Who Governs?

Dual and Managerial Control in U.S. Four-Year Colleges and Universities

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Abstract

This study examines evidence for dual and managerial control models of academic governance at a time when many scholars thought managerial control to be ascendant. Based on a survey of provosts and academic vice presidents in 2000-01, the study finds that dual control models of academic governance should be revised to reflect evidence of somewhat higher-than-expected managerial control, but that only about one-fifth of institutions could be characterized as managerially controlled. Using multi-dimensional scaling and cluster analysis, the paper also provides an empirical alternative to analyses based on the theoretical concepts of dual and managerial control. The four-cluster solution resulting from this empirical approach showed inclusive participation and limited participation clusters, as well as high and low faculty participation clusters. Faculty participation was more frequent in liberal arts oriented institutions and less frequent in unionized and East Coast institutions.
KEYWORDS: academic governance, managerial control, dual control, institutional variation

This paper poses three research questions about academic governance in the United States: (1) Do dual control or managerial control models better represent decision making in U.S. four-year colleges and universities? (2) Insofar as neither one of these models fully captures primary patterns of decision-making, what would a more accurate representation look like? (3) Do important differences by institutional type exist in structures of governance?

These questions are important because many scholars have argued that the dominant norm of dual control gave way in the 1990s to managerial control. Previous studies have been more interested in faculty participation than in dual control *per se*. They have therefore not been designed to provide conclusive evidence either for dual or managerial control models of governance in U.S. colleges and universities. Nor have previous studies investigated the possibility that governance structures do not conform well to either model. The study of sector

differences is important because some sectors of academe may continue to support dual control while others may have developed managerially-controlled governance structures.

THEORETICAL BACKGROUND

Following the founding of the American Association of University Professors (AAUP) in 1915 and the Berkeley faculty revolt of 1919, the governance of U.S. four-year colleges and universities gradually developed in the direction of a dual pattern in which senior administrators maintained primary responsibility for fund raising, budgetary allocations, strategic planning, and administrative appointments, while faculty members maintained primary responsibility for curriculum, educational policies, and standards for professional evaluation (AAUP et al. 1966; Corson 1960). This model fused managerial and professional forms of control (Freidson 1985: chap. 7), allocating responsibility for overall institutional direction to managers, but preserving the responsibility of faculty professionals for those areas closest to their core technical expertise as teachers and scholars.

The development of the dual pattern, often referred to as "shared governance," was greatly encouraged by the professionalization of the faculty in the post-World War period. Jencks and Riesman (1968) described this "academic revolution" as marked by the growth of membership in disciplinary associations, the creation of national labor markets controlled by the disciplines, and the development of expectations that college teachers would also be scholars and researchers. Undoubtedly, the postwar expansion of higher education, with a broader and stronger core of research universities, enhanced the market power of professors and therefore their capacity to demand meaningful participation in governance (Geiger 1993).

The AAUP delivered an influential endorsement of dual governance in its 1966 "Statement on the Government of Colleges and Universities" (AAUP et al. 1966). In this statement the AAUP and two other major higher education associations endorsed the principle that "differences in the weight of each (institutional) voice…should be determined by reference to the responsibility of each component for the particular matter at hand" (p. 136) and allocated to the faculty "primary control" over "curriculum, subject matter and methods of instruction, research, faculty status, and aspects of student life that relate to the educational process" (p. 139).

As we will use the term, "dual control" comprises both a division of labor between the faculty and the administration and areas of joint responsibility. The basic principle underlying this division of labor is stated well by Freidson (1985): "The faculty has the discretionary right to determine how…resources, once granted, will be put to use but not the right to determine how those resources are to be allocated in the first place" (p. 150). Dual control further identifies areas in which faculty and administrators should have joint responsibility for decision making because they require both the faculty's technical expertise and management's fiduciary responsibilities.

Beginning in the mid-1990s, many writers questioned the continuing relevance of dual governance as norm and practice and offered an alternative image of academic governance which we will call "managerial control." These writers saw control and responsibility shifting toward managers, even in areas in which the faculty had in the past held primary responsibility. Gumport (1997), for example, argued that academe was experiencing "a drift of authority upwards" in which the "managerial paradigm" was becoming dominant. According to Gumport, " "Faculty are seen…as employees rather than collaborators" and "departments are units that spend and raise funds within fiscal constraints and are thus liabilities or assets for the

organizational balance sheet" (p. 128). Others attributed the rise of managerial control to other forces in the external environment. Waugh (2003), for example, emphasized that external actors, including states, accrediting agencies, and foundation-based reformers, were pushing universities to focus on efficiency, productivity, and accountability. The consulting firm Coopers & Lybrand (1995) published an influential handbook on methods for using resource allocations and incentives to shape educational practices along managerially-defined lines.

Other scholars focused on the consequences of managerial control, including both redirection of academic development and restriction of faculty autonomy (see also Aronowitz 2006; Burgan 2006; Cooper & Lybrand 1995; Marginson and Considine 2000; Rhoades and Sporn 2002; Slaughter and Leslie 1997; Tuchman 2009; Washburn 2005.) The prospect of increasing managerial control raised concerns, because research on governance had established that a sense of trust between faculty and administration is an important influence on a faculty's sense of satisfaction with the academic workplace (see, e.g., Baldridge et al. 1977; Lee 1991).

While the primary issue among scholars has been the extent to which dual governance persists or has been supplanted by managerial control, we should allow for the possibility that neither the dual nor the managerial control models adequately capture patterns of decision-making. We can imagine any number of structures that do not conform well to these two dominant models. We might, for example, imagine dean-centric structures or highly inclusive structures in which the great majority of decisions involve multiple actors, some from the administration and some from the faculty. For this reason, we developed a new approach for studying the actors involved in governance that we will call "configurational." To analyze decision-making configurations we created distance matrices for each of 13 decisions under consideration. We then analyzed these matrices jointly using weighted multi-dimensional scaling

and cluster analysis to generate a picture of how governance structures cluster empirically in multi-dimensional space.

PREVIOUS LITERATURE

Only a few large-scale empirical studies of U.S. academic governance have been published since the mid-1970s (Baldridge et al. 1974, 1977; Kaplan 2001; Kaplan 2004; Kissler 1997; Tierney and Minor 2003). These studies were interested in assessing the level of faculty participation in governance, and did not explicitly test dual and managerial control theories. In Kaplan's survey, for example, 84% of respondents reported that faculty either made or directly influenced institutional policy, and this was most likely to be true in liberal arts colleges (2004). All studies found significant levels of faculty participation.

Each of the studies also showed the existence of some managerially-controlled institutions. Estimates of the size of this group varied, depending on question wording, from "roughly half" thinking their institutions were "administratively dominated" (Baldridge et al. 1977) to approximately 25% seeing "most decisions as centralized" (Tierney and Minor 2003) to 20% seeing "hierarchy" as the best description of how decisions are made even in educational policy (Kissler 1997).

DATA AND METHODS

Our research is based on data from the Colleges & Universities 2000 (C&U 2000) survey of provosts and academic vice presidents (AVPs). This survey data was collected in academic year 2000-01, and it therefore provides a representation of participation at a time when

managerial control was thought by many higher education scholars to be ascendant. The respondents to the survey, the chief academic officers of 290 U.S. four-year colleges and universities, were, by virtue of their job responsibilities and the scope of their activities in academic affairs (Birnbaum 1988), the individuals most likely to hold an accurate picture of decision-making in their institutions. We emphasize, however, that the responses to the survey are cognitive maps, not ethnographic reports. They are representations of the actors who are expected to play primary roles in particular types of decisions. Kaplan's research suggests that surveys of academic administrators provide a reliable and valid measure of institutional governance (2004: 171). Using this data we compare the dual and managerial control images of governance for their ability to predict representations of the primary actors involved in a range of academic decisions

C&U 2000 is based on a stratified random sample of U.S. four-year colleges and universities in the year 2000. Specialized institutions (such as seminaries, art institutes, and business colleges) were excluded from the sample, as were for-profit institutions. The sample population includes more than 100 each of doctoral-granting, masters'-granting, and baccalaureate-granting institutions. It includes over-sampling of research universities and selective liberal arts colleges. We have weighted the sample so that results are representative of the universe of four-year colleges and universities in 2000, excluding for-profits and specialized institutions.

The questionnaire was sent to all provosts and academic vice presidents of C&U 2000 institutions (N=385). Eighty percent (308) responded to the survey, but 18 respondents did not fill out the questions on academic decision-making. Frequency counts in this study are therefore based on the answers of 290 provosts and academic vice presidents, a usable response rate of

75%. Due to missing data on some sector variables for ten institutions, the sample used in the multivariate analyses included 280 respondents.[1]

Classifying Questionnaire Items

Because statements about dual control vary and are often framed as ideals (see, e.g., AAUP et al. 1966), we developed predictions for the dual control model from the basic principles espoused by its theorists -- namely, that the faculty should have primary responsibility and the administration little responsibility for matters of curriculum, educational policy, and departmental self-governance, while the administration should have primary responsibility and the faculty little responsibility for matters of budget, major new resource allocations, and selection of administrators. Where both professional expertise and commitment of resources are involved, the dual control model suggests that faculty and administration should have joint responsibility for decision making.

The 13 decisions we studied included six in which the dual control model, as we interpret it above, would predict primary administrative responsibility and little faculty involvement:

(1) selection of deans

(2) control of replacement positions for departing senior faculty

(3) control of replacement positions for departing junior faculty

(4) determination of departmental budgets

(5) decisions about program consolidations and closings

(6) determination of faculty course loads

They included four decisions in which the dual control model would predict joint faculty-administrative responsibility:

[1] Non-respondents were more often from selective, wealthy, liberal arts-oriented, and Eastern institutions. Given the high response rate, non-response bias should have a minimal impact on results. Coefficients for these types of institutions may be slightly affected by non-responses.

(1) selection of department chairs

(2) evaluation of faculty for promotions

(3) determination of new college or university-wide academic initiatives

(4) planning for new interdisciplinary programs

They included three decisions in which the dual control model would predict primary faculty responsibility and little administrative involvement:

(1) addition of new courses to the curriculum

(2) determination of program emphases at the departmental level

(3) hiring of departmental support staff

The questionnaire asked respondents to mark "at which level or levels decisions are primarily made," and it noted that respondents should mark as many levels as apply. It asked respondents to mark only those actors who share "a primary role" in decision-making. "Primary role" was defined on the survey as "those who would expect to be involved in negotiations over actual commitments of resources" and the survey explicitly stated that primary role does not refer to every actor "consulted at some time during the process of decision making." By using this phrasing we intended to encourage respondents to focus on those actors who have a formal role in decision-making.

The question allowed respondents to mark as many as six types of actors for each of the decisions: (1) governing and/or coordinating boards, (2) central administration, (3) deans, (4) departmental faculty, (5) academic senate committees, and (6) other. In our analyses, we excluded the "other" category, because it was marked just four percent of the time and those who did mark it identified a wide range of "other" actors.

Evaluating Dual and Managerial Control Models

We first assessed the 13 items for evidence of dual control by examining the proportion of institutions whose provosts or AVPs chose administration-only, faculty-only, or joint responsibility responses. To be categorized as administration-only, the decision had to be marked as including administrators (i.e. board, central administration, and/or dean) but no faculty. To be categorized as faculty-only, the decision had to be marked as including faculty (i.e. departmental faculty and/or academic senate), but no administrators. When decisions were marked as including both administrators and faculty, they were coded as joint responsibility. We used the liberal criterion of 50% or more of respondents in one of the three categories (i.e. administration-only, faculty-only, or joint responsibility) as an indicator of a normative pattern. We then compared the responses to the predictions of the dual control model. We also examined whether those institutions fitting the dual control model tended to be located in particular sectors of academe.

We then examined the items for evidence of managerial control. We measured the proportion of the managerially controlled institutions using several methods. We first counted the number of decisions that a majority of respondents said were made only by administrators. We used this as a baseline and identified institutions in which twice as many or more decisions were made by administrators only and counted them as managerially controlled. We also developed a measure of "average level of decision-maker" by counting the academic senate as 1 and the board as 5, summing all actors across the 13 decisions and dividing by 13. We then investigated the institutional characteristics of those institutions that fit the managerial control model, or were most likely to be managerially controlled, using these measures.

Analysis of Decision-Making Configurations

We also developed a purely empirical approach to studying these representations of governance structures. We use the term "configurations" to mean the particular patterns of primary actors our respondents marked in the 13 decisions. These configurations provide a picture of similarities and differences among institutions in decision-making across all decisions. We began by creating distance matrices for each decision. We used an ordinal scale running from 1 to 5 with the academic senate coded as 1, departmental faculty coded as 2, deans coded as 3, the central administration coded as 4, and the governing board coded as 5. To calculate the distance between any two universities on a given decision, the algorithm first determines whether their responses are identical matches. If they are, $D_{AB} = 0$. If not,

$$D_{AB} = \frac{1}{4}\sqrt{\frac{\sum_{ij}(a_i - b_j)^2}{mn}}$$

where D_{AB} is the distance between institution *A* and *B* in decision making, a_i is the value of each level of decision making marked present by institution *A*, b_j refers to the value of each level of decision making marked present by institution *B*, *m* is the total number of levels marked present by institution *A*, and *n* is the total number of levels marked present by institution *B*. The equation sums over *i* from 1 to *m* and over *j* from 1 to *n*. The multiplier of ¼ is included to normalize the distance measure so that it ranges between 0 and 1, 1 being the maximum distance between schools on a decision. We then entered the 13 distance matrices into a weighted multi-dimensional scaling program to determine the coordinates of multidimensional space in which distinctive governance configurations can be identified. We used the PROXSCAL algorithm to generate a multidimensional space in which each school was represented as a point in the space. The weighted multi-dimensional space algorithm spread schools in space in a way that was consistent with the distance matrices. We then clustered schools into groups based on how close they were to each other in this space using the k-means method. We identified the characteristics

of institutions in these clusters using multinomial logits based on the independent variables described above.

Institutional Type Variables

Previous research has shown important variations in behavior by enrollment size, organizational status, and mission (references masked). We used total head count enrollment as an indicator of size, and we logged enrollment to reduce skewness and to generate a more normally distributed enrollment variable. Operating budget per student, Barron's selectivity index, and six-year graduation rates are widely-used indicators of the prestige of academic organizations. Principal component analysis showed that these variables tapped an underlying dimension, accounting for 81% of the variance, which we will refer to as organizational status. We therefore created a factor score for organizational status using these three variables. [2] Carnegie classification measures a more functional basis of academic status – whether institutions include research and graduate training as part of their core mission. We divided the sample into doctoral-granting, masters-granting, and baccalaureate-granting institutions. We included percentage of degrees awarded in liberal arts in 2000 and public control as indicators of two important historical traditions in U.S. higher education: the liberal arts college and the land grant traditions, respectively. We measured percent of liberal arts degrees by dividing the number of degrees awarded in the arts and sciences, as opposed to occupational-professional fields, by total degrees awarded. We used the Carnegie Foundation's classification of liberal arts degrees to categorize liberal arts and occupational-professional fields (Carnegie Foundation 2011).

[2] The organizational status scale was based on the following component weights: operating budget per student (0.57), Barron's selectivity index (0.57), and six-year graduation rates (0.59). We measured operating budget per student by dividing total expenditures minus hospitals and independent operations by total fall enrollment.

We also included two control variables in our analyses of differentiation by institutional type. Because collective bargaining, by definition, plays a formal role in college and university governance (Baldridge and Kemerer 1976; Rhoades 1998), we included a dummy variable for institutions that had collective bargaining agreements in 2000 (National Center for the Study of Collective Bargaining in Higher Education and the Professions 1998; 2006). We also included region as a control variable in our models because both the East and the South are sometimes characterized as regions of greater academic hierarchy, the East because of the role of wealthy donors and academic traditionalism (Baltzell 1964: chap. 15) and the South because of its legacy of race-and religion-based hierarchical social structures (Marsden 2006: epilogue). We divided the country into five regions: the East Coast, the South, the Midwest, the Mountain West, and the West Coast.[3]

RESULTS

Dual Control

As Table 1 shows, more than half of respondents listed only administrators (i.e. boards, central administration, and/or deans) as the primary decision makers on five of the 13 decisions: (1) selection of deans, (2) control of replacement positions for departing senior faculty, (3) decisions about program consolidations and closing, (4) selection of department chairs, and (5) control of replacement positions for departing junior faculty. These included four of the decisions we anticipated would be primarily the responsibility of administrators. One decision we expected to be marked as an administration-only primary area, determination of faculty course loads, was in fact most often described as administration-only, but responses did not meet

[3] For a detailed description of the independent and dependent variables in our analyses please contact the corresponding author.

the 50% criterion. One other decision that we anticipated to be an administration-only decision, determination of departmental budgets, was slightly more often marked as a joint responsibility, though in this case responses may have been affected by question wording.[4] In addition, one decision we anticipated to be the joint responsibility of administration and faculty, selection of department chairs, was marked as an administration-only primary decision by more than 50% of respondents.

Only one decision met the 50% criterion as a faculty-only primary area of decision-making. More than half of respondents listed only faculty (i.e. departmental faculty or academic senates) as primary decision makers in determination of programmatic emphases at the departmental level. One other decision very nearly met this 50% criterion: hiring of departmental support staff. These are two of the three decisions that we anticipated would be primarily under the control of the faculty. The third decision, addition of new courses to the curriculum, was more often reported as an area of joint faculty-administration responsibility.

Two of the decisions we anticipated to be joint responsibilities (evaluation of faculty for promotion and planning for new interdisciplinary programs) were marked as joint responsibilities by more than 50% of respondents. A third decision we anticipated to be a joint responsibility, determination of new college and campus initiatives, was most often marked as a joint responsibility and nearly met the 50% criterion (see Table 1).

[Insert Table 1 Here]

These findings can be characterized as providing partial support for the dual control model. We characterize this support as partial, first, because respondents reported considerable variation in the actors primarily involved in decision-making. Only two of 13 decisions received

[4] The question asked not about determination of departmental budgets, but rather about determination of departmental budgetary *needs*.

as many as two-thirds of responses in the direction predicted by the dual control model. Support was partial, secondly, because, even using a liberal criterion for successful prediction (i.e. predicting where half or more of respondents would locate decision-making) we were able to predict correctly in just eight of the 13 decision areas.

One decision that we anticipated to be a faculty-only normative area, adding new courses to the curriculum, was more often reported as a joint responsibility. In addition, one decision we anticipated to be an area in which joint responsibility norms would prevail, selection of department chairs, was more often reported as administration-only normative areas by respondents. In these results we can see some deviation from anticipated faculty-only norms to joint responsibility norms and some deviation from anticipated joint responsibility norms to administration-only norms.

We found few important sector differences. Only two findings of interest emerged, both having to do with the selection of chairs. Public institutions were more likely to follow joint responsibility norms in the selection of chairs while private institutions were more likely to follow administration-only norms. Institutions located in the "Sunbelt" states (the South and West) were more likely to follow administration-only norms in the selection of chairs.

Managerial Control

Although the dual control model should be adjusted to reflect these findings, the results of our analyses indicate that it cannot be rejected in favor of a managerial control model. According to C&U 2000 respondents, most decisions did not involve administrators exclusively. Indeed, fully half of C&U 2000 respondents said administrators-only were involved in four or fewer of the 13 decisions.

Based on these reports, some institutions could, however, be characterized as managerially controlled. One way to define managerially controlled institutions is to identify those in which twice as many or more decisions than the average were made by administrators only. Nearly one quarter of respondents in the weighted sample (24%) said that administrators only were involved in eight or more of the 13 decisions, and one-sixth of respondents (16%) said administrators only were involved in nine or more of the decisions. (Only 2% of respondents in the weighted sample said that administrators only were involved in as many as 12 or 13 of the decisions.)

We examined the characteristics of the institutions whose provosts or AVPs said nine decisions or more were made only by administrators. The model was significant, and liberal arts oriented institutions were less likely than others to be in this group (odds-ratio = 0.96, $p < 0.01$). The findings for liberal arts oriented institutions were similar when we examined the institutions in which provosts and AVPs said administrators only were involved in eight or more decisions, but the model was not significant.

We can also examine the covariates of managerial control by measuring the average level of decision maker using a five-category ordinal scale in which board is coded 1 and senate is coded 5 (see Table 2). Here again multivariate regressions on the weighted data showed that liberal arts oriented institutions had lower average levels of decision making than occupationally oriented institutions (beta = -0.03, $p < 0.01$). By contrast, unionized institutions had higher average levels of decision making than non-unionized institutions (beta = 0.15, $p < 0.05$).

Configurations

We now turn to results from our purely empirical approach to identifying decision making structures using weighted multi-dimensional scaling and cluster analysis. We

determined that a five-dimensional solution was most appropriate based on an examination of scree plots for the point at which the negative slope transitioned to a flatter slope. We also analyzed stress values and coefficients of congruence to establish acceptable fit.[5] We observed that particular decisions or sets of decisions loaded highly on each the five dimensions. We then clustered institutions in this multi-dimensional space using the k-means method. The k-means method picks cluster centers from randomly distributed points in the multidimensional space. Using Euclidean distance the program adds the observation (in our case, schools) in space nearest to the cluster centers in that cluster. It then recalculates the cluster center and chooses the next closest observation. This is an iterative process in which the average cluster centers are recomputed with the addition of new observations to each cluster until every case is in a cluster.

Satisfactory clustering solutions yield interpretable clusters with cases spread relatively evenly between clusters. We found two satisfactory clustering solutions: a two-cluster and a four-cluster solution. The two-cluster solution identified "high faculty/low administration participation" and "high administration/low faculty participation" clusters. The "high faculty participation" cluster 1 included 53 percent of institutions. Academic senates (71% of all senate mentions) and departmental faculties (62% of all department mentions) were over-represented as primary decision-makers in this cluster, while boards were under-represented (just 23% of all board mentions). In the two-cluster solution, patterns of faculty participation did not closely parallel those described in the dual control model. Instead, for those institutions in cluster 1, faculty participation was higher than expected in all 13 decisions, and it was significantly higher than expected in areas related to hiring of junior and senior faculty, deans, and chairs, as well as in decisions about program consolidations and closings. The "high administration participation"

[5] To examine the fit of our weighted multiple dimensional scaling output, we used stress values and Tucker's coefficient of congruence. At five dimensions, the normalized raw stress value (< 0.2) and the coefficient of congruence (0.91) were at acceptable levels.

cluster 2 included 47 percent of institutions and precisely the reverse pattern of representation of actors: under-representation of faculty actors and over-representation of central administration and board actors. Logistic regression results showed that, net of covariates, liberal arts oriented institutions were significantly over-represented in high faculty participation cluster 1, while institutions from the East, South, and Mountain West were significantly under-represented, relative to the reference category of Midwestern institutions.

We focus more attention on the four-cluster solution because this solution adds valuable information to our analysis of decision making in U.S. academe. Results reporting the representation of actors in each cluster are reported in Figure 1 (see Figure 1). The x-axes in Figure 1 are levels of decision making and the y-axes are the relative frequency, or proportion of total times each level was mentioned. As Figure 1 shows, cluster 1 (19% of institutions) includes significantly more decision makers participating across a range of decisions, while cluster 2 (31% of institutions) includes significantly fewer decisions makers. Cluster 3 (28% of institutions) includes an over-representation of faculty and an under-representation of central administration and board decision makers. Cluster 4 (22% of institutions) reverses this pattern, showing an under-representation of senate and departmental faculty decision makers and an over-representation of central administration and board decision makers. We can therefore characterize these clusters, respectively, as "inclusive participation" (cluster 1), "limited participation" (cluster 2), "high faculty/low administration participation" (cluster 3), and "high administration/low faculty participation" (cluster 4).[6]

[6] Detailed analysis of decision making patterns confirm that many more inclusive sets of decision makers, especially those involving academic senates, were located in cluster 1. For example, nearly 50 percent of all decisions involving all five actors were found in cluster 1, though it accounted for only 19% of institutions. Similarly, high proportions of singular decision makers were found among institutions in the "limited participation" cluster 2. Thus, 42% percent of department-only decisions, 46% of dean-only decisions, and 38% of administration-only decisions were found among institutions in cluster 2, though

The k-means clustering method does not necessarily yield significant overlap between solutions with varying numbers of clusters. However, in our case considerable overlap did exist between schools in the two- and four-cluster solutions. The "high administration participation" cluster 4 included all schools from the "high administration participation" cluster in the two-cluster solution. The "high faculty participation" cluster 3 included 98% of the schools from the "high faculty participation" cluster in the two-cluster solution. The other two clusters also overlapped considerably with clusters in the two-cluster solution. Eighty-six percent of the schools in the "inclusive participation" cluster 1 overlapped with schools in the "high faculty participation" cluster in the two-cluster solution, and 71% of the schools in the "limited participation" cluster 2 overlapped with schools in the "high administration participation" cluster in the two-cluster solution. Clearly, the most significant inconsistency is in the overlap between the "limited participation" cluster in the four-cluster solution and the "high administration participation" cluster in the two-cluster solution. This indicates that schools in which few actors make decisions are not necessarily managerially-dominated institutions. Some non-hierarchical schools also limit the number of actors involved in decision making by assigning responsibility to singular or small sets of actors.

[Insert Figure 1 Here]

Fig. 1 Relative Frequency of Decision Makers by Cluster

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only 31% of institutions were located in cluster 2. Detailed analyses also confirm the labeling of clusters 3 and 4 as high faculty and high administration participation clusters, respectively. Thus, 40% of combined senate, department, and dean decisions, 37% of department only decisions, and 42% of department and dean decisions were found in the high faculty participation cluster 3, though cluster 3 accounted for just 28% of all institutions. Conversely, 36% of combined dean and central administration decisions, 57% of combined dean, administration, and board decisions, 40% of administration only decisions, 43% of administration and board decisions, and 69% of board only decisions were found in the high administration participation cluster 4, though just 22% of institutions were located in this cluster. A supplemental table showing the number and proportion of decision-making configurations found in each of the four clusters is available on request.

Using weighted data, we employed multinomial logit analysis to identify the characteristics of institutions located in each of the four clusters. We used the "limited participation" cluster 2 as our reference category, because it was the modal cluster and because institutions in the cluster scored in the average range on measures of hierarchy. We found only one statistically significant result. When compared to Midwestern institutions, East Coast institutions were more likely to be located in "low faculty participation" cluster 4 (relative rate of risk = 3.30, $p < 0.05$). Our results were undoubtedly affected by the higher standard errors associated with analysis of four as opposed to two clusters, particularly given a relatively small sample size of 280.

DISCUSSION

Our study provides evidence that the dual control model should be revised. In our study, more decisions that should in theory have been controlled by faculty were marked as joint responsibility areas, and more decisions that should in theory have been joint responsibilities were marked as administration-only areas of responsibility. This pattern of "managerially-oriented dual control" includes some particularly notable deviations from the faculty's role in governance as conceived in dual control models: lower-than-expected influence over adding courses to the curriculum and lower-than-expected influence over choice of department chairs.

At the same time, only a minority of C&U 2000 institutions could be characterized as clearly managerially controlled in 2000-01 judging by the cognitive maps of decision making provided by provosts and AVPs. If we define it as institutions in which decisions were characterized as made only by administrators in twice the average number of cases, the size of

the group is 24%. If we define it as institutions in which decisions were characterized as made only by administrators in *more than twice* the average number of cases, the size of the group is 16%. The four-cluster solution provides additional support for the conclusion that approximately one-fifth of four-year colleges and universities could have been characterized as managerially-controlled as of the early 2000s.

As an alternative to dual and managerial control models, our study offers a purely empirical approach to analyzing governance, which we have termed "configurational." Neither the two nor the four-cluster solutions that emerged from this analysis conformed neatly to the division between dual and managerial control. The two-cluster solution identified institutions with higher and lower levels of faculty participation, but the patterns of faculty participation did not closely parallel those described in the dual control model. Instead, faculty participation was higher than expected in all decision making areas examined in the institutions composing the cluster 1, while administrative participation was higher than expected in cluster 2. The four-cluster solution showed that inclusivity and exclusivity in decision making is a second dimension that should be considered in addition to high and low faculty participation. Inclusive schools tend to have higher faculty participation, but the key is that many types of actors participate. Limited participation schools, by contrast, tend to have lower faculty participation, but the key is that fewer actors are responsible for making decisions within their designated domains.

The contest between dual and managerial control is important to the future of academe as an alternative, relatively collegial form of organization when compared to the more hierarchical organizational forms typical of corporations and states. We therefore believe that studies of governance should continue to keep the contest between dual and managerial control in focus. Dual control – the division of decision making labor by functional areas of responsibility and

expertise -- remains an ideal worth monitoring for the extent to which institutions conform or deviate from it. For this reason, the contest between dual and managerial control remains important, even though, judging from the results of our study, these models do not capture very precisely the dominant governance patterns in academe.

A strong case can be made that future studies of dual and managerial control should be supplemented by examination of empirical configurations of decision makers that may or may not conform to these two dominant conceptual models. One important contribution of our paper is that it shows how to develop purely empirical pictures of governance structures when taking into account a range of actors and decisions. Our configurational analyses show that clusters of high faculty/low administration participation and high administration/low faculty participation are important to the structure of governance in U.S. four-year colleges and universities as perceived by provosts and AVPs. Level of faculty participation is not the only important dimension of decision making in academe, however. Unlike previous scholars, we observed an analytically separate dimension of governance based on inclusive as opposed to limited participation patterns.

Our study also contributes to understanding differences in governance by institutional type. As of the early 2000s, liberal arts oriented institutions appeared more often to have both the traditions and the resources to maintain a strong faculty presence in governance. In the highest average decision maker analysis, we also found a tendency for provosts and AVPs of unionized institutions to say their institutions were more hierarchically governed than others. Only one other finding concerning institutional variation stands out: the tendency of East Coast institutions, those close to the center of the academic "Establishment," to be located more often in the "high administration/low faculty participation" cluster.

These findings lead to the conclusion that managerial control, although not a norm for the U.S. higher education system as a whole, was more common by the early 2000s in those parts of the system that were more closely associated with the corporate economy, either because they provided services for the economy through occupationally oriented curricula, or because they dealt with faculty in a labor relations, rather than a professional, context. Active boards and limited faculty participation were also more common among institutions located on the Eastern seaboard, the regional center of U.S. corporate and financial life. These affinities between managerial control in academe and features of American business life can serve as hypotheses about sources of institutional variation in future studies of academic governance.

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Table 1: Predictions and Results for 13 Academic Decisions[a]

	1st choice (%)	2nd choice (%)
A. Predicted as Faculty-Only Primary		
Dept. Program Emphases	Faculty-only (57%)	Joint Resp. (38%)
Hiring Dept. Staff	Faculty-only (49%)	Joint Resp. (37%)
Adding New Courses	**Joint Resp. (50%)**	**Faculty-only (43%)**
B. Predicted as Administration-Only Primary		
Selection of Deans	Admin-only (81%)	Joint Resp. (18%)
Replacement of Sr. Faculty	Admin-only (59%)	Joint Resp. (36%)
Program Consolidations/Closings	Admin-only (58%)	Joint Resp. (40%)
Replacement of Jr. Faculty	Admin-only (56%)	Joint Resp. (38%)
Course Loads	Admin-only (43%)	Joint Resp. (42%)
Dept. Budgets	**Joint Resp. (47%)**	**Admin-only (44%)**
C. Predicted as Joint Responsibility Primary		
Evaluation for Promotion	Joint Resp. (65%)	Admin-only (21%)
Planning Interdisciplinary	Joint Resp. (59%)	Admin-only (28%)
New Initiatives	Joint Resp. (57%)	Admin-only (23%)
Selection of Chairs	**Admin-only (58%)**	**Joint Resp. (33%)**

Source: Colleges & Universities 2000 Survey of Provosts and Academic Vice Presidents

[a]Bolding indicates items in which responses varied from those predicted by the dual control model.

Figure 1. Relative Frequency of Decision Makers by Cluster