic composition of the state has a direct effect on the policy choices of the state government or the economic outcomes in a state.

(ii) **Measures of legislative control:** Two indicator variables denoting that the Democrats control both legislative houses in a given year, or that the Republicans control both houses in a given year (the omitted category is split control). This takes account of the possibility that the partisan affiliation of the governor may be endogenous to the partisan composition of the legislature.

(iii) **Voter ideology:** The mean Poole-Rosenthal score (Poole and Rosenthal 1998) for the House of Representatives members representing that state in a given year. This shows the effect of having a Democrat or Republican Governor, holding constant the ideology of the states' voters, and takes into account the possibility raised by Erikson, Wright and McIver (1989): that governors merely respond to voter ideology.

To take account of serial correlation over time within a state, standard errors are clustered at the state level.[4]

When considering economic outcomes, it is important to note that while policies take effect immediately, they may only have an impact on economic conditions after some lag. Given this, how should one treat the first year of the election term? One approach would be to simply lag all outcomes by one year. For example, suppose an election took place in November 2000, in which

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for all years. However, when a SUR model is estimated just on the eight policy variables, the estimates are very similar to those derived from estimating the effects of gubernatorial partisanship separately for each dependent variable using OLS.

[4] When standard errors are clustered at the state*electoral term level, a larger number of policy settings and outcomes are statistically significant. Under that specification, I find that Democratic Governors tend to prefer significantly higher minimum wages and more redistributive taxes. In terms of outcomes, clustering at the state*electoral term level suggests that Democratic Governors tend to preside over significantly lower incarceration rates, higher welfare caseloads, higher median post-tax income, lower post-tax inequality, and lower unemployment rates.

the Democratic candidate beat the Republican incumbent. In a lagged model, the Republicans would nonetheless be assigned the year 2001, and would be attributed the outcomes in the four years 1998-2001; while the Democrats would be considered responsible for the years 2002-2005, even if the Republicans were returned to office in the November 2004 election. Although such an approach has been adopted by Bartels (2003) and others, I prefer a more conservative method of dealing with the data. I therefore drop the first year of each gubernatorial term from the sample, and use only across the second, third and fourth year of each term. (Where the dependent variable is a policy outcome, the issue of lags does not arise, and I therefore keep the first year of the term.)

If voter choice is exogenous to expected economic conditions, then the estimates derived from the above specifications will accurately reflect the policy choices of Democrats and Republicans. However, a question of endogeneity arises. If voters are able to forecast future economic circumstances with some accuracy, and if they believe that the parties are differently suited to certain economic environments, then the party elected is not exogenous to the prevailing economic conditions. For example, suppose that voters thought that Democrats were better able to manage the economy in a slump, while Republicans were better able to manage the economy in a boom. In this case, Democrats will be more likely to be elected when a recession is on the horizon, and the average growth rate under Democrats will be lower than that under Republicans. A similar mechanism could apply to other outcomes, such as crime. Thus if voter choice is endogenous to the anticipated socio-economic environment when making their party choice, then the outcomes observed under Democrats and Republicans may not reflect their respective policy choices.

To take account of this possibility, I add a further control to specifications in which the dependent variable is a social or economic outcome:

(iv) **The share of the vote received by the Democratic gubernatorial candidate:** In this specification, the policy effect is estimated from the discontinuity that occurs when a gubernatorial candidate wins more than 50% of the vote. The use of regression discontinuity techniques to study US election outcomes was pioneered by Lee, Moretti

and Butler (2004) and Lee (2005), who estimate the causal effect of incumbency on winning, and electoral strength on voting patterns.[5] Most similar to this paper is the approach of Pettersson-Lidbom (2003), who uses regression discontinuity methods to estimate the effects of partisanship in Swedish local elections. In the regression discontinuity specification, I drop non-contested elections (those in which one party won 80 percent or more of the vote), and elections in which one of the top two candidates is an independent.

Note that the purpose of controlling for the Democrat candidate's share of the vote is to take into account the function through which voters' expectations of the state of the economy might map onto their choice of candidate. Note however that this assumes that governors who win with a larger margin will behave in the same manner as those eke out a narrow win. If this is not the case, it this will most likely cause attenuation bias in the coefficient of interest.[6]

Formally, the five equations to be estimated are as follows (for notational simplicity, I omit coefficients on all but the main variable of interest):

$$Y_{jt} = \alpha + \beta G_{jt} + \gamma_j + \delta_t + \varepsilon_{jt} \quad (1)$$

$$Y_{jt} = \alpha + \beta G_{jt} + X_{jt} + \gamma_j + \delta_t + \varepsilon_{jt} \quad (2)$$

$$Y_{jt} = \alpha + \beta G_{jt} + D_{jt} + R_{jt} + X_{jt} + \gamma_j + \delta_t + \varepsilon_{jt} \quad (3)$$

$$Y_{jt} = \alpha + \beta G_{jt} + D_{jt} + R_{jt} + P_{jt} + X_{jt} + \gamma_j + \delta_t + \varepsilon_{jt} \quad (4)$$

$$Y_{jt} = \alpha + \beta G_{jt} + D_{jt} + R_{jt} + P_{jt} + V_{jt} + X_{jt} + \gamma_j + \delta_t + \varepsilon_{jt} \quad \{0.2 > V_{jt} > 0.8\} \quad (5)$$

In equation (1), Y is a policy setting, social outcome or economic outcome in state j and year t, G is an indicator variable equal to 1 if the state has a Democratic Governor, γ and δ are state and year fixed effects respectively, and ε is a normally distributed error term. In equations (2) to (5), X is a vector of time-varying state characteristics, D is an indicator denoting that Democrats control both houses of the state legislature, R is an indicator denoting that Republicans control

[5] However, while Lee and co-authors are able to identify 16,000 house races, there are substantially fewer gubernatorial elections in the post-war era. As a result, their main empirical strategies – restricting the sample to only the closest elections, and including high-order polynomials, are likely to both overtax the available data.

[6] There is a small body of theoretical work (Llavador 2001) and empirical evidence (Diermeier and Merlo 1999) suggesting that policy outcomes might be related to vote share.

both houses of the state legislature, P is the mean Poole-Rosenthal score for that state's House of Representatives members in a given year, and V is the vote share of the Democratic candidate for governor in the most recent election. Equations (1) to (5) correspond to the same-numbered columns in Tables 2 to 6 (noting that in Table 2, equation (5) is not estimated for policy variables).

Table 1 presents summary statistics for political variables, policy variables, intermediate outcomes and welfare measures. To make it more straightforward to interpret the coefficients, rates are recoded as percentages (ie. as 0/100 variables rather than 0/1 variables). I use the variables across the maximum time period for which they are available, ranging from 1941-2002 for top tax rates, to 1992-2002 for mean NAEP scores.

Table 1: Summary Statistics

Variable	Mean	SD	N	Coverage From	Coverage To
Political variables and controls					
Democrat Governor	0.553	0.497	2982	1941	2003
Democrat legislature	0.496	0.500	2982	1941	2003
Democrat Governor & Democrat legislature	0.366	0.482	2810	1941	2003
Republican Governor & Republican legislature	0.221	0.415	2810	1941	2003
Vote share of Democrat gubernatorial candidate	0.531	0.141	2933	1941	2003
Poole-Rosenthal Score of Congressional Reps	0.015	0.194	2969	1941	2003
Log population	14.741	1.048	2982	1941	2003
Proportion of population aged under 15	0.263	0.043	2982	1941	2003
Proportion of population aged under 15	0.094	0.026	2982	1941	2003
Proportion of population who are black	0.094	0.102	2982	1941	2003
Policy Settings					
Top income tax rate (%)	4.819	3.888	2846	1941	2003
Top corporate tax rate (%)	4.847	3.127	2906	1941	2002
Tax redistribution index	2.451	0.313	1278	1977	2002
Average income tax rate (%)	15.354	3.043	1278	1977	2002
Log real minimum wage	1.803	0.140	1428	1973	2001
Log maximum welfare benefit	6.505	0.467	1806	1960	2002
State and local employees as a percentage of the population (%)	6.030	0.920	1622	1969	2001
Log average real wage of a state or local employee	3.398	0.164	1622	1969	2001
Intermediate Outcomes					
Unionization rate (%)	18.658	8.599	1901	1964	2002
Incarceration rate (per 100,000 people)	216.205	125.521	1085	1977	1998
Number of executions per 100,000 people	0.029	0.092	2982	1941	2004
Log state and local transfers per capita	3.199	0.964	2036	1958	2001
Log state UI payments per capita	4.429	0.664	2036	1958	2001
Proportion of population receiving welfare (%)	3.610	1.610	1327	1976	2002
Log real state income tax receipts per capita	5.709	1.089	1698	1958	2001
Log real other state tax receipts per capita	1.761	0.929	2036	1958	2001
Log real state non-tax revenue per capita	3.169	0.899	2036	1958	2001
Log real state revenue per capita	5.753	0.943	2036	1958	2001
Social Welfare Measures					
Log real mean family income (pre-tax)	10.270	0.190	1947	1963	2002
Log real mean family income (post-tax)	10.651	0.150	1278	1977	2002
Log real median family income (pre-tax)	10.102	0.190	1947	1963	2002
Log real median family income (post-tax)	10.533	0.145	1278	1977	2002
Log mean real wage	10.503	0.173	1230	1977	2001
Fraction below the poverty line (%)	15.044	9.536	1947	1963	2002
Gini (pre-tax)	37.414	3.712	1947	1963	2002
Gini (post-tax)	34.383	3.417	1278	1977	2002
Unemployment rate (%)	6.040	2.067	1488	1970	2003
Average NAEP 4th grade score	214.862	7.355	470	1992	2003
Property crimes per 100,000 people	3782.26	1471.44	2030	1960	2001
Violent crimes per 100,000 people	373.996	245.589	2030	1960	2001
Murder rate per 100,000 people	6.539	3.793	2030	1960	2001
Suicide rate per 100,000 people	12.679	3.271	1611	1964	1996

3. Estimating Partisan Differences

Policy Settings

The first set of policies upon which one might expect to observe partisan differences are tax policies. To the extent that parties have differing attitudes towards redistribution, they may choose to raise or lower the overall tax burden, change the corporate/personal income tax mix, or change the redistributivity of the personal income tax.

Given the large number of dependent variables and specifications analyzed in this paper, the main tables do not show the coefficients on the control variables. To save space, each cell represents the coefficient on an indicator variable for having a Democrat Governor. Full results may be found in the working paper version (Leigh 2007).

The first four rows of Table 2 estimate partisan effects for different measures of tax policies. On the top personal income tax rate and the corporate tax rate, there are no significant partisan differences. The redistributivity of personal income taxation, measured as the difference between the pre-tax and post-tax gini coefficients in a simulated model, is not significantly different according to the party of the governor. The average personal income tax rate does not appear to differ systematically across Democrat and Republican governors.

Table 2: Policy Settings
Each cell is from a separate regression, and represents the marginal effect of having a Democratic Governor on various dependent variables

Dependent variable	(1)	(2)	(3)	(4)
Top income tax rate	-0.0376	-0.1841	-0.1937	-0.1936
	[0.1651]	[0.1602]	[0.1531]	[0.1531]
Top corporate tax rate	0.0723	-0.0644	-0.0864	-0.1114
	[0.1492]	[0.1264]	[0.1181]	[0.1156]
Tax redistributivity	-0.0228	-0.0172	-0.0172	-0.0173
	[0.0143]	[0.0130]	[0.0131]	[0.0139]
Average income tax rate	0.0906	0.1217	0.106	0.1164
	[0.1300]	[0.1196]	[0.1184]	[0.1265]
Minimum wage	0.0092*	0.0091*	0.0089	0.0085
	[0.0055]	[0.0053]	[0.0053]	[0.0056]
Maximum AFDC/TANF benefit	0.0012	-0.0013	0.0003	0.0004
	[0.0134]	[0.0129]	[0.0130]	[0.0134]
Number of state employees	-0.0202	0.0055	0.0065	0.006
	[0.0304]	[0.0235]	[0.0239]	[0.0235]
Average real wage of state employees	-0.0033	-0.0042	-0.0053	-0.0065
	[0.0078]	[0.0076]	[0.0080]	[0.0081]
State and year FE	Y	Y	Y	Y
State demographics		Y	Y	Y
Legislative control			Y	Y
Voter ideology				Y

Notes:
1. Robust standard errors, clustered at the state level, in brackets. *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.
2. Demographic controls are the log of the state population, and the fraction of the state's population that is under 15, over 65, and African-American.
3. Legislative controls are indicator variables for the Democrats having a majority in both houses, and the Republicans having a majority in both houses.
4. Voter ideology is the average Poole-Rosenthal score of the state's delegation to the federal House of Representatives in the most recent election.

The next rows of Table 2 analyze four additional (non-tax) policy outcomes: the minimum wage, welfare generosity, the number of government employees, and the wages of government employees. Under a Democratic Governor, the minimum wage is typically about 0.9% higher, which is approximately 2/3rds of a standard deviation.[7]

[7] As Senator Edward Kennedy is reported to have said to Senator John Kerry in 1994: "If you're not for raising the minimum wage, you don't deserve to call yourself a Democrat." (James 2004).

Using the log of the real maximum welfare amount for a family of four as the dependent variable, I find no significant partisan differences. The same is true for the log of the number of state employees, and the log of the average real wage of state employees. While Republicans' rhetoric in gubernatorial contests often focuses on reducing the size of government, this does not appear to be borne out in policy outcomes.

Intermediate Outcomes

I now proceed to estimating a set of intermediate outcomes, which are affected by both policies and economic and social conditions: the unionization rate, incarceration and execution rates, welfare rolls, expenditure on transfers, income from taxation, and state revenue.

The first row of Table 3 shows the relationship between partisanship and the unionization rate. Although the Democrats are strongly allied to the union movement, unions do not appear to fare better under a state Democratic governor. The next rows indicate that incarceration rates are about 1/10th of a standard deviation lower under a Democratic Governor (although this finding is not robust to all specifications), while execution rates are unrelated to partisanship. For the most part, the parties are similarly "tough on crime."[8] While gubernatorial partisanship is unrelated to unemployment insurance receipt and transfer payments, the welfare caseload is approximately 1-2% higher under a Democratic Governor.

[8] Of course, it could be that partisanship has effects on both crime and criminal justice policies that offset one another. But this is unlikely to be the case, given the finding below that crime rates are not significantly correlated with partisanship.

Table 3: Intermediate Outcomes – Unionization, Incarceration and Welfare Caseload
Each cell is from a separate regression, and represents the marginal effect of having a Democratic Governor on various dependent variables

	(1)	(2)	(3)	(4)	(5)
Dependent Variable					
Unionization rate	-0.3078	-0.2765	-0.33	-0.348	-0.2774
	[0.2351]	[0.2390]	[0.2399]	[0.2411]	[0.2946]
Incarceration rate	-8.4465	-10.0978	-12.7136**	-12.3466**	-11.1447
	[7.0708]	[6.5177]	[6.1303]	[5.9103]	[7.9616]
Execution rate	0.0013	-0.0033	-0.0031	0.0031	0.002
	[0.0043]	[0.0044]	[0.0042]	[0.0044]	[0.0070]
State expenditure on unemployment insurance	0.0037	0.0152	0.0155	0.0135	-0.0005
	[0.0246]	[0.0247]	[0.0243]	[0.0242]	[0.0336]
State transfer payments per capita	-0.0214	-0.0068	-0.01	-0.006	0.0165
	[0.0301]	[0.0284]	[0.0288]	[0.0289]	[0.0315]
Fraction of state population on welfare	0.1539	0.1582	0.1867*	0.1865*	0.1058
	[0.1054]	[0.0949]	[0.0998]	[0.1031]	[0.1199]
State and year FE	Y	Y	Y	Y	Y
State demographics		Y	Y	Y	Y
Legislative control			Y	Y	Y
Voter ideology				Y	Y
Democratic voteshare					Y

Notes:

1. Robust standard errors, clustered at the state level, in brackets. *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.
2. Demographic controls are the log of the state population, and the fraction of the state's population that is under 15, over 65, and African-American.
3. Legislative controls are indicator variables for the Democrats having a majority in both houses, and the Republicans having a majority in both houses.
4. Voter ideology is the average Poole-Rosenthal score of the state's delegation to the federal House of Representatives in the most recent election.
5. Democratic voteshare is a linear control in the democratic candidate's share of the gubernatorial vote. In this specification, non-competitive elections (those in which one candidate won more than 80% of the vote) are dropped.

Table 4 shows four "tax and spend" variables: income tax receipts, other tax receipts (mostly company tax), non-tax governmental income (license fees), and total state government revenue. Almost none are significantly correlated with gubernatorial partisanship, though in the regression discontinuity specification, state revenues are lower under Democratic governors (significant

only at the 10% level). Consistent with Alt and Lowry (2000), the coefficient on legislative partisanship is significant in the total revenue regressions (see Leigh 2007 for details). The partisan effects for all tax and spend variables appear to be confined to legislatures – taxation and spending policies do not appear to differ significantly between Republican and Democratic governors.

Table 4: Intermediate Outcomes – Tax and Spend
Each cell is from a separate regression, and represents the marginal effect of having a Democratic Governor on various dependent variables

	(1)	(2)	(3)	(4)	(5)
Dependent Variable					
State income tax receipts per capita	-0.0528	-0.0253	-0.0111	-0.0082	-0.0899
	[0.0414]	[0.0401]	[0.0409]	[0.0412]	[0.0651]
State other tax receipts per capita	0.0095	0.0271	0.0286	0.0275	0.0620
	[0.0313]	[0.0299]	[0.0293]	[0.0290]	[0.0380]
State non-tax income per capita	0.0078	0.0227	0.0224	0.0231	0.0171
	[0.0358]	[0.0344]	[0.0354]	[0.0340]	[0.0333]
State revenue per capita	-0.0362	-0.0211	-0.0158	-0.0137	-0.0706*
	[0.0356]	[0.0338]	[0.0323]	[0.0317]	[0.0395]
State and year FE	Y	Y	Y	Y	Y
State demographics		Y	Y	Y	Y
Legislative control			Y	Y	Y
Voter ideology				Y	Y
Democratic voteshare					Y

Notes: As for Table 3.

Social Welfare Measures

The last set of dependent variables are pure social welfare measures: income, wages, unemployment, poverty, inequality and crime rates. With the possible exception of inequality, there is a broad consensus across the two parties about the importance of achieving these goals. However, the parties differ in the prominence that they give to these goals, with Republicans tending to put greater emphasis on crime and growth, and Democrats tending to put greater emphasis on poverty and unemployment. To the extent that politics involves allocating resources

from less favored to more favored projects, partisan differences in policy preferences could still reveal themselves in these social welfare measures.

To begin with, I calculate measures of mean and median family income. Since these figures are not publicly available at a state level, I use microdata from the 1963-2003 Current Population Surveys, and calculate the equivalized family income for each individual by dividing total family income by the square root of the number of family members. The first set of outcomes in Table 5 estimate the effect of partisanship on mean pre-tax and post-tax family income, median pre-tax and post-tax family income, and real wages. While the first three of these are small and insignificant, median post-tax family income is about 1% higher under a Democratic Governor (though this is not significant in all specifications). The coefficient on real wages is negative, but not statistically significant. Poverty rates and pre-tax inequality are not statistically related to partisanship, but most specifications suggest that post-tax inequality is about 1/3rd of a gini point lower under a Democratic Governor – providing some evidence in favor of the theory that the defining difference between left and right is the parties' attitude to inequality (Bobbio 1996).

Table 5: Social Welfare Measures – Income and Income Distribution
Each cell is from a separate regression, and represents the marginal effect of having a Democratic Governor on various dependent variables

	(1)	(2)	(3)	(4)	(5)
Dependent Variable					
Mean real family income (pre-tax)	-0.0027	-0.0018	-0.0028	-0.003	0.0042
	[0.0075]	[0.0073]	[0.0072]	[0.0075]	[0.0103]
Mean real family income (post-tax)	0.0052	0.0055	0.0045	0.0039	0.008
	[0.0061]	[0.0053]	[0.0053]	[0.0054]	[0.0091]
Median real family income (pre-tax)	-0.0008	0.0014	0.0006	0.0008	0.0042
	[0.0078]	[0.0074]	[0.0073]	[0.0076]	[0.0108]
Median real family income (post-tax)	0.0096	0.0109*	0.0107*	0.0109*	0.0115
	[0.0069]	[0.0062]	[0.0062]	[0.0065]	[0.0102]
Mean real wage	-0.0077	-0.0077	-0.0089	-0.0098	-0.0079
	[0.0148]	[0.0135]	[0.0134]	[0.0143]	[0.0130]
Proportion below poverty line	0.0264	-0.131	-0.1071	-0.1006	-0.6038
	[0.6473]	[0.5718]	[0.5730]	[0.5667]	[0.7019]
Gini (pre-tax)	0.0054	-0.0646	-0.0756	-0.0995	-0.0947
	[0.1563]	[0.1438]	[0.1467]	[0.1439]	[0.2037]
Gini (post-tax)	-0.2158	-0.2951*	-0.3082*	-0.3459*	-0.2844
	[0.1765]	[0.1615]	[0.1666]	[0.1751]	[0.2152]
State and year FE	Y	Y	Y	Y	Y
State demographics		Y	Y	Y	Y
Legislative control			Y	Y	Y
Voter ideology				Y	Y
Democratic voteshare					Y

Notes: As for Table 3.

Measures of work, education, crime and suicide are shown in Table 6. Only one of these impacts is significant: in the regression discontinuity specification, the unemployment rate is 0.2–0.3 percentage points lower under a Democratic Governor. Test scores, property crime, violent crime, murder and suicide are not significantly related to partisanship. While this could potentially be due to reporting differences in the case of property crime and violent crime, this is much less likely in the case of murder and suicide, which are almost always reported. Overall,

given that Republicans are often typified as being "tougher" on crime than Democrats, it is interesting to find no systemic partisan difference in crime rates.

Table 6: Social Welfare Measures – Work, Education, Crime and Suicide
Each cell is from a separate regression, and represents the marginal effect of having a Democratic Governor on various dependent variables

	(1)	(2)	(3)	(4)	(5)
Dependent Variable					
Unemployment rate	-0.1846	-0.176	-0.1635	-0.1727	-0.2895*
	[0.1160]	[0.1208]	[0.1285]	[0.1321]	[0.1673]
Test scores (4th grade reading)	0.3775	0.2828	0.288	0.2575	0.6204
	[0.4577]	[0.4346]	[0.4356]	[0.4342]	[0.6302]
Property crime rate	-64.938	-61.0956	-56.7582	-54.6538	56.512
	[42.1713]	[37.0688]	[37.3019]	[37.3852]	[57.8357]
Violent crime rate	-6.6894	-10.0581	-10.3618	-9.9462	-5.9597
	[10.9497]	[10.5230]	[10.2501]	[10.0503]	[11.1345]
Murder rate	-0.0790	-0.1018	-0.0679	-0.0819	-0.0408
	[0.1511]	[0.1372]	[0.1335]	[0.1343]	[0.1508]
Suicide rate	-0.2432	-0.1579	-0.1356	-0.1163	-0.1403
	[0.1473]	[0.1387]	[0.1353]	[0.1333]	[0.2115]
Log population	0.0036	-0.0044	-0.0018	-0.0069	0.0135
	[0.0102]	[0.0099]	[0.0098]	[0.0088]	[0.0124]
State and year FE	Y	Y	Y	Y	Y
State demographics		Y	Y	Y	Y
Legislative control			Y	Y	Y
Voter ideology				Y	Y
Democratic voteshare					Y

Notes: As for Table 3.

Robustness Checks

Could it be that policymakers are stymied by large offsetting interstate migration flows? In the context of progressive taxation, Feldstein and Wrobel (1998) argue that migration prevents state policymakers from redistributing income. However, Chernick (2004) and Leigh (2005) have found evidence to the contrary. Similarly, looking at a broader range of policies, Wu, Perloff and Golan (2002) conclude that progressive taxes and the Earned Income Tax Credit reduce

inequality within a state, while raising the minimum wage increases state inequality.[9] One way of testing this is to see whether the election of Democrats or Republicans is systematically associated with population flows. This theory is tested in the final row of Table 6, which show small and insignificant relationships between partisanship and the size of a state's population. The absence of a statistically significant relationship lends weight to the interpretation that it is convergent preferences rather than an inability to affect outcomes that explains these results.

4. Conclusion

At a state level, the party in power makes little difference to most policy settings. Democratic Governors tend to prefer slightly higher minimum wages. Under Republican Governors, incarceration rates are higher, while welfare caseloads are higher under Democratic Governors. In terms of social welfare, Democratic Governors tend to preside over higher median post-tax income, lower post-tax inequality, and lower unemployment rates.

There are many areas in which gubernatorial partisanship does not appear to have an impact on policy outcomes and social welfare. I find no evidence of gubernatorial partisan differences in tax rates, welfare generosity, the number of government employees or their salaries, state revenue, incarceration rates, execution rates, pre-tax incomes and inequality, crime rates, suicide rates, and test scores. These findings are broadly consistent with those in the existing literature.[10]

Another factor to bear in mind is that the above results carry out significance tests separately for each dependent variable. A cautious reader might be concerned that raising the number of dependent variables also increases the probability that one or more will be statistically significant

[9] Wu, Perloff and Golan (2002) do not distinguish between state and federal policies (since their models do not include year dummies).

[10] Studies that have found various dependent variables to be unrelated to gubernatorial partisanship include Besley and Case (2003), who do not find a significant relationship between gubernatorial partisanship and total state spending per capita, or between gubernatorial partisanship and family assistance per capita. Similarly, Dilger (1998) found no significant impact of gubernatorial partisanship on eight of his nine state government spending and tax policies. Findings on the effect of gubernatorial partisanship and the state tax burden have arrived at different conclusions. Besley and Case (1995) report that the governor's political party is not significantly related to the level of total taxes (except in the governor's last term). Reed (2006) reaches a similar conclusion. By contrast, Besley and Case (2003) find that under a Democratic governor, taxes are lower, but this finding is only significant at the 10% level. This difference in statistical significance can be explained by the fact that Besley and Case (2003) do not use cluster-robust standard errors, opting instead to treat each state-year observation as independent from the next.

at conventional levels (eg. when testing 20 hypotheses, mere chance would imply that one of these would be significant at the 5 percent level). Two straightforward ways to take account of this are to implement a Bonferroni adjustment, in which the critical p-value when conducting k tests is p/k, or a Sidak adjustment, in which the critical p-value when conducting k tests is $1-(1-p)^{(1/k)}$. In the present case, this suggests that the Democratic Governor coefficient should only be regarded as significant at the 10 percent level if $p<0.00313$ (Bonferroni) or $p<0.00329$ (Sidak). None of the Democratic Governor coefficients shown in this paper meet such stringent standards.

Even without adjusting for simultaneous inference, very few policy settings and social welfare outcomes tested here appear to be statistically significant at conventional levels. Taking account of simultaneous inference, none are statistically significant. The absence of any significant relationship between population flows and gubernatorial partisanship suggests that cross-state migration is unlikely to be affecting the results. There are two possible interpretations of these results. One is that, for a broad range of outcomes, the policy preferences of Democrats and Republicans at a state level are largely similar. Another possibility is that partisanship matters at a legislative level, but not at a gubernatorial level. This would be consistent with the fact that the legislative coefficients are statistically significant for a larger number of outcomes than are the gubernatorial coefficients (see the appendix tables to Leigh 2007). It would also be consistent with the model proposed by Reed (2006), in which governors must appeal to the median voter in the state, and are therefore more centrist than legislators, who need only appeal to the median voter in their district.

Data Appendix

Political Variables and Controls

State political variables are from ICPSR. 1995. *Candidate Name and Constituency Totals, 1788-1990* (ICPSR No. 2), 5th ed. Ann Arbor, MI; updated using figures from the Congressional Quarterly database.

Poole-Rosenthal scores are downloaded from Keith Poole's website (http://voteview.com/dwnomin.htm, updated 10 December 2004). I drop all legislators except Democrats and Republicans, and use the first common space score, which has a potential range from -1 to 1, and which Poole and Rosenthal describe as picking up "liberal-conservative" in the modern era. For each state and election year, I calculate the mean score for legislators serving in the House of Representatives, and apply the same score to the following year, in which no election took place.

The fraction of the population aged under 15, aged over 65, and who are African-American are calculated from the IPUMS samples of the decennial censuses, and interpolated for intervening years. After 2000, the figures from the 2000 census are used.

Population figures are from Bureau of Economic Analysis (http://www.bea.doc.gov/bea/regional/).

Policy Settings

Top income tax and corporate tax rates from the World Tax Database, at the Ross School of Business in the University of Michigan (http://www.bus.umich.edu/OTPR/otpr/introduction.htm).

Tax redistributivity is the amount by which the income taxation system reduces the gini coefficient. This measure, and average taxation rates, reflect only the tax policies, since they are calculated using the method outlined in Leigh (2005). In brief, this involves taking a single sample of respondents from the March 1990 CPS, and adjusting the average income of the respondents so that it is the same as the average income in a given state and year. To simplify calculations, I assume that all family income is wage income, that individuals file as singles, and couples file jointly (with 2/3rds of the income assigned to the primary earner). Dependent exemptions and age exemptions are taken into account. Post-tax income is net of state and federal taxes, but not net of FICA, which is regarded as akin to savings. Since Taxsim only includes state taxes from 1977 onwards, earlier years are not included in the analysis. The tax burden is then calculated for each state and year. From this, it is possible to calculate the tax redistribution index and the average tax rate. These figures reflect only policy effects, and not behavioral responses.

Minimum wage data from 1973 from Neumark, D and Nizalova, O. 2004. "Minimum Wage Effects in the Longer Run". PPIC Working Paper No. 2004.03. Public Policy Institute of California: San Francisco, CA.

EITC supplement is the percentage added by the state to EITC payments for a family with one child. Most data is from Johnson, N. 2001. "A Hand Up: How State Earned Income Tax Credits Help Working Families Escape Poverty in 2001". Washington, DC: Center on Budget and Policy Priorities; updated with figures from Leigh, A. 2005. "Who Benefits from the Earned Income Tax Credit? Incidence Among Recipients, Coworkers and Firms", *mimeo.*

Maximum welfare amount is the log of the maximum real benefit for a family of 4 under the Aid to Families with Dependent Children program (AFDC), or the Temporary Assistance for Needy Families program (TANF). AFDC/TANF caseload is the average annual caseload as a percentage of the total population. Both figures supplied by Robert Moffitt up to 1998; then updated using data from the Administration for Children and Families, Department of Family and Community Services (http://www.acf.dhhs.gov/programs/ofa/caseload/caseloadindex.htm).

State employment and salaries from Bureau of Economic Analysis (http://www.bea.doc.gov/bea/regional/). State employment is the fraction of the population employed in state and local government.

Intermediate Outcomes

Incarceration rate from the Bureau of Justice Statistics - Data Online (http://www.ojp.usdoj.gov/bjs). Incarceration rate is the number incarcerated in state prisons per 100,000 people per year.

Execution rates calculated from M.W. Espy and J.O. Smykla. 2004. *Executions in the United States, 1608-2002: The Espy File*, 4th ed (ICPSR No. 8451), ICPSR, Ann Arbor, MI. Variable is the execution rate per 100,000 people per year.

Unionization rate is the percentage of each state's nonagricultural wage and salary employees who are union members. Estimates are based on the 1983-2002 Current Population Survey (CPS) Outgoing Rotation Group (ORG) earnings files, the 1973-81 May CPS earnings files, and the BLS publication, Directory of National Unions and Employee Associations, for various years. Details on data and methodology are provided in B.T. Hirsch, D.A. Macpherson, and W.G. Vroman, "Estimates of Union Density by State," *Monthly Labor Review*, Vol. 124, No. 7, July 2001, pp. 51-55 (accompanying data online at http://www.trinity.edu/bhirsch).

Transfers, unemployment insurance, state tax revenue, and overall state revenue from Bureau of Economic Analysis (http://www.bea.doc.gov/bea/regional/). Transfers and state revenue are expressed as the log real amount per person in the state.

Social Welfare Measures

Average income and inequality measures are calculated from the March Current Population Survey, using Stephen Jenkins' "ineqdeco" Stata routine. Since the CPS asks households about earnings in the previous year, the 1963-2003 surveys provide data on household income from 1962-2002. Family income is adjusted for family size by dividing by the square root of the family size, and data is weighted by person-weights. Family incomes that are less than 1/10th of the median, and more than 10 times the median, are recoded to those values. The year 1962 was dropped, since it contains a substantial number of unrealistically high incomes, suggesting potential coding problems. Although the CPS is designed to be representative at a state level, the person-weights that are provided are calculated based on national demographics, rather than state demographics. However, this is unlikely to make a substantial difference. Using the CPS for California, a state whose demographic composition is very different to the nation as a whole, Reed, Haber and Mameesh (1996, Appendix B) used census data to form new CPS weights for California, and found that it made virtually no difference to their estimates of state inequality.

Post-tax income and post-tax inequality are calculated by using the NBER's Taxsim program (Feenberg and Coutts 1995), treating income and exemptions in the same manner as outlined in the "Policy Settings" section above. Since Taxsim only covers 1977 onwards, our post-tax estimates are only for 1977-2002.

Whether a family is below the poverty line is provided in the CPS files in later years, and were added for earlier years by Unicon. Using this information, I calculate poverty rates for each state and year.

Unemployment rates are from the Bureau of Labor Statistics (http://data.bls.gov/).

National Assessment of Educational Progress (NAEP) scores are from http://www.nces.ed.gov/nationsreportcard/naepdata/. Fourth grade reading scores are used on the basis that they are available for more states and years than any other test.

Property crime rate and violent crime rate from the Bureau of Justice Statistics - Data Online (http://www.ojp.usdoj.gov/bjs). Crime rates are the number of crimes committed per 100,000 people per year.

Suicide rates supplied by Betsey Stevenson and Justin Wolfers, as detailed in Stevenson and Wolfers (2006). Rate is the number of suicides per 100,000 people per year.

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