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**Fiscal Transparency, Gubernatorial
Popularity, and the Scale of
Government: Evidence from the States**

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Fiscal Transparency, Gubernatorial Popularity, and the Scale of Government: Evidence from the States

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Abstract

We explore the effect of transparency of fiscal institutions on the scale of government and gubernatorial popularity using a formal model of accountability. We construct an index of fiscal transparency for the American states from detailed budgetary information. With cross-section data for 1986-1995, we find that - on average and controlling for other influential factors - fiscal transparency increases both the scale of government and gubernatorial popularity. The results, subjected to extensive robustness checks, imply that more transparent budget institutions induce greater effort by politicians, to which voters give higher job approval, on average. Voters also respond by entrusting greater resources to politicians where institutions are more transparent, leading to larger size of government.

Introduction

It is now generally recognized that political and budgetary institutions influence economic and political outcomes (see Alt 2001 for a survey). In fiscal policy, institutions such as balanced budget provisions (Alt and Lowry 1994; Poterba 1994; Lowry and Alt 2001), the structure of budget processes (von Hagen and Harden 1994), and term limits (Besley and Case 1995) have been shown to have real effects on fiscal outcomes.

Fiscal transparency has also received attention over the past decade as a potential solution to problems of fiscal imbalance, rising government debt, and corruption. Academics and practitioners alike see "transparency in government operations … as an important precondition for macroeconomic fiscal sustainability, good governance, and overall fiscal rectitude." (Kopits and Craig 1998, 1).[1] Conceptual or empirical analyses of whether and how transparency actually affects policy outcomes has not accompanied its popularity in fiscal policy circles, however.

In a recent paper, Ferejohn (1999) provides a theoretical analysis of transparency. He argues that increasing transparency facilitates voter control and monitoring of elected representatives. This induces greater executive effort that in turn increases the willingness of voters to spend resources through the public budgets, leading to increased scale of government. We test Ferejohn's result empirically. Using data on budgetary processes, we construct an index of fiscal (or budget) transparency for the American states and investigate whether transparency and other institutions such as direct democracy and spending and revenue limits have an effect on the scale of government. We find that fiscal transparency indeed does increase the scale of government in American states.[2]

In addition to this direct test of Ferejohn's hypothesis, we examine his implicit argument that transparency increases voter confidence in politicians. Suppose for a moment that greater transparency of the state's (budget) institutions allows voters a clearer view of the

state governor's effort and actions, inducing greater executive effort. When perceived by voters, this increases their average job approval rating and thus the political popularity of governors, on average, other things equal. We find that the route from transparent institutions to larger public fiscal scale does indeed run through higher average gubernatorial popularity.

This result adds to the literature on gubernatorial voting and popularity in three ways. First, it confirms findings in the literature relating retrospective voting for governors to economic outcomes and policy variables (Lowry, Alt, and Ferree 1998). Second, that paper and others (Powell and Whitten 1993; Nadeau, Niemi, and Yoshinaka forthcoming) argue that economic voting is greater where there is more "clarity of responsibility". Just as increased transparency makes it easier for voters to distinguish effort from opportunistic behavior or stochastic factors, clarity eases the voter's task of attributing outcomes to the acts of particular politicians. Finally, most of the literature on gubernatorial popularity has focused on short-run dynamics (for example, MacDonald and Sigelman 1999). We seek instead to explain higher average job performance ratings, over the long run. Thus the availability of comparable performance ratings in all states over substantial periods of time presents an opportunity to examine long-term state-to-state differences in average executive popularity, something generally left unexamined in the "fixed effects" augmenting models of the short-run dynamics of popularity.

The next section reviews an agency model of politics that provides a theoretical argument for the impact of fiscal transparency (explicitly) on fiscal policy outcomes and (implicitly) on gubernatorial popularity. In subsequent sections we operationalize fiscal transparency and present the data for the American states, present the empirical specification and the remaining data, and the results. We then discuss robustness issues and possible problems of institutional endogeneity. The final section offers some concluding remarks and directions for future research.

Theory and Hypotheses

In general "institutions affect behavior primarily by providing actors with greater or lesser degrees of certainty about the present and future behavior or other actors … enforcement mechanisms for agreements, penalties for defection, and the like" (Hall and Taylor, 1996, 939). We take as our point of departure that transparency serves as a way of reducing informational asymmetries among political agents, financial markets, and voters, whether by providing voters with more information about the actions taken by elected politicians (Ferejohn, 1999) or facilitating coordination on balanced budget outcomes between political parties alternating in power (Alt, Lassen, and Skilling, 2000).

Transparency and Political Accountability

Ferejohn (1999) analyzes a principal-agent model of retrospective voting in which political agents can choose to make their actions more transparent to voters and thus more controllable in order to attract more resources and support. In the model voters (the principals) allocate resources to the politician (the agent) who transforms the tax revenue into a pure public good. Voters use the rest of their resources for consumption of a private good and thus have an outside option to pursue if the agent's (public) output looks unpromising. The agent also designs an information structure with some degree of transparency (strictly, the stochastic variability of a signal of action). Transparency is said to be high if the variance of the noise part of the signal voters receive is low. Then voters can make inferences about the action taken with greater precision, and the degree to which the politician can take advantage of asymmetric information for personal benefit is diminished.

The sequence of actions is as follows. First, having heard the offered degree of transparency, voters decide on how much to invest in the public sector. Then, having privately observed the state of the world (the realization of a shock, reflecting the agent's superior information about whether the policy outcome was due to her action or to chance),

the agent decides on the level of a productive, but costly, action (or effort). The model is thus one of pure moral hazard and voters face a "signal extraction" problem. They can observe neither the state of the world nor the action taken by the politician, but only the level of public goods provided (the return on investment) and a noisy signal of the action taken by the agent. Using these observables they decide whether to re-elect the politician or not based on a "firing rule" (that is, a binary choice: keep or throw out).

The key result is that there are circumstances in which more transparency can make the agent (and, obviously, the principal) better off. The intuition of the model is that there are equilibria in which more transparent institutions produce lower uncertainty about the sort of actions taken by a political incumbent, thus more voter confidence in the incumbent (or in voters' ability to distinguish good performance from bad performance), and therefore higher investment, which here means willingness to pay higher taxes.

Thus, the model's clear, testable implication about the effects of fiscal transparency is that more transparent fiscal institutions should lead to an increase in voter confidence in politicians which, in turn, should lead to a larger scale of government (voters being more willing to hand control of resources to politicians whose actions they can more readily observe). Increasing transparency makes public goods provision more attractive to voters, thereby increasing the size of government.

Trust and Popularity

The interpretation is that more transparent institutions induce greater effort by politicians, which makes voters more willing to entrust politicians with public funds. In this particular sense we can say that the effect of transparency is that it enhances politicians' trustworthiness. If that is true, a natural conjecture is that, other things equal, increased transparency should increase the average popularity of governors, where approval for the job the current incumbent is doing measures popularity. We do not claim that this interpretation

of approval and confidence in incumbents exhausts possible meanings of trust in government, but claim that it is a component of trustworthiness.

Some look for the origins of trust in psychological hard-wiring, others in traits, but many believe that at least a necessary condition for trusting someone to act as you want is that they have incentives to do so (Hardin forthcoming), which is the case in this model of transparency. In this case verifiability could be important. Lupia and McCubbins (1998) report an experiment with a signalling model that shows that "increasing the probability of verification" is sufficient to transform a non-persuasive speaker into a persuasive one. Brennan (1998, p. 204) argues that "trustworthiness is rational only when the degree of translucency is appropriately large." We are not the first to look to fiscal institutions for the sources of trust, nor the states the first context in which such effects have been believed to exist.[3] In the context of a modern democratic society, however, we argue that there is a popularity (approval) bonus for those whose actions are more clearly discernable, on average, conditional on performance (and possibly party affiliation).

Note that it is not obvious how causality runs here. Politicians doing well have incentives to give voters a better look, in which case causality is from popularity to transparency. If those with larger governments demand stricter accounting practices (possible, not obvious), causality is from larger government to transparency. We lack both the time series on transparency and satisfactory instruments for it to deal with this but discuss some possibilities below. Moreover, the model is demanding in terms of voter awareness. We have no direct measures of whether voter information is greater or media transmission of information more accurate where institutions are more transparent.

Direct Democracy

Ferejohn (1986) shows that if the policy space has more than one dimension, political accountability breaks down. Following this line of thought, Ferejohn (1999) argues that when

politics is neatly ordered in one dimension (as is characteristic of, for example, northern Europe), accountability is higher and, therefore, the public sector larger, whereas where issue politics dominate (as is the case, for example, in southern Europe), accountability is low.[4] Similarly, Besley and Coate (2000) argue that an "unbundling of issues" through voter initiatives forces a closer relationship between policy outcomes and citizen's preferences. Indeed, it has been shown that the possibility of proposing initiatives has been shown to deliver policy outcomes closer to median voter opinion (Gerber 1996; see Lascher et al. 1996 for conflicting evidence).

According to this logic, initiatives make it more transparent who does what. If some dimensions of the policy space are addressed through direct democracy, voters should be happier with the politician as they can control him/her better. So we will see whether states having more extensive institutions of direct democracy also - on average - have larger public sectors and more popular governors, other things equal. Zax (1990) found, using pooled county and state level data, that initiative states have significantly higher levels of public spending than non-initiative states and he attributed this to initiatives being more likely to advocate increases than reductions in spending.[5] However, Matsusaka (1995) reached the opposite conclusion, using state level panel data.

Transparency

Transparency indicates how informative is budget documentation. It is the answer to questions like "Do the financial statements provide comprehensive, verifiable information?" and "Can the reported numbers be believed?" The best definition of fiscal transparency that we have found is the following:

> "Fiscal transparency is defined … as openness toward the public at large about
> government structure and functions, fiscal policy intentions, public sector
> accounts, and projections. It involves ready access to reliable, comprehensive,

timely, understandable, and … comparable information on government activities … so that the electorate and financial markets can accurately assess the government's financial position and the true costs and benefits of government activities, including their present and future economic and social implications." (Kopits and Craig, 1998, 1)

Important aspects of transparency include a commitment to non-arbitrary language (words and concepts have shared meanings), the possibility of independent verification, and more information and justification in fewer documents.

A series of measures reflecting the transparency of state budget processes are available from recent publications by the National Association of State Budget Offices (1995, 1999) and the National Conference of State Legislatures (1998).[6] These include:

- Is the budget reported on a **GAAP** (generally accepted accounting practice) basis? (Yes = more transparent, if shared language facilitates communication);

- Are there **multi-year** expenditure forecasts? (Yes = more transparent, since more information about plans and the expected consequences of action is disseminated);

- **Frequency** of budget cycle (Annual = more transparent than biennial, since more frequent action means more (frequent) information);

- Are the revenue estimates **binding**? (Yes = more transparent, since estimates that are binding increases the costliness of misleading);

- Does the executive branch have primary responsibility for the **revenue forecast**? (No = more transparent, if it is less likely to be misleading or manipulative);

- Are there **multiple** appropriations bills? (No = more transparent, if a single location facilitates monitoring);

- Does a **non-partisan** staff write Appropriations bills? (Yes = more transparent, again implying less incentive to manipulate);

- Can the legislature pass **open-ended** appropriations? (No = more transparent, if this means that published figures are closer to ultimate outturns);

- Does the budget include **performance measures** and are they published? (Yes = more transparent, if these create more explicit and therefore shareable standards for judging).

There is considerable variation in the extent to which states have adopted these transparency provisions, as Table 1 reveals. Some sort of performance reporting is quite common. A commitment to GAAP reporting is less so. The distribution of the number of transparent provisions across the states is approximately normal, with the mean number of provisions being four. Of the nine measures of transparency that identified in this paper, the maximum number present in any one state is eight. That occurs in Delaware, Georgia, and Utah. The minimum number is one (Maine). There is considerable variation in the types of measures that are adopted in each state.

[Table 1 about here]

Figure 1 shows a map of the American states. States are coded as having low, medium, or high transparency. Low transparency states (14 in all) have an index value of less than 4, medium transparency states (21 of these) have an index value of 4 or 5, and high transparency states (14) have an index value of 6 or greater. Alaska is omitted. No obvious partisan, historical, geographical or other clusters appear (at least, that we can think of), so the test of Ferejohn's conjecture seems a fair one.

[Figure 1 about here]

Empirical Specification and Data

The measure of fiscal transparency is an index that sums the number of transparent procedures that each state has. This is a rough measure, but is preferable to controlling for each institution separately, given the relatively small number of observations. Our fiscal institutions data are a recent cross-section, and unfortunately, no historical time-series is

available. Therefore, all non-institutional variables, including governor popularity, are measured as 10-year averages (1986-1995). This avoids undue weight being given to observations in a particular year. We carried out numerous replications varying the exact contents of the transparency index and shortening the period of averaging to confirm that the results we report are representative. The regressions below are based on 48 mainland states, excluding Alaska and Hawaii, as they are outliers in many dimensions of the data, in particular in terms of public finance.

Scale of Government

Do transparent financial reporting procedures affect the scale of government, as predicted by the model? The estimating equation is

Scale of government   = fiscal transparency index + real per capita income + state

unemployment + southern state dummy + government ideology index +

spending/revenue limits + ε

The dependent variable, scale of government, is measured in per capita terms in several ways, including general and total revenues and spending, in constant dollars. It seems preferable to eliminate some effects of price-differences between states, so the measure of scale is deflated by the regional consumer price index. We extract from the extensive literature on the size of government a list of appropriate control variables. These include some measure of state government average partisanship or ideology (Left parties or liberal ideologues prefer bigger government on average), demographic variables like age composition (a larger share of very young or old "dependents" in the population increases the size of government), and economic variables like income growth (associated with larger government) or high unemployment (which produces larger government through increased social payments), as well as a dummy for fifteen "southern" states with distinctively conservative fiscal policies (Alt and Lowry 1994). We also consider other legal institutions like balanced-budget law stringency or limits

that relate to spending and/or revenue increases. Data coding and sources appear in the Appendix.

Governor popularity

Popularity data for Governors are taken from the Job Approval Ratings (JAR) database, and state fiscal and additional variables are from the State Politics and Policy Archive. The JAR database contains a variety of different question types, but we analyze only the "Standard job performance question." In the database, the ratings "Excellent" and "Good" have been combined into "Positive" while "Fair" and "Poor" have been combined into "Negative." The dependent variable is the (average) percent rating the governor "positive," as a percentage of all responses. The estimates are based on cross-sectional data, averaged over 1986-1995. The estimating equation is[7]

popularity = transparency + balanced budget stringency + growth in real income per capita + unemployment + regional CPI + real income per capita [level] + real government spending per capita + southern state dummy + divided government + gubernatorial term limits + budget surplus + ε

We examine alternative conjectures about institutions by substituting various measures of direct democracy and spending and revenue limits for the fiscal transparency index in the equations above. Data on initiatives, signature requirements and average number of initiatives per cycle is taken from Tolbert, Lowenstein, and Donovan (1998). The 23 initiative states in our data are listed in the Appendix.

The choice of controls for the popularity regression is based on the "VP-function" literature (see, e.g., Golden and Poterba, 1980, and Paldam, 1991). These differ from those included in the scale of government regression. For example, there is no a priori reason that the government ideology variable included in the scale regressions should influence popularity. However, some variables, like the economic conditions, appear in both.

Estimation Results

Scale of government

The results for scale of government are shown in Table 2. These results provide support for the hypothesis that fiscal transparency leads to a larger scale of government. These results for institutional transparency are both statistically significant and substantively quite large. For example, the difference between the least and most transparent states (a difference of eight on the transparency index) leads to approximately the same effect on the scale of government as the southern state dummy. (Consistent with previous research, we find that southern states are associated with significantly lower levels of spending and revenue.) Further, the fit of these equations is fairly good, with R^2 values around 0.5.

[Table 2 about here]

The four columns of Table 2 differ only in the definition of the dependent variable, size of government. Similar results obtain across different measures of spending and revenue. Table 2 gives some examples that show that the effect of transparency does not depend on whether general or total figures are used, or nominal and constant-price. In short, this result is not the artefact of a particular choice of concept for size of government.

Other coefficients deserve comment. As expected, government ideology has a strong impact on the level of spending. Left governments (a higher level of the ideology index) spend more. Further, revenue limits seem to reduce tax revenues significantly, but spending limits do not have a similar, significant effect on spending levels. The other coefficients, while signed correctly, are not significant. For example, real per capita income does not have a significant effect on the scale of government.

We also included the initiatives dummy in the fiscal scale regressions (results not shown). We find that initiatives are associated with a smaller scale of government, significant at the 5 and 10 % levels in the nominal per capita general and total spending regressions,

respectively, but not close to significant for revenues or when deflated with regional prices. The results concerning transparency were not affected by our adding the initiatives variable. At first glance, then, the initiative does not appear to be a device increasing transparency.

Popularity

The results for the popularity regressions are shown in Table 3. They suggest that the governor receives more favorable job approval ratings, on average, in states that have higher fiscal transparency. Again, the effect is quite large. In the basic specification (first column), a unit increase in the transparency index increases average popularity by 1.5 percent, independent of other factors.

[Table 3 about here]

Throughout, we control for average yearly growth in real per capita personal income, state unemployment in percent, the level of real per capita state income, real per capita state spending/revenues, regional consumer prices, a southern states indicator, and whether the state experienced any divided government from 1986-95. Economic controls have signs expected for economic voting: growth is significantly positive, unemployment, and inflation significantly negative, as is frequently found in the literature. In addition, the *level* of real per capita personal income has a significantly negative coefficient.

The southern states variable is never significant, but the government spending/ revenue variables have negative coefficients, and are significant at the 5 % level. While transparency produces more spending and higher popularity, independent of transparency more spending is not more popular. That result resonates in a way with Peltzman (1992), who finds voters to be fiscal conservatives. However, we do not find that long-run average popularity is significantly and systematically affected by partisan or ideological variables.

The balanced budget stringency coefficient is negative and highly significant, the measure of divided government is positive and weakly significant, and the fiscal surplus

variable enters positively and significantly. A possible explanation for the results concerning balanced budget stringency could be that although governors who obey such requirements generate lower interest rates on state government bonds (Lowry and Alt, 2001), balancing the budget may require making unpopular decisions that are not offset, in terms of popularity, by the lower interest rates. In addition, Crain (2000) shows that states with restrictions on carrying forward deficits, which are an important part of balanced budget requirements, have higher expenditure volatility, which is disliked by voters.

The existence of term limits (gubernatorial term limits in 1986) affects popularity significantly and negatively. One possible reason for this could be that governors who are not up for election due to term limits do not have a reputation to maintain (cf. Besley and Case, 1995, Table 3). Our result is weaker (coefficient smaller, p-value larger) if we restrict the term limits variable to those states actually having a term-limited governor between 1986-1995, but of course we have fewer observations in that case.[8]

The second column of Table 3 reports the results when a dummy for initiative rights is substituted for transparency (the variable equals one when a state has initiatives, zero otherwise). The possibility of enacting legislation through voter initiatives has a positive, but insignificant effect, on popularity. To determine whether actual usage of the initiative rather than statutory rights matters, we also tried using the average number of initiatives proposed per cycle since adoption of the initiative, and an interaction variable of initiatives and signature requirements, but, again, we find no significant effects (results not shown).

In the third column, we replace the transparency index with measures of spending and revenue limits. Both limit variables contribute to higher popularity, the revenue limit coefficient being significant at the 5 % level. When they are included, the spending coefficient becomes smaller, so it may be that the limits variables are picking up some of the effect of lower spending. More problematic, if the two types of limit are included separately,

the spending limit coefficient ceases to be significant, while the revenue limit is significant only at the 10 % level. There is also some overlap between these limits and the transparency index. Each limit added to the model in column 1 reduces the transparency coefficient by about 10 per cent.

Robustness and Endogeneity Issues

In addition to replications altering the dependent variable, to provide greater assurance that the size of government results are robust, replications were carried out using a series of different definitions of fiscal transparency, involving removing particular provisions from the index. These did not lead to qualitatively different results. Various codings of divided government were also included as controls in these regressions. These variables were generally not significant but often served to strengthen the fiscal transparency results. Moreover, controlling for demographic structure (the "dependency" ratio, shares of old and young in the population) weakens the transparency results slightly. The dependency ratio itself was never significant, however.

Similar sensitivity analyses were carried out with respect to the popularity regressions. These were also recomputed with each item dropped from the transparency index. The *p*-values of these modified transparency coefficients vary between 0.019 and 0.114, so the statistical significance of the result in Table 3 is about average for these replications. We experimented with different functional forms. An exponential transformation of the transparency index improved the fit substantially. We included other political control variables such as ideology measures, governor party affiliation, and unified government conditional on party, and other economic control variables such as long-term outstanding debt. These were not significant and affected neither the significance nor the magnitude of the estimated coefficient for transparency. Finally, we allowed for the scale of

government being endogenously determined, as demonstrated in Table 2 above.[9] This also left the results for transparency substantially unaffected.

To assuage concerns that the long period (1986-95) averaging of variables either masks important changes or removes some data too far in time from the institutional transparency measures from 1995 on, we recomputed the 1986-95 results in Table 3 for the subperiods 1990-95 and 1992-95. The three subperiod measures are very highly correlated, as one would expect. The estimated effect of transparency on popularity is strengthened when employing the 1990-95 average, and even further when using the 1992-1995 average. In the basic regression (first column of Table 3), levels of significance for the transparency coefficient increase from 95 % (1986-95) to 96.4% (1990-95) to 97.3% (1992-95).

One referee raised the valuable question of whether transparency might not enhance the impact of economic and fiscal variables on approval as well as (conditional on inducing greater effort) raising average approval. Testing this requires interacting transparency with the economic and fiscal variables. In the fourth column of Table 3 we add unemployment interacted with transparency (split into a binary variable between four and five). Indeed, where institutions are more transparent the effect of unemployment is bigger by a third. The far greater effect, however, is that adding this omitted variable *doubles* the size of the transparency coefficient, from about 1.5 to over 3. Multicollinearity prevents us from adding more (significant) interactions

A remaining problem concerns the endogeneity of the transparency variable itself. Is there is a greater demand for fiscal transparency in states where, for example, there is bigger government? Fiscal institutions are endogenous to some degree, particularly to past fiscal outcomes, but institutions are also somewhat difficult to change, so they can be considered predetermined, "at least in the short-to-medium run" (Alesina and Perotti 1999, 15), which is what we have considered here. The lack of panel data makes dealing with the endogeneity of

fiscal transparency directly impossible. Indirect approaches are problematic, as the authors see no obvious way to instrument for transparency in the context of the US states.

Another referee proposed the interesting "endogeneity" conjecture that the apparent relationships between transparency, scale, and approval are all the result of a common link to a prior variable. Indeed, as he/she argued, the American Progressive tradition stresses budget reform (transparency), government activism (scale), and confidence that a professionalized government can solve problems (trust). Do states with a Progressive tradition have the attributes that follow from it, even if there is no causal relationship among the attributes themselves? To obtain an answer we coded the "Progressive tradition" in 7 or 8 ways, including their maximum vote in statewide elections, whether they ever elected a member of Congress, and so on. Unfortunately only one formulation gave any result at all: whether the state was one of three that elected a Progressive governor at some point. This significantly predicts larger scale of government (the referee is right so far) but not greater popularity nor transparency, nor does including Progressive tradition diminish the transparency results reported in Table 2. So while we would have been delighted to find in the Progressive tradition an instrument for transparency, this aspect of the endogeneity problem still requires further work.

Concluding Remarks

For a cross-section of American states, we find that fiscal transparency matters for economic and political outcomes. Moreover, we find that institutions, most notably those defining the transparency of the budget process, affect the popularity, or average job performance ratings, of state governors in the long run. More fiscal transparency is, on average and controlling for other influential factors, associated with a larger scale of government and higher governor popularity. We interpret this as favorable evidence for the model of accountability put forward by Ferejohn (1999). However, we do note, along with Poterba and Reuben (1999),

that the endogeneity problem concerning fiscal institutions at the state level has not yet been solved. The endogeneity problem, best solved by obtaining reliable *time series* data on fiscal institutions, remains an important issue for future research.

Given the widespread interest in direct democracy and our initial interpretation of initiatives as a "substitute transparency device," the fact that our initiative variables do not appear to have the same effects as the transparency measures is worth a comment. The presence of initiatives had a positive (but insignificant) effect on popularity and no effect (or negative) on fiscal scale. Here is a possible interpretation. Suppose we assume that interest groups can influence voters at some cost, so that in those states where initiatives exist, the interest groups bargaining with legislators can threaten to use this outside option and win an initiative (Feldmann 1998). Then, Feldmann argues, politicians get fewer contributions from the interest groups. That is, rents to politicians go down, other things equal, since rents to interest groups go up. Of course, accountability also goes down, since the connection between the vote (for politicians) and outcomes is weakened. In terms of effort, therefore, the first-order effect of an initiative is that politicians' effort goes down (less rents) but there is a second-order effect that effort goes up, in the sense that politicians now have to work harder to get a vote, since the vote return on effort is lower.

This may seem like a long shot, but from other data we find that in states where there is an initiative there is indeed also less corruption, other things equal.[10] This is indeed a way of saying there are less rents to politicians (the first-order effect) because the interest groups get them. However, as we saw in Table 2, where there are initiatives there is also more average popularity, possibly *directly* because there are less rents or *indirectly* because there is more effort. In the latter case, if the second-order effect dominates, politicians work harder even though they get less per unit effort. Voters in turn like this and respond with higher job ratings, just as in our transparency model of popularity. Finally, however, we find that the

presence of initiatives has no (or only an ambiguous) effect on fiscal scale, because the less accountability effect undoes the effect of more effort or trust. This is a purely empirical result. There is more effort but the connection between vote and outcome is weakened so the overall effect on fiscal scale is zero, as it happens. Needless to say, firming up all these connections will also be an exciting project!

Finally, given that transparency influences gubernatorial popularity and the scale of government, the next question is to what extent does fiscal transparency actually clarify responsibility? We hinted at a result with the unemployment interaction reported above, but could not get further in this data. Lowry, Alt and Ferree (1998) showed that electoral accountability was lower in elections following divided government, as economic outcomes were more difficult to attribute to either branch of government. Future extensions of that work will investigate whether fiscal transparency also assists voters in assigning responsibility and thereby strengthens electoral accountability.

Appendix

Data and Sources

	Source
Fiscal transparency index	Constructed from NASBO (1995, 1999) and NCOSL (1998)
Real per capita income	Statistical Abstract of the United States
Population	Statistical Abstract of the United States
State Unemployment	Statistical Abstract of the United States
Regional CPI	Statistical Abstract of the United States
Government ideology index	Berry et al. (1998)
Spending/revenue limitations	Poterba and Reuben (1999), Table 8.1
Balanced budget stringency	Poterba and Reuben (1999), Table 8.1
Divided government	Council of State Governments, *Book of the States*
Initiative rights	Tolbert et al. (1998)
Term limits	Besley and Case (1995) and http://www.termlimits.org
Av. no. of initiatives since adoption	Tolbert et al. (1998)
Initiative signature thresholds	Tolbert et al. (1998)
Progressive tradition	Gillespie (1993), Appendix 5

The fifteen "Southern" states in our analysis include: AL, AR, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, and WV.

Statutory initiative states include:[11] AK, AZ, AR, CA, CO, FL, ID, IL, ME, MA, MI, MO, MT, NE, NV, ND, OH, OK, OR, SD, UT, WA, and WY.

Statutory gubernatorial term limit states include: AL, AK, DE, FL, GA, HI, IN, KS, KY, LA, ME, MD, MS, MO, NE, NV, NJ, NM, NC, OH, OK, OR, PA, SC, SD, TN, VA, and WV.

Endnotes

[1] See Alesina and Perotti (1996, 1999), Poterba and von Hagen (1999), Tanzi and Schuknecht (2000), and World Bank (2000).

[2] Discussion of the (empirical) significance of transparency has emphasized cross-national differences. We focus on the sub-national level, where the US states provide a natural testing ground for these issues, with broadly similar political structures and cultures and a large degree of variation in political and fiscal institutions.

[3] Daunton (1998) also attributes the successful creation of legitimacy and trust in the state in Britain after the Napoleonic wars in part to the creation of annual, transparent budgets in which "it was clear to the public and taxpayers where money came from and where it was going." (p. 112). Lassen (2000), using a broad index measure of political accountability, finds that the scale of government increases in this index on a cross-country sample of democratic countries.

[4] For an argument along similar lines, see Roemer (1998).

[5] Donovan and Bowler (1998) find that initiative states have significantly higher debt than non-initiative states.

[6] For comparative purposes, there also exist (self-reported) measures of fiscal transparency for OECD countries. See Alt, Lassen and Skilling (2000) for an analysis of the effect on fiscal balance. Additionally, the IMF Fiscal Transparency Project has collected data from all of its members on their financial reporting practices. As far as we know this is not (yet) publicly available.

[7] For consistency reasons, we omit Alaska and Hawaii. Including them strengthens the results. We also tried omitting New Hampshire, Rhode Island and Vermont, as they have two-year gubernatorial terms; the results remained unchanged.

[8] Besley and Case (1995) demonstrate that policy outcomes differ depending on whether the incumbent governor is term limited or not. We did not consider whether the governors in our sample were actually term limited, but only whether a state had statutory term limits or not. See the Appendix for a list of term limit states.

[9] We estimated the regression equation set out above, instrumenting the scale of government by the government ideology measure from Berry et al. (1998) found to be significant in the scale of government regressions above. We used (robust) 2SLS and found estimates and levels of significance to be unchanged for transparency, initiatives and spending and revenue limits.

[10] We gratefully acknowledge Richard Boylan and Cheryl Long for providing us access to "A Survey of State House Reporters' Perception of Public Corruption", available at http://economics.wustl.edu/~long/ .

[11] Mississippi adopted the initiative in 1992, but had not yet used it in 1995 (Tolbert et al, 1998). Therefore, we have coded Mississippi a non-initiative state.

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Figure 1: Fiscal Transparency in the U.S.

Table 1

Frequency of State-Level Transparency Items

Measure	Number of states
GAAP	17
Multi-year expenditure forecast	30
Frequency of budget cycle	26
Binding revenue estimates	25
Responsibility for revenue forecast	32
Single appropriation bill	18
Non-partisan drafting	15
Open-ended appropriations	24
Performance reporting	35

Source of data: National Association of State Budget Offices (1995, 1999) and National

Conference of State Legislatures (1998)

Table 2

Regression Results for Scale of Government and Transparency

	Dependent variable			
	Nominal per capita general spending	Nominal per capita general revenue	Nominal per capita total spending	Real per capita total spending
Fiscal transparency index	76.428** (31.49)	78.802** (38.70)	97.264*** (35.11)	51.554** (23.67)
Real per capita income	-0.015 (0.026)	-0.016 (0.028)	0.004 (0.034)	-0.013 (0.018)
Unemployment	12.552 (37.58)	23.919 (40.13)	54.852 (43.25)	-1.898 (25.31)
Government ideology index	10.862*** (2.374)	10.924*** (2.388)	13.743*** (2.917)	6.378*** (1.678)
Southern state dummy	-499.223*** (105.8)	-509.850*** (110.7)	-608.024*** (123.4)	-304.768*** (75.34)
Spending/revenue limitation	-98.158 (139.2)	-278.873* (161.3)	.305 (152.0)	-87.409 (87.3)
Constant	1915.079*** (427.9)	1892.740*** (452.8)	1493.449*** (357.3)	1356.067*** (283.9)
R^2	0.49	0.45	0.56	0.43
N	48	48	48	48

Note: Computed using STATA 6.0. Robust standard errors are in parentheses. Coefficients

statistically significant at the 99% level are denoted ***, at 95% by **, and at 90% by *.

Table 3

Regression Results for Popularity and Transparency

	Dependent Variable: Positive Job Approval Ratings			
Fiscal transparency index	1.552** (0.764)			3.380*** (1.014)
Initiative rights		3.278 (2.74)		
Spending limits			5.313* (3.118)	
Revenue limits			6.845** (2.849)	
Growth in real per capita income	6.136*** (2.366)	8.214*** (2.688)	8.559*** (2.564)	6.133*** (2.037)
Unemployment	-5.474*** (0.993)	-5.259*** (0.888)	-6.063*** (0.882)	-4.675*** (0.955)
Unemployment times transparency				-1.373*** (0.526)
Regional inflation	-0.725 (0.443)	-0.552 (0.403)	-0.768** (0.345)	-0.643* (0.374)
Real per capita income (level)	-0.003*** (0.0007)	-0.003*** (0.0007)	-0.003*** (0.0007)	-0.003*** (0.0006)
Real government spending per capita	-0.011** (0.005)	-0.006 (0.005)	-0.005 (0.004)	-0.009** (0.004)
Southern state dummy	-2.902 (4.112)	-0.051 (3.905)	-1.200 (3.552)	-3.984 (3.991)
Divided government	5.167 (3.592)	4.725 (4.153)	3.417 (4.154)	5.588 (3.452)
Term limits	-5.180** (2.557)	-4.945 (2.997)	-4.608 (2.819)	-5.180** (-2.026)
Balanced budget strictness	-1.383*** (0.369)	-1.068** (0.418)	-1.361*** (0.456)	-1.717*** (.400)
Budget surplus (lagged)	0.036** (0.015)	0.034** (0.016)	0.043** (0.017)	0.033** (0.014)
Constant	228.391*** (58.61)	190.122*** (53.14)	233.667*** (42.29)	214.446*** (49.96)
R^2	0.62	0.59	0.64	0.67
N	48	48	48	48

Note: Computed using STATA 6.0. Robust standard errors are in parentheses. Coefficients

statistically significant at the 99% level are denoted ***, at 95% by **, and at 90% by *.

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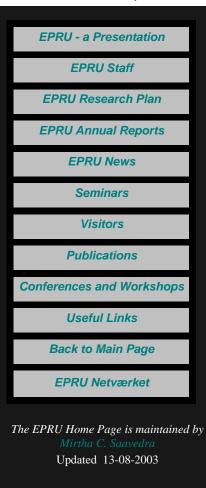

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Visitors

Publications

Conferences and Workshops

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Back to Main Page

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