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Tenure, Faculty Contracts and Bargaining Conflict

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ABSTRACT

Tenure is sometimes charged as giving faculty lifetime job security, with little accountability and sporadic monitoring of performance. Scholars have traditionally defended tenure as necessary for academic freedom. This paper takes a different approach by examining the academic "employment contract relationship," and explaining how tenure can lead to bargaining conflict.

Tenure is costly to the university but extremely valued by the faculty member. The opportunity cost of granting tenure to someone is the lost teaching and research output of younger people who cannot be hired in future. Tenure is necessary because without it, incumbents would never recommend hiring people who might be better than they are, for fear of being replaced. Tenure is also efficient because faculty have better information about incumbents than either university administrators or outside consultants. Tenure is therefore necessary to motivate older faculty to hire the best. With staff budget dollars able to be shifted back or forwards across time periods, tenure secures the truthful revelation of who are the good candidates over all periods, and the university is guaranteed that those who are in the best position to judge (namely, faculty rather than administrators) have every incentive to make the best decisions. It

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follows, then, that the naive suggestion to get rid of tenure so that older, expensive professors can be fired and replaced with younger, cheaper professors would be disastrous in the long run.

A simple model is presented explaining why (a) recent cutbacks in government grants, (b) cost pressures on university budgets, (c) limits to tuition increases, and (d) declining interests in attending a less "excellent" university have all resulted in pressure on tenure. Because there is no previously agreed-to mechanism in place to adjust staff, university administrations and faculty unions are not so much bargaining over an acceptable contract outcome as they are contesting the very rules of the bargaining game. Accordingly, unless tenure is reconsidered, universities may increasingly face bargaining conflict. Tenure could be reformed by making the term of tenure limited but related to rank, and establishing a maximum eligibility period during which a faculty may apply for promotion.

RÉSUMÉ

On accuse la permanence de donner une sécurité d'emploi absolue aux professeurs, à qui on ne demande pas de rendre des comptes et dont la performance n'est contrôlée que de temps en temps. Les universitaires ont traditionnellement défendu la permanence car elle est nécessaire à la liberté academique. Cette étude adopte une approche différente en examinant les rapports contractuels des universitaires et en expliquant comment la permanence peut mener aux conflits lors des négocitations.

La permanence coûte cher à l'université mais les universitaires la trouvent essentielle. En donnant la permanence d'emploi à quelqu'un l'université perd la possibilité de profiter de l'enseignement et des recherches des jeunes. La permanence est nécessaire car, sans elle, les titulaires ne recommanderaient jamais l'embauche de gens que leur seraient supérieurs, de peur de se faire remplacer. La permanence est efficace aussi, car les professeurs ont de meilleurs renseignements sur les titulaires que les administrateurs universitaires ou des experts de l'extérieur. La permanence est donc nécessaire pour motiver les professeurs âgés à engager les meilleurs candidats possibles. Étant donné les fluctuations budget selong l'époque, la permanence permet d'obtenir un aperçu véridique des bons candidats à toute époque, ce qui garantit à l'université que ceux qui sont le mieux placés pour juger (c'est-à-dire les professeurs plutôt que les administrateurs) ont tout intérêt à prendre les

meilleures décisions. Il s'ensuit que la suggestion naïve d'abolir la permanence afin de pourvoir renvoyer les professeurs âgés pour les remplacer par de jeunes professeurs qui coûtent moins cher serait, à long terme, désastreuse.

Nous présentons un modèle simple qui explique pourquoi des facteurs tels (a) les réductions récentes de subventions gouvernementales, (b) les pressions sur les budgets universitaires, (c) les limites imposées sur les augmentations de frais de scolarité (d) un intérêt réduit pour les universités estimées, à tort ou à raison inférieures, ont tous remis en question la permanence. Comme il n'existe actuellement aucun mécanisme d'ajustement de personnel, les adminstrations universitaires et les syndicats des professeurs, plutôt que de négocier un contrat acceptable, contestent les règles mêmes du jeu. On pourrait pourtant réformer la permanence en limitant la période de la permanence tout en la rapportant au rang, et en établissant une période maximale d'éligibilité pendant laquelle un professeur pourrait fair une demande de promotion.

INTRODUCTION

Universities in Canada are facing pressures to "reinvent" themselves, and there is no shortage of commentary and free advice. With dwindling finances and slower job growth, the public appears less forgiving of academic privilege than in the past. Tenure is increasingly seen as protecting 'deadwood' faculty with lifetime job security, with little accountability and sporadic monitoring of performance.[1]

Scholars have traditionally defended tenure as an institution to preserve academic freedom. This paper takes a different approach by examining tenure as part of the academic "employment contract relationship," and explaining how tenure can lead to conflict between faculty interests and management goals. In an ideal world, faculty members would receive remuneration and work conditions conducive to promoting excellence (somehow defined). Similarly, the university would strive for excellence by hiring and promoting the best people. But these goals cannot be achieved without substantial monitoring and information costs, so I shall simply assert that the university contract should be, as much as possible, of the self-enforcing, incentive-compatible kind.[2] The task, then, is to devise under conditions of imperfect information and uncertainty a contractual arrangement which balances minimal monitoring costs

(self-enforcing feature) with maximum productivity (incentive-compatible feature), while enhancing the reputation and credibility of the university.

A WORKING DEFINITION OF TENURE

There is no special definition of tenure in statute law pertaining to academic appointments. For my purposes, I shall define tenure to mean on-going contractual employment in an academic position. In more detail, the period of employment is often set out in an explicit contract for many individuals. Where it is not, in the sense that employment is considered ongoing, employment for an individual can be terminated by contingencies set out in advance, or upon a given period of notice. Where there is a collective agreement, these conditions may be written down in a formal contract. Even if there is no specific contract, there is often informal understanding about the meaning of tenure among university administrations and academic faculty as follows. If an academic has an appointment "with tenure," it is acknowledged that this professor shall have continuing employment with the university as long as the occupied position exists in the university. Further, the university undertakes to allow the incumbent to occupy that position even if the university could find a less expensive, or younger, or better qualified, or more desirable (in some sense) individual. Tenure is a bit of a "one way" relationship, however, in the sense that the individual academic is not bound to the university and may depart whenever convenient, but the university is not allowed to dismiss the tenured faculty member at pleasure. At the same time, tenured employment does not constitute immunity from further evaluation, ongoing accountability, or a continuing obligation to perform duties as set out by contract or custom. Furthermore, the definition of "permanent," or more accurately, when the period of tenure is understood to end, is left quite open. In some universities, the understanding is that tenure applies to some mandatory retirement age. At universities which do not have mandatory retirement, it could mean literally life time employment. In other words, the understanding of "permanent" can be specific to particular universities.

Now, the notion of a career-long contractual employment arrangement raises some interesting questions. The public has some idea of the teaching function of a university, perhaps extrapolating from their knowledge of high school instruction. But it is the research function that is least well understood. Essentially, research requires a long gestation

period. It is not possible to hire academics to conduct research on a day-labour basis. While it might be possible to hire qualified individuals to deliver some lectures on a short term basis, it is not conceivable to have academics come in for a week or two to find a cure for a particular medical ailment, write a novel or historical treatise, compose a concerto, or set up a particle accelerator laboratory, and then leave. Therefore, if it is necessary to engage academics for these functions on a long term basis, some form of contractual relationship for continuing employment must be established. So if career-long contracts have any rationale, then there is freedom to deviate from a pay structure which gives individuals exactly what they are worth at each and every instant of their employment. In other words, there may be reasons why one might wish to pay someone less or more than they are strictly producing at a given moment, so long as the total sum paid over the entire contract is the "fair" amount. An employer-university adopting this type of wage profile is bound to draw notice that it is overpaying its older professors when there are good young professors available in the market. And if the frivolous answer is that these senior academics have tenure, the next question is bound to be one of incentives to remove 'shirking' when there is such iron-clad job security and so little 'accountability.'

To gain some insight into the role of tenure, it is necessary to describe the career hierarchy and pay structures that attend many Canadian universities.

CAREER LADDERS: HIRING, TENURE AND PROMOTION

In Canada, a typical university career might involve the following sequence: acquiring a Ph.D. after years of study, securing a faculty appointment, attaining tenure after a probationary period, and then progression through the academic ranks from assistant to associate to full professor, and eventually retirement. Consider first the hiring decision. Individuals attempt to convince hiring committees of their superior qualifications; and hiring committees try to select individuals who promise the greatest future contributions. This is the classic signaling/screening problem in economics, with the emphasis on screening at the hiring stage, because the university has less reliable information on the talents and qualities of the prospective candidates. Accordingly, the Ph.D. degree, especially if from a well-regarded institution, is usually adopted as a screening device by universities, as well as a necessary signaling

mechanism by candidates themselves. In sum, the Ph.D. requirement for most applications serves mainly to screen out the less qualified. However, the salary structure (discussed in the next section) also plays a role.

Once an individual obtains a probationary appointment, the next barrier is tenure. The university now has more, but still imperfect, information on the candidate's expected future productivity. The candidate also has had some opportunity to demonstrate teaching and research talents. Despite more information available, the fundamental rationale behind the process of tenure (but not the institution of tenure, which is discussed below) is the same as the hiring decision; namely, to decide which individuals should be granted tenure. The university is therefore interested in distinguishing those who did not live up to expectations from those demonstrating acceptable long run potential. The unique characteristic of tenure involves the termination of those refused tenure under the "up or out" policies of most Canadian universities on the one hand, and the granting of a "lifetime" contract to those successful.[3] The tenure decision remains fraught with uncertainty and asymmetric information. More information will be available if the tenure decision date is postponed; on the other hand, the consequences of an unfavourable decision for candidates is harsher if the decision is made later rather than sooner. This problem is intractable since there will always be uncertainty and imperfect information unless the tenure date coincides with the retirement date, a *reductio ad absurdum* position.

The focus on information asymmetries (rather than the academic freedom issue) sheds a different light on the institution of tenure. Tenure, if designed properly, is directly related to university excellence and quality faculty through the lens of "self-enforcing," "incentive-compatible" contractual arrangements. Carmichael's (1988) treatment of the efficiency of tenure can be summarized as follows. Tenure is costly to the university but extremely valued by the faculty member. The opportunity cost of granting tenure to an incumbent is the lost teaching and research output of younger people who cannot be hired in future. Tenure is "incentive-compatible" because without it, incumbents would never recommend hiring people who might be better than they are, for fear of being replaced. Tenure is also efficiently "self-enforcing" because faculty have better information about incumbents than either university administrators or outside consultants. Tenure (in the job security sense) is therefore necessary to motivate older (perhaps now less

productive) faculty to select the best. With budget dollars for staff able to be shifted back or forwards across time periods, tenure (with its long run feature) secures the truthful revelation of who are the good candidates over all periods, and the university (as an institution) is guaranteed that those who are in the best position to judge (namely, faculty rather than administrators) have every incentive to make the best decisions. It follows, then, that the naive suggestion to get rid of tenure so that older, expensive professors can be fired and replaced with younger, cheaper professors would be disastrous in the long run.[4]

Suppose professors are granted tenure by an efficient self-enforcing incentive-compatible process. What prevents these individuals from working hard until tenure is secured (usually rather early along the career path) and exerting the minimum effort thereafter? This raises the issue of "shirking," and how the wage structure and the promotion process could be designed to reduce shirking.[5] This is considered next.

WAGE STRUCTURES: UNDERPAYING AND OVERPAYING PROFESSORS

The difficulty and high cost of monitoring academic effort on a continuous basis recommends a certain pattern of contractual employment relationship. In particular, the implicit contract requires "delayed payment" in order to minimize shirking. The optimal form of this contract will feature, as a general rule: wages which grow faster than productivity, pensions, lengthy tenure, higher wages for senior workers, and mandatory retirement, but the key point is that at any given moment, individuals need not be paid exactly the value of their current production. In economic jargon, the spot wage will deviate from the spot value of marginal product. For university academics, it means that young, junior professors will be "underpaid," and old, senior professors will be "overpaid." This phenomenon is not unique to the academy.

There are several reasons for this structure of contract. For example, delayed payment contracts may be necessary if there are significant fixed costs, say hiring costs (Hutchens, 1987). Anyone familiar with search and hiring in universities can testify to the high costs (all kinds) of this process, even limiting applicants to Ph.D. holders. However, the main purpose of delayed payment contracts, in the present context, arises from the difficulty of monitoring academic effort and performance, and to discourage shirking.

Consider, for example, a wage profile, V(t), which pays academics the value of their marginal productivity (or simply productivity) at each moment until retirement at R*. Suppose there is another compensation schedule, W(t), which pays academics less than V for some period until T*, and then more than V thereafter up to R*. Other things being equal, academics should be indifferent to the two wage profiles W(t) and V(t) if both have equal net present values. However, if receiving the contracted salary is contingent upon a given performance level, evaluated at T* say, then the costs associated with shirking is higher with W(t) than V(t). As Lazear (1981, p. 607) points out: "If . . . shirking results in . . . dismissal, then the larger is the amount of earnings paid at the end of the worklife, the greater would be the cost associated with a given amount of shirking."[6]

Steeper wage profiles lead to less shirking, and flatter wage profiles will make employers more honest in the absence of "tenure" in the academic sense. An interesting question is why academics accept a long term contract in which wages are deferred? People generally prefer "money up front;" that is, wages at least equal to current productivity if not higher. Leaving aside the notion that it is purely a matter of bargaining strength between "strong" university administrations and "weak" faculty members, what factors might explain why academic salaries exhibit wage profiles steeper than productivity profiles? Unfortunately, some answers are purchased only with greater complexity of argument than those examined above, and require multi-period models with uncertainty of continued employment.[7]

TOURNAMENTS, STEAK KNIVES AND RETIREMENT

A career ladder which awards tenure relatively early has some incentive difficulties. If tenure is achieved by professors in their early thirties, there are still thirty or so years of employment left. The wage scale may not have sufficient steepness to induce non-shirking. One alternative would seem to be promotion, in which faculty are differentiated by rank titles and/or pay. How should promotion be structured given the continuing issue of costly and imperfect monitoring? One method might be to hold rank order tournaments, in which "prizes" (monetary and non-pecuniary) are set in advance but entirely arbitrary, in the sense of bearing no relationship to the productivity of either the eventual winner or average contestant. Tournaments of this type in which remuneration is based upon

ordinal rank in a contest can induce the same efficient allocation as an incentive scheme based upon output level (see Lazear & Rosen, 1981). And it is less costly than measuring individual output. The tournament increases university output by encouraging all professors to work harder and to avoid shirking, *ex ante,* even though some professors will not achieve successful promotion. But obviously, care must be exercized in designing tournament rules and prize structures. It can be shown that, generally, players' efforts will depend on the spread between winning and losing prizes, and not the level of the winning prize itself (Lazear & Rosen, 1981, p. 846).

Competitive tournaments, however, can be beset by questionable implementation. Indeed some prize structures can be extremely destructive. David Mamet's play/movie, *Glengarry Glenross*, is particularly instructive. The drama centers around a sales manager from head office who announces a contest to spur sales. At the end of the contest period, the winner will receive a new car, the person with the second highest sales will receive a set of steak knives, and the salesperson ranking last is fired. The reward structure of this tournament was incentive-compatible, if not collegial; and the spread between winning and losing prizes was influential.[8]

The delayed compensation contract requires a mandatory retirement date to induce workers to leave at the optimum date. However, a specific mandatory retirement date is not the major problem with delayed payment contracts. More important are two other factors, both related to the environment outside the university contract. Suppose a tenured faculty member receives an outside offer of employment paying a "medium" salary that exceeds the faculty member's current "low" productivity level. This "medium" wage is the valuation of the individual by the outside enterprise, and standard economic theory suggests that it is efficient for the faculty member to quit the university since the member's productivity is higher outside than inside the university. But the faculty member is currently paid a "high" wage because of the delayed compensation design. Hence the faculty member will not resign. This immobility leads to reduced economic efficiency overall. The situation is exacerbated if, as empirical evidence suggests, academics suffer declining productivity, (measured by publication activity) possibly as early as 40 years of age (McDowell, 1982). The result of the delayed compensation design coupled with declining productivity is as some condemn — professors with

lower and lower productivity, getting higher and higher salaries, and staying on in universities because they are paid too well to consider options where their social contribution would be higher.[9]

The second feature affecting the optimum termination date also has to do with factors beyond the university's control. A lengthening life expectancy due to better health care, changes in government programs such as old age pensions, etc. affect the "notch" at the customary retirement age, R. For example, old age pensions create a notch (upward) in the reservation wage profile. If old age pensions were to start at a later age than R, the notch position would change, and also the desired retirement date. If life expectancy increases, a larger pension is necessary, and there is now inducement to work longer rather than retire.

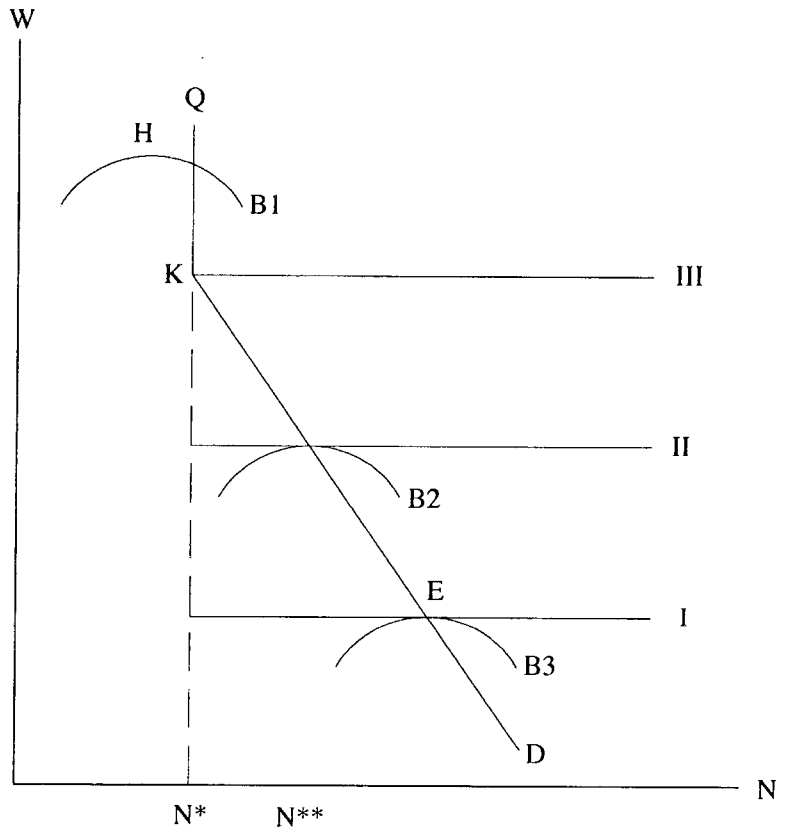
CONTRACT BARGAINING, BUDGET SQUEEZES AND TENURE

In many universities, faculty members are represented by an association or union (hereafter union). How does tenure distinguish university bargaining from the run-of-the-mill industrial relations conflict?[10] Why do administrations feel "squeezed?" The link between declining fiscal resources and its direct connection to tenure is sketched in this section with a simple model adapted from work by McDonald and Solow (1981) and Oswald (1993).

Consider the university's short run position, and concentrate for convenience on the teaching function. It receives annual revenue $R(L) = p.F(L)$, where $p = (t + g - c)$ is the net "payment" received per student enrollment comprising tuition (t), government grant (g) and variable cost (c). Variable costs are outlays such as periodical subscriptions for the library, utility bills, general maintenance, and the like. It excludes capital construction such as a new building or laboratory; these are classified as long run expenses. F(L) is a differentiable, concave production function relating output to faculty input, L. Let w be the wage paid to faculty, so the university budget position is simply: $B(L) = R(L) - w.L = B^*$, say. There will be many (w, L) combinations satisfying a given university budget. Call these combinations isobudget lines; these have an inverted "U" shape and are shown in Figure 1.[11]

If faculty asks for, and gets, a wage, w^*, then the equilibrium outcome will be on the lowest isobudget curve touching a horizontal line at w^*, say, point E on isobudget curve B3. It can be shown that a series of points traced out by the maxima of the isobudget curves constitute a

Figure 1
Demand for Faculty and Bargaining



downward sloping demand curve (say KD) for faculty labour, and the contract is considered "efficient."[12] Bargaining models which specify that unions attempt to win wage increases as well as employment for its members lead to bargaining solutions "off the demand curve," since unions must weight the gains from higher wages against the discomfort of having fewer members employed. If labour demand is less than supply at the equilibrium wage level, workers must be laid off in some manner.

The level of employment in universities, however, is determined almost entirely by management (Giles & Jain, 1989, p. 335). Therefore, in a university whose practices include tenure, the union's indifference curves will have the following characteristics. Assume, again for convenience, that all faculty are equally productive, and let N* be the employment level of staff who do not have tenure. Then for employment levels above N*, the union's indifference curves are horizontal lines (labeled I, II, and III in Figure 1) representing higher and higher wages. When the level of labour demand exceeds N*, such as at N**, tenured faculty members care little about bargaining over staffing numbers. The optimal contract under these circumstances occur at points which lie on the demand curve, and hence are efficient. Unions are content to let the university determine the number of faculty to hire, and confine their bargaining mainly to compensation rates.

Now, suppose there is a change in the situation facing universities which causes a decline in demand for university output,[13] or there is a deterioration in the "price" of university output, such as falling tuition, t; decreasing government grants, g; or an increase in the non-capital costs of providing university infrastructure, c; or all three. This will result in the demand curve moving to the left, and the isoprofit curves moving upward, and the efficient outcome may move to a point such as H in Figure 1. In the case examined by Oswald (1993), where layoffs are possible but implemented through a seniority rule, N* has the interpretation of the median seniority level. The reduced labour force that results after laying off some workers will now redefine a new N*, and in the next period re-establish an interior solution outcome.

With the institution of tenure in universities however, there is literally no accepted (meaning previously agreed to) layoff rule. Corner solutions are not only possible — through movements caused by decreasing government support, escalating costs of library and support services, etc., and reduced student enrollment, as outlined above — but also, there

can be no "next period" resolution because of tenure. Indeed, the demand curve is kinked at K and becomes vertical (the segment KQ) since the university is constrained to "demand" its entire tenured faculty. Tenure also explains why universities can have no recourse to what is termed concessionary bargaining ; that is, having unions agree to layoffs, job adjustments, and the like.

This simple model suggests why (a) cutbacks in government grants, (b) cost pressures on university budgets, (c) limits to tuition increases, and (d) declining interests in attending a less "excellent" university have, at the moment, all resulted in pressure on tenure. Because there is no previously agreed-to mechanism in place to adjust staff, such as a seniority rule, university administrations and faculty unions are not so much bargaining over an acceptable contract outcome as they are contesting the very rules of the bargaining game. Accordingly, intuition on both sides is correct in thinking that tenure is at stake, for unless tenure is reconsidered, we may well find ourselves operating in that zone left of N*, which can be justly characterized as "financial crisis".[14]

It is possible to argue that universities have already resorted to certain labour force adjustment methods as a result of fiscal pressures. Viewed in terms of industrial relations between union and management, there has already been substantial activity which is consistent with the bargaining positions one would normally expect of both parties. For example, Gunderson (1989, p. 350, p. 367) notes that professional associations try to control substitution by management of less highly trained (and less expensive) workers for professionals; and that the generalization appears "robust" that ". . . union have a positive impact on the compensation of their members and a slight negative impact on the wages of nonunion workers." Universities have increasingly responded to financial pressure by (a) ceasing to hire or replace academic staff, (b) engaging more sessional staff, who are paid at much lower scales and are not eligible for tenure. This suggests that universities have pursued a kind of "in-house contracting out", but this achievement by stealth would appear insufficient, hence universities are now turning to actual concessional bargaining with respect to "work adjustment" and layoffs. Of course, it is the layoff issue which collides head on with tenure.

REDEFINING THE NOTION OF TENURE: A MODERATE PROPOSAL

Tenure awarded through peer review is undoubtedly superior to other methods in ensuring that those faculty granted tenure will be of the highest standard possible. Furthermore, tenure as currently practiced by Canadian universities is incentive-compatible since faculty take part in a "contest" against a standard, rather than an opponent. In the absence of measurement error, contests against a fixed standard result in a lower contest variance than a tournament against opponents. (Lazear & Rosen, 1981, p. 857) As already noted, players' efforts (or human capital investments) depend on the spread between the winning and losing prizes. In the case of tenure, the winning price is long-term job security at increasing wage levels with minimum direct day-to-day monitoring. The losing prize is immediate mandatory retirement from the university. One could not imagine a more stringent spread between the winning and losing prizes. Therefore, one need not worry that insufficient incentives exist in universities with respect to tenure. Indeed, the institution of tenure is exemplary of the self-enforcing, incentive-compatible contract arrangement, and carried out by an expert peer review process at fairly low cost. In fact, without exaggeration, it might be said that self-enforcing incentive-compatible arrangements in the university are the sine qua non of collegiality and academic freedom — the traditional hallmarks of excellence.

But tenure also has its disadvantages. In particular, the back-end loaded wage structure for post-tenured faculty is socially inefficient because it locks in faculty to the university even when they might be more productive elsewhere or doing other things. Further, tenure is a problem when it becomes necessary to adjust faculty. Presently, the 'game' is structured so that one either affirms the sanctity of tenure so that no tenured faculty can be terminated, or else university management must invoke financial exigency, in which case, tenure is suspended. However, there is a middle ground besides this 'corner solution.' Tenure, instead, can be reconfigured to yield a more acceptable trade-off between its laudable incentive-compatible characteristics on the one hand, and its structural rigidity in the face of desirable changes, on the other. But first, we need to examine more closely the related issues of pay and promotion.

Even if tenure is an efficient sorting contest to ensure that the universities hire, and keep, the best among the young, what prevents older faculty members from shirking *after* they receive tenure? And there is a long career interval between achieving tenure and retirement. Promotion through the ranks is an unconvincing answer. In many cases, the tenure standard is not much different from the standard for promotion to the rank of associate professor. So even if the prospect of promotion to full professor is thought to be sufficient to prevent shirking among associate professors, the question returns with a slight rewording: what prevents the numerous (and older) full professors from shirking? The spread between the winning and losing prizes, vis-à-vis tenure, appears inconsequential. Promotion to full professor often results in little increase in pay or non-pecuniary benefits; and there are no horrible consequences from being denied promotion, such as being asked to resign. It seems fair to conclude that promotion through the ranks has less anti-shirking force than does tenure.

The agency model — or the anti-shirking model, as we have called it — requires that there be substantial consequences associated with promotions in order to create some incentive "spread" between winning and losing prizes. It is possible to give a large and immediate salary adjustment to those who have been just promoted to the next rank, say to full professor. But this does not typically happen. Instead, the spot salary changes upward only slightly. Universities seem loathe to associate large jumps in spot wages at promotion, contrary to private sector practices. However, with tenure, the relevant "spread" was revealed as the difference between the winning and losing prizes over the remaining career life, and not the spread between the spot rates at the time of the contest.

We are now in a position to sketch a recommendation for reforming the institution of university tenure. We recommend:

1. making the term of tenure related to rank, and
2. establishing a maximum period of eligibility for promotion.

More specifically, tenure for an associate professor is deemed to end at, say, age 60; while full professors have tenure until, say, 65 years of age. The age levels are merely illustrative. Tenure is meant simply as the date at which the contract ends; it does not mean that professors must be fired, which is the case when tenure is *denied.* University faculty may still be retained after their tenure termination date, but obviously on a new contractual basis. Since tenure is associated with rank, it is desirable also to

specify a maximum eligibility period during which a faculty may apply for promotion; for example, an associate professor may only apply for promotion to full professor within 10 years of achieving the associate rank. Again the number is arbitrary, for argument purposes. Coupled with salary spreads by rank, the above modest change should lessen overall shirking and introduce more flexibility in union-management relations.

Why is this modest reform an improvement over present arrangements? First, the laudable features of tenure already noted are preserved. Faculty with tenure may now teach and research with some sense of job stability, and in the knowledge that their "performance bond" will be returned through higher future wages. However, the view that insufficiently strong incentives to prevent shirking exist after the tenure point remains; and promotion rules which dictate a time limit for promotion moves the promotion process closer to that of tenure, where I submit that incentives to achieve are especially strong. The prize for success in promotion is not only immediate financial reward, but also longer guaranteed employment as well, the objective being to strengthen the incentive structure through increasing the spread. This change is incentive-compatible as well from the self-enforcing perspective. Promotion is no longer merely an individual achievement. It will also affect the standards applied to promotion as departments will now be forced to confront the consequences of their decision. It is not just a matter of rank and title, nor is it merely an issue of higher pay through larger increments and a higher salary cap for the university. It will also be a judgment whether the particular colleague will be welcomed for a career of contribution that is longer rather than shorter in duration. Departments will therefore have an interest in ensuring that promotion standards are high since they will suffer the consequences of lax standards by having less productive colleagues for longer periods.

This brings us to the industrial relations aspect of contract bargaining. Our above discussion suggests that gridlock occurs when the conjunction of declining enrollments, shrinking grants, declining reputation, escalating costs, as well as externally imposed constraints on tuition increases or admission policies require a new contract point which is outside the "core" of the bargaining zone. Tenure plays a special role in that no agreed-upon rule exists for adjusting staff, such as seniority or first in- first out conventions when it comes to tenured academic faculty. Relating the term of tenure to rank introduces a degree of freedom.

Under the reformed tenure system, professors whose tenured period has expired will no longer be guaranteed employment in the sense that they now belong to the pool from which first layoffs, if necessary, will occur. In essence, their seniority is truncated. This introduces a quasi-seniority rule for possible layoffs. But rather than the traditional "last hired - first fired" system, which discriminates against the young and less senior, our proposal concentrates potential layoffs among the more senior, the higher paid and either less hard working or less talented.[15] If layoffs should occur, the revised tenure conditions will also have the salutary effect of lowering the average age of the faculty. If hiring possibilities emerge, and supposing that new faculty members take these positions rather than all formerly laid off members returning, the average quality of faculty should improve, on the assumption that academic productivity peaks before 60. Our proposed reform to tenure is therefore complimentary to the pursuit of an overall excellent faculty.

The proposed reform of tenure, despite its language, is no stranger to university practice. Universities routinely appoint individuals, even some recently retired, on non-tenured contracts. The post-tenure appointment simply adds to the vocabulary of contractual arrangements, which now already includes post-retirement appointments. However, there are implications.

IMPLICATIONS OF THE MODERATE PROPOSAL

Linking the length of tenure to rank will have "incentive-compatible" effects since increasing the spread in "prizes" between ranks will motivate greater achievement. At the same time, limiting the length of tenure has implications because it now severs tenure from the notion of lifetime job security. Some additional points should be noted. First, professors at the end of their tenure status are not necessarily retired or fired; they may choose to stay on but their guarantee of job security is no longer absolute. Thus, the notion of tenure qua life-long job security and the status of being employed is severed. Second, should they completely retire (rather than seek another career), their pension start date may not coincide with their university end date. This problem is not unique to university professors, and befalls anyone whose job termination does not match their normal retirement date. At least, in this case, university professors know in advance their tenure-end date and can plan accordingly. With improving health standards, some have suggested that normal

retirement dates be indexed to life expectancy. This approach is probably only appropriate when considering government-provided old age pensions, and is probably less relevant in the present context.

To see this, consider the following. If tenure is a life-long job security concept, then the tenure-termination date is effectively the retirement date. With mandatory retirement, pension benefits replace salary, and university duties also cease in a seamless transition. If individuals retire early, they must accept a smaller pension. Exactly the same effect will occur by fixing the date of retirement and extending life expectancy, so the issue is one of adequate post-job income, not tenure per se. If, as is often assumed, productivity peaks for academics well before the normal retirement age now adopted by Canadian universities, life-long tenure (and no mandatory retirement) is inimical to increasing life expectancy. It may well be socially efficient for less productive professors to seek other jobs at their tenure-termination date.

The issue is really one of career productivity, pay, and life expectancy. An analogy to sports is perhaps helpful. Professional athletes have short career spans of high productivity (and high pay) relative to their normal life expectancy. When they retire from professional athletics, many must pursue other careers at lower pay. If life expectancy of professors were to increase to 120 years, say, the problem would be identical. Professors at the end of their tenure-termination date no longer have a "no cut" contract; they are simply "picked up" on a year by year basis, or they may choose to pursue other jobs. There is life after tenure.

A third implication of linking the length of tenure with rank, and eliminating the concept of absolute lifetime job security is its effect on salary structure. Professional athletes accept the spectre of declining performance and consequent job loss because they receive their full value of marginal product while employed. There is no deferred payment feature. (I abstract from the deferred payment features due to tax sheltering considerations.) Professors do not enjoy spot wages equal to spot productivity. Consequently, adjustments to the salary structure of academics will be necessary, and this could take several forms. More of the pay could be "front loaded", in which case the resulting flatter wage scale would reduce incentive signals, even though promotion and tenure-duration remain as incentive-compatible ingredients. Another possibility is to return a larger "bond" at the retirement date, or to grant a termination or severance package, bearing in mind that *tenure-termination does not necessarily mean employment-termination* under the above proposal.

The last point raises the following interesting question. What might be some of the legitimate reasons why a university might want to get rid of a particular professor or groups of professors? Again ignore malfeasance; that leaves shirking or genuine 'financial exigency'. But tenure is not really necessary if one suspects that mere money savings is the university's motivation for dismissal. There are other ways to structure an incentive-compatible contract. Consider the case of successful athletic coaches in highly competitive collegiate conferences. Winning teams cannot always be guaranteed in any given year (spot productivity); yet some staff stability (long term contracts) is desirable. But if a head coaching change were thought necessary, tenure would be an absolute hindrance since the university could not get rid of a losing coach and bring in a new one. Some highly competitive schools are thought to have contracts structured in the following way. (One never knows for certain, as these are individual arrangements.) Some minimum benchmark is agreed to, either formally or informally, such as a winning season (that is, wins exceed losses), final ranking in one's home conference, invitation to the regional qualifying tournaments, etc. There may also be special merit achievements (such as, selection for national finals, making the "sweet sixteen", or bowl appearances). A coach does not have tenure but, say, a five or ten-year contract instead. Each year that the coach reaches or exceeds a stipulated performance level, the contract is "torn up" and another five or ten-year contract signed, not necessarily at the old salary.

What are the incentive-compatible features of this arrangement? The coach will obviously have an incentive to perform at a high level for the rewards are additional job security and pay. By rolling over the contract with good performance, the coach effectively determines the value of the severance payment or personal "departure bond." For the university, if a change is thought necessary, either because present and expected performance is below acceptable standards, actual change is indeed possible and no way hindered by tenure. The cost, however, is the payout of the remaining life of the contract. Hence, it is unlikely that dismissal will take place for marginal savings of salary alone, but rather for necessary 'program and structural' changes.

My proposal for reforming tenure works "at the margin", as economists would say. It is not especially revolutionary, and aims at altering the balance between strengthening incentives to motivate faculty, and

introducing flexibility to the bargaining framework. Many will have other suggestions, especially university administrators, lawyers and labour arbitrators, faculty union leaders, and, of course, politicians and the public. This proposal is moderate rather than radical, intending to be measured rather than hysterical. It will be a disappointment to those wanting the complete abolition of tenure for university professors; however, it will also be disappointing to those who wish the status quo.[16]

CONCLUDING REMARKS

This essay explains why tenure is useful and worth defending. The approach has been to eschew the conventional appeals to academic freedom, collegiality or right of free expression. Since Skinner's (1966) essay on meaning and understanding in the history of ideas, it is hard to take too seriously anyone who would claim to tell us what tenure actually "means," or what one ought to "understand" about tenure. My purpose, then, is to pose the issue as a matter of contract design. By explaining its rationale in terms of incentive structures which are less costly than other alternatives because of the informational costs of making judgments, and by explaining the rationale behind deferred compensation, I hope to make tenure and pay structures more transparent for purposes of reform. Many organizations other than universities have de facto tenure as well as pay schemes that do not equate spot productivity with spot wages. But because the pay schemes of the corporate sector may be equally mysterious, I have employed analogies to professional sports for exposition purposes. In many ways, the practices of universities are not as exceptional as many would like to believe. Many employers are willing to grant employees job security if they perform their duties to high standards. It just happens that the job of university scholars is to "think" and to "express freely" their ideas.

Finally, my analysis is what economists term "partial analysis", since it take no account of what other universities or parties might do if my suggested reforms were implemented. The implicit assumption is that other universities will be also persuaded by my arguments and enact similar changes, otherwise any university which was seen to provide less "tenure" protection than universities elsewhere would be at a competitive disadvantage. ✤

Notes

[1] In a recent polemic on Canada's universities, Emberley (1996, p.61) devotes an entire chapter to academic privilege, listing tenure in first place among universities' 'perception problems'. Emberley's book contains an up-to-date description of tensions in Canadian universities, citing numerous sources expressing concern with tenure matters. There has even been a bitter faculty strike at the University of Manitoba over tenure issues. Meanwhile, discussions appear to go further in the United States, with concrete steps being taken to have post-tenure reviews and removal after two unfavourable yearly reviews (Texas), or suggestions to make the probationary period as long as nine years (Minnesota). See the symposium "Tenure Trouble" in *Political Science and Politics* (March 1997).

[2] This paper is part of ongoing research on tenure and pay in Canadian universities. My focus here is restricted to tenure as part of a self-enforcing, incentive compatible form of contract.

[3] Promotion through the ranks is again similar in rationale, but here the stakes are less. Since application for promotion is not a time-limited procedure like tenure, a rejected promotion application does not mean termination, and some individuals might even choose not to seek promotion. On the other hand, the wage structure may still play a critical role in fostering the right incentives.

[4] Carmichael's (1988) analysis is deeper than I have described here. It might be helpful to rephrase some of these arguments in a non-academic context. Large Japanese firms understand the role of life long job security, knowing that senior workers will pass on their knowledge and skills to younger workers only on the understanding that their own jobs are safe. Here the incentive argument turns on specific training; in the main text it turns on information assymetries.

[5] Possibly disagreeable to those who are not lawyers or economists, the term 'shirking and malfeasance' is standard in the contract literature and is used here without prejudice. I use the term "shirking" simply to describe academics not putting forth maximum honest effort according to the customary university norm, or standards of 'excellence'. I ignore malfeasance.

[6] Universities may also be tempted to act in bad faith. For example, if professors never communicated with each other about their university contracts, a dishonest university which cares nothing for its reputation, could terminate all its professors just before their tenure decision date. But this is unlikely to benefit universities in the longer run, so is not a feasible strategy.

[7] Individuals must attempt to balance a desire for consumption smoothing with a desire for some form of wage insurance over the life cycle. More formally, individuals are assumed to maximize lifetime satisfaction over two

periods: U = u (c1) + u (c2) subject to a budget constraint w = w1 + w2. Possibilities are limited if no borrowing requires ci = wi. Hence some access to a "capital market" to aid consumption smoothing is desirable. Complications set in when second period contracts cannot be made binding in period one (slavery and indentured service is not allowed). This uncertainty means that the individual must now maximize expected lifetime satisfaction: U = u(c1) + Eu(w2) where Eu(w2) is the expected satisfaction to be had from the second period wage ,w2. Of course, w2 is not simple to compute or calculate, depending as it does on the state of the labour market for the particular individual's services, the distribution of wages offers expected, and the like. Under these circumstances, a risk-adverse individual will seek to purchase some insurance as well. For more details see Lam et al., (1995).

8 David Mamet is also the author of *Oleanna* , a more literal depiction of university culture. In that play, political correctness, misunderstanding, and worrisome distractions arising from an impending tenure hearing results in anger and violence from a young professor towards a student.

9 Johnson and Stafford (1974) estimate an elasticity of substitution for junior and senior faculty in providing instruction in economics, sociology, biology, physics, and mathematics. They find that ". . . junior and senior faculty are quite substitutable in the academic production process."

10 Universities that have tenure for individual faculty but not a collective agreement will encounter the same difficulties discussed here. The difference will be reflected in the nature of the costly responses; for example, to fire tenured professors will incur public relations costs and political costs and perhaps individual unlawful dismissal lawsuits rather than legal challenges by unions, faculty strikes, etc. In either case, the issue remains: what rigidity does tenure constitute?

11 The slope of the isobudget line is $dw/dL = [R^1(L) - w] /L$. Hence for any L, the slope is positive until w reaches $R^1(L)$, and negative thereafter. Lower isobudget curves are better for the university in terms of having a surplus, and higher ones are worse in the sense of incurring a deficit.

12 Since the equilibrium is on the demand curve, these situations are said to be "efficient" contracts.

13 This could be due to declining "excellence." We can solve $F^1(L) = w$ to get the demand curve for labour D = D (w, X) where X is a parameter of "excellence" with the convention that as excellence X falls, the demand for L falls as well.

14 I do not mean to imply that universities literally see their demand for faculty as falling short of present tenured supply. No doubt universities have been adjusting through the hiring process (implementing a no hires policy),

substitution of labour (using sessionals or graduate students), adopting just-in-time production methods (hiring lecturers or instructors on the first day of class, if necessary), changing work rules (larger classes, cutting programs), and stepping up financial monitoring (such as restricting smart individual sourcing) on the silly assumption that compliance costs are zero. Universities are also soliticiting funds from all sources, charging full costs for certain programs, and in some cases, cranking up their public relations and advertising efforts.

[15] There are many possible reasons why older professors might be less producive in the sense of publishing less. The Scottish philosopher and historian David Hume (1711-76) gave four of them. After achieving a certain degree of financial comfort from his pensions, Hume was asked to continue and update his popular *History of Great Britain* but he said ". . . I have four reasons for not writing: I am too old, too fat, too lazy, and too rich".

[16] I had originally called my suggestion a 'modest proposal' but changed it instead to a 'moderate proposal' so as not to summon up associations with Jonathan Swift. A loose reading of Swift might encourage university administrations to pounce on their young and untenured faculty when it is clear that my reforms are directed towards shedding the more senior and the less productive.

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