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Faculty Participation in University Governance and the Effects on University Performance

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Abstract

This paper examines the relationship between faculty participation in university decision making and university performance. Using an aggregated measure of faculty participation, McCormick and Meiners (1988) find that increased faculty control in decision making is associated with lower levels of institutional performance. Building on the existing university governance literature, this paper argues that the optimal level of faculty participation varies by decision type. Disaggregating the data by faculty participation into different decision types produces results that are consistent with this hypothesis. Increased faculty participation may be good or bad; the effects vary by the type of decisions in which faculty participate.

JEL classification: G3, I2, L3

Keywords: Higher education; Organizational Governance

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Faculty Participation in University Governance and the Effects on University Performance

> "The objective of a not-for-profit firm is more complicated than that of many for profit firms, maximizing profits. There is no corresponding simple objective for a not-for-profit firm. For example, a college does not seek to maximize the difference between tuition and costs. Instead it is simultaneously concerned with the welfare of its students, faculty, administrators, alumni, and donors. Many decisions of a college involve the balancing the sometimes conflicting interests of these groups." (Carlton and Perloff (1994), p. 16)

1. Introduction

There is a growing literature that focuses on the role of stakeholders in organizational governance. Several authors have argued that employees have at least a partial residual claimancy status in the firm and therefore have the incentive and right to participate in organizational decision making (e.g. Blair (1995) and Milgrom and Roberts (1992)). Universities and other non-profit organizations provide fertile ground for such analysis; the competing interest groups with competing goals create the need for a system of shared governance and mutual monitoring. The existing literature concerning agency problems and academic production suggests that faculty control over certain types of academic decisions may lead to improved performance. McPherson and Schapiro (1999) provide an overview of this literature and a useful discussion of authority delegation within the university.

In the only empirical study to examine the relationship between faculty participation in decision-making and university performance, McCormick and Meiners (1988) find that university performance suffers as the faculty's control over decision

making increases. They argue that the problems associated with team production make active faculty participation in university governance ineffective. However, they group faculty participation in different types of decisions into a single measure of faculty participation. This paper provides a more detailed analysis of the role of stakeholders, including faculty members, in university governance. The predictions are that faculty participation in certain types of decisions, namely those where faculty may have better incentives and information, will lead to improved performance. The implications of this analysis are then tested using a similar data set to the one used in McCormick and Meiners. The results indicate the effects of faculty participation vary by the type of decisions in which faculty participate . Greater faculty control over decisions concerning academic performance is associated with increased university performance; greater faculty over decisions concerning organizational management is associated with lower levels of university performance.

2. University Governance

2.1 University Decision Making

The primary argument of McCormick and Meiners is that higher quality decisions are made when decision control is concentrated. In their model, the choice is between centralized administrative decision making and collective faculty decision making. McCormick and Meiners acknowledge that faculty members provide valuable assistance and advice to administrators especially in areas concerning faculty evaluation, research programs, and curricula. However, they conclude that the benefits of faculty participation are insufficient to outweigh the costs associated with collective decision making. As a

result, efficient governance requires that faculty members be limited to input but not control over these decisions.

While centralized decision making by administrators avoids the problems associated with collective decision making, it also creates the potential for abuse by administrators. The university's non-profit status ensures that there are no residual claimants to provide the monitoring role normally played by shareholders and no secondary market for ownership or control to constrain managerial behavior. In addition, universities normally have endowments that help insulate administrators from the effects of poor decisions. McCormick and Meiners recognize the agency problem but argue that university boards of trustees effectively monitor university administrators (Fama and Jensen (1983a, 1983b)).

Within the university there are several important stakeholder groups – trustees, administrators, faculty, and students – that have competing interests. This paper argues that the other stakeholders monitor administrators. In addition, efficient organizational governance results in different interest groups maintaining control over different types of decisions. As with McCormick and Meiners, this paper assumes that the upper level administrators are involved in most decisions. The difference is that trustees, faculty members, and students are expected to have some degree of participation in subsets of the broad range of decisions made within the university. However, the efficient level of interest group participation varies across decision type.

Evaluating overall university performance is difficult because of the lack of a well-defined maximand. For the purposes of the analysis, I assume that there is some overall measure of university performance or prestige and that each interest group

benefits from an increase in this performance/prestige. However, none of these groups have a true residual claim on the performance of the institution. Each group attempts to maximize its own well being, which at times may be inconsistent with maximizing the overall performance of the university. The analysis that follows attempts to focus on what each interest group within the university is likely to maximize. Special attention is paid to the role of faculty because the available empirical data speak directly to faculty participation in governance decisions. The optimal university governance system will minimize the overall agency costs.

2.2 University Trustees

Even with a recognizable standard of performance, the effectiveness of corporate boards has been widely questioned. Corporate board members, like university board members, are often busy executives with little time to actively participate in decision making. University boards undoubtedly have similar problems that may be compounded by the lack of a well-defined performance measure. In addition, the available signals of university performance are noisy and administrators may be able to increase current prestige at the expense of future prestige. The lack of competitive market feedback makes it difficult for trustees to evaluate administrative decisions. Finally, the complex and highly specialized nature of academic output makes it even more difficult for university trustees to properly evaluate current administrative decisions in many areas.

As a result of information problems trustees are not likely to participate directly in decisions concerning academic personnel, curriculum, faculty governance, or issues of student life. In addition, the extent to which trustees actually monitor and evaluate these decisions will also be limited because of these same factors.There is also reason to

believe that even well-informed trustees might not be solely interested in maximizing the prestige of the institution. Donors and trustees may attempt to influence existing academic policies or start new academic programs that are important to those individuals but not in the best interest of the university (Brown (1997)).

Trustees are often wealthy individuals that have made large gifts to the institution. In addition, university trustees often have experience evaluating the financial and broader managerial operations of large organizations. As a result trustees are more likely to be comfortable participating in financial decisions and general university administration decisions. Finally, given that many trustees are also alumni of the college or parents of current students, the trustees may also be more informed and feel more comfortable with issues of student life. This does not need to imply that university boards actively manage these functions of the university but that the trustees are at least actively involved in the evaluation, ratification, and performance monitoring of these decisions.

2.3 Faculty Members

There is a growing literature that focuses on the role of employees in organizational governance. Hansmann (1996) points out that both the biggest advantage and the biggest disadvantage of employee ownership springs from employee participation in governance decisions. The advantage is that employees generally have a non-recoverable investment in the success of the firm and better information about the quality of many decisions than would other owners. The disadvantage is that employees may favor decisions that are detrimental to the enterprise if the gains in their employee benefits exceed their losses as owners.

While there are no true owners in the university, Brown argues that the nature of

academic employment contracts make faculty members partial residual claimants to the success of the institution. As a result, the wealth of individual faculty members will be tied to the success of the institution but faculty members have an incentive to enrich themselves at the expense of the institution's success. In addition, faculty members provide an inexpensive source of information concerning the performance of the university and administrators. One expects that university governance decisions are structured so that faculty members will participate more heavily in those activities where their informational advantages and expertise outweigh any malincentive effects.

Faculty members are likely to have better information for decisions concerning curriculum, the creation of new academic programs and general faculty governance decisions than do trustees. As noted above, trustees have less information and may have poorer incentives in regards to these decisions. While faculty members have better information concerning curricular decisions, they may not always have the proper incentives for making these decisions at the individual level. For example, individual faculty members and departments will benefit if more resources are devoted to their areas of specialization. We expect individual sub-groups of the faculty to attempt to influence curricular decisions in a manner that strengthens their own interests. However, this may not increase the overall prestige of the institution.

It is still possible that faculty members as a group have less incentive to misuse resources in these areas. While individual faculty members or small groups of faculty members may have poor incentives, there are few curriculum or programmatic decisions that will benefit the majority of faculty members without increasing the entire institution's success. As long as the potential for log rolling behavior is small, then it is

less likely that the majority of faculty members will support bad decisions concerning curriculum and new programs.[1] As a result, the informational advantages of faculty participation may outweigh the costs of collective decision making in the areas of curriculum and general faculty governance.

The monitoring of administrators by faculty members necessarily creates conflict. If administrators retain the right to hire, fire, and otherwise determine faculty rewards, then faculty members are unlikely to actively criticize administrative decisions. Coehlo (1976) argues that tenure exists in order to elicit faculty monitoring without the threat of reprisal. This explanation suggests that faculty members play a greater role in, and possibly maintain control over, decisions concerning appointment, promotions, and tenure (APT). Otherwise, administrators would have greater ability to discipline faculty members that criticized administrative decisions, which would lead to less than the optimal level of faculty monitoring.

The informational advantages that faculty members have are particularly important for APT decisions. McPherson and Winston (1983) argue that it is difficult for administrators and even faculty members from other disciplines to properly evaluate the quality of a scholars work. While it is possible that the institution could rely solely on outside evaluations from scholars in the same field for APT decisions, McPherson and Winston argue that this does not completely avoid the information problem. Faculty members in the same school or department have better information about the individual's current and expected future work habits and how well the individual fits within the current department. Given that it is the internal or local faculty members that must live with the consequences of there choices, McPherson and Winston argue that local faculty

input must play an important role in APT decisions.

There are, however, alternative views concerning faculty participation in APT decisions. In Carmichael's (1988) model of academic tenure, administrators are not able to judge the quality of job candidates but are able to evaluate new hires after a period of time on the job. As a result, faculty members are expected make appointment decisions but are less likely to make subsequent performance evaluations.[2] Carmichael's view does not suggest that faculty members are not active in other decisions but that they are more active in appointment decisions.

McKenzie's (1979, 1996) model of tenure stresses the political infighting and the changing political coalitions that arise in academics. Even without becoming obsolete, competent teachers and researchers could find themselves being pushed out of a department where their outputs were once highly valued. As a result McKenzie suggests that it is most important that faculty members be protected from other faculty members. If efficient long term contracting requires stable lifetime employment, then administrators may serve a larger role in the evaluation and compensation of individual faculty members. The reason is that faculty members may not sufficiently reward the political or professional outcasts in the context of an optimal lifetime employment model. McKenzie's model suggests that greater administrative influence is important in performance evaluation during the later (post tenure) stages of the academic career.[3]

In addition, faculty members and administrators may value different types of output. Faculty members are likely to place more weight on outcomes including research, professional recognition and departmental service. Administrators may be more likely to reward college wide and community service. For example, departments generally place

little weight on activities that bring public recognition to the institution (i.e. television appearances, service on important government panels or commissions), or create development opportunities (i.e. meeting with or making presentations to alumni groups or potential donors). If these activities are important to the overall success of the institution, then it may take more administrative participation in performance evaluation decisions to ensure optimal faculty participation in these activities. An important question is whether the level of administrative participation is more important for APT decisions than for other reward decisions. As a result, APT and other performance evaluation decisions are treated separately in the empirical section of the paper.

The one area where the interest of the majority of the faculty is likely to diverge from the interests of the institution is in the case of budgetary decisions. In these decisions it is more likely that the faculty as a whole can reach agreements to enrich themselves at the expense of the university. Diverting financial resources to their personal use (i.e. supporting smaller class sizes, reduced teaching loads, higher salaries, larger offices, or nice faculty clubs) is almost always in the best interest of the faculty. Existing faculty members also have an incentive to favor current uses of funds over future uses. In addition, the average faculty member has considerably less expertise than trustees in these areas. As a result, faculty members are not expected to participate in or be the primary monitors of financial decisions.

The extent to which faculty members participate in administrative decisions is likely to be related to the type of decisions. For example, decisions concerning admission, student aid, buildings and grounds are best handled by specialized administrators with expertise in these areas. The size of academic departments and resource allocation

decisions among departments are also likely to be left to administrators. This helps to reduce political infighting and coalition building that might otherwise develop among faculty groups. In general, we expect that administrators and not faculty members retain the primary control over the day-to-day operations of the institution and general administrative decisions.

2.4 Students

Students and alumni also have an incentive to monitor administrative decision making. Administrative decisions that affect the quality of academic and student life will have a direct impact on existing students. Students are likely to be the group with sufficient incentive and information about decisions concerning student dining, housing services, career services, and other aspects of student life. Therefore, we expect students to play an important role in such decisions. As noted above, alumni trustees may also have valuable information and participate more heavily in these decisions as well.
It is possible that faculty involvement helps to support and strengthen student involvement in these areas. Unless faculty members are able to add valuable information to the decision process, however, increased faculty participation is most likely to divert faculty resources away from more useful pursuits.[4]

2.5 Summary

The purpose of this paper is not to develop a unified theory of university governance but to point out that faculty members are likely to play an important role in university governance. The extent to which decision control is efficiently concentrated in the hands of faculty members is dependent upon the incentives and abilities the faculty members have relative to trustees and/or administrators. Faculty are expected to have a

greater influence over decisions concerning appointments and tenure, curriculum, and general faculty governance; while administrators are expected to play a greater role in decisions concerning the use of financial resources and broader issues of university governance and management. While trustees monitor all decisions, they are expected to have the most direct influence over major decisions and decisions involving large amounts of financial capital. There is less agreement in the literature on whether faculty or administrators will be responsible for making decisions concerning individual faculty rewards and assignments.

In addition, different universities may solve different incentive problems in different ways and the optimal level of faculty participation in different governance decisions may vary across institutions. However, the above discussion provides some insights into the expected level of faculty participation in different decisions. If increased faculty participation affects decision making as noted above, then the empirical tests should indicate the existence of the suggested relationship between increased faculty participation and performance.

3. Measuring Faculty Participation and Performance

The 1970 AAUP survey of faculty governance used by McCormick and Meiners provides the measures of faculty participation in decision making.[5] While the survey is over twenty-five years old, it remains as the only comprehensive survey of faculty participation in university governance that is available. Following McCormick and Meiners, faculty control over a decision is defined as those instances where the decision is reported as being made by the faculty or jointly by the faculty and administration.

Table 1 provides the summary statistics for the decision control variable for the thirty-one survey questions. Faculty control ranges from a high of 96.58% for decisions concerning academic performance to a low of 7.02% for decisions concerning long range budgetary planning. On average faculty members play a greater role in decisions concerning curriculum (6-11) and faculty governance (23-27). Faculty members have less control over decisions involving organizational management, the choice of organizational leaders, and budgetary planning (12-21).

For the formal analysis we define seven groups of decisions: appointment, promotion, and tenure decisions (1- 4); curricular decisions (6-10); faculty governance decisions (23-27); general administration (11-16); budgetary decisions (17,19-21); student governance decisions (28-31); and individual reward/punishment decisions (5,18,22). Table 2 provides summary statistics for these groups.

Faculty members have the most control over curriculum decisions and the least control over financial decisions. That there is considerable variation in the extent to which faculty members control different types of decisions is supportive of the main idea of this paper. The arguments noted above suggest little role for faculty participation in financial decisions. It is not surprising that the data indicate that faculty members play a very limited role (15.03%) in such decisions. Faculty members do not seem to play an important role in decisions concerning the day to day management of the organization (23.89%). These are the areas where the McCormick and Meiners' explanation is most likely to apply.

Faculty members are expected to play an important role in decisions concerning curriculum and faculty governance. The results indicate that faculty members are most

likely to control these decision groups (84.08% and 74.25%). The average level of faculty control over appointment promotion and tenure decisions (40.28%) and individual performance and evaluation decisions (42.92%) is much lower. In general, this is consistent with the existing literature where there is some remaining disagreement about the optimal level of faculty control over personnel decisions. Finally, faculty members exhibit control over 51.63% of student governance decisions. This number seems high given the discussion above but it is likely that the survey response measures the extent of faculty participation relative to administrative and not student participation in these decisions.

McCormick and Meiners use the average Scholastic Aptitude Test (SAT) scores of the incoming freshmen class in 1971 as a measure of overall university quality. We use the same measure for the incoming freshman class in 1968.[6] In addition we also use the average faculty salary in 1969 and an overall university rating calculated by Gourman (1967).[7] While the exact procedures used to compute the Gourman rating are not made public, this measure has been used by others (e.g. Solmon (1975), Leslie and Ramey (1988)) as an overall measure of university quality and provides a comparison for the other performance measures.

In addition to modeling university performance as a function of faculty participation in university governance, we control for other aspects of university performance. Complete and reliable data is available for the performance and governance measures for 468 universities using the SAT variable, 496 universities using the Gourman variable, and 535 universities using the salary measure. The combined sample includes 584 different universities. The control variables used are similar to McCormick

and Meiners with the exception of the salary measure. Table 3 provides summary statistics for these variables and the dependent variables. As with McCormick and Meiners we expect that higher tuition, larger libraries, higher revenue per student, more PhDs granted, and a longer institutional lifetime to be associated with higher quality institutions on average. Likewise, we expect public institutions, schools with higher student faculty ratios, and larger schools to be less selective and have lower quality ratings. If faculty participation in governance is related to performance, then the governance variables should explain a portion of the variation in university quality variables not explained by the control variables.

4. The Empirical Relationship between Faculty Participation and Performance

The main conclusion from the previous discussion is that faculty participation in different types of decisions is related to performance in different ways. In order to examine this relationship, the performance variables are regressed on the faculty participation and control variables. Table 4 presents the OLS results. Approximately ten percent of the variation in both performance variables can be explained by the governance variables alone. Greater faculty control over APT decisions and faculty governance decisions is associated with increased performance. All coefficients are significant at conventional levels except for the faculty governance variable with the Gourman performance measure. The results are economically significant as well. For example, faculty control over an additional APT decision leads to an increase in SAT scores of 25 points, in Gourman ratings of 15 points, and in salary of $318. Faculty control over curriculum decisions is positively related to both the SAT and Gourman

measure but only significant for the Gourman variable.

Greater faculty participation in general administration decisions and financial decisions is negatively related to performance. However, the general administration variable is only significant when SAT scores are the dependent variable. Greater faculty participation in individual decisions is not significantly related to either performance measure. The relationship between faculty control over student governance decisions and SAT scores is negative and significant. That variable is positively but not significantly related to the other measures of performance.[8]

The addition of the control variables weakens the economic and statistical significance of the faculty governance measures (Table 5). The APT, general administration, and curriculum variables are still positive and significant in each case that they were significant in the original specification. However, the coefficient estimates are smaller in each case. The largest change is that faculty participation in financial decisions only remains significantly related to SAT scores. However, the negative relationship between faculty control over general administration decisions now has significant negative relationship with each performance measure. Faculty participation in individual decisions is now significantly negatively related to the Gourman rating. The control variables have the predicted signs and most are statistically significant.

Given the difficulty in measuring university performance, it is not surprising that the different measures of performance produce differing results. That all three measures of performance are positively related to faculty participation in decisions concerning appointment, promotion, and tenure supports the emerging literature on university governance. The importance of specialized knowledge and the need for faculty members

to be able to actively participate in the monitoring of administrative decisions without fear of dismissal are possible explanations. That greater faculty participation in general administration decisions is associated with lower levels of performance is not surprising. These seem to be the primary types of decisions with which McCormick and Meiners were concerned. Likewise, the subsequent literature is nearly unanimous in its support of maintaining administrative control over these decisions.

One of the surprising aspects of these results concerns the lack of a consistently significant negative relationship between faculty control over financial decisions and university performance. There is little in the existing literature to support faculty control over these decisions. The literature is also consistent in stressing the importance of faculty participation in curriculum decisions. However, neither of these variables is consistently related to performance. One explanation is that the extent of faculty participation in these areas fits the predictions so well. Faculty members have very little input into financial decisions in our sample. Likewise, faculty members maintain almost complete control of curriculum decisions across the institutions in the sample. As a result, the small variation that does occur is not significantly related to performance.[9]

It is important to not that the observed relationships between faculty participation and performance may not be evidence of a causal relationship between faculty participation in decision making and performance. The discussion in Section 2 suggests that there may be some optimal level or range of faculty participation in governance decisions and that level varies across the type of decisions. The empirical results confirm that faculty participation is related to performance and that the relationship does vary by decision type. This is a necessary but not sufficient condition for the support of a causal

relationship. An alternative explanation is that less successful institutions attract lower quality faculty members that are not allowed to actively participate in decision making. The institutional factors that result in lower quality faculty members also lead to lower SAT scores, lower salaries, and lower ratings of overall institutional quality.

McCormick and Meiners note that there may also be a potential endogeneity problem with their results. Using the same AAUP survey results as in this paper, Masten (1997) finds that the extent of faculty control over decisions is a function of institutional characteristics suggesting a similar problem. While his measures of faculty control and his procedures are different, this still suggests that the faculty participation variables used here are not independent of the control variables used in our analysis. Without any well defined instruments for faculty participation besides those included in our control variables, this leaves few options. In order to address this problem we regress each of the seven faculty participation measures on the control variables. The faculty performance variables were then regressed on the residuals from each regression.

The results reported in Table 6 are very similar for the SAT variable to those reported in column (1) of Table 4. For the Gourman and salary variables, the signs of the estimates are the same and coefficient estimates are similar but none of the estimates are significant at conventional levels.[10] These results indicate a weaker relationship between faculty participation and performance. The problem is that this approach assumes that the control variables influence faculty participation and not vice versa. This makes it more likely that we reject participation being related to performance. So these results must be interpreted with caution.

5. Conclusions

The results of this paper are consistent with the idea that faculty participation is important in decisions where faculty members have better information and better incentives than administrators or trustees. While these results are not necessarily inconsistent with the original arguments of McCormick and Meiners, they do suggest that it is important to control for the areas in which faculty members exert decision control. The observed empirical relationships are not inconsistent with the hypothesis that faculty participation in governance influences performance. However, the overall impact of this participation varies by the types of decisions in which faculty participate. While faculty decision making necessarily involves many of the costs associated with collective decision making, in some cases these additional costs are outweighed by the benefits associated with faculty control. In addition, this paper points out the need for better and more comprehensive measures of both university performance and governance.

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Table 1
AAUP Faculty Governance Survey Results

Decisions Concerning	Percentage of Institutions where Decision is Controlled by Faculty
1. Appointments	40.41%
2. Reappointments or Nonrenewal	35.27%
3. Promotions	41.10%
4. Tenure	44.35%
5. Dismissal for Cause	41.10%
6. Curriculum	86.64%
7. Degree Requirements	84.25%
8. Academic Performance	96.58%
9. Types of Degrees Offered	75.68%
10. Establishment of New Programs	77.23%
11. Admission Requirements	52.05%
12. Relative Staff Sizes of Academic Disciplines	16.10%
13. Program For Buildings...Facilities	12.16%
14. Presidential Selection	11.64%
15. Academic Deans' Selection	18.32%
16. Department Chairpersons' Selection	33.05%
17. Faculty Salary Scales	10.27%
18. Individual Faculty Salaries	13.01%
19. Short Range Budgetary Planning (3-5 yrs)	9.42%
20. Long Range Budgetary Planning	7.02%
21. Average Teaching Loads	33.39%
22. Teaching Assignments	74.66%
23. Specification ... Department Committees	76.88%
24. Membership Departmental Committees	78.77%
25. Authority of Faculty in Government	56.34%
26. Specification ... Senate Committees	75.68%
27. Membership Senate Committees	83.56%
28. Academic Discipline	70.38%
29. Specification Student Extracurricular Rules	37.67%
30. Extracurricular Behavior of Students	37.67%
31. Student Role in Institutional Government	60.79%

Data Source: AAUP (1971)

Table 2
Summary Statistics for Faculty Governance
Variables by Decision Type

Decision Group	Mean	Standard Deviation
APT Decisions	40.28%	42.95%
Curriculum Decisions	84.08%	28.29%
Faculty Governance Decisions	74.25%	29.88%
Organizational Governance Decisions	23.89%	24.10%
Financial Decisions	15.03%	23.75%
Individual Performance Decisions	42.92%	29.21%
Student Governance Decisions	51.63%	36.10%

In all cases, the number of observations is 584 and the range of actual outcomes is from 0% to 100%.

Table 3
Summary Statistics for Performance Variables
and University Characteristics

Variable	N	Mean	Standard Deviation	Minimum	Maximum
Performance Variables					
Gourman Rating	526	393.6	74.38	251.0	772.0
Combined SAT Score	496	1,058	134.9	525.0	1,429
Average Faculty Salary in 1969	556	10,550	1,582	6,937	16,272
Control Variables					
Tuition	584	944.19	615.98	0	3,600
Library Volumes	567	241,784	365,219	16,039	3,714,642
Age	583	93.23	38.72	10.00	278.0
Public	598	0.396	0.490	0	1
Student Faculty Ratio	581	16.14	6.993	1	93.56
Revenue per Student	560	2,316	1,776	102.82	21,557
Enrollment	583	4,701	6,235	124.00	44,651
PhDs Granted per Faculty Member 1957-66	567	0.104	0.335	0	3.007

Data Sources: AAUP (1971), American Universities and Colleges (1968), The Gourman Report (1967)

Table 4
The Estimated Relationship between University
Governance and Performance without Control Variables

	SAT Scores	Gourman Rating	Faculty Salaries
Intercept	976.849 (13.37)***	353.103 (30.27)***	9884.480 (41.90)***
APT Decisions	25.052 (5.54)***	14.88 (6.01)***	318.482 (6.33)***
Curriculum Decisions	4.288 (0.90)	5.01 (1.96)**	-12.438 (0.24)
Faculty Governance Decisions	18.855 (4.03)***	0.966 (0.37)	89.438 (1.67)*
Organizational Governance Decisions	-12.300 (2.20)**	-3.815 (1.28)	-42.426 (0.68)
Financial Decisions	-18.271 (2.35)**	-9.018 (2.14)**	-152.537 (1.73)*
Individual Decisions	0.818 (0.09)	-3.317 (0.68)	-20.960 (0.21)
Student Governance Decisions	-10.468 (2.24)**	3.219 (1.24)	25.298 (0.48)
Adjusted R^2	0.1184	0.0945	0.1021
Observations	468	496	534

Notes to Table 4: t-statistics in parenthesis. One star indicates the 10 percent level of significance; two stars, 5 percent; three stars, 1 percent.

Table 5
The Estimated Relationship between University Governance and Performance with Control Variables

	SAT Scores	Gourman Rating	Faculty Salaries
Intercept	901.264 (27.26)***	296.749 (24.33)***	8246.813 (24.81)***
APT Decisions	15.136 (3.75)***	4.495 (3.02)***	125.313 (3.20)***
Curriculum Decisions	-3.309 (0.78)	2.716 (1.74)*	5.448 (0.13)
Faculty Governance Decisions	17.348 (4.26)***	0.927 (0.61)	77.611 (1.86)*
Organizational Governance Decisions	-11.922 (2.47)***	-4.170 (2.37)**	-78.000 (1.65)*
Financial Decisions	-10.964 (1.63)*	-0.826 (0.33)	-10.195 (0.15)
Individual Decisions	2.080 (0.27)	-8.083 (2.80)***	-58.410 (0.75)
Student Governance Decisions	-10.982 (2.70)***	1.721 (1.12)	9.507 (0.24)
Tuition (in thousands of dollars)	84.560 (6.90)***	16.661 (3.63)***	536.224 (4.30)***
Library Volumes (in Millions)	27.573 (1.09)	85.646 (8.74)***	782.000 (3.07)***
Age	0.106 (0.75)	0.249 (4.51)***	1.609 (1.12)
Public	22.410 (1.50)	1.059 (0.19)	973.137 (6.53)***

Student-Faculty Ratio	-1.390	-0.419	-7.342
	(1.36)	(1.10)	(0.69)
Revenue per Student	10.361	9.807	202.611
(in thousands of dollars)	(2.75)***	(6.81)***	(5.31)***
Enrollment	1.475	1.707	75.194
(in thousands)	(1.08)	(3.06)***	(5.36)***
PhDs Granted per	30.560	25.049	157.016
Faculty Member 1957-66	(1.47)	(3.59)***	(0.72)
Adjusted R^2	0.3564	0.6962	0.5313
Observations	462	472	472

Notes to Table 5: t-statistics in parenthesis. One star indicates the 10 percent level of significance; two stars, 5 percent; three stars, 1 percent.

Table 6
The Estimated Relationship between University Governance and Performance Residuals

	SAT Scores	Gourman Rating	Faculty Salaries
Intercept	1057.515 (173.18)***	394.460 (116.79)***	10626.00 (146.13)***
APT Decisions Residual	14.767 (3.01)***	4.771 (1.77)*	125.573 (2.20)*
Curriculum Decisions Residual	-3.692 (0.72)	2.202 (0.78)	8.855 (0.15)
Faculty Governance Decisions Residual	16.778 (3.39)***	0.812 (0.29)	67.187 (1.10)
Organizational Governance Decisions Residual	-10.383 (1.77)*	-3.544 (1.11)	-84.360 (1.22)
Financial Decisions Residual	-12.347 (1.52)*	-2.174 (0.48)	-16.197 (0.16)
Individual Decisions Residual	1.458 (0.15)	-7.087 (1.35)	-44.875 (0.40)
Student Governance Decisions Residual	-10.138 (2.05)**	2.140 (0.76)	27.536 (0.46)
Adjusted R^2	0.0468	-0.0006	0.0028
Observations	462	472	472

Notes to Table 6: t-statistics in parenthesis. One star indicates the 10 percent level of significance; two stars, 5 percent; three stars, 1 percent.

Endnotes

[1] In larger institutions where individual departments and schools have more control over curricular decisions without oversight by larger faculty groups, there may be more chance that these faculty sub-units are able to make bad choices. However, in larger institutions the competition among departments and schools for resources and students should limit these problems.

[2] In Carmichael's (1988) model, tenure is required to induce existing faculty members to be willing to hire the best available faculty members. Without tenure, existing faculty members would be hesitant to hire higher quality faculty members that could replace them.

[3] Hansmann (1996) points out that most employee owned enterprises have equal or highly homogenous pay structures in order to avoid the costs of collective action. More complicated and differentiated payment schemes 'would be time-consuming and divisive for all involved' according to Hansmann (1996, p. 93). One expects that universities that choose to have faculty members more actively involved in individual performance decisions would also have more equal pay structures for similar reasons. To the extent that equal pay structures do not provide optimal work incentives, output would be reduced. Alternatively, universities that have more equal pay structures are more likely to attract a more homogenous set of faculty members.

[4] I am grateful to an anonymous referee for making this point.

[5] For a more detailed description of the survey see AAUP Bulletin (1971), McCormick and Meiners (1988), Masten (1997).

[6] The SAT data was obtained from American Universities and Colleges (1968). Reported ACT scores were converted to SAT scores by multiplying by 17.78. This converts the maximum SAT Score of 90 into the equivalent maximum SAT score of 1600. It also converts our sample mean ACT score of 59.99 to 1067, which is very close to the mean SAT value of 1061. The AAUP survey was conducted in 1970. McCormick and Meiners (1988) use data from American Universities and Colleges for 1971. Data from 1968 is used here in order to be more directly comparable to the other performance data.

[7] McCormick and Meiners (1988) actually use faculty salaries as a determinant of performance. However, Solmon (1975) and Dolan, Jung, and Schmidt (1985) each use this variable as a measure of performance instead of a determinant of performance. Solmon (1975) also finds a high degree of correlation between the Gourman variable, SAT scores, and faculty salaries as measures of performance. This paper assumes faculty salaries are more likely a measure of performance. When the salary variable is included as an explanatory variable for the other performance variables, the results are almost identical to those reported. Hence, the results do not seem to be driven by the inclusion or exclusion of the salary variables.

[8] The analysis assumes that the relationship between faculty participation in governance is strictly linear. However, this may not be true. In fact, there is likely to be an optimal range of faculty participation for each type of decision. Several alternative non-linear specifications have been attempted with little success. However, it is asking a lot of the data to pick up these relationships especially when it may vary across decision group and performance data. It is likely that better data and more powerful tests would find a non-linear relationship.

[9] See Masten (1997) for a further discussion of the relationship between the AAUP survey ratings and university characteristics.

[10] Part of the problem with the Gourman variable is that if we include all the characteristics used to develop this measure we would eventually obtain an R^2 approaching one and coefficients estimates equal to the weights used to calculate this variable. This may explain our finding for this variable but not the salary variable.