

**Determinants of Organizational Compliance with Institutional Pressures:
The Employment of Non-Tenure-Track Faculty in Institutions of Higher Education**

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Abstract

This paper examines variations in faculty staffing among four-year colleges and universities as a means of exploring the conditions under which organizations are more or less likely to comply with professional norms. Despite the continuing efforts of professional associations of university faculty to promote the tenure system as an appropriate employment structure in higher education organizations, the proportion of faculty employed in non-tenure-track positions has steadily increased over the last two decades, across all types of institutions. We treat the proportion of non-tenure-track faculty in an institution as a measure of level of non-compliance with professional norms, and examine a number of organizational characteristics as predictors of the use of such faculty, using a random sample of 612 four-year institutions. Based on a time series analysis for a seven-year period, 1989-1995, we conclude that compliance with professional norms by individual organizations is influenced by factors that affect the costs of complying as well as those affecting the costs of not complying. The implications of this research for understanding changes in workplace institutions in general, and in the institution of tenure specifically are discussed.

Determinants of Organizational Compliance with Institutional Pressures: The Employment of Non-Tenure-Track Faculty in Institutions of Higher Education

Studies focusing on the relationship between professions and organizations often draw a contrast between two distinct principles for organizing work: a “bureaucratic” principle, in which cost efficiency and other organizational considerations dictate work arrangements, and an “occupational” principle, in which norms and work standards of a given occupational or professional group define appropriate arrangements (Stinchcombe, 1959; Freidson, 1994). Although both principles are consistent with rational legal authority (Hall, 1968), they may not – and perhaps usually do not – lead to the same choices for organizational structure and practice. Instances of organizational conflict engendered by differences among organizational members over which principle should have precedence are well-documented; organizations staffed largely by professionals appear to be particularly prone to such conflict (e.g., Kornhauser, 1963; Scott, 1965; Miller, 1967; Spangler, 1987; Abbott, 1988; Nelson, 1988). However, research has been remarkably silent on the question of when are organizations more or less likely to follow an occupational principle, that is, to adhere to professional prescriptions for organizing work, especially when such prescriptions are viewed as being inconsistent with the logic of economic efficiency (Bacharach, Bamberger and Conley, 1991).

This paper investigates this problem by examining the organizational determinants of the employment of faculty in non-tenure-track positions, using a sample of four-year colleges and universities in the United States. Increases in the proportion of non-tenure-track faculty have paralleled the rising numbers of contingent workers in non-

academic organizations over the last twenty years (Segal, 1996), presumably for much the same reason: organizations' perceived need to minimize costs and maximize adaptation to uncertain environments through flexible staffing (Leslie et al., 1983). The growing use of non-tenure-track faculty is especially notable, however, because of the potential challenge it presents to an explicitly articulated professional institution, the tenure system. This issue has led many professional associations of faculty in the U.S. to register strong opposition to the employment of faculty in non-tenure-track positions. Nonetheless, over the last three decades, the proportion of faculty in such positions has increased steadily (Benjamin, 1998).

There is, however, considerable variance in such employment across colleges and universities. By examining the characteristics of higher education organizations that are linked to variations in the use of non-tenure-track faculty, this research is intended to shed some light on the conditions under which professions are most likely to influence organizational practices. It is also aimed at contributing to the development of institutional analyses of organizations by addressing an under-researched issue in this theoretical tradition, the determinants of organizations' conformity to institutional prescriptions.

In the following section, we describe the historical development of tenure systems in academic organizations in the U.S. to provide a contextual background for subsequent analyses of contemporary data on staffing. In the next section, we draw on several theoretical analyses of organizations' responses to institutional pressures to develop empirically-testable hypotheses about the use of non-tenure-track faculty in higher

education institutions. The third section describes the data used to examine these hypotheses and the fourth provides the results of the analysis. In the conclusion, we discuss the implications of the research for understanding processes of institutional change in general, and potential changes in the institution of tenure in particular.

The Development of Tenure as an Institution

The Origins of Tenure and the American Association of University Professors

The origins of tenure systems in higher education can be traced to the medieval universities of Europe, which drew upon emerging models of guild organizations to set up governance structures that afforded university members protection from unwelcome influence attempts by monarchs and non-faculty ecclesiastical authorities.¹ The contemporary form of tenure systems in the U.S., however, is most directly rooted in a series of public pronouncements offered by the first national association of faculty in higher education institutions, the American Association of University Professors (AAUP), organized in the early 20th century.

Efforts to organize the AAUP were inspired by a number of instances of faculty dismissal from various institutions around the country, dismissals that were viewed by many faculty as motivated not by impartial assessment of faculty teaching and research performance, but by political or personal conflicts. Such occurrences posed direct threats to the emerging professional self-definition of faculty work as involving the application of shared, objective standards of evaluation to ideas and evidence in order to attain valid knowledge of the social and physical worlds. This definition was heavily indebted to the model of academic research and scholarship that emerged from German universities of the period, a model implying a level of faculty professionalism that strongly appealed to

many American academics. Insofar as dismissals suggested that faculty employment was overtly contingent on satisfying the desires of powerful groups and individuals to hear (or not to hear) certain arguments and conclusions, such a definition of academic work was clearly called into question.

One particularly influential case, in this context, was that of Professor Edward Ross, an economics professor at Stanford University. In brief, Ross was asked to resign his position after the widow of Leland Stanford, a major benefactor and sole trustee of the University, complained to the president about Ross' public criticisms of privately owned large utilities and railroads, and his political efforts to promote greater public regulation of these organizations. Mr. Stanford's fortune had been made through his association with the Southern Pacific Railroad, which was one of the immediate foci of Professor Ross' critical analyses. Although the president of Stanford denied that the dismissal of Ross reflected anything other than problems of personal conduct and performance within the university, the latter's version of his dismissal as an instance of vindictive intellectual repression had sufficient credibility to provoke general outcry among faculty over the process.

However, as in most colleges and universities in the U.S. at this time, the faculty had little or no formal role in the institution's governance. And despite the common *de facto* faculty employment practice observed in many higher education organizations "that a man once installed continues indefinitely" (Bishop, 1962: 76-77), the *de jure* arrangement was defined largely by an employment at will principle, one in which, according to one court ruling made at the turn of the century, "the professor may leave at his pleasure; the board may terminate his professorship at its pleasure" (Metzger, 1973: 134).

The vulnerability of faculty to arbitrary dismissal thus led a number of professors at Johns Hopkins University to spearhead the formation of a national professional association for university faculty members, the AAUP. The initial call for the creation of an association, issued in 1913, underscored two key tasks: development of a set of principles and policies that colleges and universities should follow in terminating faculty employment, and development of procedures that would enable the association to undertake impartial investigations into alleged violations of academic freedom.

These tasks were addressed in a number of position papers published by the AAUP in 1915, 1925, and 1940. The latter, the 1940 Statement of Principles on Academic Freedom and Tenure, was developed through several years of legalistically-oriented negotiation between the AAUP and the Association of American Colleges (AAC), a representative organization of college and university presidents (Joughin, 1969). It provides key elements of both the currently accepted definition of practices and processes entailed by the institution of tenure, and a developed theoretical rationale for tenure systems.²

This rationale explicitly reflected concern with the issue of long-term employment, as well as the issue of academic freedom. Tenure was defended, in part, as an important means of recruiting talented individuals to the occupation (Joughin, 1969: 34-35): "Tenure is a means to certain ends; specifically, (1) freedom of teaching and research and of extramural activities and (2) a sufficient degree of economic security to make the profession attractive to men and women of ability. Freedom and economic security, hence, tenure, are indispensable to the success of an institution in fulfilling its obligations to its students and to society." (See Carmichael [1988] for a rather different economic rationale for tenure systems.) An emphasis on employment security was consistent with the general *zeitgeist* of the post-Depression era, in which security was

accepted as a legitimate concern in the construction of employment structures, as reflected in the spread of civil service arrangements in government organizations (Tolbert and Zucker, 1983), tenure systems for public school teachers (National Education Association, 1957), and seniority-based hiring and termination rules in the private sector (Jacoby, 1985) during this period. Notably absent in the Statement were any overt references, or even reasonably clear, indirect allusions to non-probationary, limited term appointments.

The first notable official recognition of such appointments appeared in the Association's Recommended Institutional Regulations on Academic Freedom and Tenure, issued in 1956. Regulation 1b of this document was clearly intended to limit temporary appointments and to reinforce tenure as an organizational norm for faculty employment: "With the exception of special appointments clearly limited to a brief association with the institution, and reappointment of retired faculty members on special conditions, all full-time appointments to the rank of instructor or higher are of two kinds: (1) probationary appointments; and (2) appointments with continuous tenure" (American Association of University Professors, 1978: 270).

The Impact of Changing Academic Environments

Under the combined, expansionary influences of general economic affluence in the nation in the post-World War II years, governmental efforts to increase access to a college education through student subsidies, and a growing market of higher education consumers created by the post-War baby boom, adherence to the norm of tenure-track employment was relatively unproblematic for most higher education organizations, and the AAUP's efforts to ensure adherence through public investigation and censure of institutions charged with violating tenure principles were largely effective (American Association of University Professors, 1965: 140).

These conditions propelled the widespread diffusion of tenure systems among higher education organizations in the years following the AAUP's issuance of the 1940 Statement. Although the process through which adoption of tenure systems occurred is not well-documented,³ national surveys conducted by the National Center for Education Statistics in 1987 indicated that, by that time, virtually all four-year institutions had a tenure system in place, as shown in Table 1. Only two-year community colleges exhibited much immunity to the forces for institutionalizing tenure systems, probably because of their ambiguous status within the population of higher education organizations; and even here, a sizeable minority of such organizations created tenure systems (National Center for Education Statistics, 1990: 15).

-Table 1 about here-

Its prevalence among higher education organizations provides one indicator of the highly institutionalized status of tenure systems (see Tolbert and Zucker, 1996). This prevalence is, in some respects, self-sustaining. As Chait and Ford (1982: 10) note, "Put most simply, as long as most colleges and universities offer tenure, most colleges and universities will offer tenure. With respect to faculty recruitment and institutional reputation, the *perceived* risks of deviating from accepted practices are greater than most institutions are prepared to assume" (italics in original). Thus, only a handful of four-year colleges and universities created since the 1970s have foregone the establishment of tenure (Chait and Ford, 1982), and even fewer organizations with tenure systems have formally eliminated them. Despite apparent acceptance of tenure as an employment norm, however, many higher education institutions have, in the last three decades, steadily increased the number and proportion of non-tenure-track faculty positions. This trend is often linked to major environmental shifts beginning in the late 1960s that affected many colleges and universities.

The rapid growth in the population of higher education organizations from the late 1950s through the 1960s set the stage for potentially intense competition within the population. Potential competition became an actuality in the 1970s, as the number of college-age students and government funds began to decline (Frances, 1984; Froomkin, 1990). The straitened circumstances faced by many higher education organizations from the 1970s onward provided an impetus to search for ways to reduce costs, and personnel costs often became the focus of such searches.

The decline in government funding was accompanied by increased scrutiny and regulation of colleges' and universities' expenditures of such funds; these changes also added to the pressures to contain costs. Increased government regulation also affected higher education organizations in a different way (albeit with similar consequences) through equal opportunity laws and affirmative action policies. The implementation of such regulations opened up many traditional personnel practices in colleges and universities, including tenure practices, to general questioning (Hobbs, 1994). Occurring at the same time, a rather contradictory legal trend in the workplace emerged in the 1980s, the increasing formalization of an employment at will doctrine in legal rulings and employer policies (Sutton and Dobbin, 1996). This trend suggests an underlying philosophical rejection of employment security as a legitimate expectation of employees in general, a societal value that is clearly relevant to tenure systems.

And finally, several changes in faculty/organizational relationships have occurred in the last 30 years, driven in part by the forces described above. Traditional faculty functions, such as advising students, have been assumed by other staff personnel, and new functions, such as fundraising, have become increasingly important in many colleges and universities. Perhaps the most important change, however, is the result of an oversupply of faculty that emerged in many disciplines in the 1980s and 1990s, created

by the widespread failure of academic departments to align the production of Ph.Ds with the slowing growth in college enrollments and consequent contractions in academic labor markets (Altbach, 1994). This overproduction served to decrease higher education organizations' dependence on faculty members in general, thus weakening the relative power of the profession (Hickson et al., 1971).

Non-tenure-track Appointments and the Profession's Response

In response to these environmental changes, a growing number of higher education organizations began to rely more heavily on non-tenure-track faculty for staffing courses. Across all types of institutions, the proportion of faculty in part-time positions steadily declined throughout the 1960s (NCES, 1972), but the 1970s saw the beginning of a substantial jump in the proportion of faculty holding such positions (NCES, 1993).⁴ By 1978, the trends were sufficiently troublesome to occasion the investigation of the use of part-time and other non-tenure track faculty by an appointed subcommittee of the AAUP's venerable Committee A on Academic Freedom and Tenure (American Association of University Professors, 1978). Based on responses to a survey sent to a stratified sample of AAUP local chapters, the committee concluded that the use of non-tenure-track faculty was indeed rising across the range of different types of higher education organizations, and observed the common practice of limiting the number of times a non-tenure-track faculty member could have his or her contract renewed. While the rationale for this limitation was not clear from the survey data, the report suggested that such limits are consistent with the letter (if not the intent) of Regulation 1b which, as noted previously, observed that "special appointments" should be limited to "brief association" with an institution. It concluded by stressing the intent of the Regulation to confine non-tenure-track appointments to exceptional circumstances, not to limit the term of appointment of non-tenure-track faculty.

A second subcommittee report on the same subject (American Association of University Professors, 1986) issued eight years later provided more extensive quantitative documentation of the upward trend in the use of non-tenure-track faculty, and amplified the discussion contained in the initial report of problems associated with this type of employment (see also Kasper, 1986). It warned that (1986: 19a), "...the general development of a more-or-less permanent two-tier system brings with it a class consciousness that affects the faculty's perception of themselves, the students' perceptions of the faculty, and the outside world's perception of academe," and bluntly concluded that, "the abuse of these [part-time, non-tenure-track] appointments should be stopped."

By 1992, the subcommittee had turned into a full-blown standing committee, Committee G on Part-Time and Non-Tenure-Track Appointments, which issued an update on the distribution of part-time, non-tenure-track faculty, and on the problems created both for individuals and the profession by such employment arrangements. The Committee advocated a general reduction in the use of non-tenure-track faculty by higher education organizations, as well as the extension of "benefits and privileges of the academic profession" - including termination only for "demonstrable declines in enrollment and funding" - to non-tenure-track faculty (p. 47). While the latter suggests a somewhat belated effort by the profession to formally redefine the boundaries of tenure as an institution, as yet there is little evidence that such redefinition efforts have been successful.

Nevertheless, the degree of variability in the use of non-tenure-track faculty by different institutions provides evidence that AAUP's efforts to reinforce professional norms of tenure may have had some, albeit uneven, effects. The extent of such variations is indicated in Table 2 which presents data on faculty staffing patterns from 1989-1995 for a sample of 612 four-year colleges and universities, randomly selected from a

national census of higher education institutions in 1993. Staffing data for these institutions are drawn from national surveys of higher education institutions, conducted bi-annually since 1987 by the National Center for Education Statistics. The Table shows changes in the distribution of the institutions among categories defined by the proportion of faculty in positions that are non-tenure-track.

-Table 2 about here-

Two main conclusions can be drawn from this Table. The first is that there is a general upward trend over this time period in institutions' reliance on non-tenure-track faculty for staffing. Thus, the proportion of institutions in which over half of the faculty were off the tenure track rose from 32% (18% + 14%) in 1989 to 42% (21% + 21%) by 1995. However, a second conclusion should also be noted, and that is that there is considerable variance among the institutions in the use of non-tenure-track faculty. This is suggested by the fact that by 1995, the number of institutions in which three-fourths or more of the faculty were not tenure-track was roughly equal to the number in which three-fourths or more were tenure-track.

Thus, although environmental changes may have provided the impetus for organizations to consider the costs and benefits of complying with professionally-sanctioned tenure norms, no clear, dominant response to such considerations appears to have emerged: Substantial variation exists in the degree to which individual organizations comply with professional prescriptions. Understanding this variation requires examination of the organizational determinants of compliance with such prescriptions.

Determinants of Organizational Compliance with Professional Norms

Explanations of organizations' formal structure that are based on institutional theory emphasize the effects of widespread social definitions of "good" organizational practices and structures (Meyer and Rowan, 1977; DiMaggio and Powell, 1983; Scott, 1995). A large body of work in this tradition has examined how such definitions develop and how they affect the diffusion of given structures among sets of organizations (e.g., Tolbert and Zucker, 1983; Fligstein, 1985; Edelman, 1990; Davis, 1991; Dobbin, Sutton, Meyer and Scott, 1993). However, despite some speculation that formal structures adopted in response to such normative social definitions are typically "decoupled" from actual behavior and practice (Meyer and Rowan, 1977), the questions of whether, when, and to what extent such structures are in fact decoupled or implemented by organizations have largely been ignored.

Two theoretical analyses offered by Oliver (1991, 1992), addressing both the sources and forms of organizational response to institutionalized prescriptions represent notable exceptions to the general neglect of this issue. These analyses are predicated on the basic assumption that compliance with institutional demands, via the adoption and/or continued implementation of socially-sanctioned structures, is often costly (see also Zucker, 1988). While formal structures clearly vary in the level of resource commitment they require, even simple rule adoptions (e.g., Edelman, 1990) imply some costs, at least in terms of potentially problematic constraints on organizational decision-making.

The higher the relative costs of complying with institutional prescriptions are to an organization, the more likely are the benefits of complying to become subject to careful scrutiny and conscious calculation by organizational decision makers. In other words, the taken-for-grantedness of structures is more likely to be forfeited under resource constraints (see also Leblebici et al., 1991) and organizations are less likely to adopt or maintain such structures under these conditions.

There generally are, of course, costs associated with non-compliance as well. The costs of non-compliance typically involve a loss of organizational legitimacy in the eyes of resource-controlling constituencies, as institutional theorists have often emphasized (Meyer and Rowan, 1978; DiMaggio and Powell, 1983). What has been discussed less often is that the relative costs of non-compliance, like those of compliance, can vary across organizations. In the absence of legal mandates, such costs are likely to depend largely on the degree to which reputation is a critical aspect of the organization's resource-getting strategy (see Whitley, 1984).

Organizational reputation is a non-tangible resource, one that can have an important effect on the willingness of stakeholders to contract with or provide resources to an organization (Fombrun, 1996). The importance of this resource is suggested by the efforts that are often made by organizations to protect or offset threats to their reputation (Elsbach and Kramer, 1996). Organizational reputations have been shown to be affected by a variety of factors (Fombrun and Shanley, 1990), although the relative importance of these factors among different types of organizations has yet to be examined. For professional organizations (i.e., organizations staffed largely by a single professional

group), reputation is apt to be grounded in professional criteria, including the professional status of individual organizational members and organizations' conformity to professional definitions of appropriate work arrangements.⁵

But not all organizations of professionals rely on this sort of reputation as a key element in their efforts to attract resources. Given a large and diversified market for professional services, professional reputation may not always be a particularly important factor in securing support from critical constituents. Thus, the costs of non-compliance with professionally sanctioned structures and practices are likely to vary across organizations, based on the degree to which constituents take professional reputation into account as part of their transaction decisions.

As Oliver (1991) points out, non-compliance with institutionalized prescriptions may take a number of forms, ranging from partial compliance (e.g., maintaining a formal policy on record, but allowing deviations from policy prescriptions in practice) to open defiance of institutionalized patterns (e.g., eliminating formal policy in both record and practice). Partial compliance implies the sort of decoupling of formal structure and actual practice suggested by Meyer and Rowan (1978, and seems an apt description of many academic organizations' approach to tenure norms: two separate tracks for faculty employment exist, one of which is consistent with professional prescriptions while the other is not.

This case suggests that non-compliance with institutionalized structures may be conceptualized in quantitative terms. Here, the greater the proportion of faculty hired into non-tenure-track positions, the greater the degree of non-compliance with tenure

norms. Taking this approach allows us to examine empirically the validity of Oliver's general theoretical arguments; hence, we postulate that the level of non-compliance by higher education organizations is a function of both the relative costs to organizations of complying with prescribed tenure-track employment arrangements and the costs of not complying. These costs may be indexed by a number of organizational characteristics.

Indexing the Costs of Compliance with Tenure Norms

Tenure systems contribute to fixed labor costs, and as such, compliance with tenure norms should be influenced by the degree to which organizations have sufficient slack resources and/or secure access to resource flows in order to be able to bear such costs. One simple, if crude, indicator of how well a college or university can afford the financial costs associated with tenure systems is its relative level of revenue flows. Organizations with higher levels of revenues, on average, should be able to bear the costs of tenure more easily. Similarly, the size of the endowment held by an institution can be used as an indicator of the degree to which it possesses slack resources and thus is more or less able to bear the costs of complying with institutional pressures. A third indicator of the security of resource flows to higher education organizations is the level of selectivity exercised in admitting students. A high degree of selectivity implies a relatively high demand by students and thus stability in tuition revenues, which form an important component of most organizations' annual budgets.⁶ Indeed, declines in and unpredictability of enrollments are often cited as a key rationale in the employment of part time faculty. Thus, three hypotheses concerning organizational characteristics associated with the costs of compliance with tenure norms are examined:

Hypothesis 1: The lower the relative level of revenue flows to an organization, the more it will rely on non-tenure-track faculty for staffing.

Hypothesis 2: The smaller the endowment of an organization, the more it will rely on non-tenure-track faculty for staffing.

Hypothesis 3: The lower student demand for an organization, the less selective it will be, and the more it will rely on non-tenure-track faculty for staffing.

Indexing the Costs of Non-Compliance with Tenure Norms

Just as financial characteristics can provide some indication of the costs of compliance with professional norms, the importance of professional reputation to higher education organizations, and hence the costs of non-compliance, can also be gauged from various organizational characteristics. One indicator of reliance on reputation as a strategy for acquiring resources is the number of accreditations that an organization has acquired. Accreditations are granted to higher education organizations by a wide array of governmental and voluntary agencies, based on demonstrated adherence to agencies' standards of academic practice, and are intended to serve as an indicator of quality of relevant constituent groups (Harclerod, 1980; Committee on Education, 1983). The quality of the faculty, and conditions of faculty work, are often given substantial weight in formal standards for accreditation evaluations (Middle States Association of Colleges and Schools, 1978: 11). Thus, non-compliance with tenure norms can be costly to organizations pursuing accredited status.

By the same token, higher education organizations that place greater emphasis on the research function are more likely to be sensitive to reputational issues, because these

can affect an organization's ability to attract effective grant-writing faculty, and because the funders of research programs and projects often take the reputation of the organization into account in allocating awards. In many instances, the evaluators of proposals for funding are drawn from the ranks of high status members of the academic profession itself, and are closely attuned to organizational status. An organization's emphasis on research can be indexed by the proportion of its expenditures that are devoted to this activity.

But as noted, not all organizations of professionals rely equally on reputation as a key element of resource-getting strategy. Insofar as students are more apt to transact with higher education organizations on a pure market basis (i.e., based on personal, idiosyncratic utilities and exchange costs), and less likely to discriminate among them based on the academic reputation of the faculty (at least compared to other constituencies), higher levels of dependence by an organization on tuition revenues may decrease the costs of non-compliance. In such circumstances, the relative costs of failing to comply with professionally supported institutions are apt to be low; in fact, it may prove economically advantageous to organizations to minimize per-student educational costs by hiring faculty without regard to the organizational consequences for professionally-based reputation. Therefore, the following hypotheses concerning the costs of non-compliance with tenure norms are suggested:

Hypothesis 4: The more an organization seeks accreditation as part of its resource-getting strategy, the less likely it is to rely on non-tenure-track faculty for staffing.

Hypothesis 5: The greater the research emphasis of an organization, the less likely it is to rely on non-tenure-track faculty for staffing.

Hypothesis 6: The more an organization is financially dependent on tuition and fees from students as a source of revenues, the more likely it is to rely on non-tenure-track faculty for staffing.

Data and Analytic Procedures

The analyses presented here are based on data that cover a seven year span, from 1989 to 1995, for a randomly chosen sample of 612 baccalaureate-granting higher education organizations. The time period was dictated by availability of national data on staffing in colleges and universities. Such data come from surveys, Integrated Post-secondary Education Data Surveys (IPEDS), conducted bi-annually by the National Center for Education Statistics. These data were made publicly available beginning in 1987. Because the 1987 data were not sufficiently comparable with data released in later years, we did not use them in our analysis. Of the institutions in the sample, 399 were privately controlled, and 222 were publicly controlled organizations (65% and 35%, respectively).

Measures

Information on the dependent variable, the proportion of total faculty hired on a non-tenure-track basis, was available from the IPEDS Fall Staff data file for 1989, 1991, 1993, and 1995. These data were used to construct the dependent variable, the proportion of non-tenure-track faculty in an institution. Non-tenure-track faculty positions include

all part-time and those full-time faculty appointments that are formally not part of the tenure-track. The total number of non-tenure-track faculty was divided by the number of total faculty employed by the institution.⁷

Following the hypotheses, main predictor variables included a standardized measure of total revenues, a measure of selectivity, size of endowment, the total number of accreditations granted to the organization, a measure of research emphasis, and a measure of dependence on tuition revenues. We lagged the independent variables, collecting data for all major predictor and control variables one year previous to the dependent variable (1988, 1990, 1992 and 1994).

Financial data on revenues, expenditures, and endowment were taken IPEDS Higher Education Finance data file. Total revenues of the organization were divided by overall enrollment, thus producing a standardized, per-student measure. A second measure of financial pressure on organizations was based on the log of the market value of endowment assets at the beginning of the instructional year. The third measure, selectivity, was taken from Barron's annual ratings of colleges and universities, which are based primarily on a composite of indicators of pre-college academic performance of entering freshmen. More selective institutions presumably have a larger number of applications relative to admissions slots, thus allowing them to admit only students with better academic records. Barron's classifies higher education organizations into one of nine ordinal categories, ranging from "most competitive" to "non-competitive;" we coded the former as "9" and the latter as "1."

Information on the total number of accreditations awarded to an organization was taken from IPEDS Institutional Characteristics data file. This measure consists of the sum of individual accreditations assigned to the organization, both by comprehensive national or regional accrediting agencies and by specialized program accrediting agencies. The research orientation of an organization was measured by the proportion of total annual expenditures devoted to "activities specifically organized to produce research outcomes," according to instructions provided to IPEDS respondents. Dependence on student tuition was measured by the proportion of total revenues derived from tuition and fees.

In addition to these predictor variables, a number of control variables were also included in estimated models. Medical schools and other professional programs often employ practitioners on a part-time basis to teach (Leslie, Kellams and Gunne, 1982). Hence, institutions with a greater emphasis on professional education, and those with medical schools in particular, should be more likely to employ non-tenure-track faculty. To capture the influence of such programs on staffing patterns, two measures were included: the proportion of students at the institution that were enrolled in professional-degree programs, and a dummy variable indicating whether the institution had an affiliated medical school. Data on the former were taken from IPEDS Fall Enrollment Surveys, and on the latter from the Institutional Characteristics files.

Using graduate students to teach undergraduate classes offers an alternative to hiring non-tenure-track faculty, although they are usually not officially counted among such faculty. Thus, we also included the log of the number of graduate students

(excluding those enrolled in professional programs) as a control variable. Since organizational size has often been shown to have “ubiquitous” effects on organizations (Meyer, 1972), the total number of students enrolled in the institution was also included as a general indicator of size. The data for both of these measures were taken from the IPEDS Fall Enrollment Surveys. Finally, since initial inspection of the data suggested that private institutions were more likely to hire part-time faculty than public, we included a measure of whether an organization was public (coded "0") or private (coded "1").

Missing variables were estimated for 45 cases by averaging the values of the year prior to that with missing data and the values from the following year. This was an appropriate technique since the cross-year autocorrelations of all variables were .8 or higher. Missing values on independent variables were imputed for an additional 20 cases from 1989 using the predicted scores from a linear regression ($r^2 = .85$).

Analysis

Our analysis was based on a pooled cross-sectional time series design that included 611 complete observations over four points in time, for a total of 2,444 observations. Because we observed the same units several times, the observations are not statistically independent. Consequently, we faced three potential forms of bias: serial and contemporaneous correlation of the residuals, and heteroskedasticity. Because of these possible biases, we used a generalized estimating equation of the form $E(\gamma_{it}) = x_{it}\beta$ (Liang and Zeger, 1986). Our analysis assumed a first-order autoregressive correlation structure

(AR1). We used Stata statistical software to run the analysis, using the White estimator of variance (White, 1980) to correct for heteroskedasticity and autocorrelation.

Findings

To explore the specific contributions of measures of the costs of compliance and of non-compliance to variance in the dependent variable, four separate models were estimated containing, respectively, only the control variables, the controls plus indices of the costs of compliance, the controls plus indices of the costs of non-compliance, and all independent variables. These models are presented in Table 3.

-Table 3 about here-

In each model, the effects of the control variables on the proportion of non-tenure-track faculty, although generally in the expected direction, are relatively weak. In the first two models, the coefficient for presence of a medical school is negative, contrary to expectations, but this coefficient becomes positive once other related measures, such as expenditures for research and number of accreditations, are included. Only the measure for private control has a consistently strong, significant impact, indicating that private schools are likely to rely more heavily on non-tenure-track faculty for staffing, *ceteris paribus*. Why private institutions are more insulated from the impact of professional norms, even when other characteristics that might be expected to be the source of such insulation are controlled (e.g., dependence on tuition revenues), is a provocative question, albeit one that is beyond the scope of this analysis.

The second model adds to the control variables measures that are expected to affect the relative costs to an institution of complying with tenure norms – overall level of revenue flows, student demand for the institution’s services, and the buffering presence of endowment funds. Here, although the coefficients of the measures of resource flows and selectivity are negative, as expected, they are not significant. The size of the endowment, however, has a significant negative impact on the use of non-tenure-track faculty, suggesting that having a large endowment to buffer financial exigencies does increase institutions’ propensity to comply with professional tenure norms.

The third model includes the control variables and measures that are expected to be related to the relative costs of not complying with such norms – whether an institution defines itself in terms of a research function, whether it pursues reputation-enhancing accreditations, and the degree to which it depends on students as primary sources of operating revenues. Both the coefficients for the measure of research emphasis and number of accreditations held are negative as expected; though only the former attains significance. Thus, institutions that are more research-oriented are significantly more likely to comply with professional norms by hiring faculty into tenure-track positions. The measure of dependence on students, on the other hand, is positive; institutions that depend more heavily on student tuition and fees are significantly less likely to comply with tenure norms. This is consistent with the argument that, in most colleges and universities, students are comparatively less concerned with overall professional reputation than other stakeholders; therefore, the greater an institution’s financial

dependence on students, the lower the costs of failing to comply with professional norms by relying on non-tenure-track faculty for staffing.

The final model includes all variables. In this model, selectivity becomes a significant negative predictor of the use of non-tenure-track faculty, along with the measure of endowment funding. These effects provide support for the claim that compliance with professional norms is partly a function of institutions' ability to bear the costs of such compliance, especially over the long run. The coefficient of the measure of research emphasis, while still negative, falls below conventional significance levels. However, as in the third model, the measure of dependence on students as sources of revenues is significant and positive. Overall, the coefficients of variables in this model and in the previous models suggest that the costs of complying with professional norms and the costs of non-compliance exert independent effects on colleges' and universities' use of non-tenure-track faculty for staffing.

Conclusions

Because professions are, by definition, occupationally-based work groups that are capable of exerting directed, active influence on workplace institutions (Freidson, 1994), the role of interest and agency in maintaining and altering existing institutions is often more visible when professional groups are involved. It is for this reason that professional occupations provide a particularly interesting context for studying contemporary workplace changes such as the increased use of temporary and contingent employees (Segal, 1996). In most occupations, this trend challenges largely

unarticulated, albeit taken-for-granted assumptions that organizational employment is normally long-term and entails a full-time commitment (Weber, 1947). In academia, however, these assumptions have been made explicit in a professional institution, the tenure system. Examining the factors that affect the use of non-tenure-track faculty by colleges and universities can thus provide insights into the degree to which professions are able to shape organizations and, more generally, into the processes of institutional change (see also Kraatz and Zajac, 1996).

Our analysis reflects a number of general arguments and assumptions about the role of interests and institutions in shaping individual and organizational decision making. Institutional arrangements typically advantage the interests of some individuals and groups and, at least relatively, disadvantage those of others. The justification of an institution by proponents on (non-self-interested) logical or moral grounds may eventually make members of disadvantaged groups willing to accept and comply with the arrangements, at least for some period. Once established, as long as the costs of compliance are within some range of tolerance, the combination of individuals' cognitive preferences for simplified decision-making (Simon, 1947) and normative pressures for culturally-interpretable action (Berger and Luckmann, 1969) will usually be sufficient to maintain institutional patterns (Zucker, 1991), particularly when such patterns have the continuing support of collective actors, such as professions. However, changing environmental conditions that sharply raise the costs of compliance are likely to lead disadvantaged actors call institutional patterns into question, and to make much more self-conscious decisions about whether to comply or not, based on calculations of costs

and benefits (Tolbert and Zucker, 1996; Barley and Tolbert, 1997). Yet even in the face of resource constraints, professions and other organized groups can continue to effectively exert pressures to adhere to institutionalized practices, especially when they broker access to important resources.

In this analysis, tenure has been examined as an institution that has begun to lose its taken-for-granted character under the impact of major environmental shifts that have affected the majority institutions of higher education over the last two decades, despite continuing normative promotion by representatives of the academic profession. In consequence of the countervailing pressures of economic exigency and professional expectations, although most colleges and universities continue to comply in part with professional norms by maintaining formal tenure systems, a growing number of organizations utilize such systems less and less in practice by making an increasing number of faculty appointments off the tenure track.

It should be noted that such changes in staffing practices are not confined to any particular type of institution. For example, among institutions that were classified in one of the top three categories of selectivity, the percent of non-tenure-track faculty rose from an average of 34% to 38% between 1989 and 1995. Among those classified in the bottom three categories, the comparable figures are 50% in 1989 and 56% in 1995. Thus, the rate of change is similar across different types of institutions. Moreover, there is considerable variance within each group in the use of non-tenure-track faculty in each time period.

In line with preceding arguments, our analysis indicates that the level of non-compliance with tenure norms by individual colleges and universities is affected both by their degree of financial security, affecting the costs of complying with tenure norms, and dependence on constituents that are attuned to professional status, affecting the costs of non-compliance. Note that we are not arguing that organizations' decisions to hire faculty into non-tenure-track positions necessarily involve highly conscious, strategically oriented calculations of these different types of costs. Rather, we assume that the costs of compliance and non-compliance relative to available organizational resources and requirements define the context of organizational decisions, and that context influences the likelihood that decision-makers will consider alternative employment arrangements.

The increasing use of non-tenure-track faculty in the last few decades suggests that the costs of non-compliance are likely to be declining; as non-compliance becomes more widespread, it becomes a more readily-considered option and the ability of the profession to impose sanctions declines, almost by definition. This raises the question of what the likely consequences of the increased employment of non-tenure-track faculty may be for the institution of tenure in the long run.

Non-compliance with institutional patterns, even on a fairly large scale, does not necessarily lead directly to de-institutionalization, in terms of the complete rejection and abandonment of an institution. Particularly where partial compliance continues (i.e., maintenance of formal policies, even while these are at odds with behaviors), more ambiguous outcomes, involving a decline in the scope of the institution, are likely. On one hand, the institution may persist, but only among a much smaller subset of the

population. This outcome might describe a range of contemporary observations, including the retrenchment of union representation in contemporary U.S. work organizations, the decline of foreign language requirements in the undergraduate curriculum of many higher education institutions, and even the elimination of attendants to operate gas pumps and clean windshields at many gas stations. In the case of tenure systems, such personnel arrangements may come to be defined as appropriate for some colleges and universities, but not all.

Another way in which organizational institutions may decline in scope is through the restriction of the number of individuals affected by the institution. The provision of health, vacation and other benefits may be limited to a smaller and smaller portion of the workforce in some organizations, without being completely eliminated. Airlines now provide meals on fewer flights than they did in the past, though most continue to provide this service on some. And a foreign language requirement by universities may be maintained, but made applicable to a smaller set of undergraduate majors. In the case of tenure systems, the institution would simply apply to a smaller and smaller set of faculty members; in this respect, the staffing patterns of U.S. higher education organizations would come to resemble those in many European countries (Clark, 1983).

Current trends seem to point to the latter route for tenure as an institution. Maintenance of the institution may be problematic in the long run, given this, since sustaining its unequal application within a given interactional order (i.e., within an organization) is likely to be more difficult than sustaining an uneven application across

different interactional orders. However, its ultimate fate is likely to depend on the strength and organization of the profession as a collective actor.

Specifying both the general processes that define and drive institutional change, and the array of outcomes associated with these processes are key issues for the general development of institutional theory. In this paper, we have explored the impact of economic constraints, constituency ties, and the actions of collective agents on organizations' compliance or non-compliance with a professionally based institution, the tenure system. Our analysis elucidates the important influence of actors who consciously seek to shape social definitions of legitimate structures, and suggests some of the determinants of organizational decisions that result in compliance or non-compliance with such definitions, and of the form that non-compliance may take. While the role of power and agency in institutional processes clearly deserves more empirical examination, the analysis demonstrates that the utility in applying these concepts to the analysis of institutional processes.

Footnotes

¹ The following historical description draws heavily on the analysis offered by Metzger, 1973.

² Since 1940, the Statement of Principles has been endorsed by over 80 academic associations, including a wide range of discipline-based associations, as well as by most generalist regional and national associations (Joughin, 1969: 34).

³ Given the AAUP's strong efforts to promote the adoption of tenure systems, the lack of documentation concerning the dates of adoption by different higher education organizations is rather surprising. Perhaps this is due to the wide variance in the procedures used by different institutions for evaluating and awarding tenure status to faculty (see, for example, Dressel, 1963; Shaw, 1971). Variations in review procedures may have made it difficult to specify definitive criteria for judging whether and when, precisely, an organization had formally adopted a tenure system or not.

⁴ The majority of non-tenure-track faculty are hired into positions officially defined as part-time, although our data indicate that about a third of such faculty are classified as full-time non-tenure-track. Surveys by the AAUP show that less than five percent of all part-time faculty are employed in tenure-track positions (AAUP, 1992).

⁵ The varying importance of reputation for organizations' access to resources is clearly implicated in the distinction drawn by Meyer and Scott (1983) and others between technical and institutional environments. However, this distinction obscures the fact that two organizations of the same type – which presumably similarly operate in either a

technical or institutional environment – can vary in their reliance on reputation as a means of securing resources.

⁶ Data from 1966 onward indicate that, on average, about 60 percent of the revenues in private institutions, and about 20 percent of those in public institutions, are derived from tuition (Froomkin, 1990).

⁷ We examined several alternative measures of the dependent variable, including a logit transformation, as suggested by standard econometric textbooks (e.g., Badi, 1998), and the absolute number of non-tenure-track faculty, adding total number of faculty to the right-hand side of the equation. The analyses using a logit transformation provided results consistent with those reported here; the results using an absolute measure were also similar, although more coefficients reached conventional significance levels (probably as a result of greater variance in the dependent variable). We felt, however, that the proportional measure was conceptually closer to the phenomenon of interest – level of compliance with tenure norms - and so chose to report analyses using this measure.

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Table 1: Percent of Higher Education Organizations Reporting Presence of Tenure System by Type, Fall 1987

Public Research	99%
Private Research	98%
Public Doctoral ^a	100%
Private Doctoral ^a	94%
Public Comprehensive	99%
Private Comprehensive	97%
Liberal arts	87%
Public 2-year	25%

^a Includes institutions classified by the Carnegie Roundation as specialized medical schools.

Table 2: Percent of Institutions with Specified Proportion of Non-Tenure Track Faculty, 1989-1995 (N=612)

<u>Percent Non-Tenure Track Faculty in an Institution</u>	<u>1989</u>	<u>1991</u>	<u>1993</u>	<u>1995</u>
0%	10%	9%	2%	2%
>0-25%	24%	24%	18%	22%
26-50%	34%	31%	39%	34%
51-75%	14%	17%	20%	21%
76-100%	18%	19%	21%	21%
	100%	100%	100%	100%

Table 3: Regression of the Proportion of Non-Tenure-Track Faculty on Organizational Characteristics, 1989-1995^a

	Model 1	Model 2	Model 3	Model 4
<u>VARIABLE</u>	<u>Coef.</u>	<u>Coef.</u>	<u>Coef.</u>	<u>Coef.</u>
Intercept	.154*** (.031)	.121*** (.037)	.207*** (.033)	.131*** (.038)
% Students in pro-fessional programs ^b	.181 (.132)	.221 (.129)	.187 (.137)	.158 (.135)
Medical school	-.031 (.037)	-.005 (.034)	.038 (.040)	.038 (.037)
No. graduate stds. ^b	-.004 (.004)	-.001 (.000)	-.000* (.000)	-.001* (.000)
Private control	.187*** (.020)	.250*** (.021)	.128*** (.031)	.178*** (.032)
Revenues/stud ent ^b	---	-.003 (.002)	---	-.000 (.000)
Selectivity ^b	---	-.000 (.002)	---	-.005* (.003)
Endowment ^b	---	-.008*** (.001)	---	-.008*** (.001)
% Tuition revenues ^b	---	---	.140* (.074)	.163* (.073)
% Expenditures for research ^b	---	---	-.327* (.145)	-.177 (.144)
Total no. of accreditations ^b	---	---	-.003 (.001)	-.006 (.017)
Chi Square	88.91***	156.80***	110.42***	191.63***

^a Standard errors in parentheses^b Logged measure

***p < .001

** p < .01

* p < .05

+ p < .10

