A COMPARATIVE ANALYSIS OF GOVERNANCE IN U.S. COLLEGES AND UNIVERSITIES

by

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(ABSTRACT)

The goal of this research was to determine whether governance varied among institutions of higher education in the U.S. and how this variation was related to the size of the institution, the nature of its charter, and a measure of its quality. The proposed model identified four governance types based on the dichotomization of faculty and administrative power. Relationships were hypothesized between governance type and three predictors: size, charter, and institutional quality. Data were gathered by telephone interviews, inquiries to organizations, and document analyses for 40 comprehensive colleges and universities.

A three-way (2x2x2) ANOVA revealed no

significant (alpha = .Ø5) differences in relative faculty-administrative power when the institutions were categorized by size, charter, and quality, nor were any of the interactions among size, charter, and quality significant (alpha = .Ø5). The chi-square statistic was used to compare the number of correct predictions to the number expected by chance. The chi-square was not significant at alpha = .Ø5. The model was revised using the difference between faculty and administrative power to redefine governance type. The number of correct predictions increased, but the chi-square was still not significant at an alpha of .Ø5.

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CHAPTER 1

THE PROBLEM

This study examines governance in higher educational institutions in the U.S. The term "governance" is defined according to John D. Millett (1978) as a "formal arrangement for involving various groups or constituencies of the campus in a decision-making structure or process" (p. x). In addition to the "formal arrangements" cited by Millett, the definition also includes many informal ways in which groups and individuals are involved in the decision-making structure and process on college and university campuses.

University governance is ambiguous and often misunderstood. Burton Clark (1961) observed that

> Anyone who seriously and intensively probes the authority structure of his own college, for example, and presents his observations for public consumption, is likely to make enemies and may have occasion to travel. More important, academic authority is a peculiarly subtle and complex matter, a murky business that has caused highly intelligent men to veer away or throw up their hands. (p. 293)

Most writers agree that this area badly needs clarification. In The Governance of Colleges and Universities, only ten years ago, Corson (1975) stated:

> No student of administration of higher education has effectively revealed how and why the power is distributed among the trustees, president, deans, department heads, and faculty as it typically is in this country's institutions of higher learning. Nor has there been an effective assessment of the strengths and weaknesses that accrue from the distribution that is customary. (p. 14)

Baldridge, Curtis, Ecker, and Riley (1977) contended that academic governance is very diverse, in spite of the views of many observers:

> An analysis of academic governance in the United States shows the bewildering diversity of institutional patterns. There are many different institutional forms, different sets of environmental pressures, different professional configurations, and different goals. There is startling diversity in the range from major universities to community colleges, medical schools to technical schools, institutions with graduate schools to liberal arts colleges, massive multiversities to proprietary business schools. It is virtually impossible to make reasonable statements about institutional patterns that apply universally.
>
> Not only do institutions have widely different structures and purposes, but they have widely different professional autonomy for their faculties .... The decision

> processes also vary substantially. (pp. 367-368)

The authors stated that in spite of such factors as institutional imitation and increasing numbers of state-supported institutions, the diversity of American higher education is revealed by historical trends, diversity within institutions, and the effects of public control. John Millett (1973) observed:

> In the literature of recent years about higher education in the United States, one theme has been constant: that of diversity. There is little evidence of a common pattern in the mission, in the structure, or in the operation of the more than 2,500 institutions of higher education in this country. (p. 39)

Millett believed that the diversity of higher education is most visible in the differences between public and private institutions, the types of student body served, and the type of instructional program offered.

The central purpose of this study was to discover if decision making differs from one institution to another and to uncover those factors closely associated with any differences which might

exist. Specifically, the research goal was to determine if governance does, in fact, vary among institutions of higher education in the U.S. and how this variation, if it exists, is related to the size of the institution, the nature of its charter, and some measure of its quality.

Since the primary purpose was not to explain university governance, but rather to compare university governance structures, some ideas offered by Burton Clark were particularly applicable. Clark believed that three concepts of authority "contend with one another in and around colleges and universities" (Mason 1972, p. 294). First, the principle of "public trust" is widely applied to governance by a board of laymen who represent the amateur or outside view of the larger society. Second, to overcome the amateur status of the governing board, the principle of "bureaucratic authority" is applied through the appointment of administrative officers. This resulting hierarchical structure is, in turn, somewhat checked by the third principle, "collegial authority". A traditional view of a self-governing community of teachers has become widely accepted,

based primarily on the concept of professional expertise. Henry Mason (1972) explained:

> Clark's conception of the balancing off of these three principles is crucial. A victorious principle of "collegial authority" would have eliminated the administrative role of the university; by the same token, an unchecked practice of the principles of "public trust" and "bureaucratic authority" would have prohibited faculty participation in university government. (p. 5)

It was precisely this "crucial balance" which this researcher believed was the means by which one could measure differences in governance among institutions. In this study, the balance was analyzed through the measurement and comparison of faculty and administrative power. These concepts led to the formation of the theory presented in Chapter 2 of this study.

CHAPTER 2

THE THEORY OF COMPARATIVE GOVERNANCE

The thesis of this study is that patterns of governance of higher educational institutions revealed by the comparison of faculty and administrative power can be predicted by knowing the combination of the institution's size, type of charter, and the quality of its educational program.

Governance Types

A number of writers have expressed ideas which support the concept of the comparison of faculty and administrative power as an important characteristic in differentiating governance in higher educational institutions. Burton Clark (1961) felt the polarization of power was very important in understanding university governance.

> The problem of authority in colleges and universities increasingly takes the form of conflict between the bureaucrats and colleagues -- the salaried, expert administrator versus the faculty member. (p. 296)

In their 1970 essay, Mortimer and McConnell stressed the importance of comparing faculty and administrative power, stating that tension and conflict between the faculty (professionals) and the administration were normal in academic organizations; a product of disparate roles and values, different reference groups, and personality differences.

> While the myth of colleagueship persists in universities and some other kinds of organizations, there is almost inevitable tension between professionals and administrators. (p. 127)

Clark (1961) also identified this tension when he stated:

> There is now in the organization of higher education an inherent strain toward greater conflict between the administration and the faculty. In many respects this conflict is similar to the growing conflict in the other major institutions between The Organization and The Profession. (p. 296)

John Wesley Gould (1964) provided additional support to the validity of comparing faculty and administrative power in his study of academic deans.

> There is a paradox in academic administration: only the faculty has the knowledge and wisdom to make judgments regarding the content and the conduct of the academic program, and only the persons whose energies are directed full-time to control of the academic organization can administer those judgments effectively. There is a constant need for balance between necessary faculty authority and desirable administrative efficiency. (p.1)

This inevitable conflict between faculty and administration for control of higher educational institutions provided the means for establishing governance types in this study. The powers of the faculty and the administration were not viewed as being on the same continuum as the literature often suggested, but rather as separate coexisting factors; both could be either high or low, regardless of the other. This view yielded a contingency table with four basic governance types (Table 1).

In the following paragraphs, each of the four governance types is examined with theoretical characterizations based on ideas found in the literature.

Table 1

Governance Types Based on the Dichotomization of Faculty and Administrative Power

Administrative power	Faculty power	
	High	Low
High	Type I	Type III
Low	Type II	Type IV

Type I institutions measure high on both faculty and administrative power. This type of institution probably has a high level of conflict since both of the primary power groups would be exerting pressure for control, with neither having dominance. Institutions with this governance type might well have the highly political atmosphere described by Baldridge (1971) and Epstein (1974).

Type II institutions are high in faculty power and low in administrative power. This powerful faculty is a close-knit group with many informal and formal ways of influencing campus decision making. Administrators in this type of school may find that their duties mainly consist of executing the collective will of the faculty. The extensive literature on participatory management suggests that a high level of faculty involvement in decision making would have positive effects on the output of the organization. Marshal Sashkin (1982) observed that

> Decades of research shows [sic] conclusively that given half a chance -- with competent implementation under appropriate conditions -- participative management can assuredly benefit organizations in terms of

> hard criteria of performance and productivity. (p. 60)

Burton Clark (1961) identified a number of characteristics of institutions with strong faculty control.

> Strong faculty control also often means considerable administrative inefficiency and instability. Close faculty control over admissions in a small college, for example, means that a half-dozen faculty members give over a good portion of their lives for two or three months each year to judging applicants, to work that in other colleges is done by administrative staffs with faculty time freed for other pursuits. Strong faculty control commonly means rule by committee and a certain slowness and hesitancy in decision-making. Piecemeal policy-making appears as another common outcome. Very important for instability, I believe, is that strong faculty authority can make the president's position difficult to the point of being intolerable .... Such dysfunctions of strong faculty control as resistance to innovation, and instability come quickly to mind, and especially to the minds of those familiar with business firms, public bureaus, and the military. Management consultants are quick to warm to these topics.... (p. 299)

Type III institutions are high in administrative power and low in faculty power. Many of the characteristics of Type III insitutions are the reverse of the characteristics described for Type IV.

Type IV institutions measure low on both faculty and administrative power. Since neither group exerts strong pressure for control, this type of institution has a low level of conflict. Both groups may be concerned with matters other than governance. In this atmosphere, the faculty might be uniquely dedicated to teaching or research and might be permitted to pursue those interests without "interference" from the administration. While Type IV institutions are similar to Type I in that neither the faculty nor the administration holds a definite position of control, it is theorized that Type IV is different from Type I because the faculty and administrators of Type IV institutions do not manifest a high level of interest in governance. Neither group attempts to dominate.

Predictors of Governance Type

The most important assumption in the Theory of Comparative Governance, formulated for this study, is the belief that governance type can be predicted with some degree of reliability by examining only three variables: type of charter, size, and

quality. There is substantial empirical evidence for the use of these variables. Alexander Astin (1962) used factor analysis to discover the distinguishing characteristics of higher educational institutions. From analysis of 33 variables, six factors were shown to be of the most value in differentiating schools: affluence (wealth), size, private versus public, masculinity, realistic (technical) emphasis, and homogeneity of the environment (p. 234).

Institutional size and type of charter were chosen for this study specifically because of Astin's findings. Affluence, masculinity, technical emphasis, and homogeneity were not chosen for inclusion because this researcher believed that they were of secondary importance in prediction of the power of the faculty and administration. As noted below, some of these variables were gathered and examined in the research as extraneous variables.

Gould's (1964) study of deans' views was particularly applicable to this research because he identified institutional size as an important

variable in determining the role of the dean in institutional decision making. His research showed that the types of activities of deans differed between large and small institutions. In large institutions, deans were involved most with personnel matters and budgeting. In the small schools, the deans had more contact with the students and spent more time on committees.

Institutional quality was chosen as a predictor partly because of this researcher's personal observation at several institutions that faculty control seems to be positively related with various indicators of quality. Discussions with fellow students and faculty indicate that the close association between faculty control and institutional quality is a commonly held belief. Institutional quality was also chosen because of Burton Clark's (1961) beliefs. He stated:

> There is a positive correlation between the academic quality of colleges and faculty authority. In the very best colleges, the faculties generally have much authority; in the very worst colleges, virtually none. In the middle range, the situation is confused. That much authority becomes lodged in the hands of faculty members in the best colleges is no accident, I will hypothesize, but is an

> intrinsic part of achieving and maintaining a preeminent position. (p. 229)

The research of Baldridge, Curtis, Ecker, and Riley (1978) provides support for the choice of the three predictor variables. In Policy Making and Effective Leadership, they developed a measure for the degree of faculty autonomy versus bureaucratization based on examination of contract specification, travel regulations, course flexibility, degree of peer evaluation, freedom in faculty selection, and power over tenure decisions. Their data from the study of 300 higher educational institutions yielded the conclusion that there was greater faculty autonomy in (a) larger institutions than smaller institutions, (b) higher quality institutions than lower quality institutions, and (c) private institutions than public institutions (pp. 118-128).

They interpreted their first conclusion by noting that size was usually related to greater organizational complexity, i.e. broader span of control at most levels of the organization. Tasks tended to be completed by experts in this setting and these expert faculty demanded more autonomy.

They believed that size was also important because differentiation within the organization tended to promote the development of "professional enclaves" which were, in fact, "islands of faculty autonomy" within the institution. They also believed that large institutions prohibited administrative ability to "meddle".

Baldridge et al. (1978) claimed that quality was correlated to professional autonomy by the effect of institutional wealth. High quality schools tend to have more money to hire better faculty who develop more autonomy for themselves as the result of their "professional status". They claimed that private colleges were different from public colleges in their degree of formal control, and found that private higher educational institutions employed faculty who were subject to much less formal control, showing more faculty autonomy in private institutions than in public ones.

The findings of Baldridge et al. (1978) are directly applicable to the Theory of Comparative Governance. The importance of size, quality, and

type of charter as predictors of institutional type was documented in their research, although they included several other variables in their model. Since their goal was reliability of prediction without regard for simplicity, they developed a more complex model than the Theory of Comparative Governance. Their terms of "faculty autonomy" and "bureaucratization" were comparable to the concepts of faculty power and administrative power in this research. They viewed these concepts as residing at either end of the same continuum. The Theory of Comparative Governance suggests that the two types of power are not on the same scale and vary independently.

Theorems

The Theory of Comparative Governance consists of four theorems which state the expected values of the predictor variables for the four governance types.

THEOREM 1: If an institution is large in size, high in quality, and chartered as public, then its governance will be Type I (high administrative power / high faculty power).

Clark's (1961) statement that faculty have much authority in high quality institutions and very little authority in low quality institutions provides the main rationale for hypothesizing high quality in Type I institutions. Since larger organizations have more staff, logic dictates that they require more coordination, i.e. more administrative control, than is required in smaller organizations. This researcher believes that type of charter is less important as a predictor for Type I schools. Size and quality are believed to be the more reliable predictors, in general, with type of charter aiding prediction only in certain types, such as this one. Public institutions are hypothesized into this type because they are subject to political influences of state government more directly than private institutions.

Gerald Platt and Talcott Parsons (1970) conducted research on influence and power in higher educational institutions. Their results provide strong support for associating high faculty power with large size and high quality. From eight higher educational institutions, stratified on size and quality, they sampled 639 faculty members.

After initial analysis of size and quality data proved disappointing, they combined size, quality, and research orientation to develop a linear scale of institutional differentiation. They believed that a high score on this differentiation scale indicated an institutional preoccupation with intellectual values and research. Most important to the present research project was their interpretations of their findings with respect to institutional size:

> In conclusion, it appears that our data contradict the popular belief that increasing institutional size inevitably leads to loss of faculty control and to the concentration of power and influence in the hands of the administration. We find that increasing differentiation enhances departmental autonomy and control over policies directly related to its own operation although on important policy issues such as educational and particularly financial policy, the administration and the trustees play a very influential role. (p. 149)

They also concluded that increasing differentiation (increasing size, quality, and research orientation) was directly related to increasing faculty autonomy and increasing faculty involvement in decision making. They found that the

administration had more power over decisions at institutions which measured low in differentiation.

THEOREM 2: If an institution is chartered as private, large or small in size, and high in quality, then its governance will be Type II (low administrative power / high faculty power).

Institutional quality is hypothesized as the most important predictor of governance type. Since Type II institutions are high in faculty power, Clark's (1961) position that high quality is associated with high faculty power supports the theory that Type II institutions are high in quality. Type of charter is hypothesized as private for Type II because this researcher's belief is that high faculty power and high quality are more closely associated with private institutions than with public ones.

In 1969, Walter R. Boland studied the relationship between size and certain organizational characteristics in 115 higher educational institutions. He found that increasing institutional size was strongly associated with the development of a strong central authority which mediated crucial external relations. Most

importantly, he also found that increasing size was strongly associated with the development of power by the faculty to influence the institution's educational policy. Boland suggested that while the independence of the faculty was never complete (total faculty power), it was considerably stronger in larger institutions (Baldridge 1971, p. 58-74).

In The Academic Mind, Lazarsfeld and Thielens (1958) analyzed the effects of different types of higher educational institutions on the academic freedom of social sciences faculties. While their findings were not aimed at discovery of governance traits, the results did have applicability to the Theory of Comparative Governance. When analyzing the effects of institutional quality, they found that the higher the quality of the school, the more likely the faculty was subject to pressure from outside the institution. Most importantly, the higher the quality of the college, the better the performance of the administration in defending the academic freedom of the faculty (p. 176). These findings would seem to support the idea that high quality tends to go with high faculty power. The better performance in protecting academic freedom

at high quality institutions may well have resulted from the faculty's ability to assert power. It seems unlikely that a weak faculty would have merited the degree of protection cited by Lazarsfeld and Thielens.

THEOREM 3: If an institution is low in quality, large or small in size, and chartered as either private or public, then its governance will be Type III (high administrative power / low faculty power).

This theorem illustrates that quality was hypothesized as the strongest predictor variable since type of charter and size do not aid in prediction for this type. Low quality is associated with high administrative power, regardless of size or type of charter.

THEOREM 4: If an institution is high in quality, large in size and chartered as public, or small in size and chartered either private or public, then its governance will be Type IV (low administrative power / low faculty power).

Type IV institutions are essentially the opposite of Type I institutions. Neither the faculty nor the administration are exercising significant power on decision making. While Type

IV is similar to Type I in that both have a balance of faculty and administrative power on decision making, Type IV is hypothesized as different from Type I because neither group has shown evidence of putting forth the effort to gain control of the Type IV institutions. This researcher believes that the Type IV institutions have a low conflict atmosphere, especially compared to the Type I schools, which makes them different. Since issues of campus governance are not contested in a highly political atmosphere in Type IV, the result should be high institutional quality. Neither the faculty nor the administration are dedicated to issues of governance. They are probably devoted to instruction or research.

Dichotomization of the three predictors yields eight predictor variable categories. These eight categories and their theorized governance types are shown in Table 2. The symbol "X" is used to signify a normal prediction according to the model. The symbol "O" is used in two cells of Table 2 to signify an "ideal type". This term means that the particular combination of the predictor variables is most likely to match with the governance type

Table 2

Permutations of the Predictor Variables and Their Expected Governance Types According to the Theory of Comparative Governance

Predictor variable category			Governance type			
Size	Charter	Quality	I	II	III	IV
Large	Public	High	A			A
Large	Public	Low			X	
Large	Private	High		O		
Large	Private	Low			X	
Small	Public	High				X
Small	Public	Low			O	
Small	Private	High		A		A
Small	Private	Low			X	

Note. A = types predicted with ambiguity
O = ideal predicted type
X = predicted type
Type I = High administrative / High faculty power
Type II = Low administrative / High faculty power
Type III = High administrative / Low faculty power
Type IV = Low administrative / Low faculty power

indicated, according to both the Theory of Comparative Governance and the research results of Baldridge et al. (1978). A large private university which has achieved and maintained high quality in its educational program is the most likely of all universities to have strong faculty power. A small private school of high quality is also hypothesized as tending toward governance Type II, but this is based on the values of quality and type of charter, even though the value of size opposes them predictively. By the same token, a small public higher educational institution of low quality is believed to strongly tend to be high in administrative power. Governance Type III is hypothesized to match with three other combinations of the predictor variables, but these hypotheses are based on the presence of low quality in each case, combined with another sympathetic variable. Based on the Theory of Comparative Governance and the literature of higher educational administration, the two "ideal types" were the most likely areas of high predictive efficiency.

Two ambiguities occur in the predictive model, as indicated by the symbol "A". Examination of other variables suggested by Astin (1968) may be able to reveal ways of distinguishing governance type given these values of the predictor variables.

The next chapter details the methodology used to examine the Theory of Comparative Governance.

CHAPTER 3

METHODOLOGY

This chapter contains the hypotheses tested, the variables used to derive faculty and administrative power scores and governance type, the measurement tools used, and the population and sample examined.

Hypotheses

The hypotheses stated below were the logical offspring of the Theory of Comparative Governance. These hypotheses were based on the permutations shown in Table 2 and are stated in research rather than null form.

(a) If an institution's size is large, charter is public, and quality is high, then it will be either governance Type I or IV.

(b) If an institution's size is large, charter is public, and quality is low, then it will be governance Type III.

(c) If an institution's size is large, charter is private, and quality is high, then it will be governance Type II.

(d) If an institution's size is large, charter is private, and quality is low, then it will be governance Type III.

(e) If an institution's size is small, charter is public, and quality is high, then it will be governance Type IV.

(f) If an institution's size is small, charter is public, and quality is low, then it will be governance Type III.

(g) If an institution's size is small, charter is private, and quality is high, then it will be either governance Type II or IV.

(h) If an institution's size is small, charter is private, and quality is low, then it will be governance Type III.

Variables

The variables used in this study are classified for convenience into three basic sets: dependent variables, independent variables, and extraneous variables. Each variable was defined and measured as follows.

Dependent Variables

The dependent variable in this study, from a theoretical perspective, was governance type. The model for calculation of governance type was based on a formal/informal approach, where the faculty and administration exercised or gained power through formal as well as informal means. Table 3 shows the arrangement of the variables used for computation of faculty and administrative power, as well as the variable names used throughout the study. From a statistical perspective, the variable used for hypothesis testing was the difference between the two measures of faculty and administrative power.

Table 3

The Formal/Informal Model for

Measurement of Faculty and Administrative Power

Faculty power (FP)	Administrative power (AP)
Formal (fpf)	**Formal (apf)**
1. Union contract?	1. Ratio of administrators to faculty in quasi-legislative body
2. Ratio of faculty to administrators in quasi-legislative body	2. Defined relationship of quasi-legislative body (no body, advisory, or legislative)
3. Defined relationship of quasi-legislative body (no body, advisory, or legislative)	3. Standardization
	4. Formalization
4. Decentralization	5. Centralization
	6. Configuration
Informal (fpi)	**Informal (api)**
1. Normative basis for governance	1. Administrative informal association
2. Faculty experience and education	
3. Percentage faculty who were distinguished scholars	
4. Strength of AAUP (if no union)	

This two dimensional approach to measurement of faculty and administrative power was established in recognition of the importance of the informal organization as well as the formal organization. Peter Blau (1962) stated:

> The general conclusion that emerges from the case studies of informal organization in bureaucracies is that procedures formally instituted for specific purposes in organizations recurrently create disturbances in other respects and the informal patterns that typically arise to cope with these disruptions often produce a basic reorganization of operations. (p.33)

Blau obviously was saying that it was useless to examine only the way an organization was supposed to be organized because organizations seldom followed that formal pattern. Prior to examination of the results, it was believed that differences in higher educational institutions examined in this study may have been more prevalent in the informal dimension than in the formal dimension, based on Blau's theories. However, as Blau suggested, higher educational institutions may not, in fact, follow their pre-established patterns in actual practice.

Formal faculty power

Variable fpfl: union contract

This variable was the institution's response to the question, "Does your institution's faculty have a collective bargaining agreement with the institution?"

There are two strong effects attributable to the presence of a collective bargaining agreement. First, faculty power is directly increased due to greater specification of the terms of employment and other personnel matters. Second, the nature of faculty power changes with unions taking over matters formerly controlled by a usually weak faculty senate (Baldridge et al. 1978, p. 84-86). Barbara Lee (1979) conducted a case study of the effects of unionization of faculty in four-year colleges. She found that faculty influence on decision making increased substantially under union contract, particularly for decisions relating to academic matters (p. 573).

This dichotomous variable was scored as one for a faculty union and zero for no union. The

values of fpf1 for the 40 sample institutions are shown in Table 21, Appendix C.

Variable fpf2: percentage of faculty on the quasi-legislative body

This variable is essentially self-explanatory. The "quasi-legislative body" (hereafter often referred to as the QLB) was defined as the highest committee involved in campus decisions at the university level which included both faculty and administrators. The governing board was excluded. The values of fpf2 were computed using the formula:

fpf2 = fpf2f / (fpf2f + fpf2a) * 100

where fpf2f was the number of faculty on the quasi-legislative body and fpf2a was the number of administrators on the QLB. This information was gathered in the telephone interviews described later. Table 21, Appendix C, contains the values of fpf2 for the sample of institutions.

Variable fpf3: defined relationship of the quasi-legislative body to the formal administration

This relationship was the stated purpose of the QLB, as indicated in the telephone interviews. Scoring for this variable was on an ordinal scale with two for the presence of a legislative QLB, one for an advisory QLB, and zero if no QLB was present. Table 21, Appendix C, contains the values of fpf3 for the sample of institutions.

Variable fpf4: decentralization

This variable was computed by reversing the polarity of variable apf5 (centralization). The assumption was that decentralization worked against administrative control, increasing faculty power. Interviewees were asked to rate centralization on certain types of decisions (see variable apf5). Variable apf5 was scored on a scale of zero to six as an ordinal variable with increasing values indicating more centralization of decision making. The raw scores consisted of the mean of the answers of the two interviewees. The fpf4 value was derived by reversing the scale of apf5, since decentralization was, generally speaking, the

opposite of centralization, and was hypothesized as having opposite effects on faculty and administrative power. The values were reversed by subtracting 6 from each apf5 value and eliminating the sign. The formula used was:

$$fpf4 = \sqrt{(apf5 - 6) * (apf5 - 6)}$$

where the square root of (apf5 - 6) squared is always positive. Table 21, Appendix C, contains the values of variable fpf4 for the sample of institutions.

Variable FPF: formal faculty power

The formal faculty power score (FPF) was computed using the formula:

$$FPF = fpf1z + fpf2z + fpf3z + fpf4z$$

where each of the components of the right side of the equation is the standard score (z score) of the corresponding formal faculty power variable, using the formula:

$$z = \frac{x - M}{SD}$$

where x was the institution's score, M was the sample mean, and SD was the sample standard deviation on this variable.

Table 26, Appendix D, contains the components of variable FPF, the resultant values, and the descriptive statistics for each of the sampled institutions.

Informal faculty power

Variable fpil: normative basis for governance

John Corson (1975) suggested that a strong normative basis for governance tended to work against administrative control of higher educational institutions. He stated that institutions with specific, distinctive statements of purpose widely accepted by the academic community enjoyed a higher degree of faculty unity. This unity worked to decrease administrative control and increase faculty power (p. 87). This variable, then, indicates the degree to which each institution's formal mission statement given in its college catalog was distinctive. Variable fpil was an ordinal variable scored as zero for a

nonspecific purpose, one for a somewhat specific purpose, and two for a very specific purpose. Table 22, Appendix C, contains the values of fpi1 for the sample of institutions.

Variable fpi2: faculty experience and education

Baldridge, Curtis, Ecker, and Riley (1978) found that the higher the expertise of the faculty, the stronger the academic department.

> We assumed that institutions with higher levels of faculty expertise would have stronger departments with: (1) more peer evaluation, (2) more control over courses, (3) more autonomy in determining who got promoted, (4) more influence in selecting new faculty members, and (5) more ability to determine how budgets were spent. The survey findings ... support our assumptions. (p. 116)

Faculty experience and education were captured by measuring the percentage of the teaching and research faculty with earned doctorates and the percentage of the faculty with the rank of full professor. These values were computed by dividing the number of faculty in each category by the total number of faculty at the institution. The raw data were gathered from HEGIS computer tapes (described

later). The two percentages were combined using the formula:

fpi2 = fpi2az + fpi2bz

where fpi2az was the z score value for the percentage of faculty with doctorate and fpi2bz was the z score for the percentage of faculty with full professor status. Table 22, Appendix C, contains the values for each sample institution on variable fpi2.

Variable fpi3: ratio of distinguished scholars to all faculty

The term "distinguished scholar" was operationally defined as a faculty member who was chosen as one of the following: (a) Woodrow Wilson Fellow, (b) American Council of Learned Societies Winner, (c) National Science Foundation Regular Fellow, or (d) Nobel Laureate. It was believed that these individuals, through their distinctive achievements, added special power and influence to the faculty.

The original methodology called for gathering information on the number of distinguished scholars at each institution through correspondence with each of the organizations. This approach proved to be unsuccessful since the data were not available. The Woodrow Wilson Foundation could not supply a list of its fellows. While the American Council of Learned Societies did not have the desired information available, data were acquired from membership lists published in their annual reports. The National Science Foundation responded to the inquiry, stating that none of its council members were on the faculties of the sampled institutions. Since this approach, in general, did not yield the desired information, it was decided to include a question in the telephone interview which asked the respondents to estimate the number of distinguished scholars at their institutions. Variable fpi3 was computed by dividing the raw number of distinguished scholars by the total number of faculty and multiplying by 100. Table 22, Appendix C, shows the values of fpi3 for the sample of institutions.

Variable fpi4: strength of AAUP, if no union

If no collective bargaining agreement was established between the faculty and the institution, the strength of the AAUP on the campus was used as an indicator of faculty unity. The variable was the ratio of AAUP members to all faculty at the institution. The American Association of University Professors supplied a list of the number of its members at each of the 40 sampled institutions. The value of fpi4, however, was reduced to zero if the institution had a faculty union. Table 22, Appendix C, gives the values of fpi4 for the sample of institutions.

Variable FPI: informal faculty power

Informal faculty power (FPI) was computed using the formula:

$$FPI = fpi1z + fpi2z + fpi3z + fpi4z$$

where each of the variables on the right side of the equation is the z score for the corresponding informal faculty power variable. Table 27, Appendix D, shows the values of FPI and related

descriptive statistics for the sample of institutions.

Formal administrative power

Variable apf1: percentage of administrators on the primary decision-making body

The value of apf1 was computed using the formula:

apf1 = fpf2a / (fpf2f + fpf2a) * 100

where fpf2a was the number of administrators on the QLB and fpf2f was the number of faculty on the QLB. Table 23, Appendix C, contains the values of apf1 for the sample of institutions.

Variable apf2: defined relationship of the quasi-legislative body to the administration

This variable was the inverse of variable fpf3, yielding opposite scores for various types of QLBs: zero for a legislative QLB, one for an advisory QLB, and 2 for no QLB. Table 23, Appendix C, contains the values for apf2 for the sample of institutions.

Variable apf3: degree of standardization

This variable was used to determine the extent to which activities were standardized at the institutions, using the methods suggested by Pugh, Hickson, Hinings, and Turner (1968). They stated:

> The operational problems here revolve around defining a procedure and specifying which procedures in an organization are to be investigated. A procedure is taken to be an event that has regularity of occurrence and is legitimized by the organization. There are rules or definitions that purport to cover all circumstances and that apply invariably. (p. 32)

Respondents were asked during the telephone interview to rate the degree to which they believed that both the frequency of staff evaluations and the faculty recruitment procedures were standardized at their institution, based on the following scale:

1 = no universal, consistent policy
2 = some consistency, but with many exceptions
3 = widely applied, with few exceptions
4 = universally applied, with no exceptions

The variable was scored as the average of the answers of the two respondents on the two

questions. Table 23, Appendix C, shows the values of apf3 for the sample of institutions.

Variable apf4: degree of formalization

This variable, suggested by Pugh et al. (1968), examined the extent that both job descriptions and the minutes of meetings were formally written. The items included in the telephone interview were rated on the following scale:

1 = never written
2 = seldom written
3 = often written
4 = usually written
5 = always written

The score given to each institution was the average of the responses of the two individuals interviewed on the two questions. Table 23, Appendix C, shows the scores for the sample of institutions.

Variable apf5: degree of centralization

The measurement of this variable was accomplished by determining who was the highest person in the campus hierarchy from whom permission was obtained before legitimate action was taken,

even though others may later have confirmed that action. This method of measurement was also suggested by Pugh et al. (1968).

> Centralization has to do with the locus of authority to make decisions affecting the organization .... This identified the level in the hierarchy where executive action could be authorized, even if this remained subject to routine confirmation later, for example, by a chairman or a committee. (p. 34)

Respondents were asked in the telephone interview to describe the hiring of a new faculty member and budget decisions relating to the purchase of equipment. They specified the level at which the effective decision was being made in each type decision. The researcher rated the answers according to the following scale of hierarchical levels:

1 = individual worker or faculty member
2 = department chairman or supervisor
3 = dean or division director
4 = vice president
5 = president
6 = above president

The institutions were given scores which were the averages of the two respondents for the two questions. Table 23, Appendix C, contains the values of apf5 for the sample of institutions.

Variable apf6: configuration

As suggested by Pugh et al. (1968), configuration was measured by examining the following three variables: (a) president's span of control, (b) average vice president's span of control, and (c) average ratio of the size of an academic department to the size of the total faculty. Variable apf6 was calculated using the formula:

apf6 = apf6az + apf6bz + apf6cz

where the scores on the right side of the equation are the z scores of the three factors composing configuration.

Variable APF: formal administrative power

The formal administrative power score was computed using the formula:

APF = apf1z + apf2z + apf3z + apf4z + apf5z - apf6z

where each of the variables on the right side of the equation is the z score for the corresponding formal administrative power variable. Note that apf6z was subtracted from the equation because the

higher its value, the more that the institution tended toward decentralization, a factor which subtracted from administrative power. Table 28, Appendix D, contains the values and descriptive statistics of APF and apf1z through apf6z for the sample of institutions, including descriptive statistics.

Informal administrative power

Variable apil: administrative informal association

This variable measured the degree of informal association among administrators by asking the respondents to the telephone interview to indicate how often they engaged with their administrative colleagues in social activities such as having lunch together, attending sporting events together, visiting each other's homes, having dinner together, or engaging in various recreational activities outside the work setting. The degree of informal social interaction was rated by the interviewees on a scale from one to nine with nine representing the highest degree of informal social interaction. The institution's score was the average of the ratings of the two respondents.

Table 24, Appendix C, shows the values of apil for the sample of colleges and universities.

Variable API: informal administrative power

The informal administrative power score was computed using the formula:

API = apilz

where apilz was the z score of variable apil.

Variables FP and AP: faculty and administrative power

The values for faculty and administrative power were calculated from the formal and informal power scores using the formulas:

FP = FPFz + FPIz

AP = APFz + APIz

where the variables on the right side of the equation are the z scores of the formal and informal power scores. Tables 29 and 30, Appendix D, show the values of the variables and the resulting power scores for each sampled institution, including descriptive statistics.

Governance type

For computation of governance type, the means of AP and FP were computed. In both cases, the mean was zero. Each variable was dichotomized into values of "high" and "low", respectively, for those institutions whose power scores were above and below the mean. The appropriate governance type was then found according to Table 1. Table 31, Appendix D, shows the governance types for each of the 40 sampled institutions.

Predictor Variables

Institutional size

The size of a higher educational institution, for the purpose of this study, was measured as the total number of full-time equivalent graduate and undergraduate students, as reported in Cass and Birnbaum's (1977) Comparative Guide to American Colleges for Students, Parents, and Counselors.

Type of charter

This variable measured whether an institution was chartered as private or public, as reported by Cass and Birnbaum (1977).

Institutional quality

In "Undergraduate Achievement and Institutional Excellence", Alexander Astin (1968) suggested that two indices were highly correlated to all other measures of institutional quality: selectivity of the student body and per capita expenditures for general and educational purposes. For the purpose of this study, institutional quality (Q) was operationally defined as the composite score of the two variables: (a) q1, average of combined SAT scores for incoming freshmen, and (b) q2, ratio of the total amount spent for general and educational purposes to the total FTE students. The values for q1 and q2 for each institution were converted to standard scores. These scores were added together to compute Q for each institution.

When compiling the data on this variable from Cass and Birnbaum (1977), it was discovered that SAT scores were not available for all institutions in the population. Two other variables were gathered in addition to SAT scores: ACT scores and the percentage of the freshman class who came from

the top five percent of their high school graduating class. When SAT scores were not reported, an average combined SAT score was synthesized using regression analysis. In some cases, one or both of these variables was available in addition to SAT scores. Regression analysis was used to create three formulas to predict an average SAT score. One formula predicted the SAT score from the ACT score. Another formula predicted the SAT score from the percentage of freshmen in the top fifth of their hgh school class The third formula predicted the SAT score from a combination of the ACT score and the percentage in the top fifth. This technique allowed variable q1 to be on the same scale for all the institutions studied.

The values for q2 were taken from a listing of Higher Educational General Interest Survey (HEGIS) information provided by the U. S. Office of Education. Table 32, Appendix D, shows the values of q1 and q2 for the 40 sampled institutions.

Extraneous Variables

Since the theory contained several areas of ambiguity in predicting governance type, a number of other variables were gathered. Examination of these factors added extra weight to the overall analysis and were gathered as a possible means of resolving the problem areas of the theory. The following variables were found by Astin (1962) to be of importance in differentiating higher educational institutions: (a) institutional wealth, total operating budget of the institution, regardless of the number of students; (b) institutional masculinity, percentage of the student body which is male; (c) institutional age, number of years since the institution was founded; (d) institutional growth, percentage increase in enrollment from 1982 to 1983; (e) landgrant status, indicator of whether or not the institution was founded under the Landgrant College Act of 1862; (f) environment, classification of the physical community in which the institution is situated; and (g) endowment yield, thousands of dollars received each year from an endowment. All of these

extraneous variables were gathered from HEGIS data, as described later in this chapter.

Measurement Tools

Three basic means were used to gather information for this study. They are briefly outlined below.

Telephone Interviews

For each of the 40 institutions chosen for study, telephone interviews were conducted with two key individuals at the institution: the vice president for academic affairs and a randomly chosen academic dean. Each individual was contacted by mail prior to the interview and was sent a copy of the interview questions so that they had an opportunity to consider their answers. Appendix B contains the interview questions.

At the request of the doctoral advising committee, a field study was conducted to test the original telephone interview instrument and methodology. Two institutions were randomly selected for this study from the general sampling pool: Capital University in Colombus, Ohio, and

Longwood College in Farmville, Virginia. These schools were among those excluded from the final study because their quality rating scores fell in the middle range between "high" and "low". Questionnaires were sent to one randomly selected dean, the campus director of personnel, and the vice president for academic affairs (provost) at both schools. Interviews were conducted between January 17, 1984, and January 26, 1984. The results of the interviews are shown in Tables 19 and 20, Appendix A, to aid in comparison of the responses of the three interviewees at each institution.

The field study was a valuable exercise which resulted in a number of methodological changes.

(a) The names of the individuals to be contacted at each institution were confirmed by telephone calls before mailing the letters and questionnaires. Even the most recent reference books were found to be out-of-date. Four of the six individuals contacted in the field study were different from those listed in current reference books for the positions.

(b) Attention was given to interviewing technique to avoid such problems as talking too quickly, letting the interviewee get off the subject, and ensuring that the precise research needs were addressed. A telephone interview data gathering worksheet was developed to specifically address this last problem.

(c) Several of the questions were revised, particularly to allow judgment by the interviewer rather than by the interviewee. Ambiguous and problematical questions were also changed. Appendix B shows the revised questionnaire, which was used for all interviewees, regardless of position.

(d) The number of individuals interviewed at each institution was reduced from three to two. The personnel director was excluded because the field study indicated his or her answers were most ambiguous and they indicated lack of knowledge of many of the question areas.

The final telephone interviews for the study were conducted between March and May 1984. A substantial amount of difficulty was encountered in

completing many of the interviews due to vacations and other commitments of the interviewees. Most of the interviews were scheduled on the initial call, then completed at a later date. All of the interviewees had received the interview questions in advance mail and had the questions in hand during the interview. Interviews ranged from five minutes to 40 minutes, depending on the degree of cooperativeness and interest in the research. Whenever possible, the interviewees were encouraged to provide additional information and opinions.

In many of the answers gathered in the interviews, broadly different responses were received from the two interviewees. The viewpoints of the senior academic officer were weighted more heavily in scoring, under the judgement of the researcher. Subjectivity of the researcher, with regard to the institutions studied was guarded against by the fact that the quality ratings of the institutions were not known during the interviews. The data were available, but not consulted.

Document Analysis

The original method for gathering some of the data was to be through examination of documents obtained from the subject institutions. In spite of the fact that letters requesting college catalogs, personnel handbooks, and organizational charts were sent in February and May of 1984, a series of telephone calls was necessary to yield a few documents. In some cases, current microfiche copies of the college catalogs were consulted. In three cases, organizational span of control data were obtained over the telephone from the office of the president.

The college catalogs were straightforward in presenting their mission statements and the number of faculty in each academic department. Where organizational charts were available, determination of the span of control of the president and the average span of control for the vice-presidents was simple.

HEGIS Data

Data gathered by the National Center for Educational Statistics in its Higher Education General Interest Survey (HEGIS) were published on computer tapes. These tapes were processed to extract only the information which might be of value in this study. The tapes used were the most current available: (a) Institutional Characteristics of Colleges and Universities, 1982-83; (b) Salaries, Tenure and Fringe Benefits of Full-Time Instructional Faculty, 1982-83; and (c) Financial Statistics for Institutions of Higher Education for the Year Ending 1982.

One institution did not provide the needed information to HEGIS. The needed data were gathered through direct correspondence. Appendix E shows the HEGIS information obtained for each of the sampled institutions.

Population and Sample

The population of this study was all U.S. colleges and universities which were classified as "comprehensive universities" in A Classification of

Institutions of Higher Education from the Carnegie Commission (1973). The total population was the 453 comprehensive universities listed in that document. A sample of 40 institutions was chosen for this study in the following steps: (a) Create computer records for all institutions with more than 4000 students. Annotate these records with the name of the institution, type of charter, size as "large", and the data used to calculate Q. (b) Create similar records for "small" institutions with total enrollments under 2,500 students. (c) Run the series of SPSS programs to calculate Q. (d) Select institutions with only high and low values of Q, excluding the middle range of values. (e) Sort the selected institutions into the eight categories for the predictor variables. (f) Randomly select five institutions from each of the eight categories for study. This sampling technique ensured that all values of the predictor variables were represented in the sample and also provided the randomization necessary for statistical control.

The sample size of 40 was somewhat small, representing only nine percent of the population of 453 institutions. This sample size was chosen so that each permutation of the predictor variables would have five institutions represented.

The selection of the institutions to be studied was accomplished in 1981 with data supplied from sources for 1979 and 1980. This led to a noted disparity with the number of students reported for sampling data and the total number of students known to be enrolled when the study was actually completed. It must be noted that a number of the sampled institutions changed significantly in size since the data were gathered in 1981. Only four of these institutions, however, would have been placed in different size categories based on their current enrollments. Table 25, Appendix C, shows the size data comparisons. The type of charter of the sampled institutions would not have changed with current data. Per capita expenditures data were based on current expenditures and enrollments.

CHAPTER 4

FINDINGS

The next phase of the research was to test the hypotheses of the Theory of Comparative Governance. The test of the hypotheses is followed by an examination of the predictive success by governance type. Comparisons among the governance types are given and correlations among the power scores are examined.

Test of the Hypotheses

The test of the hypotheses of Theory of Comparative Governance was accomplished by analysis of variance (ANOVA). The orthogonal, factorial research design required a 2 X 2 X 2 ANOVA. The dependent variable was a difference score derived by subtracting the administrative power score from the faculty power score (faculty power minus administrative power). The independent variables were size, type of charter, and quality. Table 4 contains the results of the ANOVA. Table 5 has the cell means and standard deviations for the eight combinations of the predictor variables.

Table 4

Analysis of Variance Test of

the Theory of Comparative Governance:

Dependent Variable = Difference Score

(Faculty Power Minus Administrative Power)

Source of variation	df	Mean square	F	p
Size	1	12.21	3.Ø5	.Ø9
Charter	1	.66	.16	.69
Quality	1	.92	.23	.64
Size X Charter	1	12.5Ø	3.12	.Ø9
Size X Quality	1	1.71	.43	.52
Charter X Quality	1	14.35	3.58	.Ø7
3-way interactions	1	2.75	.69	.41
Explained	7	6.44	1.61	.17
Residual	32	4.ØØ		
Total	39	4.44		

Table 5

Mean Difference (Faculty Power Minus Administrative Power) Scores and Standard Deviations for the Eight Combinations of Charter, Quality, and Size

	Charter			
	Public		Private	
	Quality		Quality	
Size	High	Low	High	Low
Large	.Ø2	2.46	.37	-.64
	(1.Ø4)	(1.58)	(1.31)	(1.78)
Small	1.26	-.7Ø	.27	-.51
	(1.74)	(1.92)	(1.66)	(3.76)

Note. Standard deviations in parentheses.

None of the F values in Table 4 for the seven hypotheses tested by the ANOVA were significant at an alpha level of .Ø5. Since none of these hypotheses can be rejected using the standard alpha of .Ø5, the overall test of the Theory of Comparative Governance failed. Failure to reject the seven ANOVA hypotheses means that no statistically significant differences were found among the eight predictor variable categories on difference score (faculty power minus administrative power). This indicates that governance types based on the comparison of faculty and administrative power do not vary systematically with size, charter, or quality, or with their interactions. Since the Theory of Comparative Governance is based on differences in governance type based on these three predictors, the conclusion is that the data do not support the theory.

In the following sections, the results are examined to explore how and why the theory and the data diverged, to analyze the theory from the perspective of predictive success, and to examine correlations among the power score variables.

Examination of Predictive Success

This section presents an examination of the number of successful predictions as an alternative means of looking at the results. Table 6 displays the sampled institutions grouped by predictor variable categories. The governance type predicted by the theory and the governance types actually found are given. The predictive success of the theory was tested by comparing the number of successful predictions to the number expected by chance, using the chi-square statistic (Table 7).

The expected frequencies were based on the probability of the correct prediction by chance times the number of institutions in the category; five in each case. The two areas of ambiguity in the theory stated predictions of two different governance types. Those cells had a probability of predicting type by chance of .5, instead of .25 used in the other cells.

A hypothesis of no difference between correct predictions and predictions by chance was tested

Table 6

Comparison of Predicted and Observed Governance Types

Sample category	Institution number	Predicted type	Observed type
Large,public,high			
	NØ6	I or IV	III
	NØ9	I or IV	I
	N27	I or IV	II
	N35	I or IV	I
	N38	I or IV	IV
Large,public,low			
	NØ3	III	II
	N1Ø	III	II
	N13	III	II
	N14	III	II
	N24	III	II
Large,private,high			
	NØ5	II	I
	N12	II	II
	N22	II	IV
	N3Ø	II	IV
	N33	II	III

(Table continued)

Table 6 - continued

Large,private,low		
NØ1	III	IV
N15	III	II
N34	III	I
N36	III	IV
N39	III	III
Small,public,high		
NØ2	IV	I
N17	IV	IV
N18	IV	IV
N21	IV	III
N23	IV	III
Small,public,low		
NØ4	III	I
NØ7	III	III
NØ8	III	I
N16	III	III
N31	III	II

(Table continued)

Table 6 - continued

Small,private,high			
	N19	II or IV	II
	N26	II or IV	I
	N28	II or IV	I
	N29	II or IV	II
	N32	II or IV	II
Small,private,low			
	N11	III	IV
	N20	III	II
	N25	III	III
	N37	III	II
	N40	III	III

Note. Type I = High faculty power/high admin power
Type II = High faculty power/low admin power
Type III = Low faculty power/high admin power
Type IV = Low faculty power/low admin power

Table 7

Chi-square Table for the Predictive Success of the Theory of Comparative Governance

	Predictor variable categories [a]								
	1	2	3	4	5	6	7	8	Total
Correct predictions	3	Ø	1	1	2	2	3	2	14
Correct predictions by chance	2.Ø[b]	1.25	1.25	1.25	1.25	1.25	2.Ø[b]	1.25	12.5

Note. χ^2 = 3.1Ø, df = 7, p > .Ø5. a. 1=large, public,high; 2=large,public,low; 3=large,private, high; 4=large,private,low; 5=small,public,high; 6=small,public,low; 7=small,private,high; 8=small, private,low. b. These had two possible predictions because of ambiguity in the theory.

using the chi-square statistic. Chi-square for these data was 3.1Ø with seven degrees of freedom. It was not significant at the .Ø5 level.

It was noted in Chapter 3 that four of the institutions changed size between the time they were selected for the sample (198Ø) and the time that the power score data were gathered (1984). If these schools had been placed in their "proper" sampling categories, one of these schools for which the prediction was incorrect would have been correct. One of the institutions was predicted correctly both in the original sampling category as well as the "proper" category. The other two institutions were unsuccessfully predicted in both the actual and "proper" categories. Changing these four institutions to their more appropriate sampling categories would have helped very little with the overall predictive success of the theory.

The Theory of Comparative Governance hypothesized that two of the predictor variable categories were "ideal types", meaning that the predictions exactly aligned with ideas found in the literature and expressed in the theory. The large,

private, high quality schools were expected to have governance Type II, with quality being the key factor in predicting that faculty power would be higher than administrative power. Only one institution of the five in the group met this prediction. The small, public, low quality colleges and universities were ideally expected to have governance Type III. Only two of the institutions met the prediction. Therefore, we concluded that the theory did not predict well even for the "ideal types", where the theory was most clearly supported by the literature.

One of the key underlying concepts of the theory was that high quality would be closely associated with the predominance of faculty power over administrative power, based on Burton Clark's (1961) belief that high quality is associated with high faculty control. For the institutions sampled in this study, only five of the 20 high quality schools had this predominance; the exact number expected by chance. The concept of high positive association between quality and the predominance of faculty power over administrative power was not supported by the data.

This examination of the predictive success of the Theory of Comparative Governance has shown that the prediction of governance type from a combination of size, charter, and quality, in the manner suggested by the theory, was not supported by the data gathered from the sample of 40 institutions in this study.

Comparisons Among Governance Types

When examining the results from the perspective of governance types, one finds that there was a high degree of variance within these types. The problem seems to have resulted from the categorization of faculty and administrative power into only high and low values. While two institutions, for example, were both categorized as high faculty power because their faculty power scores were above the overall mean, these institutions, in fact, may have differed very much in their faculty power scores. This kind of situation occurred often in the four governance types. The institutions placed in each of the four types varied widely on all variables included in the study. Table 8 shows the group means and standard

deviations of the power score variables for each of the four governance types and the difference scores.

Table 9 shows the frequencies of the predictor variable categories as they occurred in each of the four governance type groups. The eight categories of the institutions were scattered rather uniformly among the four governance types with one exception: all of the large, public, low quality institutions fell into governance Type II, low administrative power and high faculty power.

Examining the auxiliary variables in each of the four types indicated three characteristic patterns. Enrollment growth and endowment yield tended to be higher where administrative power was low, and Type I institutions had the largest proportion of non-urban environments. No other patterns by governance type were found in the auxiliary variable data. Table 10 shows the enrollment growth, endowment yield, and environment arranged by governance type for each of the 40 sampled institutions.

Table 8

Power Score Means and Standard Deviations

for the Four Governance Types

Governance type	Power Scores: Adm pwr, form	Adm pwr, inf	Adm power	Fac pwr, form	Fac pwr, inf	Fac power	Diff score FP-AP
Type I: High faculty power high admin power							n=9
M	.19	.98	1.06	1.68	.00	.65	-.41
SD	.90	.64	.82	2.13	2.58	1.04	.95
Type II: Low admin power high faculty power							n=9
M	-1.58	-.47	-1.10	1.16	.89	.86	1.96
SD	2.47	.90	.68	1.48	2.44	.83	1.24
Type III: High admin power low faculty power							n=14
M	2.33	.40	1.33	-2.31	-.92	-1.32	-2.65
SD	2.17	.58	.68	2.23	1.12	1.02	1.65

(Table continued)

Table 8 - continued

Governance type	Power Scores: Adm pwr, form	Adm pwr, inf	Adm power	Fac pwr, form	Fac pwr, inf	Fac power	Diff score FP-AP
Type IV: Low admin power low faculty power							n=8
M	-.07	-.74	-.76	-1.32	-.53	-.76	.01
SD	2.30	.85	.65	2.67	1.68	.55	.90
Overall *M*	0	0	0	0	0	0	0
SD	2.50	1.00	1.30	2.58	2.12	1.27	2.10

Note. n = number of cases in the category.

Table 9

Distribution of Predictor Variable Combinations

Among the Four Governance Types

Governance type	Sample category	Frequency
Type I = High administrative / high faculty power		
	Large,public,high	2
	Large,private,high	1
	Large,private,low	1
	Small,public,high	1
	Small,public,low	2
	Small,private,high	2
Type II = Low administrative / high faculty power		
	Large,public,high	1
	Large,private,high	1
	Large,private,low	1
	Small,public,high	2
	Small,public,low	2
	Small,private,low	2
Type III = High administrative / low faculty power		
	Large,public,high	1
	Large,public,low	5
	Large,private,high	1
	Large,private,low	1
	Small,public,low	1
	Small,private,high	3
	Small,private,low	2

(Table continued)

Table 9 - continued

Governance type	Sample category	Frequency
Type IV = Low administrative / low faculty power		
	Large,public,high	1
	Large,private,high	2
	Large,private,low	2
	Small,public,high	2
	Small,private,low	1

Correlations Among the Power Score Variables

Pearson correlation coefficients were computed among all of the power score variables (Table 11). It must be remembered that the formal, informal, and total power scores were computed using a number of variables added together to form composite scores. Both APF and API were correlated to AP with a value of .6483 and both FPF and FPI were correlated to FP at a value of .6326. The fact that the formal and informal power scores for both faculty and administrative power were correlated equally with their formal and informal power scores was explained by the fact that these power scores were equally weighted in the computation of FP and AP.

It is important to note that neither formal and informal administrative power nor formal and informal faculty power were significantly correlated at an alpha of .Ø5. Since the governance type model (Table 3) was based on the idea that the separate formal and informal power scores were believed to be measuring

Table 10

Enrollment Growth, Endowment Yield and Environment by Governance Type for the Sampled Institutions

Institution	Enrollment growth in percent	Environment	Endowment yield in thousands
Type I = high administrative / high faculty power			
N03	-1.40	urban 250-500K	238
N04	2.10	non-urban	2
N06	-2.10	urban 500K-1M	94
N08	1.20	non-urban	9
N09	-1.80	non-urban	0
N26	.50	non-urban	25
N29	7.60	urban 250-500K	0
N35	.90	urban 500K-1M	71
N32	-2.60	non-urban	0
Mean	.49		48.78
Type II = low administrative / high faculty power			
N02	10.80	urban under 250K	0
N10	-3.00	urban 250-500K	341
N11	-1.50	urban 500K-1M	121
N13	1.70	urban under 250K	29
N14	4.50	urb 1-2M inside	0
N15	-2.60	urb 1-2M inside	534
N18	-1.10	urb > 2M inside	204
N19	-7.20	urban 500K-1M	52
N24	-2.70	urban 500K-1M	0
N27	-.80	urban 500K-1M	0
N28	.50	urban 500K-1M	370
N31	14.10	non-urban	0
N33	9.10	urban 250-500K	35
N37	-4.30	urb 1-2M inside	41
Mean	1.25		123.36

(Table continued)

Table 10 - continued

Institution	Enrollment growth in percent	Environment	Endowment yield in thousands
Type III = high administrative / low faculty power			
N05	1.00	urb 1-2M inside	0
N07	-2.70	non-urban	2
N16	-13.80	urb > 2M inside	0
N21	-11.50	non-urban	2
N23	-3.50	non-urban	0
N25	.50	urban 250-500K	0
N34	-1.00	urb > 2M inside	78
N39	4.90	urb 1-2M inside	75
N40	3.00	urban under 250K	83
Mean	-2.57		26.67
Type IV = low administrative / low faculty power			
N01	-1.90	urb 1-2M outside	63
N12	-8.10	non-urban	40
N20	5.70	urban under 250K	7
N17	2.60	non-urban	0
N22	2.60	urban 500K-1M	160
N30	8.00	urb 1-2M inside	78
N36	-1.20	urban under 250K	407
N38	.80	urban 250-500K	43
Mean	1.06		99.75

Table 11

Pearson Correlations Among the Power Scores

	Power score variables				
	API	AP	FPF	FPI	FP
APF	-.16	.65*	-.51*	-.11	-.49*
API		.65*	.13	-.09	.04
AP			-.29*	-.15	-.35*
FPF				-.20	.63*
FPI					.63*

Note. * $p < .05$
APF = Admin power, formal
API = Admin power, informal
AP = Admin power
FPF = Faculty power, formal
FPI = Faculty power, informal
FP = Faculty power

similar phenomena, these data indicate that the model may not have measured the desired aspects of governance of the institutions. In addition, the correlations of the formal and informal power, in both cases, were negative.

The degree of association between faculty and administrative power was an important statistic in this study. Pearson's r for FP with AP was -.35 and was significant at the .Ø5 level. This negative relationship supports the frequent references in the literature to the opposition of faculty and administrative power. While the r value was not high and part of the relationship is no doubt an artifact of the fact that opposite scores were used between faculty and administrative power for several variables, it supports the idea that when faculty power is high, administrative power tends to be low, and vice versa. This finding, of course, provides evidence against this researcher's theory that faculty and administrative power are on separate continua. Another interesting correlation was formal faculty power with formal administrative power. This coefficient was -.51 . Since the corresponding relationship between informal faculty power and

informal administrative power scores was not statistically significant, this showed that the negative relationship present in the overall power scores was found only in the formal measures of power, not the informal ones. This leads to the conclusion that informal power, as measured in this study, may be on a single continuum.

Summary

Analysis of variance and chi-square revealed that the overall theory was not supported by the data. An examination of the predictive success of the theory showed that the number of successful predictions were no better than would be expected by chance (alpha = .Ø5). Characterization of the four governance types turned out to be of minimal value due to the heterogeneity within the governance type groups on the variables of this study. The power score correlations were examined and found to suggest problems with the governance type model and the way that power scores were combined. The formal and overall power scores were found to be more consistent with a model which shows faculty and administrative power on a single continuum.

In the next chapter, these findings were applied to a revision of the governance type model and the Theory of Comparative Governance.

CHAPTER 5

REVISION OF THE GOVERNANCE TYPE MODEL AND THE THEORY OF COMPARATIVE GOVERNANCE

This chapter reports on a revision of the governance type model introduced in Chapter 2. The revised model is applied to the data gathered in the study, characterizations of the revised governance types are presented, the original and revised models are compared, and the revised model is tested for predictive success.

Revised Governance Type Model

When the governance type model was presented in Chapter 2, it was suggested that Type I and Type IV institutions were different. Examination of the data in Chapter 4 revealed few actual differences between these two groups. In fact, all four governance types showed little homogeneity within their groups on any of the power score variables. This was particularly apparent in the large difference scores for the institutions within Type I and Type IV. In these

categories, faculty and administrative power scores were either both above or below their respective overall means, due to the defining criteria, yet the difference scores clearly showed that either the faculty or the administration had a much higher power score than the other, in many cases.

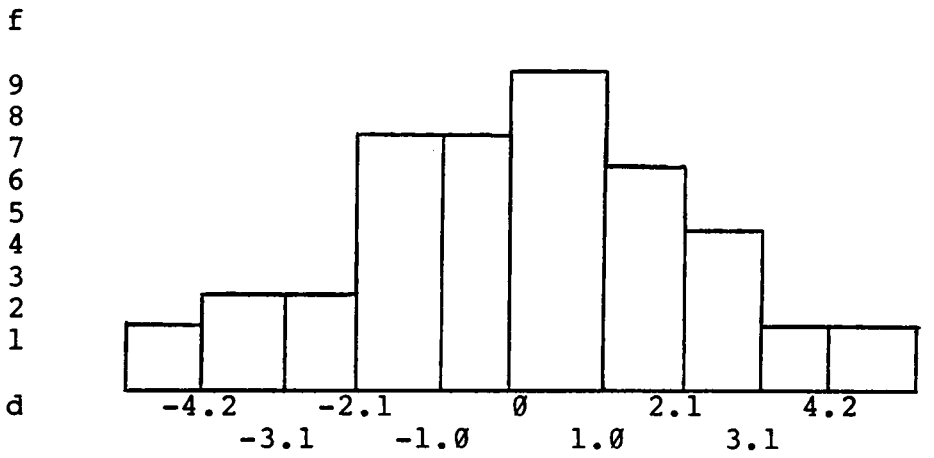
The revised governance type model uses the difference between faculty and administrative power as the criterion for determination of governance type, rather than the dichotomization of faculty and administrative power scores, as used in the original model. The revised governance types are: Type B, balanced governance; Type F, faculty-controlled governance; and Type A, administrative-controlled governance.

Table 12 is an approximation of the distribution of the difference scores, grouped into intervals of one-half a standard deviation above and below the mean.

Table 12

Distribution of Difference Scores

(Faculty Power Minus Administrative Power)



Note. d = difference score (FP - AP), expressed in intervals of 1/2 a standard deviation.

The criterion for categorization of the revised governance types was based on the arbitrary cutoff points of one-half a standard deviation above and below the mean. This placed the middle forty percent of the institutions in the Type B category. Those with a difference score greater than 1.Ø5 were Type F and those with a difference score less than -1.Ø5 were Type A. Table 13 gives the frequencies of the revised governance types.

Table 14 is a list of the 4Ø institutions in this study, grouped by their predictor variable categories. The values for faculty power, administrative power, difference score, original governance type, and revised governance type are given.

Table 15 shows the basic power score statistics for the original and revised governance types. The comparison of the three revised governance types shows that the faculty and administrative power score means were appropriate to each group, by definition. The formal and informal administrative power score means also coincided with the types for administrative power. Formal faculty power, however,

Table 13

Frequency Distribution of

Revised Governance Types

Revised type	Frequency	Percent
Balanced	16	40
Faculty-controlled	12	30
Admin-controlled	12	30
Total	40	100.0

Table 14

Power Scores, Original Governance Type, and Revised Governance Type for the Sampled Institutions, Classified by Size, Charter, and Quality

Inst	Fac power	Adm power	Diff score	Original gov type		Revised gov type
Large,public,high						
NØ6	-.63	1.Ø5	-1.68	III		A
NØ9	.15	.38	-.23	I		B
N27	.39	-.41	.81	II	*	B
N35	.74	.28	.46	I		B
N38	-.6Ø	-1.35	.75	IV		B
Large,public,low						
NØ3	.66	-2.Ø1	2.67	II		F
N1Ø	3.Ø2	-1.74	4.76	II		F
N13	.Ø3	-1.23	1.25	II		F
N14	.55	-.17	.73	II	*	B
N24	.86	-2.Ø2	2.88	II		F
Large,private,high						
NØ5	3.27	1.99	1.28	I	*	F
N12	.56	-1.57	2.14	II		F
N22	-.36	-.Ø4	-.32	IV		B
N3Ø	-.75	-.57	-.18	IV		B
N33	-.47	.61	-1.Ø8	III		A

(Table continued)

Table 14 - continued

Inst	Fac power	Adm power	Diff score	Original gov type		Revised gov type
Large,private,low						
NØ1	-.72	-1.79	1.Ø7	IV	*	F
N15	.92	-.51	1.43	II		F
N34	1.Ø1	2.31	-1.3Ø	I	*	A
N36	-1.98	-.13	-1.85	IV	*	A
N39	-1.Ø8	1.46	-2.53	III		A
Small,public,high						
NØ2	.24	.8Ø	-.55	I		B
N17	-.25	-.12	-.13	IV		B
N18	-.41	-.99	.58	IV		B
N21	-1.49	1.72	-3.21	III		A
N23	-1.65	1.35	-3.Ø1	III		A
Small,public,low						
NØ4	.18	.17	.ØØ	I		B
NØ7	-1.92	1.59	-3.52	III		A
NØ8	.Ø8	.58	-.51	I		B
N16	-.17	1.Ø7	-1.25	III		A
N31	1.51	-.24	1.75	II		F

(Table continued)

Table 14 - continued

Inst	Fac power	Adm power	Diff score	Original gov type		Revised gov type
Small,private,high						
N19	.42	-.86	1.27	II		F
N26	.00	1.93	-1.93	I	*	A
N28	.19	1.06	-.87	I		B
N29	1.00	-1.22	2.22	II		F
N32	.18	-.48	.66	II	*	B
Small,private,low						
N11	-.98	-1.12	.14	IV		B
N20	1.97	-1.95	3.92	II		F
N25	-3.57	2.73	-6.30	III		A
N37	.00	-.96	.97	II	*	B
N40	-.88	.42	-1.30	III		A

Note.

* = changed governance type
Type I = High faculty power / high admin power
Type II = High faculty power / low admin power
Type III = Low faculty power / high admin power
Type IV = Low faculty power / low admin power
Type A = Admin-controlled governance
Type B = Balanced governance
Type F = Faculty-controlled governance

Table 15

Power Score Statistics for the

Original and the Revised Governance Types

Governance Type	Adm pwr, form	Adm pwr, inf	Adm pwr	Fac pwr, form	Fac pwr, inf	Fac pwr	Diff score FP-AP
Type B Balanced governance							
M	-.16	-.12	-.18	1.04	-.96	-.04	.14
SD	1.53	.92	.71	2.52	1.62	.48	.57
Type F Faculty-controlled governance							
M	-2.03	-.28	-1.10	.86	1.71	1.12	2.22
SD	2.33	1.15	1.14	1.32	2.52	1.16	1.16
Type A Admin-controlled governance							
M	2.24	.45	1.34	-2.25	-.43	-1.07	-2.41
SD	1.89	.87	.80	2.32	1.37	1.18	1.48
Type I High faculty power / high admin power							
M	.19	.98	1.05	1.68	.00	.65	-.40
SD	.90	.64	.82	2.13	2.58	1.04	.95

(Table continued)

Table 15 - continued

Governance Type	Adm pwr, form	Adm pwr, inf	Adm pwr	Fac pwr, form	Fac pwr, inf	Fac pwr	Diff score FP-AP
Type II High faculty power / low admin power							
M	-1.58	-.47	-1.10	1.16	.89	.86	1.96
SD	2.47	.90	.68	1.48	2.44	.83	1.24
Type III Low faculty power / high admin power							
M	2.33	.41	1.33	-2.31	-.92	-1.32	-2.65
SD	2.17	.58	.68	2.23	1.12	1.02	1.65
Type IV Low faculty power / low admin power							
M	-.07	-.74	-.76	-1.32	-.53	-.76	.01
SD	2.30	.85	.65	2.67	1.68	.55	.90

was highest for the Type B schools, while informal faculty power was highest in Type F. This finding is the result of broad differences, throughout the sample, between formal and informal faculty power at many institutions.

Two interesting patterns were observed in the specific variables used to compute faculty and administrative power. Nearly all of the institutions with faculty unions fell into Type B. This seemed to indicate that a faculty union might be associated with balanced faculty and administrative power rather than dominant faculty power as suggested by Baldridge et al. (1978) and Lee (1979). The presence of a normative basis for governance, as indicated by a distinctive institutional purpose, was generally weakest in Type B and about equal between Type F and Type A. This is in opposition to Corson's (1975) assumption that a distinctive institutional purpose would be associated mainly with high faculty power.

The goal of the revision of the governance type model was to increase the homogeneity of governance type groups. In general, it seems that Type B schools had less variability on most of the variables

than Type I and Type IV. The unbalanced groups in the revised model, however, had more variance on most variables. It could not be concluded that the revised model was an improvement, particularly when homogeneity of groups indicated by the literature was still not found (see Table 15).

Predictive Success of the Revised Governance Types

The purpose of this section was to determine the predictive success of the revised governance types and to see if prediction was improved by changing only the governance type model, not the predictive theory.

Table 16 shows the revised predictive model. Note that the concept of "ideal type" was preserved. One area of ambiguity was eliminated, since Type I and Type IV institutions were grouped together as Type B. The other area of ambiguity, the "small, private, high" category, remained in the revised model, and was in fact somewhat more problematical since its predictive ambiguity now encompassed two-thirds of the governance types, as opposed to one half in the original model.

Table 16

Permutations of the Predictor Variables and Their Placement Under Revised Governance Type

Predictor categories			Revised governance types		
Size	Charter	Quality	B	F	A
Large	public	high	X		
Large	public	low			X
Large	private	high		O	
Large	private	low			X
Small	public	high	X		
Small	public	low			O
Small	private	high	A	A	
Small	private	low			X

Note. A = stated ambiguity of prediction
O = ideal type
X = normal prediction
Type A = admin-controlled governance
Type B = Balanced governance
Type F = faculty-controlled governance

Table 17 lists the 40 institutions in the study by predictor variables category giving the predicted and observed revised governance types.

Table 18 summarizes the predictive success of the revised model. The hypothesis of no difference between observed and expected frequencies in the eight cells was tested by using the chi-square statistic. Chi-square for these data was 7.44 with seven degrees of freedom. With an alpha of .05, one could not reject the hypothesis that chi-square was equal to zero. This shows that the revised theory did not have a number of successful predictions clearly beyond those expected by chance.

Summary

The purpose of this section was to present logical modifications of the Theory of Comparative Governance based on the analyses of the data gathered. In Chapter 4, the analysis of variance

Table 17

Comparison of Predicted and Observed

Revised Governance Types

Sample category Institution	Revised pred gov type	Revised gov type
Large,public,high		
NØ6	B	A
NØ9	B	B
N27	B	B
N35	B	B
N38	B	B
Large,public,low		
NØ3	A	F
N1Ø	A	F
N13	A	F
N14	A	B
N24	A	F
Large,private,high		
NØ5	F	F
N12	F	F
N22	F	B
N3Ø	F	B
N33	F	A

(Table continued)

Table 17 - continued

Sample category Institution	Revised pred gov type	Revised gov type
Large,private,low		
NØ1	A	F
N15	A	F
N34	A	A
N36	A	A
N39	A	A
Small,public,high		
NØ2	B	B
N17	B	B
N18	B	B
N21	B	A
N23	B	A
Small,public,low		
NØ4	A	B
NØ7	A	A
NØ8	A	B
N16	A	A
N31	A	F

(Table continued)

Table 17 - continued

Sample category Institution	Revised pred gov type	Revised gov type
Small,private,high		
N19	B or A	F
N26	B or A	A
N28	B or A	B
N29	B or A	F
N32	B or A	B
Small,private,low		
N11	A	B
N20	A	F
N25	A	A
N37	A	B
N40	A	A

Note. Type A = Admin-controlled governance
Type B = Balanced governance
Type F = Faculty-controlled governance

Table 18

Chi-square Test of the Predictive Success of the Revised Governance Type Model

	Predictor variable categories [a]								
	1	2	3	4	5	6	7	8	Total
Correct predictions	4	Ø	2	3	3	2	3	2	19
Correct predictions by chance	1.65	1.65	1.65	1.65	1.65	1.65	3.3Ø[b]	1.65	14.7

Note. $\chi^2 = 7.44$, df = 7, $p > .Ø5$. a. 1=large, public,high; 2=large,public,low; 3=large,private, high; 4=large,private,low; 5=small,public,high; 6=small,public,low; 7=small,private,high; 8=small, private,low. b. These had two possible predictions because of ambiguity in the theory.

based on the difference score as the dependent variable resulted in the rejection of the null hypotheses. This meant that any theory based on the difference scores separated into the eight predictor variable categories would not have been supported by the data gathered. The distributions of the auxiliary variables among the governance types were carefully analyzed, but yielded no insight toward a possible revision of the Theory of Comparative Governance. The only conclusion with regard to modification of the Theory of Comparative Governance was that the data gathered in the study indicated that no reliable predictions of governance type, defined in the manner of this research, can be made from any of the predictor variables, either alone or in combination.

CHAPTER 6

SUMMARY AND CONCLUSIONS

The idea pursued in this project was spawned by many ideas and theories from the vast literature on higher educational administration and governance, from fellow students of educational administration, and from the researcher himself. In the true spirit of eclecticism, the ideas and theories were drawn together into a theory which included means for testing many of the ideas.

The research goal was to determine whether governance did, in fact, vary among institutions of higher education in the U.S. and how this variation, if it existed, was related to the size of the institutions, the nature of their charters, and some measure of their quality.

It was theorized that patterns of governance existed based on the balance of power in colleges and universities between the faculty and the administration. A governance type model was

proposed which identified four basic governance types based on the dichotomization of faculty and administrative power into "high" and "low" values. Research related to this concept of the balance between faculty and administrative power was presented and the four governance types were characterized, based on the literature and the researcher's ideas. Four theorems were created which hypothesized a relationship between each governance type and three predictors: size, charter, and institutional quality. The theorems were converted into a predictive model based on the eight categories of the dichotomized predictor variables.

The reasons for this type of research were the need for increased understanding of higher educational governance, a test of the concept of the balance of faculty and administrative power as a distinguishing characteristic of an organization's governance, establishment of a simplified model for predicting governance, documentation of variance in governance among higher educational institutions, and demonstration

of the applicability of the formal and informal elements of governance.

A formal/informal governance type model was presented in detail with justifications for inclusion of each variable. Other variables of interest were also listed. Tools for gathering data for the variables of this study included telephone interviews, inquiries to organizations, and document analyses. A sample of 40 institutions was drawn from 453 institutions classified by the Carnegie Commission as comprehensive colleges and universities. The method for creation of a stratified sample was given, with suggestions for testing hypotheses and analyzing results.

A field study was conducted in January 1984 with the results applied to revisions of the instruments for gathering data. The data were collected in the spring of 1984. Problems and peculiarities of data collection were discussed. Faculty and administrative power scores and governance types were determined for each of the 40 sampled institutions.

After examination of the distributions of the faculty and administrative power scores, it was decided that variation was sufficient for further study. A test of the eight hypotheses of the predictive theory resulted in the failure to reject the null hypotheses tested. A chi-square statistic was used to examine the predictive success of the theory, but it was found that the number of correct predictions was not beyond those expected by chance alone at an alpha of .05.

The governance type model was revised, using the difference between faculty and administrative power as a defining criterion for governance type, rather than the dichotomization of each of those two power scores. This revised model specified three governance types: balanced, faculty-controlled, and administrative-controlled. The revised model was applied to the data gathered. New types were determined, characterized, and compared. The predictive theory was revised and was tested for success. While the number of correct predictions increased slightly with the revised model, it still could not be shown that the

number of correct predictions was beyond what would be expected by chance at an alpha of .05.

Discussion of the Research Design

Several noteworthy factors may have threatened the validity of the results. Due to circumstances beyond the researcher's control, a period of three years passed between the gathering of the information for the dependent and independent variables. This was particularly noticeable, and carefully documented, for the variable of institutional size. While it can be shown how size changed over the period of this research, it is most likely that values of many of the other variables also changed. This problem raised serious doubts about the validity of the results. The categorization of institutions by size, charter, and quality was the crucial predictive element of the Theory of Comparative Governance. The fact that some of the institutions may have changed value in quality and size means that they may have been placed in the wrong predictor variable category. The theory predicted, for example, that high faculty power would be

positively associated with high quality. The delay in measurement between the dependent and independent variables meant that one could not be certain that a school which was measured high in faculty power did not also have high quality at that time, even if quality was measured as low at the earlier date.

A stratified random sample was drawn from a specifically defined population of U.S. colleges and universities. This sampling technique offered little doubt as to the external validity of the results, as long as they were applied to the specific population of the study. The difficulty with changes in institutional size, however, was a threat to the representativeness of the sample.

This research design included many of the most distinguishing characteristics of higher educational institutions, as indicated in the literature. The heterogeneity of the governance type groups on the variables measured, however, was strong evidence to suggest that the institutions may have been different from each other on factors not included in the study, when they were thought

to be similar. These hypothesized unknown extraneous variables threatened the validity of the results.

Suggestions for Further Research

It is hoped that the results of this study can be applied to further research with more conclusive results. Several general suggestions need to be made for future replications of this research.

First, future researchers should consider a larger sample, or sampling from a smaller, more specific, population. This population could be redefined to include institutions which were more similar with regard to purpose, such as only four-year liberal arts colleges. A future project may not be subject to the practical limitations of this doctoral research project. A larger sample would greatly improve the power of the statistical tests and might well lead to more conclusive results, either in support of the Theory of Comparative Governance or for its dismissal.

Second, the data collection methodology should include careful planning so that it can be

implemented in a short period of time to avoid changes in the subject institutions during the period when data are being gathered. This researcher found that governance was constantly changing, due to changes in personnel, governance structures, and governance processes. This was revealed especially when discussing governance in the telephone interviews. Ideally, all facts gathered about an institution should apply to a specific point in time.

Finally, many of the analyses included in this study pointed to the invalidity of the formal/ informal governance type model. While the model was based on ideas documented in the literature, it may actually have been too eclectic to be supported by data. Most of the concepts had been tested individually by other researchers, but they had never been drawn together in this particular combination to form this governance type model. Simplification of the model by reducing the number of variables used and exploring more efficient means of measuring the organizational characteristics should be given serious consideration in future replications. Attention

might be directed to variables with unusually high or low scores, as well as to variables which were applied across the model to both faculty and administrative power scores.

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APPENDIX A: FIELD TEST OF THE TELEPHONE INTERVIEW QUESTIONNAIRES

Table 19

Data From Field Test of the Telephone Interviews: Capital University

Questions	Responses by Per dir	dean	VPAA
Collective bargaining	none	N/A	N/A
How many in decis. body	N/A	N/A	only adm
Function of decis. body	N/A	N/A	advisory on some decisions
Extent inf. interaction	not strong (5)	parties, lunch (5)	very low (2)
Level, hire faculty	-d-	-e-	-e- not consist.
Level, purchase equip.	-d-	-e-	-d-
Standardization, eval.	-c-	varies by college	-c-
Standardization, recruit	-d-	depends on type faculty	-d-
Formalization, job desc.	-d-	-e-	-c-
Formalization, minutes	-c-	-e-	-e-

(Table continued)

Table 19 - continued

Questions	Responses by Per dir	dean	VPAA
Number of Nobel Laureates	N/A	N/A	-Ø-
Total interview time	2Ø min.	4 min.	1Ø min.
Interviewee Attitude	v. good	v. poor	excell.

Note. For key to responses, see questionnaires. The purpose of this table was to show the differences in answers of the 3 respondents. N/A = not applicable. Numbers in parentheses indicate score given for informal social interaction.

Table 2Ø

Data from Field Test of the Telephone Interviews: Longwood College

Questions	Responses by Per dir	dean	VPAA
Collective bargaining	none	N/A	N/A
How many in decis. body	N/A	N/A	academic staff only
Function of decis. body	N/A	N/A	advisory on some decis.
Extent inf. interaction	doesn't know (3)	frequent strong (7)	lunches, strong (6)
Level, hire faculty	-e-	-e-	-f-
Level, purchase equip.	-d-	-d-	-f-
Standardization, eval.	-d-	-b-	-d-
Standardization, recruit	-c-	-b-	-d-
Formalization, job desc.	-e-	-d-	-d-
Formalization, minutes	-c-	-c-	-d-

(Table continued)

Table 20 - continued

Questions	Responses by Per dir	dean	VPAA
Number of Nobel Laureates	N/A	N/A	-0-
Total interview time	3 min.	5 min.	6 min.
Interviewee attitude	v. good	v. good	excel. brief

Note. For key to responses, see questionnaires. The purpose of this table was to show the differences in answers of the 3 respondents. N/A = not applicable. Numbers in parentheses indicate score given for informal social interaction.

APPENDIX B: FINAL DRAFT OF THE TELEPHONE INTERVIEW QUESTIONNAIRE

1) What is the primary collective decision-making body at your institution?

2) What is the defined function of this decision-making body?

3) How many faculty, administrators, and others are members of the primary collective decision-making body at your institution?

4) Please characterize the degree of informal social interaction at your institution among administrators at the level of dean or above. In what kinds of activities do these individuals engage which are unrelated to their work?

5) Please describe the process of hiring a new faculty member at your institution.

6) How are budgetary decisions related to purchase of new equipment made at your institution?

For the following two items, please indicate the degree to which each is standardized at your institution. Choose one of the following 4 levels of standardization:

a) no universal, consistent policy
b) some consistency, but with frequent exceptions
c) widely applied standards, with few exceptions
d) universally applied standards, with no exceptions

7) ——— Frequency of staff evaluations.

8) ——— Faculty recruitment procedures.

For the following two items, please indicate the extent to which each is formally written at your institution. Choose one of the following levels of formalization:

a) never written
b) seldom written
c) often written
d) usually written
e) always written

9) ——— Minutes of meetings

10) ——— Course syllabi

11) Do you have any distinguished scholars at your institution?

12) Do your teaching and research faculty have a collective bargaining agreement with the institution?

APPENDIX C: RAW DATA TABLES

Table 21

Raw Data and Statistics for

Formal Faculty Power Variables

Institution	Union contract?	% faculty on QLB	Relation of QLB to faculty	Decentralization score
NØ1	Ø	1ØØ	1	1.25
NØ2	Ø	93	1	2.5Ø
NØ3	Ø	96	2	2.ØØ
NØ4	1	93	2	2.5Ø
NØ5	Ø	9Ø	2	2.5Ø
NØ6	1	Ø	1	1.5Ø
NØ7	Ø	Ø	1	2.ØØ
NØ8	Ø	65	1	1.5Ø
NØ9	1	1ØØ	1	1.75
N1Ø	Ø	89	1	2.5Ø
N11	Ø	93	1	2.75
N12	Ø	67	2	3.ØØ
N13	Ø	44	2	2.ØØ
N14	1	76	2	2.25
N15	Ø	1ØØ	1	3.5Ø
N16	Ø	41	1	2.75
N17	1	78	1	1.75
N18	1	56	1	2.ØØ
N19	Ø	67	1	2.5Ø
N2Ø	Ø	1ØØ	1	1.5Ø

(Table continued)

Table 21 - continued

Institution	Union contract?	% faculty on QLB	Relation of QLB to faculty	Decentralization score
N21	Ø	Ø	1	1.25
N22	Ø	13	1	2.75
N23	1	14	1	1.ØØ
N24	1	9Ø	1	1.5Ø
N25	Ø	Ø	Ø	Ø
N26	Ø	69	1	2.ØØ
N27	1	9Ø	1	2.5Ø
N28	1	87	1	2.25
N29	Ø	8Ø	1	2.ØØ
N3Ø	Ø	Ø	Ø	2.5Ø
N31	Ø	5Ø	1	2.25
N32	Ø	2Ø	1	3.ØØ
N33	Ø	27	1	3.25
N34	Ø	63	1	2.5Ø
N35	1	88	1	3.5Ø
N36	Ø	Ø	Ø	1.ØØ
N37	Ø	92	1	2.75
N38	Ø	Ø	Ø	2.5Ø
N39	Ø	Ø	Ø	2.25
N4Ø	Ø	Ø	1	2.25
M		55.77		2.18
SD		38.45		.71

Note. KEY: Union contract? Ø = no faculty union
1 = faculty union

Relationship of QLB to Faculty Ø = no QLB
1 = advisory QLB
2 = legislative QLB

Table 22

Raw Data and Statistics for

Informal Faculty Power Variables

Institution	Normative basic for governance	Faculty experience & educ [b]	Percent distinguish scholars	Percent AAUP members [a]
NØ1	1	-1.9Ø	.Ø7	2
NØ2	Ø	1.54	.Ø4	12
NØ3	1	.62	.ØØ	1
NØ4	Ø	-2.13	Ø.ØØ	Ø
NØ5	1	3.Ø5	.26	8
NØ6	Ø	2.34	.Ø3	Ø
NØ7	Ø	-1.42	.Ø2	12
NØ8	2	.Ø1	.Ø2	2
NØ9	Ø	1.5Ø	.ØØ	Ø
N1Ø	Ø	3.Ø4	.Ø2	93
N11	Ø	-2.42	.Ø4	4
N12	1	-1.86	.Ø4	5
N13	Ø	1.35	.Ø4	8
N14	Ø	-.11	.Ø2	Ø
N15	1	-.26	.Ø5	5
N16	1	-.91	.Ø8	1
N17	Ø	.48	.Ø2	Ø
N18	Ø	.27	.Ø2	Ø
N19	1	.41	.Ø4	13
N2Ø	2	.31	.25	5

(Table continued)

Table 22 - continued

Institution	Normative basic for governance	Faculty experience & educ [b]	Percent distinguish scholars	Percent AAUP members [a]
N21	1	-.04	.01	4
N22	1	-.24	.03	8
N23	0	-1.19	.04	0
N24	1	2.00	.01	0
N25	1	-3.59	.06	4
N26	1	-.66	.05	14
N27	0	.80	.03	0
N28	0	-.95	.10	0
N29	1	2.35	.10	7
N30	1	1.37	.05	9
N31	1	-1.42	.40	4
N32	1	-.60	.10	10
N33	1	-1.85	.02	8
N34	2	-1.97	.10	19
N35	0	.05	.03	0
N36	1	1.34	.02	2
N37	1	-1.82	.06	3
N38	0	3.50	.07	15
N39	1	-.12	.06	15
N40	1	-.84	.06	4
M		-.00	.06	7.39
SD		1.66	.08	14.88

Note. Normative Basis 0 = non-specific purpose
1 = somewhat specific purpose
2 = very specific purpose

a = 0 if union present on campus.
b = z-score of fpi2a + fpi2f.

Table 23

Raw Data and Statistics for

Formal Administrative Power Variables

Inst.	Percent admins on QLB	Relation of QLB to admin	Degree standardization	Degree formalization	Degree centralization	Configuration score
N01	0	1	1.75	4.50	4.75	-1.73
N02	7	0	3.25	4.00	3.50	-1.49
N03	4	1	2.25	5.00	4.00	.48
N04	7	0	4.00	5.00	3.50	1.85
N05	10	1	3.50	4.50	3.50	-1.80
N06	100	0	3.00	4.00	4.50	1.16
N07	100	1	4.00	5.00	4.00	-.31
N08	35	1	3.75	3.75	4.50	1.33
N09	0	1	4.00	4.75	4.25	1.64
N10	11	1	3.00	4.00	3.50	1.76
N11	7	0	2.25	3.50	3.25	-.82
N12	33	1	2.75	3.50	3.00	2.86
N13	56	0	2.25	4.00	4.00	2.79
N14	24	0	2.50	5.00	3.75	.40
N15	0	1	3.25	3.75	2.50	.32
N16	59	1	3.50	5.00	3.25	-1.14
N17	22	1	3.75	4.50	4.25	1.15
N18	44	1	3.50	4.25	4.00	-.38
N19	33	1	2.75	3.50	3.50	-.75
N20	0	1	3.00	3.00	4.50	-.64

(Table continued)

Table 23 - continued

Inst.	Percent admins on QLB	Relation of QLB to admin	Degree standardization	Degree formalization	Degree centralization	Configuration score
N21	100	1	3.75	4.75	4.75	-.59
N22	87	1	3.50	3.75	3.25	.76
N23	86	1	3.50	4.50	5.00	-.70
N24	10	1	3.25	3.50	4.50	-1.72
N25	0	2	2.75	4.00	6.00	-.63
N26	31	1	3.75	4.50	4.00	-.88
N27	10	1	4.00	4.75	3.50	-.41
N28	13	1	3.50	4.00	3.75	-.99
N29	20	1	3.50	4.25	4.00	1.34
N30	0	2	4.00	4.00	3.50	.13
N31	50	1	3.75	5.00	3.75	-.69
N32	80	1	3.75	4.75	3.00	-.76
N33	73	1	2.75	4.50	2.75	-1.32
N34	37	1	2.75	5.00	3.50	-2.39
N35	12	1	3.75	4.75	2.50	-1.85
N36	0	2	3.25	4.25	5.00	.33
N37	8	1	3.25	4.75	3.25	-.98
N38	0	2	3.50	4.25	3.50	2.45
N39	0	2	3.00	4.00	3.75	-1.87
N40	100	1	3.25	4.50	3.75	4.05
M	31.73		3.26	4.31	3.82	.00
SD	34.21		.56	.53	.71	1.51

Note. KEY: Relation of QLB to admin. 0 = legislative QLB; 1 = advisory QLB; 2 = no QLB

Table 24

Raw Data and Statistics for

Informal Administrative Power Variables

Institution	Degree of informal assoc.	Institution	Degree of informal assoc.
NØ1	3	N21	5
NØ2	8	N22	6
NØ3	3	N23	5
NØ4	6	N24	2
NØ5	9	N25	8
NØ6	7	N26	8
NØ7	5	N27	4
NØ8	7	N28	8
NØ9	6	N29	4
N1Ø	5	N3Ø	3
N11	7	N31	3
N12	7	N32	3
N13	6	N33	7
N14	6	N34	9
N15	8	N35	6
N16	6	N36	3
N17	5	N37	4
N18	3	N38	3
N19	6	N39	7
N2Ø	4	N4Ø	7
M			5.55
SD			1.93

Note. Degree of informal association was rated on a scale from 1 to 9, with 9 representing the highest degree of informal association.

Table 25

Comparison of Institutional Size Data

Between 1980 and 1983

Institution	Total enroll when sampled	Total enroll current	Difference	Size category when sampled	
N01	5326	3083	-2243	Large	
N02	1841	1963	122	Small	
N03	5060	3443	-1617	Large	
N04	2153	1694	-459	Small	
N05	4518	1848	-2670	Large	*
N06	10317	14398	4081	Large	
N07	1729	1587	-142	Small	
N08	1815	1662	-153	Small	
N09	22680	8991	-13689	Large	
N10	11474	9875	-1599	Large	
N11	1193	1134	-59	Small	
N12	4179	3407	-772	Large	
N13	6031	2575	-3456	Large	
N14	14161	8395	-5766	Large	
N15	4616	2707	-1909	Large	
N16	2199	1643	-556	Small	
N17	2295	8138	5843	Small	*
N18	1363	2161	798	Small	
N19	1634	2188	554	Small	
N20	2319	2016	-303	Small	

(Table continued)

Table 25 - continued

Institution	Total enroll when sampled	Total enroll current	Difference	Size category when sampled
N21	2070	1516	-554	Small
N22	5027	4961	-66	Large
N23	2312	1827	-485	Small
N24	11285	4275	-7010	Large
N25	2000	982	-1018	Small
N26	2005	3714	1709	Small *
N27	8691	8692	1	Large
N28	1515	1400	-115	Small
N29	2071	2123	52	Small
N30	6493	2530	-3963	Large *
N31	854	1322	468	Small
N32	2251	2696	445	Small
N33	6737	4331	-2406	Large
N34	4047	3066	-981	Large
N35	6321	4902	-1419	Large
N36	4231	3686	-545	Large
N37	1155	867	-288	Small
N38	6364	5028	-1336	Large
N39	4343	2545	-1798	Large
N40	1559	1610	51	Small

Note. * = would have changed size category with current data

APPENDIX D: COMPUTATIONAL TABLES

Table 26

Standard Scores of Variables Used to Compute Formal Faculty Power

Inst.	fpf1z	fpf2z	fpf3z	fpf4z	Fac pwr, formal
NØ1	-.61	1.15	-.Ø5	-1.29	-.8Ø
NØ2	-.61	.98	-.Ø5	.45	.78
NØ3	-.61	1.Ø5	1.84	-.24	2.Ø4
NØ4	1.6Ø	.98	1.84	.45	4.87
NØ5	-.61	.89	1.84	.45	2.58
NØ6	1.6Ø	-1.45	-.Ø5	-.94	-.84
NØ7	-.61	-1.45	-.Ø5	-.24	-2.35
NØ8	-.61	.25	-.Ø5	-.94	-1.35
NØ9	1.6Ø	1.15	-.Ø5	-.59	2.11
N1Ø	-.61	.86	-.Ø5	.45	.66
N11	-.61	.97	-.Ø5	.8Ø	1.12
N12	-.61	.28	1.84	1.15	2.67
N13	-.61	-.29	1.84	-.24	.69
N14	1.6Ø	.54	1.84	.11	4.Ø8
N15	-.61	1.15	-.Ø5	1.85	2.35
N16	-.61	-.38	-.Ø5	.8Ø	-.23
N17	1.6Ø	.57	-.Ø5	-.59	1.53
N18	1.6Ø	-.Ø1	-.Ø5	-.24	1.31
N19	-.61	.28	-.Ø5	.45	.Ø8
N2Ø	-.61	1.15	-.Ø5	-.94	-.45

(Table continued)

Table 26 - continued

Inst.	fpf1z	fpf2z	fpf3z	fpf4z	Fac pwr, formal
N21	-.61	-1.45	-.05	-1.29	-3.40
N22	-.61	-1.13	-.05	.80	-.98
N23	1.60	-1.08	-.05	-1.64	-1.17
N24	1.60	.88	-.05	-.94	1.49
N25	-.61	-1.45	-1.93	-3.04	-7.04
N26	-.61	.35	-.05	-.24	-.55
N27	1.60	.88	-.05	.45	2.89
N28	1.60	.81	-.05	.11	2.47
N29	-.61	.63	-.05	-.24	-.27
N30	-.61	-1.45	-1.93	.45	-3.54
N31	-.61	-.15	-.05	.11	-.70
N32	-.61	-.93	-.05	1.15	-.43
N33	-.61	-.74	-.05	1.50	.11
N34	-.61	.18	-.05	.45	-.03
N35	1.60	.84	-.05	1.85	4.26
N36	-.61	-1.45	-1.93	-1.64	-5.64
N37	-.61	.94	-.05	.80	1.09
N38	-.61	-1.45	-1.93	.45	-3.54
N39	-.61	-1.45	-1.93	.11	-3.89
N40	-.61	-1.45	-.05	.11	-2.00
M	.00	.00	-.00	.00	.00
SD	1.00	1.00	1.00	1.00	2.58

Table 27

Standard Scores of Variables Used to Compute Informal Faculty Power

Inst.	fpi1z	fpi2z	fpi3z	fpi4z	Fac pwr, informal
NØ1	.53	-1.15	.1Ø	-.37	-.89
NØ2	-1.1Ø	.93	-.24	.29	-.12
NØ3	.53	.37	-.75	-.43	-.28
NØ4	-1.1Ø	-1.29	-.81	-.5Ø	-3.69
NØ5	.53	1.84	2.53	.Ø2	4.92
NØ6	-1.1Ø	1.41	-.48	-.5Ø	-.66
NØ7	-1.1Ø	-.86	-.52	.29	-2.18
NØ8	2.15	.Ø1	-.52	-.35	1.3Ø
NØ9	-1.1Ø	.9Ø	-.76	-.5Ø	-1.45
N1Ø	-1.1Ø	1.83	-.55	5.78	5.96
N11	-1.1Ø	-1.46	-.28	-.22	-3.Ø5
N12	.53	-1.12	-.26	-.16	-1.Ø1
N13	-1.1Ø	.81	-.25	.Ø1	-.52
N14	-1.1Ø	-.Ø7	-.56	-.5Ø	-2.22
N15	.53	-.16	-.18	-.17	.Ø2
N16	.53	-.55	.28	-.44	-.18
N17	-1.1Ø	.29	-.52	-.5Ø	-1.82
N18	-1.1Ø	.16	-.55	-.5Ø	-1.98
N19	.53	.25	-.34	.39	.83
N2Ø	2.15	.19	2.45	-.16	4.63

(Table continued)

Table 27 - continued

Inst.	fpi1z	fpi2z	fpi3z	fpi4z	Fac pwr, informal
N21	.53	-.02	-.69	-.19	-.38
N22	.53	-.15	-.39	.05	.04
N23	-1.10	-.72	-.29	-.50	-2.60
N24	.53	1.21	-.63	-.50	.61
N25	.53	-2.16	.03	-.23	-1.84
N26	.53	-.40	-.11	.44	.46
N27	-1.10	.48	-.46	-.50	-1.57
N28	-1.10	-.57	.50	-.50	-1.66
N29	.53	1.42	.48	-.05	2.38
N30	.53	.83	-.12	.11	1.34
N31	.53	-.85	4.40	-.23	3.85
N32	.53	-.36	.43	.14	.74
N33	.53	-1.12	-.56	.03	-1.12
N34	2.15	-1.19	.48	.77	2.21
N35	-1.10	.03	-.39	-.50	-1.95
N36	.53	.81	-.51	-.38	.44
N37	.53	-1.10	-.03	-.30	-.90
N38	-1.10	2.11	.11	.53	1.66
N39	.53	-.07	-.05	.52	.92
N40	.53	-.50	.00	-.24	-.22
M	-.00	.00	.00	.00	.00
SD	1.00	1.00	1.00	1.00	2.16

Table 28

Standard Scores of Variables Used to

Compute Formal Administrative Power

Inst.	apf1z	apf2z	apf3z	apf4z	apf5z	apf6z	Adm pwr formal
N01	-.93	-.37	-2.69	.37	1.29	-1.14	-1.18
N02	-.73	-.37	-.02	-.58	-.45	-.99	-1.18
N03	-.82	-.37	-1.80	1.32	.24	.32	-1.74
N04	-.73	-.37	1.31	1.32	-.45	1.22	-.16
N05	-.64	-.37	.42	.37	-.45	-1.19	.52
N06	2.00	-.37	-.47	-.58	.94	.77	.75
N07	2.00	-.37	1.31	1.32	.24	-.21	4.70
N08	.08	-.37	.87	-1.06	.94	.88	-.41
N09	-.93	-.37	1.31	.84	.59	1.09	.36
N10	-.60	-.37	-.47	-.58	-.45	1.16	-3.64
N11	-.72	-.37	-1.80	-1.53	-.80	-.54	-4.69
N12	.05	-.37	-.91	-1.53	-1.15	1.89	-5.82
N13	.70	-.37	-1.80	-.58	.24	1.85	-3.66
N14	-.24	-.37	-1.35	1.32	-.10	.26	-1.02
N15	-.93	-.37	-.02	-1.06	-1.85	.21	-4.44
N16	.79	-.37	.42	1.32	-.80	-.75	2.11
N17	-.28	-.37	.87	.37	.59	.76	.41
N18	.37	-.37	.42	-.11	.24	-.25	.81
N19	.05	-.37	-.91	-1.53	-.45	-.49	-2.73
N20	-.93	-.37	-.47	-2.48	.94	-.42	-2.88

(Table continued)

Table 28 - continued

Inst.	apf1z	apf2z	apf3z	apf4z	apf5z	apf6z	Adm pwr formal
N21	2.00	-.37	.87	.84	1.29	-.39	5.02
N22	1.63	-.37	.42	-1.06	-.80	.50	-.68
N23	1.58	-.37	.42	.37	1.64	-.46	4.10
N24	-.62	-.37	-.02	-1.53	.94	-1.14	-.47
N25	-.93	2.61	-.91	-.58	3.04	-.42	3.65
N26	-.03	-.37	.87	.37	.24	-.58	1.66
N27	-.62	-.37	1.31	.84	-.45	-.27	.97
N28	-.54	-.37	.42	-.58	-.10	-.65	-.53
N29	-.34	-.37	.42	-.11	.24	.89	-1.04
N30	-.93	2.61	1.31	-.58	-.45	.09	1.87
N31	.53	-.37	.87	1.32	-.10	-.46	2.69
N32	1.41	-.37	.87	.84	-1.15	-.50	2.10
N33	1.20	-.37	-.91	.37	-1.50	-.87	-.35
N34	.17	-.37	-.91	1.32	-.45	-1.58	1.33
N35	-.58	-.37	.87	.84	-1.85	-1.22	.12
N36	-.93	2.61	-.02	-.11	1.64	.22	2.98
N37	-.69	-.37	-.02	.84	-.80	-.65	-.40
N38	-.93	2.61	.42	-.11	-.45	1.62	-.07
N39	-.93	2.61	-.47	-.58	-.10	-1.24	1.77
N40	2.00	-.37	-.02	.37	-.10	2.68	-.82
M	.00	.00	-.00	.00	.00	.00	.00
SD	1.00	1.00	1.00	1.00	1.00	1.00	2.50

Table 29

Standard Scores of Variables Used to Compute Faculty Power

Inst.	Fac pwr formal	fpfz	Fac pwr informal	fpiz	Fac power
NØ1	-.8Ø	-.31	-.89	-.41	-.72
NØ2	.78	.3Ø	-.12	-.Ø6	.24
NØ3	2.Ø4	.79	-.28	-.13	.66
NØ4	4.87	1.89	-3.69	-1.71	.18
NØ5	2.58	1.ØØ	4.92	2.28	3.27
NØ6	-.84	-.32	-.66	-.31	-.63
NØ7	-2.35	-.91	-2.18	-1.Ø1	-1.92
NØ8	-1.35	-.52	1.3Ø	.6Ø	.Ø8
NØ9	2.11	.82	-1.45	-.67	.15
N1Ø	.66	.26	5.96	2.76	3.Ø2
N11	1.12	.43	-3.Ø5	-1.42	-.98
N12	2.67	1.Ø3	-1.Ø1	-.47	.56
N13	.69	.27	-.52	-.24	.Ø3
N14	4.Ø8	1.58	-2.22	-1.Ø3	.55
N15	2.35	.91	.Ø2	.Ø1	.92
N16	-.23	-.Ø9	-.18	-.Ø8	-.17
N17	1.53	.59	-1.82	-.84	-.25
N18	1.31	.51	-1.98	-.92	-.41
N19	.Ø8	.Ø3	.83	.39	.42
N2Ø	-.45	-.17	4.63	2.14	1.97

(Table continued)

Table 29 - continued

Inst.	Fac pwr formal	fpfz	Fac pwr informal	fpiz	Fac power
N21	-3.40	-1.32	-.38	-.18	-1.49
N22	-.98	-.38	.04	.02	-.36
N23	-1.17	-.45	-2.60	-1.20	-1.65
N24	1.49	.58	.61	.28	.86
N25	-7.04	-2.72	-1.84	-.85	-3.57
N26	-.55	-.21	.46	.21	.00
N27	2.89	1.12	-1.57	-.73	.39
N28	2.47	.96	-1.66	-.77	.19
N29	-.27	-.10	2.38	1.10	1.00
N30	-3.54	-1.37	1.34	.62	-.75
N31	-.70	-.27	3.85	1.78	1.51
N32	-.43	-.17	.74	.34	.18
N33	.11	.04	-1.12	-.52	-.47
N34	-.03	-.01	2.21	1.02	1.01
N35	4.26	1.65	-1.95	-.91	.74
N36	-5.64	-2.18	.44	.20	-1.98
N37	1.09	.42	-.90	-.42	.00
N38	-3.54	-1.37	1.66	.77	-.60
N39	-3.89	-1.50	.92	.43	-1.08
N40	-2.00	-.77	-.22	-.10	-.88
M	.00	.00	.00	-.00	.00
SD	2.58	1.00	2.16	1.00	1.27

Table 30

Standard Scores of Variables Used to Compute Administrative Power

Inst.	Adm pwr formal	apfz	Adm pwr informal	apiz	Adm power
N01	-1.18	-.47	-1.32	-1.32	-1.79
N02	-1.18	-.47	1.27	1.27	.80
N03	-1.74	-.69	-1.32	-1.32	-2.01
N04	-.16	-.06	.23	.23	.17
N05	.52	.21	1.78	1.78	1.99
N06	.75	.30	.75	.75	1.05
N07	4.70	1.88	-.28	-.28	1.59
N08	-.41	-.17	.75	.75	.58
N09	.36	.14	.23	.23	.38
N10	-3.64	-1.45	-.28	-.28	-1.74
N11	-4.69	-1.87	.75	.75	-1.12
N12	-5.82	-2.32	.75	.75	-1.57
N13	-3.66	-1.46	.23	.23	-1.23
N14	-1.02	-.41	.23	.23	-.17
N15	-4.44	-1.78	1.27	1.27	-.51
N16	2.11	.84	.23	.23	1.07
N17	.41	.17	-.28	-.28	-.12
N18	.81	.32	-1.32	-1.32	-.99
N19	-2.73	-1.09	.23	.23	-.86
N20	-2.88	-1.15	-.80	-.80	-1.95

(Table continued)

Table 30 - continued

Inst.	Adm pwr formal	apfz	Adm pwr informal	apiz	Adm power
N21	5.02	2.00	-.28	-.28	1.72
N22	-.68	-.27	.23	.23	-.04
N23	4.10	1.64	-.28	-.28	1.35
N24	-.47	-.19	-1.84	-1.84	-2.02
N25	3.65	1.46	1.27	1.27	2.73
N26	1.66	.66	1.27	1.27	1.93
N27	.97	.39	-.80	-.80	-.41
N28	-.53	-.21	1.27	1.27	1.06
N29	-1.04	-.42	-.80	-.80	-1.22
N30	1.87	.75	-1.32	-1.32	-.57
N31	2.69	1.08	-1.32	-1.32	-.24
N32	2.10	.84	-1.32	-1.32	-.48
N33	-.35	-.14	.75	.75	.61
N34	1.33	.53	1.78	1.78	2.31
N35	.12	.05	.23	.23	.28
N36	2.98	1.19	-1.32	-1.32	-.13
N37	-.40	-.16	-.80	-.80	-.96
N38	-.07	-.03	-1.32	-1.32	-1.35
N39	1.77	.71	.75	.75	1.46
N40	-.82	-.33	.75	.75	.42
M	.00	.00	-.00	-.00	-.00
SD	2.50	1.00	1.00	1.00	1.30

Table 31

Standard Scores of Variables Used

to Compute Governance Type

Inst.	Fac power	Adm power	Governance type
NØ1	-.72	-1.79	IV
NØ2	.24	.8Ø	I
NØ3	.66	-2.Ø1	III
NØ4	.18	.17	I
NØ5	3.27	1.99	I
NØ6	-.63	1.Ø5	II
NØ7	-1.92	1.59	II
NØ8	.Ø8	.58	I
NØ9	.15	.38	I
N1Ø	3.Ø2	-1.74	III
N11	-.98	-1.12	IV
N12	.56	-1.57	III
N13	.Ø3	-1.23	III
N14	.55	-.17	III
N15	.92	-.51	III
N16	-.17	1.Ø7	II
N17	-.25	-.12	IV
N18	-.41	-.99	IV
N19	.42	-.86	III
N2Ø	1.97	-1.95	III

(Table continued)

Table 31 - continued

Inst.	Fac power	Adm power	Governance type
N21	-1.49	1.72	II
N22	-.36	-.04	IV
N23	-1.65	1.35	II
N24	.86	-2.02	III
N25	-3.57	2.73	II
N26	.00	1.93	I
N27	.39	-.41	III
N28	.19	1.06	I
N29	1.00	-1.22	III
N30	-.75	-.57	IV
N31	1.51	-.24	III
N32	.18	-.48	III
N33	-.47	.61	II
N34	1.01	2.31	I
N35	.74	.28	I
N36	-1.98	-.13	IV
N37	.00	-.96	III
N38	-.60	-1.35	IV
N39	-1.08	1.46	II
N40	-.88	.42	II
M	.00	-.00	
SD	1.27	1.30	

Note. I = High faculty / high admin. power
II = high faculty / low admin. power
III = low faculty / high admin. power
IV = low faculty / low admin. power.

Table 32

Values of Variables Used

to Compute the Quality Index Value

Inst.	SAT Score	Per capita expenditures in thousands	Quality index value
NØ1	445	39Ø7	-.27
NØ2	414	3128	-1.1Ø
NØ3	567	5922	2.84
NØ4	37Ø	47Ø7	-1.73
NØ5	469	3285	.13
NØ6	52Ø	2338	1.Ø5
NØ7	277	6126	-3.48
NØ8	42Ø	2834	-1.Ø4
NØ9	469	3761	.27
N1Ø	413	4128	-.92
N11	523	41Ø1	1.48
N12	458	3486	-.Ø6
N13	43Ø	1923	-1.ØØ
N14	417	2296	-1.21
N15	452	3747	-.15
N16	423	4Ø73	-.71
N17	483	4481	.67
N18	488	8956	1.75
N19	448	395Ø	-.19
N2Ø	5Ø3	959Ø	2.23

(Table continued)

Table 32 - continued

Inst.	SAT Score	Per capita expenditures in thousands	Quality index value
N21	497	6432	1.43
N22	496	8382	1.82
N23	463	2722	-.13
N24	444	1717	-.76
N25	393	2915	-1.60
N26	469	7997	1.14
N27	520	3197	1.22
N28	602	8095	4.08
N29	522	4554	1.56
N30	499	2203	.55
N31	362	5954	-1.64
N32	471	3833	.29
N33	481	4450	.64
N34	499	2309	.58
N35	448	2039	-.60
N36	423	2889	-.96
N37	375	6087	-1.33
N38	566	4169	2.45
N39	460	3169	-.09
N40	450	4104	-.11

APPENDIX E: HEGIS DATA: RAW SCORES

Table 33

HEGIS Data: Affiliation, Date Established, and Age of the Sampled Institutions

Institution	Affiliation-control	Date est.	Age yrs
NØ1	7day-adv.	19Ø5	79
NØ3	State	1933	51
NØ2	Indep.	1874	11Ø
NØ4	State	1891	93
NØ6	State	1956	28
NØ5	Indep.	1885	99
NØ7	State	1895	89
NØ8	State	1872	112
NØ9	State	1895	89
N1Ø	Unknown	187Ø	214
N12	Luth.	1859	125
N11	Indep.	1884	1ØØ
N13	Local	1865	119
N14	State	1956	28
N15	Cath.	1912	72
N16	State	19ØØ	84
N18	State	1894	9Ø
N19	Indep.	1899	85
N2Ø	Indep.	1885	99

(Table continued)

Table 33 - continued

Institution	Affiliation-control	Date est.	Age yrs
N17	State	1894	90
N21	State	1884	100
N22	Indep.	1878	106
N23	State	1909	75
N24	State	1927	57
N25	Indep.	1920	64
N26	Indep.	1853	131
N27	State	1861	123
N29	Indep.	1795	189
N28	Indep.	1946	38
N30	Cath.	1831	153
N31	State	1897	87
N35	State	1839	145
N32	Cath.	1944	40
N33	Cath.	1863	121
N34	Cath.	1915	69
N36	Indep.	1906	78
N37	Cath.	1911	73
N38	State	1693	291
N39	Cath.	1891	93
N40	Cath.	1898	86

Table 34

HEGIS Data: Enrollment Change Between 1982 and 1983 in the Sampled Institutions

Institution	Prev enroll	Curr enroll	Percent increase
NØ1	5351	5248	-2
NØ3	4855	5446	11
NØ2	1967	194Ø	-1
NØ4	2Ø84	2128	2
NØ6	25Ø54	253Ø7	1
NØ5	4Ø71	3988	-2
NØ7	1814	1766	-3
NØ8	1927	195Ø	1
NØ9	1Ø774	1Ø587	-2
N1Ø	Unk	Unk	N/A
N12	4524	4456	-2
N11	1261	1166	-8
N13	6Ø31	6138	2
N14	14897	15595	4
N15	46Ø2	4485	-3
N16	2541	2233	-14
N18	2917	2996	3
N19	28Ø3	2773	-1
N2Ø	2692	2511	-7
N17	13724	14562	6

(Table continued)

Table 34 - continued

Institution	Prev enroll	Curr enroll	Percent increase
N21	2070	1857	-11
N22	5614	5766	3
N23	2312	2233	-4
N24	9044	8810	-3
N25	1923	1932	1
N26	4879	4905	1
N27	7615	7556	-1
N29	3394	3410	1
N28	2278	2465	8
N30	6515	7082	8
N31	1179	1372	14
N35	6503	6339	-3
N32	3822	4203	9
N33	7663	7587	-1
N34	3161	3191	1
N36	4480	4425	-1
N37	1768	1695	-4
N38	6465	6520	1
N39	4353	4579	5
N40	1659	1710	3

Table 35

HEGIS Data: Race, Sex, and Landgrant Status of the Sampled Institutions

Institution	Race	Sex	Type
NØ1	White	Coed	N
NØ3	White	Coed	N
NØ2	White	Coed	N
NØ4	Black	Coed	L
NØ6	White	Coed	N
NØ5	White	Coed	N
NØ7	Black	Coed	L
NØ8	White	Coed	N
NØ9	White	Coed	N
N1Ø	Black	Coed	N
N12	White	Coed	N
N11	White	Coed	N
N13	White	Coed	N
N14	White	Coed	N
N15	White	Coed	N
N16	Black	Coed	N
N18	White	Coed	N
N19	White	Coed	N

(Table continued)

Table 35 - continued

Institution	Race	Sex	Type
N20	White	Coed	N
N17	White	Coed	N
N21	White	Female	N
N22	White	Coed	N
N23	White	Coed	N
N24	White	Coed	N
N25	White	Coed	N
N26	White	Coed	N
N27	White	Coed	N
N29	White	Coed	N
N28	White	Coed	N
N30	White	Coed	N
N31	Black	Coed	L
N35	White	Coed	N
N32	White	Coed	N
N33	White	Coed	N
N34	White	Female	N
N36	White	Coed	N
N37	Hisp.	Coed	N
N38	White	Coed	N
N39	White	Coed	N
N40	White	Coed	N

Note. N = nonlandgrant, L = landgrant.

Table 36

HEGIS Data: Type of Environment

of the Sampled Institutions

Institution	City size
NØ1	Urb 1-2M Outside
NØ3	Urban Less 25ØK
NØ2	Urban 25Ø-5ØØK
NØ4	Non-Urban
NØ6	Urb 1-2M Inside
NØ5	Urban 5ØØ-1M
NØ7	Non-Urban
NØ8	Non-Urban
NØ9	Non-Urban
N1Ø	Urban 25Ø-5ØØK
N12	Urban 5ØØ-1M
N11	Non-Urban
N13	Urban Less 25ØK
N14	Urb 1-2M Inside
N15	Urb 1-2M Inside
N16	Urb ov 2M Inside
N18	Non-Urban
N19	Urb ov 2M Inside
N2Ø	Urban 5ØØ-1M
N17	Urban Less 25ØK

(Table continued)

Table 36 - continued

Institution	City size
N21	Non-Urban
N22	Urban 500-1M
N23	Non-Urban
N24	Urban 500-1M
N25	Urban 250-500K
N26	Non-Urban
N27	Urban 500-1M
N29	Urban 500-1M
N28	Urban 250-500K
N30	Urb 1-2M Inside
N31	Non-Urban
N35	Non-Urban
N32	Urban 250-500K
N33	Urb ov 2M Inside
N34	Urban 500-1M
N36	Urban Less 250K
N37	Urb 1-2M Inside
N38	Urban 250-500K
N39	Urb 1-2M Inside
N40	Urban Less 250K

Table 37

HEGIS Data: Sex of Faculty in the Sampled Institutions

Institution	Number male	Number female	Total faculty	Percent male
NØ1	2Ø2	112	314	64
NØ2	1Ø6	31	137	77
NØ3	16Ø	4Ø	2ØØ	8Ø
NØ4	72	56	128	56
NØ5	93	24	117	79
NØ6	697	166	863	81
NØ7	86	5Ø	136	63
NØ8	59	3Ø	89	66
NØ9	372	11Ø	482	77
N11	66	7	73	9Ø
N12	182	55	237	77
N13	127	58	185	69
N14	377	134	511	74
N15	162	45	2Ø7	78
N16	64	55	119	54
N17	345	97	442	78
N18	8Ø	19	99	81
N19	7Ø	96	166	42
N2Ø	9Ø	3Ø	12Ø	75

(Table continued)

Table 37 - continued

Institution	Number male	Number female	Total faculty	Percent male
N21	45	66	111	41
N22	223	87	310	72
N23	74	25	99	75
N24	180	102	282	64
N25	34	43	77	44
N26	165	21	186	89
N27	304	65	369	82
N28	69	30	99	70
N29	133	18	151	88
N30	151	38	189	80
N31	27	23	50	54
N32	94	11	105	90
N33	168	36	204	82
N34	65	36	101	64
N35	237	74	311	76
N36	142	33	175	81
N37	29	38	67	43
N38	304	48	352	86
N39	114	58	172	66
N40	68	12	80	85

Table 38

HEGIS Data: Faculty Rank by Sex in the Sampled Institutions

Institution	Full professors male	female	Total	Percent
NØ1	62	17	79	25
NØ2	45	2	47	34
NØ3	69	5	74	37
NØ4	17	6	23	18
NØ5	4Ø	9	49	42
NØ6	3Ø9	25	334	39
NØ7	2Ø	8	28	21
NØ8	24	3	27	3Ø
NØ9	169	18	187	39
N11	2Ø	Ø	2Ø	27
N12	73	4	77	32
N13	48	5	53	29
N14	115	18	133	26
N15	41	6	47	23
N16	21	12	33	28
N17	117	14	131	3Ø
N18	26	5	31	31
N19	27	21	48	29
N2Ø	31	6	37	31

(Table continued)

Table 38 - continued

Institution	Full professors male	female	Total	Percent
N21	21	14	35	32
N22	52	1	53	17
N23	19	2	21	21
N24	62	20	82	29
N25	5	1	6	8
N26	31	1	32	17
N27	109	10	119	32
N28	18	1	19	19
N29	52	1	53	35
N30	3	3	66	35
N31	6	7	13	26
N32	19	2	21	20
N33	36	0	36	18
N34	10	2	12	12
N35	87	12	99	32
N36	70	6	76	43
N37	8	7	15	22
N38	150	12	162	46
N39	27	12	39	23
N40	16	0	16	20

Table 39

HEGIS Data: Revenue, Expenditures, and Endowment Yield of the Sampled Institutions, in Thousands

Institution	Total revenue	Total E & G expend	Endowment yield
NØ1	6619	4778	63
NØ2	1955	1499	238
NØ3	2296	195Ø	Ø
NØ4	1438	1153	2
NØ5	1679	1333	94
NØ6	13965	12499	Ø
NØ7	1357	1199	2
NØ8	88Ø	6ØØ	9
NØ9	5384	4153	Ø
N11	657	522	4Ø
N12	2653	2Ø56	121
N13	1675	1499	29
N14	5256	4288	Ø
N15	28Ø9	24Ø5	534
N16	1Ø41	1Ø21	Ø
N17	3719	25Ø5	7
N18	1Ø57	733	Ø
N19	2484	1836	2Ø4
N2Ø	142Ø	1Ø35	52

(Table continued)

Table 39 - continued

Institution	Total revenue	Total E & G expend	Endowment yield
N21	1387	1149	2
N22	6273	5357	160
N23	869	713	0
N24	2496	2290	0
N25	660	571	0
N26	2367	2076	25
N27	4556	3699	0
N28	1030	895	0
N29	2701	2082	370
N30	2352	2007	78
N31	697	561	0
N32	1525	1315	35
N33	2921	2138	78
N34	1259	961	71
N35	2889	2546	0
N36	2279	1576	407
N37	869	753	41
N38	4756	3172	43
N39	2367	1706	75
N40	1240	830	83

APPENDIX F: LIST OF INSTITUTIONS STUDIED

Institution name	Location
Abilene Christian University	Abilene, TX
Bloomsburg State College	Bloomsburg, PA
College of William and Mary	Williamsburg, VA
Colorado College	Colorado Springs, CO
Coppin State College	Baltimore, MD
Creighton University	Omaha, NB
Deleware State College	Dover, DE
Eastern Illinois University	Charleston, IL
Fort Valley State College	Fort Valley, GA
Gannon University	Erie, PA
Indiana State University	Tere Haute, IL
Jersey City State College	Jersey City, NJ
Langston University	Langston, OK
Lasalle College	Philadelphia, PA
Loma Linda University	Loma Linda, CA
Loyola University	New Orleans, LA
Manhattan College	Bronx, NY
Marywood College	Scranton, PA
Miss. State Univ. for Women	Colombus, MS
North Adams State College	North Adams, MA
North Georgia College	Dahlonega, GA
Our Lady of the Lake College	San Antonio, TX
Rollins College	Winter Park, FL
Saint Norbert College	De Pere, WI
Seattle University	Seattle, WA
Simmons College	Boston, MA
Springfield College	Springfield, MA
State Univ. of N.Y. at Oswego	Oswego, NY
Tri-State University	Angola, IN
Union College	Schenectady, NY
University of Albuquerque	Albuquerque, NM
University of Lowell	Lowell, MA
University of New Orleans	New Orleans, LA
University of South Florida	Tampa, FL
Univ. of Southern Colorado	Pueblo, CO
Utica College of Syracuse Univ.	Utica, NY
Valparaiso University	Valparaiso, CA
Washburn University	Topeka, KS
Wayne State College	Wayne, NB
Xavier University	Cincinnati, OH

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