Attraction and Retention of Faculty in a Non-Tenure Granting Environment

Abstract

This paper examines the task of attracting and retaining faculty in a non-tenure-granting environment. Our goal is to provide a framework for the future discussion of this issue and to develop a set of utility functions for the primary parties involved, namely, institutions of higher education and individual faculty members. Various strategies for attracting and retaining faculty members in a non-tenure-granting environment are evaluated in terms of their long-run implications.

Introduction

Tenure in institutions of higher education is under going increasing scrutiny. While institutions show little inclination to try to revoke the tenure status of those who already hold it, the conditions of contract for incoming faculty are clearly changing. While the overall number of full-time faculty positions has increased, t he granting of tenure has not increased. Data provided by the American Association of University Professors (AAUP) indicate that, in 2006, approximately 53.5% of all full-time faculty held tenure, approximately the same percentage that held it in 1975. During the same period, however, the number of full-time faculty on tenure track fell from 29% to 23% and the percentage of full-time professors in a non-tenure granting or contract systems increased from 19% to 23.4%.

These changes in hiring practices reflect prevailing market conditions. In the labor market, a relative surplus of Ph.D.'s in many fields has allowed institutions to reduce the value of the employment package offered to many incoming faculty. At the same time, institutions of higher education have been called to be more responsive to their stakeholders. Students, the tax-paying public, funding agencies, and the organizations that hire students have all placed new pressures on higher education: two major issues are the costs of higher education and the flexibility. The issue of flexibility concerns both offerings and staff. The flexibility of offering's issue is a major driver behind the move towards distance-learning and flextime offerings. Flexibility of staff issues are driven by recognition of the long-term commitment which tenure entails and recent attempts to change or update traditional curricula where tenured faculty members are resistant to changes in a curriculum to which they are vested. During the same period

of time, the demographic base of students has shifted away from the "traditional" student towards "non-traditional" students and growth rates in the price of tuition (relative to other commodities) have continued to climb.

All of these factors have contributed to increased scrutiny of the role and effects of tenure among college and university faculties. Higher education is clearly facing an era where external pressures to control costs are real (often from state legislative bodies), and where faculty salaries represent a major cost component.

The results of these phenomena are felt at most institutions. While a plethora of descriptive statistics support this contention, the authors have yet to find a systematic economic analysis of the factors that affect the offer of tenure in contracts. In order to explore these changes more systematically, this paper will focus on the utility functions for the individual faculty member and for the institution of higher education. A human capital approach is employed. Various strategies for attracting and retaining faculty members are evaluated in terms of short run and long run effects for faculty and for institutions.

Attraction and Retention of Faculty - Faculty Perspective

The factors that initially attract faculty are the same that affect retention (the later is defined as the decision to remain in or leave an institution), We posit the following utility function for individual faculty:

$$Utility = f(W, RE, TE, SE, IC, P)$$

Where: W = Wage
RE = Research Expectations
TL= Teaching Expectations

SE = Service Expectations
IC = Institutional Commitment
P = a vector of factors impacting personal utility

Wage

A combination of general labor market conditions and the reputation or vitae of the individual are the primary determinants for the wage of a faculty member. Our framework focuses on the differences between tenured and non-tenured environments. Therefore, we want to more clearly delineate the components of the offered wage. We posit the wage offer to be the following:

$$Wage = f(W_{rf}, CD_1, CD_2, CD_{3,\wedge}, CD_n)$$

Where: W_{rf} = Risk-free Wage
CD_n = Compensating Differentials

$$1 \rightarrow n$$

The risk free wage is the wage that prevails for a given set of skills ignoring compensating differentials found in job market. Compensating differentials might include: risk of injury, risk of death, fringe benefits, job status, job security, job location, extent of control over one's work environment, potential for growth in wage, among others. These compensating differentials affect the wage offer. Compensating differentials which the employee view's as favorable will decrease the wage offer and compensating differentials which the employee view's as unfavorable will increase the wage offer.

While all of these differentials have the potential to affect wage some of them are specific to the job, while others are specific to a particular position. For instance, it is widely accepted that the flexibility embodied in academic posts represents a positive compensating differential and this accrues to the job generally. For our purposes here we wish to ignore compensating differentials which accrue to the job generally and to focus on the compensating differential for job security as it relates to tenure practices.

When a given job offers protection from unemployment (e.g., it offers tenure) this reduces the risk of an interruption of an employees expected earnings stream. In a typical scenario, the faculty member comes into the institution under a probationary (non-tenured) condition. This set of conditions assigns the acceptance of risk to the faculty member and a compensating differential for that risk is awarded in the market. Thus, for the pre-tenure employment contract:

$$\partial W / \partial R \geq 0$$

where R represents the job security risk

Over the life of the employment contract, this risk premium will fall. Once tenure is awarded the risk premium should approach zero. In a post-tenure contract where job security is assured, the value of the risk premium becomes negative.

$$\partial W / \partial R \geq 0$$

To summarize, we expect the risk premium to be positive when a faculty member is hired into a position but that it will fall over the length of the employment contract and will become negative in a post-tenure position.

This framework can help to explain observed salary compression across ranks and the economic value of mobility in the market. There are clearly cases where some institutional constraint on wage increases contributes to the decision by faculty to move into the job market in order to recalibrate their wage against that market.

Other Factors and Implications for Faculty Members and Institutions

Given the predominance of tenure in the academic job market and the nature of the risk premium outlined above, we expect initial wage offers among both tenured and non-tenured positions to be posted to the market-clearing wage. During the period of the employment contract, the compensating differential for risk is maintained, though at a decreasing level over time, in both environments[1].

Upon the granting of tenure we maintain that the job security risk premium disappears. While we may observe a relatively substantial increase in salary at tenure, that increase is related to promotion and is reduced by a job security compensating differential that has become negative.

This differs substantially in a non-tenured environment where the initial compensating differential for risk must be either maintained throughout the length of the employment contract or reinstated upon contract renewal if an institution wishes to retain mobile employees.

The withdrawal of the offer of tenure also serves to reduce the gap between academic and non-academic jobs for individual faculty. The authors expect salaries in a non-tenured environment to more closely approximate wages outside of academe over the long term. Faculty salaries are already affected by opportunity costs and if non-

[1] The initial compensating differential for job security risk must represent the sum of the net present values of the expected year-by-year compensating differential, across the length of the pre-tenure contract.

tenure environments grow relative to tenured environments, this problem is likely to be exacerbated. This effect will differ across disciplines and be most pronounced where opportunity costs are highest.

Institutional Commitment will play a critical role in the behavior of faculty. If faculty view renewal decisions as closely linked to their fulfillment of the mission of the institution and they are comfortable with the outcomes of renewal and non-renewal decisions, this factor will tend to lose importance. However, if faculty view these decisions as arbitrary, unfounded, or unfair, this factor will gain importance. Under the later set of conditions, mobility will become a key goal for faculty. If connections to the institution are viewed as tenuous, individual faculty will pursue a career path that maximizes their mobility within the profession. Faculty will maintain a level of research, teaching, and service that will fit their expectations of the requirements needed to gain a new position.

For the institution, decisions to renew become critical for two major reasons. First, if faculty view renewal decisions negatively, they will pursue an agenda that maximizes their individual mobility within the profession. Faculty members who are pursuing mobility are more likely to be engaged in research because mobility within the profession is influenced primarily by research productivity. If research is the primary mission of the institution, this is not an immediate problem -- faculty continue to pursue a self-interest agenda which matches that of the university. If teaching is the primary mission of the institution, the agenda's collide. This is important because many of the institutions that offer non-tenure contracts include teaching as a major component of their

stated mission. For these institutions, faculty fit will diminish if faculty pursue a mobility agenda.

Second, over the longer term, reputation will affect the institution's ability to attract candidates, particularly at the associate and full professor levels, where information about institutions is more widely known and shared. Reputation effects that are perceived negatively in the market would reduce the pool and/or quality of faculty candidates. The pool is likely to differ by rank because the level and quality of information increases for faulty who have stronger network information -- and we expect information about the job market to increase with experience in it.

Faculty willing to accept the increased risk of a non-tenured slot may differ from the general labor pool. The utility functions of those with tenure and those without tenure are likely to differ substantially. Hence, the applicant pool of faculty might be divided into individuals with tenure and individuals without tenure. For faculty members leaving a tenured slot, it seems plausible that non-monetary factors predominate. These individuals are seeking an increase in psychic income relative to real income. Factors such as: preference for location, the ability to change personal or work environment, or the opportunity to engage in a more entrepreneurial venture are likely to play an expanded role. For instance, if an institution is new when it hires faculty on non-tenure lines (e.g., Evergreen State College in 1971 and Florida Gulf Coast University in 1997), there is little information provided in the market concerning working conditions or institutional commitment, so risk is higher than usual. One factor that might attract faulty to these institutions is a belief that a new institution offers more opportunities for entrepreneurial endeavors within the academy. For faculty interested in building a

particular program or institution, the opportunity to escape traditional constrictions that are inherent to long-established programs may be a major draw.

Non-tenured institutions may also attract individual faculty who simply reject the excesses of the tenure system that he/she has observed over his/her career. These individuals see the connections between academic freedom and tenure as weak and are willing to trade-off job security for what they perceive to be an enhanced work environment.

Another category of tenured faculty attracted to a non-tenured slot would be experienced faculty, fully-vested in a retirement plan who are seeking a change for some reason. Again, these individuals are likely to be more strongly influenced by non-monetary factors and seeking an increase in psychic income relative to real income.

The second major group is faculty without tenure. The first category within this group is composed of newly-minted Ph.D.'s. These individual tend to have less market information and their willingness to accept a non-tenured slot may be connected to a lack of offers of tenured positions[2]. A second category within this group is composed of faculty of marginal quality or individuals seeking an entry position into academe as an alternative to their current career. These individuals have had either tenuous or no connections to the academic job market. We posit that the applicant pool to a non-tenure institution may have a relatively high proportion of unqualified applicants simply due to an increased proclivity to apply on their part.

Attraction and Retention of Faculty - Institutional Perspective

[2] . To measure this phenomenon, it is critical to know what other job positions were actually offered to the individual.

The institution's utility (defined as the decision to hire/retain an individual faculty member), we posit the following utility function:

$$Utility = f(W, RR, TR, SR, MC, F)$$

Where: W = Wage
RR = Research Reputation or Potential
TR = Teaching Reputation or Potential
SR = Service Reputation or Potential
MC = Expected Future Market Conditions for the Institution
F = a vector of factors relating to the fit between the individual candidate and the institution

We again wish to focus on the tenure vs. non-tenure issue. As institutions seek to maximize utility, they must choose some mixture of tenure track slots and non-tenure track slots. As we noted in the previous section, this choice does not hinge upon entry wages because they are approximately equal for tenured and non-tenured slots. We posit that the key initial factor when deciding between tenure track slots and non-tenure track slots is the forecast of future market conditions. This forecast is based upon the expected supply of available of faculty and the expected demand for their services. The demand for services is a derived demand emanating from enrollment and can be proxied by FTEs.

Forecasting future market conditions in academe is difficult. Unfortunately, where forecasts are made, institutions often employ rather naïve forecast models. Many of these models are essentially linear interpolations of the enrollment patterns among traditional students adjusted for obvious demographic changes.

It is important to note that an efficient adjustment process does not characterize the market for faculty services. For example, Ph.D. granting institutions exhibit

relatively low supply elasticity. The investment period for earning a Ph.D. is long so the supply response is slow. In addition, it is in the interest of Ph.D. granting institutions, at least over the short -run, to produce more Ph.D.'s regardless of market conditions upon exit from the program. Thus, the production of Ph.D.'s in response to changes in demand is likely to be a rather long and protracted process. On the demand side faculty services, as proxied by FTE enrollment, are likely to be relatively inelastic. While FTEs drive the demand, there are numerous institutional and funding constraints which make demand moves sluggish. As a result, the market for faculty services exhibits an inability to adjust rapidly to changes in supply and demand. This can result in relatively prolonged situations where the labor market is considered “soft” or “tight”.

In order to make an optimal decision the institution must balance the value of the flexibility associated with using non-tenure granting slots against the costs of selecting a non-tenure granting strategy. These costs are impacted by four major factors: transaction costs, the risk premium embodied in wage, faculty mix (by rank), and the general conditions of the labor market relative to forecasts for faulty demand.

The transaction costs associated with faculty can be substantial but are unlikely to be prohibitive to an institution for a number of reasons. For the purposes of this analysis we can break transaction costs down into the following component parts: search, negotiation, and contract consummation. The costs of search are likely to be most substantial because negotiations are relatively short and contracts well-defined. However, many of the search costs are incurred by faculty rather than by the institution. Thus, we posit that transactions costs are relatively low from the institutions perspective. The same analysis holds true for tenure granting institutions and non-tenure granting

institutions. The major difference between the two types of institutions would be in the number of searches if non-tenure granting institutions exhibit higher turnover rates among faculty[3].

As outlined in the previous section, wages are impacted by the compensating differential for job security. In an institution that chooses a high non-tenure granting mix, the risk premium associated with accepting a position without tenure must be periodically renewed. This means the costs of renewing mobile faculty will be rise. Thus the cost differential of a non-tenure granting strategy relative to a tenure granting strategy is impacted by the rate of decline in the risk premium associated with the compensating differential for job security[4] and the institution's willingness to accept turnover of mobile faculty. This leads directly to questions of faculty mix.

For non-tenure granting institutions, they are more likely to have to mark renewal contact wages to market given they are transferring risk to the faculty member. This will be especially true for more mobile faculty. We suspect this group of faculty would be comprised primarily of professors at the associate rank[5] (Marking professors to market will increase the labor costs of the institution).

If an institution chooses to accept high turnover rates and the concomitant reputation effects, faculty mix will be impacted. As noted earlier, non-tenure granting institutions that develop a reputation for non-renewal, will face a labor market where

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[3] Chait and Ford, 1982 find that "Contract systems do not produce significant faculty turnover as a result of nonreappointments." Their conclusion is drawn from a 1972 by the American Council on Education analyzed by El-Khawas and Furniss, 1974.

[4] One articles explain how the Boston University School of Business has adjusted to exactly this issue. Tenured faculty were given the option of maintaining their tenure status or moving to a 10-year contract. "For those who opt for the 10-year alternative, a salary premium of 8 to 10 per cent is paid from the first day of employment, offsetting any perceived risk of forgoing a lifetime guarantee." See *A Realistic Alternative to Tenure*, The Chronicle of Higher Education, June 26, 1998, Volume XLIV, No. 42: p.B6.

faculty will reduce their supply of services. This information is most likely to be more widely utilized at the higher ranks of the professorate, at least initially. Thus, attracting faculty at the associate and full ranks becomes more difficult than attracting assistant professor and instructor ranks, and the portfolio of faculty mix will become skewed toward the lower ranks.

Costs will be impacted by faulty mix for two reasons. First, a high proportion of assistant and instructor positions will reduce costs for the institution. Second, renewal in a non-tenured granting institution must include the risk premium being marked to market.

Of course, these effects will take time. Many institutions experimenting with non-tenure slots are offering them to new entrants only. They are, in some respects assuring themselves of a faculty that maintains a traditional mix of ranks until attrition changes the mix naturally. However, under current forecasts, this entropy process may be speeded by the aging of the professorate and the expected future demand for faculty. If these two factors are forecasted correctly this strategy will not result in a stable faculty mix over the long term.

The last major factor affecting costs is the labor market and expectations concerning it. If labor markets are expected to soften or to remain soft, the institution may realize increased value from the flexibility afforded by using non-tenure granting slots. If the value of this flexibility is greater than the increase in cost encountered with a non-tenure granting strategy, the institution will increase its mix of non-tenure granting slots.

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[5] It is widely held among the professorate that mobility drops dramatically once the rank of full professor is attained.

If labor markets are expected to tighten or remain tight, the value of the flexibility afforded by using non-tenure granting slots would be minimal. The institution will anticipate increased competition in the market for faculty services as a result of decreased supply of faculty or increased enrollment. Unlike the situation where market conditions are expected to soften or remain soft, the value of the flexibility afforded by using non-tenure granting slots will not be large enough to offset the more rapidly declining compensating differential for security associated with tenure granting slots. Therefore, the institution can minimize costs by offering tenure granting slots when market conditions are expected to tighten or remain tight.

If an institution is unsure about future market conditions, it may offer a mix of tenure granting and non-tenure granting slots. Selection of a mixed strategy may also be the result of the institution's existing faculty composition. In either case, it must be noted that selection of a mixed strategy may give rise to significant costs. The strategy of using a mix of tenured and non-tenured slots for faculty with identical job descriptions may result in the development of a two-tiered evaluation system. The existence of such a system may result in a decline in the value arising from the flexibility of the mix of tenured and non-tenured slots. This decline in the value of the flexibility afforded by the mixed strategy would affect the institution's calculation of the cost-benefit relationship that was previously used in the strategy selection process.

Summary

We apply a human capital approach to the problem of attracting and retaining faculty in a non-tenure granting environment and presented utility functions for individual faculty and institutions. Our analysis indicates the primary difference between tenured and non-tenured slots is the level of job security. In the framework presented, the compensating differential for job security as it relates to tenure practices is shown to be the key element in the attraction and retention process.

Three institutional strategies for faculty mix exist. Each strategy can be optimal under certain market forecast. However, each strategy involves a degree of risk on the part of the institution. The risk faced by the institution is of an incorrect forecast of future labor market conditions or conflicts arising from a two-tiered evaluation system.

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