

**Should SOX Apply to Cities?**  
**Determinants and Consequences of Municipal Audit Committees**

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## **Abstract**

We investigate factors associated with the presence of municipal audit committees. The analysis considers some unique features of local government. In particular, we investigate how statutory provisions – specifically, initiative, referendum, and recall – and political competition influence incentives to establish audit committees. Results are generally consistent with arguments that municipal governments establish audit committees in deference to contracting arrangements created in response to resource demands, state-imposed or municipal charter provisions that influence the ability of direct voter participation in the governance process, and the level of political competition. To evaluate the consequences of municipal audit committees, we also investigate associations between audit committees and indicators of financial reporting and disclosure quality. These investigations indicate that municipalities with audit committees have higher quality disclosure, provide more detailed disclosures of accounting restatements, and experience fewer incidences of internal control exceptions than municipalities without audit committees.

## **Should SOX Apply to Cities? Determinants and Consequences of Municipal Audit Committees**

### **I. Introduction**

Recent corporate failures have raised interest in the link between corporate governance characteristics and financial reporting quality and caused changes in governance requirements intended to reduce the likelihood of misleading financial reporting. One change precipitated by these reporting failures is the modification of audit committee requirements through enactment of the Blue Ribbon Committee (BRC 1999), revised SEC rules (SEC 1999), and the Sarbanes-Oxley Act (2002).

Concern about governance is not confined to corporations, however, as the governmental sector has recently experienced incidents of financial reporting failure that prompted calls for similar reforms. For example, the city of San Diego recently failed to disclose a \$1.1 billion pension plan deficit in 2004 along with significant related accounting errors (Solomon 2005). In response to subsequent citizen demands for accountability over financial reporting, San Diego voluntarily formed a municipal audit committee to investigate and prevent future accounting and disclosure problems. Following the lead of the corporate sector, the Government Finance Officers Association (GFOA) recently recommended that municipalities form audit committees to enhance the credibility of financial reporting by state and local governments (GFOA 1997; 2006).

The importance of monitoring mechanisms over financial reporting is well-documented in the private sector context (Dechow, Sloan, and Sweeny 1996; McMullen and Raghunandan 1996; Shleifer and Vishny 1997). In many of these studies, audit committees are presumed to be particularly important in the oversight of the financial reporting process. For example, the evidence is that firms committing fraud are less likely to have audit

committees (Dechow, Sloan and Sweeny 1996; Uzun, Szewczyk and Verma 2004). Notwithstanding the extent of investigation in the private sector context, relatively little empirical research considers the role of audit committees in the governmental area. Given that municipalities use governmental financial information to make decisions that impact citizens, such as determining budgets and setting tax rates (Baber, Gore, Rich and Zhang 2006), studying governance mechanisms designed to facilitate quality disclosure has a compelling public policy motive. Further, the political nature of the governmental setting renders it unique from both the corporate and nonprofit sectors, such that *ex ante*, the determinants and implications of municipal audit committees are not obvious. Our paper fills this void by investigating associations between monitoring mechanisms in municipal governments (cities and towns) and contracting between municipal managers and various constituents, including taxpayers, voters, lenders, and other governmental entities. Specifically, we examine factors associated with municipal audit committee formation, and then investigate whether audit committees are associated with measures of financial reporting quality.

Prior studies typically use agency theory to develop and test hypotheses about the role and efficacy of corporate governance (for a review, see Baber, Kang and Liang 2006). Given the unique characteristics of governmental organizations, the standard principal-agent framework must be modified (Vermeer, Raghunandan, and Forgione 2006). For example, municipal officials typically face election at regular intervals, and therefore, the discipline imposed by political markets – that is, the threat of “takeover” – is likely greater for managers of governmental enterprise than for publicly-traded firms. Thus, we investigate the

level of political competition as a factor that potentially explains the likelihood that a municipality establishes an audit committee.

Because we lack an established theory about how governance mechanisms such as audit committees contribute to efficient contracting in the governmental setting, we are frequently unable to offer definitive predictions about empirical associations between audit committees and characteristics of municipal governments. More specifically, some perspectives imply direct, while others indicate inverse, associations between audit committees and municipal characteristics. We cannot confidently distinguish among competing perspectives, and therefore, we view the study as an exploratory empirical exercise designed to inform thinking about the potential costs and benefits of municipal audit committees.

The results indicate statistically significant cross-sectional correlations between funding sources and whether the municipality has an audit committee. Specifically, we find that the probability that a municipality has an audit committee varies directly with long-term debt per capita and inversely with funding received by other governmental organizations. We also find statistically significant associations between audit committees and external governance mechanisms. In particular, a measure of inter-party political competition varies inversely with the likelihood of having audit committees. Moreover, municipalities without statutory provisions that reduce the cost of direct voter participation – as examples, initiative, referendum, and recall provisions – are less likely to have audit committees. Such results are generally consistent with the management entrenchment characterization often advanced to describe corporate enterprises. That is, municipal managers are more entrenched when voters lack the ability to intervene in the governance process between elections, and therefore,

managers lack incentives to create audit committees that potentially restrict their behavior or activities. Finally, we find that municipalities that engage internationally known (Big 4) auditors are more likely to have audit committees. This result suggests a complementary, rather than a compensatory, relationship between audit committees and the use of Big 4 audit firms.

We also consider associations between municipal audit committees and financial reporting quality. These analyses suggest a positive association between the presence of audit committees and comprehensive financial disclosure. More specifically, municipalities with audit committees are more likely to have high levels of voluntary disclosure and provide transparent restatement disclosures. Furthermore, we find a negative association between the presence of audit committees and internal control reportable conditions disclosed by auditors, which suggests that municipalities with audit committees have relatively stronger internal control systems. Cross-sectional associations can indicate the influence of omitted variables, and therefore, we cannot confidently conclude that audit committees promote financial reporting or internal control quality. Even so, these results should interest regulators given recent GFOA recommendations regarding the importance of municipal audit committee formation and composition (GFOA 2006).

The remainder of the paper proceeds as follows. Hypotheses are developed and presented in section II. Section III describes data and methodology. Results for analysis of factors correlated with the probability of municipal audit committees are in section IV. Section V considers associations between audit committees and municipal financial reporting quality. Finally, section VI offers concluding remarks.

## **II. Municipal Audit Committee Background and Determinants**

### **Background**

Beginning in 1997, the GFOA recommended that every government establish an audit committee, in part to enhance the credibility of financial reporting by state and local governments. In 2002, and again in 2006, the GFOA expanded and refined these recommendations to be more consistent with those issued for the corporate sector. As examples, consistent with the private sector, the GFOA suggests that audit committees should be comprised of at least three individuals independent of management who possess basic financial knowledge. Several recommendations differ from those of the corporate sector, however, in part attributable to the unique nature of governments. For example, although the GFOA recommends that a majority of audit committee members should be outside of management, the GFOA also recommends that the audit committee should include at least one representative from the executive and legislative branches of government (GFOA 2006).

Consistent with GFOA recommendations (GFOA 2006), we presume that, at a minimum, audit committees monitor the financial reporting process and compliance with established policies and procedures, oversee the internal control system, and engage external auditors to perform governmental audits. As such, we focus our analysis of the determinants of audit committees on the demand for oversight of financial reporting and auditing.

### **Determinants of Municipal Audit Committees**

#### Debt

The agency costs of debt create demand for monitoring (Jensen and Meckling 1976). If audit committees provide monitoring that mitigates opportunistic behavior by management,

then potential lenders require lower returns from municipal borrowers with audit committees. Municipal borrowers therefore have incentives to establish audit committees to reduce the costs of debt financing. Following Vermeer, Raghunandan, and Forgiione (2006) who consider associations between audit committees and debt in the not-for-profit context, we posit that long-term debt is positively associated with the presence of audit committees.

### Taxes

Unlike for-profit entities, municipalities lack shareholders in the usual sense. Taxpayers, who finance municipalities, are comparable to the shareholders who provide capital in the for-profit context, but transaction costs in political markets – that is, the costs of purchasing and selling real estate – are high relative to transaction costs in capital markets (Zimmerman 1977). Therefore, voters who face potentially opportunistic behavior by governmental agents are less able than shareholders in corporate firms to price-protect themselves by selling their stake in a municipal enterprise. Hence, taxpayers have greater incentives than shareholders to protect their investments through direct participation in the governance process; for example, by monitoring municipal officials and activities. If so, then we anticipate a positive association between the probability of a municipal audit committee and the per capita tax burden.

### Statutory provisions

Statutory provisions can facilitate direct participation in the municipal governance process. In particular, regular elections are obvious mechanisms for citizen participation, but municipal charters and/or state laws commonly provide three mechanisms beyond elections for citizens to participate directly in municipal government. The first such provision, *Initiative*, permits citizens to place charter, ordinance, or home rule changes on the ballot

through petition. Second, popular *Referendum* allows citizens to petition to place on the ballot charter, ordinance, or home rule changes advanced by the local government before the change can take effect. Third, *Recall* allows citizens to place a question on the ballot about whether an elected official should be removed from office before the expiration of his/her term.

Not all of these provisions are available in each municipality, however. Moreover, whether these provisions increase or decrease the demand for monitoring provided by audit committees – that is, whether such provisions and audit committees function as substitutes or complements – is not straightforward. For example, direct citizen participation and active citizen oversight may reduce the need for an audit committee. On the other hand, the threat of direct participation can induce municipalities to respond to demands for accountability by establishing an audit committee. We therefore offer no directional prediction of the relation between the presence of municipal audit committees and initiative, referendum, or recall provisions.

### Intergovernmental Revenue

Funding from federal and state agencies frequently requires greater internal control and reporting requirements (Vermeer, Raghunandan, and Forgione 2006). Governmental entities that provide such funding to municipalities have incentives, and in some cases, legal responsibilities to monitor municipalities that receive such funds. For example, the Single Audit Act of 1984 requires audited financial statements for municipalities receiving federal funding in excess of \$500,000. Again, the direction of the association is unclear. That is, we are uncertain about whether monitoring by entities that provide municipal funding decreases the demand for monitoring by audit committees, or whether audit committees reduce the cost

of contracting between municipalities and the transferring governmental entity. The first of these characterizations suggests a positive association between audit committees and intergovernmental funds, whereas the second characterization suggests an inverse association.

### Size

If internal control systems for small municipalities are weaker than for large municipalities, and if municipal internal control processes act as in-house monitoring mechanisms, then large municipalities require less monitoring of their reporting systems through alternative means (see O'Reilly et al. 1998; Klein 2002, for the private sector). If this characterization applies, then we anticipate that the demand for an audit committee and municipal size vary inversely. On the other hand, the demand for monitoring can increase with organization size since larger organizations are more complex (Vermeer, Raghundandan and Forgione 2006). Thus, the association between audit committee and municipal size is not obvious.

### Big Four Audit Firms

The association between audit committees and the size of the independent auditor is also not straightforward. The prevailing view is that large (Big 4) audit firms differ systematically from non-Big 4 audit firms (Simunic 1980; Defond 1992; Becker, Defond, Jiambalvo, and Subramanyam 1998; Francis, Maydew, and Sparks 1999). The typical argument is that large national audit firms offer higher-quality audits (DeAngelo 1981; Palmrose 1988). Consistent with this characterization, Francis, Maydew and Sparks (1999) find that companies audited by large national audit firms demonstrate less evidence of earnings management in the form of lower discretionary accruals than do companies audited by smaller audit firms.

Current literature provides no clear link between the presence of audit committees and whether the organization engages a large or small auditor, however. Some studies suggest a positive association, since high-quality auditors may demand the establishment of audit committees in order to follow best practices. For example, following the discovery of financial reporting failure, San Diego's Big 4 auditors requested that an audit committee be appointed to oversee the investigation (Solomon 2005). Further, Eichenseher and Shields (1985) find that the presence of an audit committee is positively associated with the selection of a large auditor. On the other hand, monitoring mechanisms can be viewed as substitutes, rather than complements (DeFond and Francis 2005).

Moreover, arguments and evidence advanced in some studies suggest differences between the private and governmental sectors, as governmental audits can require specialized knowledge and skills (Raman and Wilson 1994). We therefore make no prediction of the relation between the presence of municipal audit committees and whether the municipality engages a Big 4 auditor.

#### Council size

Analyses of publicly-traded companies indicate that the board of directors plays an important role in monitoring management's activities (Fama 1980; Fama and Jensen 1983). Anecdotal evidence suggests that larger boards are more likely to create sub-committees -- audit committees, in particular -- to more effectively perform the monitoring function. Municipal councils are analogous to boards of directors for publicly-traded companies. Since evidence regarding board size is conflicting, we cannot confidently predict a directional association between council size and the existence of municipal audit committees.

### Council meetings

Prior studies such as Vafeas (1999) examine the association between the frequency of board meetings and corporate performance. The underlying premise is that boards that meet frequently are more effective (Lipton and Lorsch 1992; Byrne 1996). Thus, more effective boards may be more likely to form audit committees. On the other hand, Jensen (1993) suggests that board meetings may not be a measure of board effectiveness, because important and complex issues cannot be addressed in limited time periods. We therefore make no prediction of the relation between the number of council meetings and the presence of municipal audit committees.

### GAAP Accounting Practices

Generally Accepted Accounting Principles (GAAP) are one of many control mechanisms that the states can impose on municipalities. GAAP requirements can increase citizen involvement by providing more transparent disclosure. Baber and Gore (2006) find that municipal debt costs are lower by 15 basis points for municipalities in states that require GAAP than for municipalities in states with unregulated disclosure. Even so, whether GAAP accounting and audit committees function as substitutes or complements is not obvious. More specifically, the GAAP requirement may offer sufficient financial accounting discipline and reporting transparency such that the marginal benefits of forming a municipal audit committee are lower than when the GAAP requirement is not in place. On the other hand, GAAP accounting may require oversight beyond what is required for other accounting models. If so, then GAAP accounting increases the demand for municipal audit committees. We therefore make no prediction of the relation between state requirements to use GAAP accounting and the presence of municipal audit committees.

## Political Competition

In contrast to their private sector counterparts, municipal officials face competitive elections at regular intervals. Incumbents with competitors in elections have greater incentives to consider voter preferences for oversight provided by audit committees, which suggests a positive relation between audit committee presence and political competition. On the other hand, competing candidates may provide a substitute for monitoring otherwise provided by audit committees, leading to an inverse relation. Thus, as with our other measures, whether political competition increases the demand or reduces the incremental benefit of audit committees – that is, whether political competition and audit committees function as substitutes or compliments – is unclear.

### **III. Data and Methodology**

Financial data are from the 2002 Census of Governments ([www.census.gov](http://www.census.gov)); comprehensive annual financial reports (CAFRs) are obtained from municipalities for fiscal years ended between July 1, 2001 and June 30, 2002. Governance data are from the International City/County Management Association (ICMA)'s 2001 Municipal Form of Government survey. A total of 4,244 observations comprise the ICMA database. Merging the two databases and deleting observations with population less than 50,000 for consistency in financial reporting yield a sample of 365 municipalities.

Audit committee data are obtained through a survey request to the 365 cities and towns. Non-responding municipalities are contacted by follow-up telephone and/or mail requests. We obtain audit committee information for 255 municipalities (70%), with 59, or 23% of the sample maintaining audit committees<sup>1</sup>. Finally, data used to compute political

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<sup>1</sup> To test for non-response bias we use a methodology employed in prior literature (Oppenheim 1966; Dykxhoom and Sinning 1981) and assume that late respondents are similar to non-respondents. We compared

competition measures are from The Inter-University Consortium for Political and Social Research (ICPSR).

Our audit committee determinants model is as follows.

$$\begin{aligned}
 \text{AuditCommittee}_i = & \alpha_0 + \alpha_1 \text{Size} + \alpha_2 \text{GAAP}_{it} + \alpha_3 \text{Debt per capita}_{it} + \alpha_4 \text{Taxes per} \\
 & \text{capita} + \alpha_5 \text{Intergovernmental revenue} + \alpha_6 \text{Big4} + \alpha_7 \text{Council size} + \alpha_8 \text{Council} \\
 & \text{meetings} + \alpha_9 \text{No provision} + \alpha_{10} \text{All provisions} + \alpha_{11} \text{Party competition} + \varepsilon_i.
 \end{aligned}
 \tag{1}$$

Following prior literature (e.g., Baber and Gore 2006), we use the natural log of population to consider municipal size. We calculate the per capita amounts for long-term debt, tax revenue, and intergovernmental revenue to measure external funding sources. Similar to Berger, Ofek and Yermack (1997), we use the natural log of the number of council members to consider council size. To consider statutory provisions, we set the indicator variable *No provision* equal to 1 if the municipality has neither initiative, referendum, nor recall provisions (0, otherwise), and the indicator variable *All provisions* equal to 1 if the municipality has all of the provisions (0, otherwise). Municipalities with some, but not all, provisions are set equal to zero for both indicator variables.

Panel A of Table 1 displays quantitative measures for the sample of 255 municipalities. The mean (median) population is 170,455 (94,996). Means (medians) are 237,812 (113,288) for municipalities with audit committees and 150,179 (89,852) for municipalities without audit committees. The Wilcoxon's Z-score indicates that the difference in size is statistically significant, although the t-statistic is not significant. Mean

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the rate of audit committee existence for early (26%) and late (20%) responders and noted a statistically significant difference (t-statistic = 2.14). We recognize the potential impact on our results and intend to include robustness checks in subsequent drafts of the paper.

(median) long-term debt per capita is 1.77 (1.38) for the 255 municipalities in our sample – 2.04 (1.66) for municipalities with an audit committee, and 1.69 (1.23) for municipalities without an audit committee. Again, the nonparametric, but not the parametric, comparison is statistically significant.

Panel B of Table 1 presents sample statistics for the indicator variables. Observe that 28.63% of the sample municipalities have state-mandated GAAP accounting. For the municipalities with audit committees, 18.64% require GAAP, while 31.63% require GAAP for municipalities without audit committees. This difference is significant statistically (Chi-Square = 3.74;  $p < 0.05$ ). For municipalities with (without) audit committees, 40.68% (18.88%) use a Big 4 auditor. Again, the difference is statistically significant (Chi-Square = 11.84;  $p < 0.05$ ).

Finally, following Carpenter (1991), we measure political competition as the vote share received by the losing candidate at the state level. This measure varies directly with political competition at the state level. We lack the requisite data for fifty of the 255 municipalities in the sample, and therefore, investigations of the role of political competition use 205 observations.<sup>2</sup> Mean (median) political competition is 0.369 (0.393) for the 155 municipalities without audit committees and 0.309 (0.330) for the 50 observations with audit committees. The difference in competition measures is statistically significant ( $t = 2.96$ ;  $p < 0.005$ ).

#### **IV. Results**

Table 2 presents multivariate logit specifications of the likelihood that a municipality has an audit committee. Note that models designated M1 and M2 are parametric specifications, while models designated Rank1 and Rank2 use ranked regressions for

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<sup>2</sup> The role of political competition will be more comprehensively addressed in later versions of the manuscript.

continuous independent variables. For model M1, we find that *GAAP*, *Intergovernmental revenue*, *Big 4*, and *No provision* are all significantly associated with the likelihood of a municipal audit committee. *Big 4* has a significantly positive coefficient of 1.105, indicating the presence of a national auditor is positively associated with the likelihood of municipal audit committees, similar to findings in Eichenseher and Shields (1985) and Vermeer et al. (2006). The estimate for *GAAP* is negative and significant, indicating an inverse relationship between state-mandated GAAP accounting and the likelihood of municipal audit committees. This indicates that municipal audit committees substitute for monitoring achieved through mandated GAAP accounting.

Considering associations between provisions that facilitate direct voter participation, we find a negative and statistically significant estimate for *No provision*, but the estimate on *All provisions* is not statistically significant. One interpretation of this result is that the ability of citizens to influence the political process directly encourages demand for monitoring provided by municipal audit committees. Finally, the negative estimate on Intergovernmental revenue per capita suggests that monitoring imposed by other governments substitutes for monitoring provided by audit committees.

Model M2 shows the results after including the level of political competition. Recall that the specification is estimated using 205 observations because we lack the data required to compute the competition measure for 50 observations. The estimate for *Party competition* is significant and negative, consistent with external competition serving as a substitute for internal governance mechanisms such as audit committees. This result contradicts the notion that political competition increases the demand for monitoring provided by audit committees.

Similar to Model M1, *Intergovernmental revenue* is negative and significant and *Big 4* is positive and significant.

Our sample is relatively small, and therefore, we use ranked variables in the models Rank1 and Rank2 to consider the possibility that results are attributable to influential observations. Model Rank1 displays results for a logistic regression using all of the observations in our sample. Similar to M1, *Intergovernmental revenue*, *Big 4*, and *No provision* are statistically significant. In contrast to M1, *GAAP* is no longer significant, while *Debt per capita* is positive and statistically significant, the latter of which implies that long-term debt increases the demand for municipal audit committees.

Model Rank2 shows the results with the political competition measure. Similar to Model M2, *Party competition* is negative and significant. We find that *Debt per capita* and *Big 4* are significantly positive, while *Intergovernmental revenue* is significantly negative. Overall, Table 2 provides evidence that differences in funding sources and levels of political competition drive differences in the demand for an audit committee.

## **V. Consequences of Municipal Audit Committees**

Next we consider associations between municipal audit committees and measures of financial reporting and internal control quality. Literature in the corporate sector identifies financial reporting and internal control oversight as important responsibilities of audit committees (e.g., Huron Consulting Group 2006; Gore, Matsunaga and Yeung 2006).

### **Disclosure Quality**

Wild (1996) provides evidence suggesting that forming audit committees increases earnings response coefficients in the short window around earnings announcements. Furthermore, McMullen (1996) finds a negative association between firms with audit

committees and errors, litigation, and other financial reporting problems, consistent with a direct relation between audit committees and financial reporting quality. One interpretation of these results is that audit committees – or factors associated with audit committee formation – promote higher-quality financial reporting which helps reduce information asymmetry and alleviate agency costs between owners and managers.

If municipal audit committees are similarly responsible for overseeing financial reporting, then we expect direct associations between municipal disclosure quality and the presence of audit committees. We extend our time frame to consider the four-year window between 2001 and 2004 and use the following logit specification model to investigate such associations.

$$COE_{it} = \alpha_0 + \alpha_1 Audit\ Committee + \alpha_2 Size_{it} + \alpha_3 GAAP_{it} + \alpha_4 Unregulated_{it} + \alpha_5 Debt\ per\ capita_{it} + \alpha_6 Council\ manager_{it} + \sum \beta_t YEAR_t, \quad (2)$$

where *COE* is an indicator variable equal to one if the municipality receives the GFOA Certificate of Excellence (COE); *Council-manager* is an indicator variable equal to one if the municipality uses the council-manager form of government; and the remaining variables are as defined previously.

Following prior literature (e.g., Evans and Patton 1983; Baber and Gore 2006), we use the GFOA certificate as a proxy for disclosure quality. The certificate is awarded to state and local governments when annual financial reports both meet and exceed standards established by GAAP. If municipal audit committees are effective stewards over financial reporting quality, then we anticipate positive associations between the presence of audit committees and receipt of the certificate.

We include several control variables previously found associated with municipal disclosure quality. Following Evans and Patton (1987), we include size, measured as the natural logarithm of population, and two indicator variables to represent state disclosure regulation. We include the indicator variable *GAAP*, set equal to one if the municipality is in a GAAP state, and *Unregulated*, which is equal to one if the municipality is in a state with no disclosure regulations, as measured in Baber and Gore (2006). Consistent with Robbins and Austin (1986), we also include debt per capita and the form of government in the analysis. *Debt per capita* is defined as total debt outstanding/total population. *Council-manager* is an indicator variable equal to one if the municipality has the council-manager form of government; and zero, otherwise.

Table 3 presents the results. We find a positive and significant relation between the presence of municipal audit committees and the likelihood of receiving the GFOA certificate of excellence (z-statistic = 2.31). This result is consistent with audit committees providing additional monitoring over financial disclosure quality. However, the result is also consistent with a scenario where the underlying attributes that cause municipalities to create audit committees also encourage high-quality financial disclosure.

To consider this possibility, we extract the inverse Mills ratio (*Lambda*) from the probit specification M1 in Table 2 of the municipal audit committee determinants model, and then include the ratio in the disclosure quality specification. Estimates for this procedure are in Column 2 of Table 3. Observe that the positive estimate for the *Audit committee* variable is robust to this procedure; moreover, the inverse Mills ratio is not statistically significant.

## Disclosure Transparency

Recent statements by the Government Accountability Office (GAO) allege that transparency of governmental financial disclosure is problematic, particularly disclosures involving restatements (GAO 2005). As a consequence, the GAO recently revised Government Auditing Standards (or “Yellow Book” standards) to emphasize transparency and accountability. For example, with respect to restatements, management will be required to disclose the nature and cause of the misstatement, the specific amount of the misstatement, the line items affected, and the impact on the financial statements as a whole. These standards are effective for periods beginning January 2008. Thus, standards that address governmental restatements are not in effect during the period of this study.

We investigate associations between municipal restatement disclosure transparency and the presence of audit committees using the following logit specification.

$$\begin{aligned} Transparency_{it} = & \alpha_0 + \alpha_1 Audit\ Committee + \alpha_2 Size_{it} + \alpha_3 GAAP_{it} + \alpha_4 Unregulated_{it} + \\ & \alpha_5 Debt\ per\ capita_{it} + \alpha_6 Council\ manager_{it} + \alpha_7 Municipal\ audit\ specialist_{it} \\ & + \sum \beta_t YEAR_t, \end{aligned} \quad (3)$$

where *Transparency* is an indicator variable equal to one if the municipality has a restatement and the related disclosure is transparent, and zero if the municipality has a restatement and the related disclosure is not transparent; *Municipal audit specialist* is an indicator variable set to one if the municipality retains an auditor that specializes in municipal audits; and the remaining variables are as defined previously.

We consider transparency of municipal restatement disclosures by classifying whether the restatement detail disclosed is sufficient for a reasonable financial statement user to determine the accounts and amounts affected. Specifically, following Baber et al. (2006), we review municipal financial reports issued from 2001 – 2004 to identify municipalities that

subsequently restate financial results. We collect a total of 740 financial reports for this analysis through a combination of online searches and requests sent to the municipalities, with 232 disclosing a restatement.<sup>3</sup> An indicator variable is set equal to one if the municipality discloses a restatement with detail sufficient to determine the accounts and amounts affected, and zero, if the municipality discloses a restatement without sufficient detail.

In addition to controlling for variables used in equation (2), following Baber et al. (2006), we also control for whether the municipality uses a municipal audit specialist. Hammersley (2006) provides experimental evidence that industry specialists are more likely to detect complex accounting errors, and further, anecdotal evidence suggests that municipal audit specialists are often directly involved with preparing their client's disclosures.

Table 4 presents the results. Panel A shows the frequency and percentage of the sample that have audit committees and/or restatement disclosure transparency. Panel B of Table 4 displays multivariate regressions of the probability that a municipality has transparent restatement disclosures. Column 1 shows a positive, statistically significant relation between the presence of audit committees and transparent restatement disclosures (z-statistic = 2.26). Column 2 shows that the relation holds after controlling for self-selection (z-statistic = 1.92), but in contrast with the results presented in Table 3, the inverse Mills ratio is marginally significant (z-statistic=1.79). Thus, overall, the evidence is consistent with the proposition that municipal audit committees increase disclosure transparency.

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<sup>3</sup> Note that Baber et al. (2006) investigate municipal restatements, and find no relation between the probability of restatements and the presence of audit committees.

## Internal Control Quality

Evidence in Krishnan (2005) is consistent with the premise that audit committees promote strong internal control systems. If municipal audit committees oversee the internal control environment, then we predict that municipalities with audit committees are less likely to have internal control weaknesses. We use the following logit specification to investigate this relation.

$$\text{Internal control}_{it} = \alpha_0 + \alpha_1 \text{Audit Committee} + \alpha_2 \text{Size}_{it} + \alpha_3 \text{GAAP}_{it} + \alpha_4 \text{Debt per capita}_{it} + \alpha_5 \text{Council-manager}_{it} + \alpha_6 \text{Complexity}_{it} + \sum \beta_t \text{YEAR}_t \quad (4)$$

where *Internal control* is an indicator variable equal to one if the municipality has an internal control weakness, and zero, otherwise. Following Doyle, Ge and McVay (2006), who document a positive association between the probability of internal control weakness and operating complexity, we define *Complexity* as the number of enterprise funds using U. S. Census data (as in Baber et al. 2006); and the remaining variables are as defined previously.

We identify internal control weaknesses by merging our data with the Single Audit database for 2001 – 2004, which contains municipal audit opinions. An indicator variable is set to one if the municipality received an audit opinion that indicates a reportable condition, our measure of internal control weaknesses. Note that a reportable condition is defined as a significant deficiency in the design or operation of internal control that could adversely affect the financial statements.<sup>4</sup>

Table 5 presents the results. Consistent with expectations, the presence of municipal audit committees are negatively associated with internal control weaknesses (z-statistic =

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<sup>4</sup> Note that corporate sector studies traditionally measure internal control problems by whether the firm had a material weakness. The municipal sector Single Audit database indicates that very few municipalities have material weaknesses (5.3%), however. Thus, variation in this measure is insufficient to perform meaningful statistical tests.

-2.21). After controlling for self-selection, we continue to find a significantly negative relation (z-statistic = -1.99). The significantly positive coefficient on the inverse Mills ratio (z-statistic = 2.67) suggests that self-selection is an issue. With respect to control variables, internal control weaknesses are less likely in states that mandate GAAP accounting or for municipalities with the council-manager form of government; while internal control weaknesses are more likely for municipalities with high levels of debt and in states without disclosure regulation. In contrast with results in the corporate sector literature, we find no relation between municipal operational complexity and internal control weaknesses.

## **VI. Conclusion**

The role of audit committees has received increasing public and regulatory interest due to the recent corporate failures and the enactment of Blue Ribbon Committee recommendations (BRC 1999), the Audit Committee Disclosure act (SEC 1999) and the Sarbanes-Oxley Act (2002). Consistent with Vermeer, Raghunandan, and Forgione (2006), we find that differences in funding sources explain differences in the demand for audit committees. Specifically, we find that the likelihood a municipality has an audit committee varies directly with long-term debt per capita and inversely with intergovernmental revenue sources. We also find that political competition varies inversely with the likelihood of audit committee presence. Our results also suggest that municipalities with a Big 4 audit firm are more likely to have audit committees. This result is consistent with the premise that audit committees complement other monitoring mechanisms such as the presence of high-quality auditors.

Finally, we provide evidence that supports the notion that audit committees promote high-quality financial reporting and internal control. In particular, we document positive

associations between audit committees and the receipt of the GFOA certificate of financial reporting excellence, and between audit committees and the quality of restatement disclosures. We also find that municipalities with audit committees have fewer internal control exceptions than municipalities without audit committees.

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**Table 1**  
**Descriptive Statistics for Municipal Audit Committees**

**Panel A: Descriptive Statistics for Continuous Variables**

| Variable                               | Full Sample<br>(n=255) | Audit Committee = 0<br>(n=196) | Audit Committee = 1<br>(n=59) | Statistical Comparisons  |                      |
|--|------------------------|--------------------------------|-------------------------------|--------------------------|----------------------|
|  | Mean<br>(Median)       | Mean<br>(Median)               | Mean<br>(Median)              | T-stat for<br>Difference | Wilcoxon Z-<br>score |
| Size (\$1000s)                         | 170.455<br>(94.996)    | 150.179<br>(89.852)            | 237.813<br>(113.288)          | -1.33<br>(0.187)         | 2.441<br>(0.015)     |
| Debt per capita (\$1000s)              | 1.770<br>(1.376)       | 1.687<br>(1.235)               | 2.044<br>(1.665)              | -1.800<br>(0.074)        | 2.783<br>(0.0054)    |
| Taxes per capita (\$1000s)             | 0.586<br>(0.491)       | 0.568<br>(0.4861)              | 0.643<br>(0.546)              | -1.530<br>(0.128)        | 1.455<br>(0.146)     |
| Intergovernmental revenue<br>(\$1000s) | 0.310<br>(0.186)       | 0.324<br>(0.200)               | 0.266<br>(0.144)              | 0.920<br>(0.361)         | -2.204<br>(0.028)    |
| Council size                           | 7.616<br>(7.000)       | 7.515<br>(7.000)               | 7.950<br>(7.000)              | -0.670<br>(0.508)        | 0.187<br>(0.852)     |
| Council meetings                       | 30.823<br>(24.000)     | 30.184<br>(24.000)             | 32.949<br>(24.000)            | -1.540<br>(0.126)        | 1.561<br>(0.118)     |

t-statistics are adjusted for unequal variances within groups. The sample consists of 255 municipalities for which we were able to obtain detail on audit committee existence. Variable descriptions are: *Size* is the log of population; *Debt per capita* is total debt outstanding/total population; *Taxes per capita* is total taxes/total population; *Intergovernmental revenue* is total intergovernmental revenue/total population; *Council size* is the log of the council size; and *Council meetings* is the number of meetings per year.

**Panel B: Percent of observations with the indicated characteristics**

|                | Total Municipalities<br>(n=255) | Municipalities with<br>Audit Committees<br>(n=59) | Municipalities without<br>Audit Committees<br>(n=196) | Chi-Square<br>Test |
|----------------|---------------------------------|---|---|--------------------|
| GAAP           | 28.63                           | 18.64   | 31.63   | 3.74<br>(0.0530)   |
| Big 4          | 23.92                           | 40.68   | 18.88   | 11.84<br>(0.0006)  |
| Initiative     | 81.18                           | 93.22   | 77.55   | 7.29<br>(0.0069)   |
| Referendum     | 55.29                           | 64.41   | 52.55   | 2.58<br>(0.1083)   |
| Recall         | 72.16                           | 81.36   | 69.39   | 3.23<br>(0.0722)   |
| No provision   | 14.51                           | 5.08  | 17.35   | 5.50<br>(0.0190)   |
| All provisions | 50.20                           | 59.32   | 47.45   | 2.56<br>(0.1098)   |

The sample consists of 255 municipalities for which we were able to obtain detail on audit committee existence. Variable descriptions are: *GAAP* is an indicator variable equal to 1 if the municipality is located in a state that mandates GAAP accounting, and zero otherwise; *Big 4* is an indicator variable equal to one if the municipality retains a Big 4 auditor, and zero otherwise; *Initiative* is an indicator variable equal to 1 if the municipality allows citizens to place charter, ordinance, or home rule changes on the ballot; *Referendum* is an

indicator variable equal to 1 if municipality allows citizens to require that any charter, ordinance, or home rule changes made by the council be placed on the ballot for voter approval; *Recall* is an indicator variable equal to 1 if the municipality allows citizens to place a question on the ballot of whether an elected official should be removed; *No provision* is an indicator variable equal to one if the municipality has neither initiative, referendum, nor recall provisions; and zero, otherwise.

**Table 2**  
**Municipality Audit Committee Determinants**

| <i>Parameters</i>         | <i>Parametric specifications</i> |                   |                   | <i>Rank specifications</i> |                      |
|---------------------------|----------------------------------|-------------------|-------------------|----------------------------|----------------------|
|                           | <i>Predicted Sign</i>            | <i>M1 (n=255)</i> | <i>M2 (n=205)</i> | <i>Rank1 (n=255)</i>       | <i>Rank2 (n=205)</i> |
| Intercept                 | +/-                              | -3.110            | -3.254            | -1.743                     | -0.341               |
|                           |                                  | 1.284             | 1.077             | 8.302                      | 0.164                |
| Size                      | +/-                              | 0.150             | 0.315             | 0.001                      | 0.002                |
|                           |                                  | 0.297             | 0.908             | 0.230                      | 0.324                |
| GAAP                      | +/-                              | -0.751*           | -0.304            | -0.476                     | 0.056                |
|                           |                                  | 3.633             | 0.419             | 1.303                      | 0.012                |
| Debt per capita           | +                                | 1.036             | 0.147             | 0.006**                    | 0.006**              |
|                           |                                  | 0.309             | 0.806             | 4.625                      | 3.713                |
| Taxes per capita          | +                                | 0.700             | 1.009             | 0.001                      | 0.001                |
|                           |                                  | 1.531             | 2.477             | 0.033                      | 0.215                |
| Intergovernmental revenue | +                                | -0.860*           | -1.724***         | -0.006**                   | -0.008***            |
|                           |                                  | 2.704             | 6.539             | 5.579                      | 8.050                |
| Big 4                     | +/-                              | 1.105***          | 0.984**           | 1.037***                   | 0.825*               |
|                           |                                  | 7.908             | 4.254             | 6.865                      | 2.837                |
| Council size              | +/-                              | -0.317            | -0.308            | -0.002                     | -0.001               |
|                           |                                  | 0.293             | 0.186             | 0.673                      | 0.185                |
| Council meetings          | +/-                              | 0.007             | 0.013             | 0.001                      | 0.003                |
|                           |                                  | 0.266             | 0.747             | 0.278                      | 0.814                |
| No provision              | +/-                              | -1.286*           | -1.014            | -1.242*                    | -1.049               |
|                           |                                  | 3.391             | 1.457             | 3.223                      | 1.518                |
| All provisions            | +/-                              | 0.313             | 0.247             | 0.366                      | 0.274                |
|                           |                                  | 0.807             | 0.378             | 1.074                      | 0.458                |
| Party competition         | +/-                              |                   | -5.850***         |                            | -4.565***            |
|                           |                                  |                   | 12.015            |                            | 8.622                |
| Chi-Square                |                                  | 30.634            | 36.548            | 36.064                     | 38.026               |
| (P-value)                 |                                  | (0.001)           | (0.000)           | (<.0001)                   | (<.0001)             |

\*, \*\*, \*\*\* indicate significance at  $p < .10$ ,  $.05$ , and  $01$ ; based on two-tailed tests.

This table presents parameter estimates and related chi-square statistics for a logit specification of the probability that the municipality has an audit committee. Variable descriptions are as follows: *Size* is the log of population; *GAAP* is an indicator variable equal to 1 if the municipality is located in a state that mandates GAAP accounting, and zero otherwise; *Debt per capita* is total debt outstanding/total population; *Taxes per capita* is total taxes/total population; *Intergovernmental revenue* is total intergovernmental revenue/total population; *Big 4* is an indicator variable equal to one if the municipality retains a Big 4 auditor, and zero otherwise; *Council size* is the log of the council size; *Council meetings* is the number of meetings per year; *No provision* is an indicator variable equal to one if the municipality has neither initiative, referendum, nor recall provisions, and zero otherwise; *All provisions* is an indicator variable equal to one if the municipality has all of the provisions; and *Party Competition* is the vote share received by the losing candidate at the state level.

**Table 3**  
**The Relation between Municipal Disclosure Quality and the Presence of Audit Committees**

| <i>Variable</i>       | <i>Model 1</i><br><i>(n=952)</i> | <i>Model 2</i><br><i>(n=878)</i> |
|-----------------------|----------------------------------|----------------------------------|
| Intercept             | -2.17<br>(-0.99)                 | -5.17<br>(-1.84)*                |
| Audit committee       | 0.69<br>(2.31)**                 | 0.68<br>(2.20)**                 |
| Size                  | 0.25<br>(1.30)                   | 0.48<br>(2.16)**                 |
| GAAP                  | 0.08<br>(0.32)                   | -0.12<br>(-0.46)                 |
| Unregulated           | 0.23<br>(0.67)                   | 0.15<br>(0.41)                   |
| Debt per capita       | 0.05<br>(0.43)                   | -0.07<br>(-0.71)                 |
| Council-manager       | 1.72<br>(7.82)***                | 1.97<br>(7.18)***                |
| Lambda                |                                  | 0.31<br>(0.96)                   |
| Year dummies          | Included <sup>2</sup>            | Included <sup>2</sup>            |
| Pseudo R <sup>2</sup> | 0.11                             | 0.13                             |

\*, \*\*, \*\*\* indicate significance at  $p < .10$ ,  $.05$ , and  $01$ ; based on two-tailed tests.

<sup>1</sup>Robust z-statistics are reported in parentheses.

<sup>2</sup>For brevity, the year-specific intercept terms are not reported.

This table shows estimates for a logit model, where the dependent variable is an indicator variable equal to one if the municipality receives the GFOA certificate of excellence, and zero otherwise. Variable descriptions are as follows: *Audit committee* is an indicator variable equal to one if the municipality has an audit committee, and zero otherwise; *Size* is the log of population; *GAAP* is an indicator variable equal to 1 if the municipality is located in a state that mandates GAAP accounting, and zero otherwise; *Unregulated* is an indicator variable equal to one if the municipality is located in a state that has unregulated disclosure; *Debt per capita* is total debt outstanding/total population; *Council-manager* is an indicator variable equal to one if the municipality has the council-manager form of government, and zero otherwise; and *Lambda* is the inverse Mills ratio derived from a first-stage probit specification using the variables contained in Table 2, model M1.

**Table 4**  
**The Relation between Municipal Restatement Transparency and the Presence of Audit Committees**

Panel A. Descriptive statistics for frequency of restatement disclosure transparency and audit committees.

|  | <i>Audit<br/>Committee=0</i> | <i>Audit<br/>committee=1</i> | <i>Total</i>                    |
|--|------------------------------|------------------------------|---------------------------------|
| Low restatement disclosure transparency  | 31<br>(13%)                  | 2<br>(1%)                    | 33<br>(14%)                     |
| High restatement disclosure transparency | 141<br>(61%)                 | 58<br>(25%)                  | 199<br>(86%)                    |
| Total                                    | 172<br>(74%)                 | 60<br>(26%)                  | 232<br>(100%)                   |
|  |                              |                              | Chi-square = 7.87<br>(p= 0.005) |

Restatement frequency = 31% of total sample

Panel B. Multivariate specification.

| <i>Variable</i>            | <i>Model 1<br/>(n=232)</i> | <i>Model 2<br/>(n=222)</i> |
|----------------------------|----------------------------|----------------------------|
| Intercept                  | -3.626<br>(0.70)           | -5.538<br>(1.05)           |
| Audit committee            | 1.779<br>(2.26)**          | 1.520<br>(1.92)*           |
| Size                       | 0.401<br>(0.91)            | 0.717<br>(1.54)            |
| GAAP                       | 0.358<br>(0.72)            | 0.610<br>(1.10)            |
| Debt per capita            | 0.161<br>(1.02)            | 0.225<br>(1.30)            |
| Council-manager            | -0.015<br>(0.03)           | -0.547<br>(1.04)           |
| Municipal audit specialist | -0.165<br>(0.41)           | -0.142<br>(0.33)           |
| Lambda                     |                            | -0.976<br>(1.79)*          |
| Year dummies               | Included <sup>2</sup>      | Included <sup>2</sup>      |
| Pseudo R <sup>2</sup>      | 0.08                       | 0.12                       |

\*, \*\*, \*\*\* indicate significance at p < .10, .05, and .01; based on two-tailed tests.

<sup>1</sup>Robust z-statistics are reported in parentheses.

<sup>2</sup>For brevity, the year-specific intercept terms are not reported.

This table presents estimates for a logit model, where the dependent variable is an indicator variable equal to one if the municipality discloses a restatement with detail sufficient to determine the accounts and amounts affected, and 0 if the municipality discloses a restatement *without* detail sufficient to determine the accounts and

amounts affected. Variable descriptions are as follows: *Audit committee* is an indicator variable equal to one if the municipality has an audit committee, and zero otherwise; *Size* is the log of population; *GAAP* is an indicator variable equal to 1 if the municipality is located in a state that mandates GAAP accounting, and zero otherwise; *Unregulated* is an indicator variable equal to one if the municipality is located in a state that has unregulated disclosure; *Debt per capita* is total debt outstanding/total population; *Council-manager* is an indicator variable equal to one if the municipality has the council-manager form of government, and zero otherwise; and *Lambda* is the inverse Mills ratio derived from a first-stage probit specification using the variables contained in Table 2, model M1.

**Table 5**  
**The Relation between Municipal Internal Control Weaknesses and the Presence of Audit Committees**

| <i>Variable</i>       | <i>Model 1</i><br><i>(n=740)</i> | <i>Model 2</i><br><i>(n=685)</i> |
|-----------------------|----------------------------------|----------------------------------|
| Intercept             | -0.13<br>(-0.07)                 | -2.65<br>(-1.03)                 |
| Audit committee       | -0.60<br>(-2.21)**               | -0.58<br>(-1.99)*                |
| Size                  | -0.11<br>(-0.70)                 | -0.01<br>(-0.07)                 |
| GAAP                  | -0.29<br>(-0.99)                 | -0.69<br>(-2.14)***              |
| Unregulated           | 1.20<br>(4.48)***                | 1.14<br>(3.85)***                |
| Debt per capita       | 0.29<br>(4.13)***                | 0.25<br>(3.17)***                |
| Council-manager       | -1.53<br>(-6.03)***              | -1.48<br>(-5.47)***              |
| Complexity            | -0.02<br>(-0.19)                 | 0.09<br>(0.87)                   |
| Lambda                |                                  | 0.73<br>(2.67)***                |
| Year dummies          | Included <sup>2</sup>            | Included <sup>2</sup>            |
| Pseudo R <sup>2</sup> | 0.14                             | 0.16                             |

\*, \*\*, \*\*\* indicate significance at  $p < .10$ ,  $.05$ , and  $01$ ; based on two-tailed tests.

<sup>1</sup>Robust z-statistics are reported in parentheses.

<sup>2</sup>For brevity, the year-specific intercept terms are not reported.

This table presents estimates for a logit model, where the dependent variable is an indicator variable equal to one if the municipality has an internal control reportable condition, and zero otherwise. Variable descriptions are as follows: *Audit committee* is an indicator variable equal to one if the municipality has an audit committee, and zero otherwise; *Size* is the log of population; *GAAP* is an indicator variable equal to 1 if the municipality is located in a state that mandates GAAP accounting, and zero otherwise; *Debt per capita* is total debt outstanding/total population; *Unregulated* is an indicator variable equal to one if the municipality is located in a state that has unregulated disclosure; *Council-manager* is an indicator variable equal to one if the municipality has the council-manager form of government, and zero otherwise; *Complexity* is a count variable equal to the number of enterprise funds; and *Lambda* is the inverse Mills ratio derived from a first-stage probit specification using the variables contained in Table 2, model M1.

## Appendix: Pearson Correlations

|                      | AC                | Population        | GAAP              | Debt per capita   | Taxes per capita  | Inter-gov per capita | Big 4              | Council size      | Council meetings  | No provision      | All provisions   | Party competition |
|----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------------|--------------------|-------------------|-------------------|-------------------|------------------|-------------------|
| Population           | 0.125<br>(0.047)  | 1.000             |                   |                   |                   |                      |                    |                   |                   |                   |                  |                   |
| GAAP                 | -0.121<br>(0.053) | -0.059<br>(0.346) | 1.000             |                   |                   |                      |                    |                   |                   |                   |                  |                   |
| Debt per capita      | 0.102<br>(0.105)  | 0.255<br>(<.001)  | -0.136<br>(0.031) | 1.000             |                   |                      |                    |                   |                   |                   |                  |                   |
| Taxes per capita     | 0.096<br>(0.128)  | 0.086<br>(0.171)  | -0.050<br>(0.425) | 0.300<br>(<.001)  | 1.000             |                      |                    |                   |                   |                   |                  |                   |
| Inter-gov per capita | -0.057<br>(0.361) | 0.100<br>(0.109)  | 0.026<br>(0.680)  | 0.239<br>(0.001)  | 0.426<br>(<.001)  | 1.000                |                    |                   |                   |                   |                  |                   |
| Big 4                | 0.216<br>(0.001)  | 0.254<br>(<.001)  | -0.009<br>(0.881) | 0.173<br>(0.006)  | 0.254<br>(<.001)  | 0.282<br>(<.001)     | 1.000              |                   |                   |                   |                  |                   |
| Council size         | 0.056<br>(0.3700) | 0.359<br>(<.001)  | 0.059<br>(0.348)  | 0.118<br>(0.0600) | 0.247<br>(<.001)  | 0.188<br>(0.003)     | 0.225<br>(0.000)   | 1.000             |                   |                   |                  |                   |
| Council meetings     | 0.096<br>(0.126)  | 0.202<br>(0.001)  | -0.056<br>(0.374) | 0.120<br>(0.055)  | 0.077<br>(0.221)  | 0.042<br>(0.508)     | 0.167<br>(0.008)   | -0.018<br>(0.772) | 1.000             |                   |                  |                   |
| No provision         | -0.147<br>(0.019) | -0.055<br>(0.383) | -0.162<br>(0.009) | 0.120<br>(0.057)  | 0.029<br>(0.646)  | 0.199<br>(0.001)     | -0.022<br>(0.724)  | -0.082<br>(0.194) | -0.022<br>(0.721) | 1.000             |                  |                   |
| All provisions       | 0.100<br>(0.111)  | 0.048<br>(0.441)  | 0.006<br>(0.922)  | -0.094<br>(0.137) | -0.089<br>(0.158) | -0.161<br>(0.010)    | -0.103<br>(0.0997) | -0.101<br>(0.107) | 0.033<br>(0.603)  | -0.414<br>(<.001) | 1.000            |                   |
| Party competition    | -0.233<br>(0.001) | 0.083<br>(0.235)  | 0.031<br>(0.658)  | -0.061<br>(0.387) | -0.021<br>(0.761) | -0.124<br>(0.076)    | -0.067<br>(0.338)  | -0.056<br>(0.429) | 0.041<br>(0.556)  | 0.057<br>(0.417)  | 0.047<br>(0.502) | 1.000             |

p-values shown parenthetically