

Tenure Issues in Higher Education

Michael S. McPherson and Morton Owen Schapiro

The system of tenure that dominates American higher education has long been a source of controversy. The institution of tenure has been attacked for entrenching a lazy professoriate, more interested in attending faraway conferences and producing unreadable research than in teaching or developing practical insights, while on the other hand, it has long been defended as an absolute necessity for the defense of open intellectual inquiry. The tenure controversy has been sharpened in recent years by several events. The end of mandatory retirement, which was abolished by federal law effective January 1, 1994, has heightened concerns about the productivity and commitment of professors who received tenure long ago and who no longer have the same incentives to invest in long-term reputation. There is also ongoing concern over the steadily rising cost of higher education, which raises the question of what students—as well as the taxpayers who support public institutions of higher education—are getting for their money.¹

The idea that tenure is a wasteful institution for universities runs up against the puzzling fact that the commitment to tenure is one that academic institutions impose on themselves. Although the American Association of University Professors (AAUP) provides a powerful lobby in favor of tenure, generally colleges and universities—most notably private ones—are under no legal requirement to observe tenure constraints. Although as administrators, we certainly feel the weight of those constraints, our view is that a tenure system in fact provides important benefits to society and to colleges and universities. We argue here that the role of tenure is

■ *Michael S. McPherson is Professor of Economics and President, Macalester College, St. Paul, Minnesota. Morton Owen Schapiro is Professor of Economics and Dean, College of Letters, Arts and Sciences, University of Southern California, Los Angeles, California.*

¹ McPherson and Schapiro (1991, 1998) present a detailed look at the revenue and expenditure history of America's colleges and universities.

best understood in terms of its impact on the authority structure of the university. This perspective helps us to display clearly both advantages and drawbacks of the tenure system.

This paper begins with a brief review of the tenure literature and follows with a discussion of some recent controversies relating to the tenure system. We will present some basic data on the percentage of faculty in different disciplines and at different types of institutions who are subject to the tenure system, raising the question of why tenure is prevalent in certain contexts and much less so in others. We then present our approach to the subject, considering the issue of tenure in terms of how the authority necessary to run a college or university is delegated. We believe that this perspective sheds light on some underlying reasons for why the institution of tenure differs from most other forms of labor contracting, and on the reasons for the relative importance of the tenure system in different parts of higher education.

A Brief Look at the Tenure Literature

In 1940 the AAUP and the Association of American Colleges approved the classic document, *Statement of Principles on Academic Freedom and Tenure*. Since that time, many spirited defenses of the tenure system have been made on the grounds of protecting the rights of faculty to pursue their research and teaching and to support their political goals outside the institution. Brown (1997) contains an overview of this debate while Byrne (1997) presents a particularly thoughtful treatment of the link between tenure and academic freedom. For an economic defense of tenure, the interested reader might begin with Machlup (1964), while Tullock (1996) presents an opposing view.

A recent strain in the tenure literature involves the consequences of lifetime employment in an age of uncapped mandatory retirement. Since the abolition of mandatory retirement ages is so recent, there is no clear evidence on its consequences. Predictions based on past experience seem to head in opposing directions. Bess (1998), citing major studies by Blackburn and Lawrence (1986, 1995), suggests that there is no reduction in either research or teaching productivity after tenure. Rees and Smith (1991) find no evidence that retirement uncapping for tenured faculty will have a serious adverse effect on teaching effectiveness. On the other hand, Levin and Stephan (1991) find that the research productivity of scientists is, on average, reduced with age; Hammermesh (1994) looks specifically at the research output of economists and finds that it declines very sharply with age. Rees and Smith (1991), however, argue that professors generally continue to publish at the later stages of their academic careers and that the reputation of a faculty member, built over a lifetime, may be more important to an institution's reputation and long-run effectiveness than that individual's current output. Overall, a National Research Council (1991) study concluded that the evidence did not justify continuing the exemption of tenured faculty from the federal policy of prohibiting mandatory retirement on the basis of age.

Finally, there has been much recent discussion about the potential efficiency of tenure as a labor market institution, a theme which will be explored later in this paper, and correspondingly about whether alternative forms of academic contracts might accomplish some of these goals. Breneman (1997) argues that tenure is “largely dysfunctional,” and that by limiting institutional flexibility it leads to lower salaries and reduced levels of employment. While tenure may make sense for the most prestigious and selective schools, he argues, it makes less sense elsewhere. Breneman suggests that many young academics would favor employment arrangements other than tenure; for example, term appointments coupled with the benefits normally associated with tenured faculty like travel funds, sabbaticals, and so on. Breneman suggests letting faculty opt out of tenure in return for extra salary.² The best faculty would choose to do so, given that their job prospects would be good regardless of any protection from tenure.³ Chait has been arguing for some time that faculty be given the opportunity to opt out of the tenure system (Chait, 1997; Chait and Ford, 1982). A new category of faculty would be created—non-tenured by choice.

Recent Controversies

In recent years, doubts about the efficacy of tenure have been matched more and more frequently by practical attempts to reform tenure or limit its consequences.

Most observers would offer the University of Minnesota as the most visible example of a tenure controversy.⁴ Several health sciences programs at the university experienced financial difficulties in 1995. The legislative response was to allocate an \$8.6 million dollar appropriation to the health center with the provision that the tenure code be changed. Once the Board of Regents made it clear that a revision of the tenure system was under consideration, University of Minnesota faculty, and their counterparts nationwide, prepared for the worst. But was tenure really at risk? The regents seem never to have contemplated abolishing tenure. Instead, two more limited issues were at stake. One was whether the university had the right to fire tenured faculty in the case of the elimination of departments, or whether it was required to reassign faculty members when a program was closed. The other key issue was the nature of the salary protections that came with tenure—at what point did a pay cut for a tenured professor constitute effective discharge?

After organizers of a faculty union signed up a sufficient number of faculty,

² Ehrenberg, Pieper and Willis (1995) provide empirical evidence about the tradeoff between tenure and salary. Specifically, departments that offer low tenure probabilities for junior faculty pay higher salaries for senior faculty.

³ Finkin (1998) takes issue with most of Breneman’s points, especially the argument that academic freedom could be protected without the institution of tenure.

⁴ The course of events at the University of Minnesota has been documented in considerable detail in the *Chronicle of Higher Education*. See Magner (1996a, 1996b, 1996c, 1997).

the state labor bureau barred the regents from changing any personnel policies or working conditions until after a union election could be held. The one exception was for the law school, where union support was insufficient to warrant a restraining order. At an emergency meeting of the Board of Regents, a new tenure code was adopted for the law school, although the provision for the firing of tenured faculty was omitted and the provision to allow cuts in faculty salaries was weakened.

Finally, in summer 1997, a new tenure policy for the entire university was approved by the Board of Regents, but this time it had been modified to an extent that it had the strong support of the faculty senate. As part of a package that included significant increases in state appropriations and substantial real raises in faculty salaries, the faculty approved a system of post-tenure review. However, there were only modest changes in the key regulations relating to the firing of tenured faculty and to reductions in salaries. In the event that a department was eliminated, the university would be obligated to reassign or retrain faculty members, instead of laying them off. A reduction in faculty salary would be limited to the case where the university or a particular college within the university was in a situation of "financial stringency."

While the Minnesota case generated the most publicity, similar developments have occurred in other states. It has been unusual to challenge the entire institution of tenure, although occasional threats have surfaced. For example, in November 1997, the chairman of the Massachusetts Board of Higher Education called for an end to tenure on the grounds that it has nothing to do with academic freedom and was simply a scam (Healy, 1997). In 1995, legislation was introduced into the South Carolina legislature that would have abolished tenure entirely. In 1992, 111 tenured faculty at San Diego State University were notified that they were to be dismissed as their departments were eliminated or scaled down, although the order was rescinded after a spirited national response (Mooney, 1993). Among private institutions, Bennington College fired 26 professors in 1994 in the wake of the elimination of its academic divisions and some departments; while Bennington did not have an explicit tenure system, faculty members were evaluated every five years and generally held "presumptive tenure."

Rather than the outright abolition of tenure, the agenda in many states has focused on some form of post-tenure review. In Texas, the proposals before the legislature called for post-tenure review and for a tenured professor to be fired in the case of two consecutive substandard evaluations. To head off the harsher aspects of this proposal, the Regents of the University of Texas imposed the requirement that professors undergo post-tenure review every five years, and included a review process that allowed for the possibility of a termination hearing in the event of poor evaluations. The University of South Carolina had a similar experience, in which state lawmakers explicitly tied appropriations to the creation of a post-tenure review system, among other factors. The result was a system of post-tenure review in which faculty are evaluated every six years, and in which a substandard grade results in a set of specific goals, which, if unmet, could eventually lead to dismissal. The story in Florida mirrored these other states, with its Board of Regents ultimately adopting a post-tenure review program every seven years. Some form of post-tenure review

is also in place at the Universities of Colorado, Georgia, Hawaii, Kentucky, Maryland and Wisconsin, among others.

The ultimate argument concerning post-tenure review is whether the penalty for a substandard grade is removal. Regents in many states have thus far been reluctant to set up procedures that would make such a severe sanction likely to occur. Not surprisingly, the American Association of University Professors has a particular stance on post-tenure reviews—that no procedure for evaluation of faculty should be used to undermine the principles of tenure.

A number of individual institutions have attracted significant attention in recent years for deciding to move away from the tenure system toward term contracts. The Board of Trustees of Philadelphia College of Textiles and Science voted to allow the president to offer non-tenure contracts to new faculty. Florida Gulf Coast University will also offer term contracts as an alternative to a system of tenured appointments. The College of the Ozarks went beyond the creation of a dual system of tenure-track and term appointments by limiting all new faculty to term contracts. Of course, these are not the first institutions to adopt an alternative contracting mechanism; Hampshire College was famous for many years for shunning tenure contracts. But given the recent controversies over tenure, the actions of these institutions have generated a fair amount of press.

Data on the Incidence of the Tenure System

Changes in the role of tenure in American higher education can take place outside the legislative and institutional debates summarized above. A college or university can simply hire more part-time faculty to teach its classes, with the result that fewer and fewer faculty are ever subject to the tenure system. Since being a full-time faculty member is typically a necessary condition for taking part in the tenure system, this will inevitably affect the conditions of the tenure debate. A move toward part-timers has been underway. In 1970, 78 percent of instructional faculty (ignoring graduate students) were full-time, a figure that has declined steadily to 66 percent in 1980, 64 percent in 1989, and to only 60 percent by 1993 (U.S. Department of Education, 1997, Table 225, p. 239).⁵

Table 1 presents data from 1992 on the percentage of full-time faculty by institutional type and by whether they are public or private institutions. The category of research universities includes institutions with significant graduate programs and externally supported research. Doctoral universities are those which have less external research support, while comprehensive universities have some graduate programs but award fewer doctorates. As the table shows, research universities in both the public and private sector tend to use more full-timers than the doctoral or

⁵ The “instructional faculty” includes faculty members with the title of professor, associate professor, assistant professor, instructor, lecturer, assisting professor, adjunct professor, or interim professor. Graduate students with titles such as teaching fellow or teaching assistant are excluded. Due to revised survey methods, data before 1987 are not strictly comparable to those from a later period.

Table 1

The Percentage of Instructional Faculty who are Full-Time, by Institutional Type and Control, 1992

Privates:				
All	Research Universities	Doctoral Universities	Comprehensive Universities	Liberal Arts Colleges
59%	65%	62%	51%	64%
Publics:				
All	Research Universities	Doctoral Universities	Comprehensive Universities	2-Year Colleges
59%	81%	72%	67%	40%

Note: These data are from the National Study of Postsecondary Faculty and can be found in U.S. Department of Education (1997), Table 227 (pp. 240–41).

comprehensive universities. While the overall percentage full-time is the same for privates and for publics (59 percent), public universities in the categories of research universities, doctoral universities, and comprehensive universities all use a higher percentage of full-time faculty than their private counterparts, with the overall average in the public sector being brought down by the heavy reliance on part-time faculty at community colleges, where only 40 percent of faculty are full-time. Private liberal arts colleges almost equal private research universities in terms of the use of full-time faculty, but rely more heavily on part-timers than do any type of public university.

A disciplinary breakdown shows that science and engineering programs rely most heavily on full-time faculty: 67 percent of the faculty in engineering, 64 percent in the health sciences, and 63 percent in the natural sciences. The social sciences are also at 63 percent full-time faculty, well ahead of the humanities, 55 percent; education, 54 percent; business, 53 percent; and fine arts, 49 percent (U.S. Department of Education, 1997, table 231, pp. 246–247).

Of course, while being a full-time faculty member is typically a necessary condition for taking part in the tenure system, it is not sufficient. Table 2 examines the percentage of full-time faculty who are tenured or tenure-track. Public research and comprehensive universities have a higher percentage of full-time faculty subject to the tenure system than do their counterparts at private universities. Public-private differences at doctoral universities were minimal. At private liberal arts colleges, the percentage of full-time faculty who are tenured or tenure-track is the lowest among any four-year category, but greatly exceeds that at two-year community colleges.

If the ultimate question is what percentage of all instructional faculty operate under the tenure system, that figure can be estimated by multiplying the percentage of all instructional faculty who are full-time (in Table 1) by the percentage of full-time faculty who are tenured or tenure-track (in Table 2). These numbers are presented in Table 3.

Table 2

The Percentage of Full-Time Instructional Faculty who are Tenured or Tenure-Track, by Institutional Type and Control, Selected Years

1988					
All	Research Universities	Doctoral Universities	Privates		Liberal Arts Colleges
			Comprehensive Universities		
75%	82%	84%	73%		73%
All	Research Universities	Doctoral Universities	Publics		2-Year-Colleges
			Comprehensive Universities		
76%	90%	86%	88%		48%
1992					
All	Research Universities	Doctoral Universities	Privates		Liberal Arts Colleges
			Comprehensive Universities		
81%	86%	88%	81%		80%
All	Research Universities	Doctoral Universities	Publics		2-Year-Colleges
			Comprehensive Universities		
82%	89%	87%	89%		68%
1996					
All	Research Universities	Doctoral Universities	Privates		Liberal Arts Colleges
			Comprehensive Universities		
78%	83%	87%	79%		78%
All	Research Universities	Doctoral Universities	Publics		2-Year-Colleges
			Comprehensive Universities		
81%	89%	87%	88%		64%

Note: These figures are calculated from data contained in the CASPAR data set.

Again, the similarity in the average for all public and private institutions hides significant differences by institutional type. All three university categories have a higher percentage of faculty subject to the tenure system in the public sector than at private universities. Only about half of all instructional faculty at private liberal arts colleges and about a quarter at community colleges are tenured or tenure-track.

What might explain the apparent differences in the role of tenure by sector and institutional type? Some light can be shed on this question, we believe, by examining the role tenure plays in influencing the distribution of authority within the university, and by considering factors that make different distributions of authority more or less desirable in different types of institutions. This line of discussion will also illuminate some of the underlying justifications for tenure that go beyond academic freedom.

Table 3

The Percentage of All Instructional Faculty who are Tenured or Tenure-Track, 1992

Privates:				
All	Research Universities	Doctoral Universities	Comprehensive Universities	Liberal Arts Colleges
48%	56%	55%	41%	51%
Publics:				
All	Research Universities	Doctoral Universities	Comprehensive Universities	2-Year Colleges
48%	72%	63%	60%	27%

Note: These figures are computed by multiplying numbers in Table 1 by numbers in Table 2.

Tenure: Issues of Authority

Much current debate about tenure centers on issues of authority in the management of universities. To what extent should members of the faculty have a voice in determining such key institutional issues as: Who should teach and conduct research? What subjects should be taught and investigated? How should the work of teaching and research be conducted, including such issues as class sizes, teaching loads, and research expectations? These issues are in some measure removed from the more dramatic concerns with political attacks on academic freedom. However, the underlying purposes of academic freedom require that faculty members in a university should have substantial authority over the who, what and how of teaching and research. For example, if administrators are granted discretion over key management decisions, that discretion could well be abused in ways that intrude on academic freedom.

It is useful to think of academic tenure as a set of constraints on the discretion of managers (the “administration”) over various aspects of the academic enterprise. The effect of these constraints is to influence the distribution of authority between administration and faculty—or to put the point in another context, between management and workers. Managerial authority is of course never absolute, even in the absence of tenure, since workers can threaten to quit or to vary their level of effort. Conversely, tenure by no means confers absolute authority on faculty. But the institution of tenure clearly does raise the cost to management of undertaking certain kinds of actions. Most obviously, it is quite costly to dismiss a tenured professor. But the institution of tenure also restricts administrative discretion over the duties assigned to tenured faculty members: it limits administrators’ freedom in reducing salaries; and it adds to the costs of adjusting the composition of the faculty, since management cannot unilaterally close a department without incurring substantial costs in either providing new positions to tenured faculty in that department or offering them substantial settlements. Administrators are also constrained by the “up or out” requirement that compels a tenure decision after a

given number of years, and that establishes quasi-judicial procedures for making those decisions.

Constraints like these will influence the behavior of both faculty and administrators. Faculty members with tenure will have more independence. Administrators need to rely more on persuasion and less on negative sanctions in influencing the behavior of individual faculty. But beyond such individual effects, the institutionalization of tenure will also influence the structure of decision-making in universities. Tenure increases the ability of faculty collectively to shape institutional decisions, through their actions in departments, colleges, or the institution as a whole. Thus, the direct effect of granting tenure to particular faculty members is to make long-term, largely irreversible commitments to individuals that lock in a university's answer to the "who" and "what subjects" questions identified above. A university in which a significant fraction of the faculty have tenure is likely to find that those existing tenured faculty have a considerable voice in influencing university choices on all three questions.

The relative authority of faculty and administrators also depends on features of the employment relation besides the presence or absence of tenure. Thus, a strong labor market demand for faculty will strengthen their relative influence, while a depressed market will weaken them. Although courts have held that faculty in private colleges and universities have managerial responsibilities that deny them the right to unionize, faculty unions in public institutions may give the faculty authority over certain administrative decisions. The distribution of authority is likewise sensitive to the details of the tenure contract; for example, does the tenure obligation reside in a department—implying that eliminating the department eliminates the university's obligation—or does it reside at the university level? Some tenure agreements are more explicit than others about administrative authority to regulate salaries and other aspects of working conditions. Differences across institutions in the length of the probationary period affect the percentage of faculty on tenure and their relative authority. The shares of faculty at particular institutions who are within and outside the tenure system is also relevant. In general, it may be more useful to think of tenure as a continuous variable, reflecting the degree of security both of employment and of working conditions as well as the share of faculty holding tenured or tenure track appointments, rather than as a dichotomous variable.

Viewing tenure as a device for influencing the allocation of authority within the academic enterprise offers a helpful perspective on questions about the efficiency or desirability of tenure. Implicit in many discussions of tenure is the presumption that the rigidities imposed by tenure are necessarily inefficient, and can be justified, if at all, only by the positive impact of tenure on academic freedom. From this point of view, academic freedom is understood as a matter largely separate from the day-to-day operation of the university, a matter of extramural political considerations intruding on academic concerns.

But this distinction is too neat. Although the case for academic freedom goes beyond economic considerations, protecting academic freedom may in fact have valuable economic benefits, through encouraging a climate of discovery and criti-

cism that promotes individual and social learning. From this perspective, it is by no means obvious that the constraints imposed on administrative discretion by tenure are always socially undesirable, or even economically inefficient.

To explore the economic efficiency case for tenure, it's helpful to begin by considering an abstract argument that the institutionalization of tenure must be inefficient. If, for example, the faculty in a department have expertise that can help in the choice of a new faculty member, administrators will rationally delegate authority to those faculty in making the decision. The same would apply to issues like determination of curriculum or research strategies. This argument is that a competitive market will lead firms' (universities') management to delegate authority to workers (faculty) to the optimal degree. The additional constraint of tenure must then either be unnecessary or must reduce efficiency. This formulation, however, abstracts from enough key realities of the academic enterprise so as to raise doubts about its validity.

First, an important element in the work of faculty is to provide independent evaluations of performance, a task that includes evaluating student work and also judging the work of other academic professionals through refereeing processes and the like. The credibility of such evaluations obviously depends on the independence of the evaluators, which provides reason for institutions to take steps to insulate faculty from pressures. For example, universities have a stake in claiming credibly that the assessments reflected on student transcripts are not influenced by a family's donations. Perhaps more consequentially, it is in the long-run interest of a university (and of society) that its professors can credibly assess research or public policy proposals in which some of the university's constituencies have a stake. A tenure system may in this way provide assurance analogous to that provided through lifetime appointments of judges or the practice of magazines like *Consumer Reports* of not accepting advertising. The institution of tenure may even provide some secondhand protection of the independence of non-tenured but tenure-track faculty through the use of a quasi-judicial process for evaluating tenure candidates, a process in which tenured faculty typically play a significant role.

Second, the relevant time horizon for a variety of decisions about the academic enterprise from a social point of view is quite long. For example, the time period over which strategic decisions about research in the sciences "pay off" is often very extended. In particular, certain critical perspectives developed in the humanities and social sciences may provoke strong objections from society in the short run, but prove to be of long-run value. Administrators (and funders of universities) may have a shorter time horizon than tenured faculty, and hence a shorter time horizon than may be optimal.

These first two points suggest that administrators may not have optimal incentives from a social point of view to delegate authority. The third point argues that delegating authority to faculty over certain key decisions may not work well unless those faculty have some assurance that their own positions won't be threatened by offering honest judgments. It will be hard to get faculty members to advocate hiring highly talented faculty members, or to be good mentors for them, if those new hires may turn into competitors for their own jobs. This is a case of what Williamson,

Wachter and Harris (1975) refer to as “impacted information.” In the absence of tenure, the relative authority of administrators in making appointment and promotion decisions would increase, because faculty recommendations would have reduced credibility. (This same phenomenon tends to occur as the recommendations of faculty committees become less confidential, which reduces their credibility.) This shift in authority toward administrators may be inefficient in the common case where faculty have expert knowledge about their own field that is not readily available to administrators.

This consideration is important to the issue of post-tenure review, which has been attracting so much attention lately. A post-tenure review with significant consequences such as dismissal, salary reduction or change in workload has much in common with a tenure decision. Although some of the relevant expert knowledge for such an evaluation can be gained from outside reviewers, such reviewers are limited in their likely contributions. After all, only the most public dimensions of the faculty member’s work are available for evaluation and such outside investigators have little stake in the outcome and little incentive to invest heavily in the evaluation. Thus, as with tenure decisions, enlisting department members in the assessment of the person under review may have a high payoff. But faculty will be reluctant to judge harshly those who will evaluate them later, and will be reluctant to set a high standard that will in turn apply to them. In this way, the same problem of impacted information arises with post-tenure review that arises with the initial tenure decision.

These three points by no means provide a blanket argument that tenure is efficient, but they do cast doubt on the abstract claim that tenure is always inefficient. Economists have been in the forefront of those considering the possible efficiency consequences of this form of labor contracting. In an early contribution, Alchian (1953) attributes the tenure contract to the particular ownership and financial structure of higher education. McPherson and Winston (1983) argue that the highly specialized nature of academic production is what gives rise to the need for long-term job security. Carmichael (1988) makes the argument that academic tenure is a necessary condition for having departments hire the best possible job candidates. Brown (1997) argues that the tenure contract provides incentives for the faculty to assume the roles normally associated with ownership without reprisal from trustees or administrators.

These three points also suggest that tenure may be more useful or more important in some circumstances than in others. The three factors discussed above suggest that tenure is most important in fields or institution types where relevant time horizons for decision are long; where faculty engage in high-stakes evaluations that are potentially controversial; and where good personnel decisions depend on faculty expertise that cannot be readily duplicated by administrators. These conditions seem most likely to be satisfied at research universities, where decisions about research programs and graduate education involve high-stakes evaluations and long time horizons, and where personnel judgments involve highly specialized knowledge. They are perhaps least applicable at community colleges, where the time horizon relevant to most educational choices is relatively short and where administrators may be better qualified to evaluate personnel. Of course, the data

reviewed earlier (in Table 3) show that tenure is most prevalent at research universities and least prevalent at community colleges.

Considering fields within a university, the factors discussed here seem to apply most naturally within the traditional arts and sciences disciplines. Within the professional schools, it may be relevant to distinguish between “research” faculty, who are more likely to be involved in activities where tenure serves an important purpose, and “clinical” faculty. The earlier data on full-time hires by field appears to be consistent with this conjecture, with the important exception of engineering, which seems to have an exceptionally high level of full-time faculty although it has strong elements of being a professional school.

The argument, then, is that tenure is in many cases a socially useful device for achieving a distribution of authority between faculty and administration within an institution that is an improvement over the results that would occur without the tenure constraint. The case is clearest in the core academic operations of research universities and liberal arts colleges, and is more debatable in some other parts of the academic enterprise including community colleges and professional schools.

To say that tenure has important advantages is not to deny that the rigidities imposed by a tenure system do have real costs. Indeed, some of these costs are probably increasing over time. The abolition of mandatory retirement could raise the costs of a tenure system significantly, as Ehrenberg argues in this symposium. A second consideration relates to technology. Since a tenure system produces a faculty with great individual autonomy, it contributes to keeping the university a sort of “cottage industry,” a loosely constructed agglomeration of individuals who do their work in substantial independence from one another. In many images of the professor at work, the professor is isolated from colleagues while writing a syllabus, teaching classes, grading exams, researching, writing a book, and so on. The division of labor is not extensive and where collaboration occurs, it is frequently based on voluntary cooperative relationships, which are often unstable. “Big science” offers at least a partial exception of greater team cooperation, although even in this area the collaborative enterprise is often a single or small number of tenured or tenure-track faculty working with a large staff of non-tenure-eligible researchers, post-docs and graduate students.

The opportunity cost of this “cottage industry” production technology may well be rising over time, for at least two reasons. First, increasing real wages of faculty argue for the value of economizing on faculty time by introducing a more refined division of labor, somewhat in the way doctors’ work has been reorganized to allow them to concentrate on high value activities. Second, new computer and networking technologies seem to have the effect of lowering the costs of collaboration and extending the division of labor. The recent entry of a number of well-capitalized for-profit higher education firms using more aggressive division of labor and advanced computer technologies suggests that there are gains to be exploited through such innovations. (Of course, these profit-making ventures lack incentive to worry about the longer run values of academic freedom that may influence public and private not-for-profit institutions.)

The existence of tenure does not preclude reorganizing faculty work to make it more collaborative and more discriminating in its use of faculty time, but it certainly makes it more complicated, since individual faculty have substantial power to veto any arrangement they do not perceive as making them immediately better off. A major challenge facing those parts of the academy where tenure is prevalent is to find ways to preserve the valuable protections afforded by tenure while taking advantage of opportunities for greater collaboration and more cost-effective use of faculty time afforded by new technologies.

These observations about the relative value of tenure in different types of institutions and about the implications of changing technologies for the cost and value of tenure are plainly conjectural and certainly deserve more systematic study. What will it take to move the discussion of tenure forward? First, we would urge that strong critics of tenure on grounds of wastefulness need to account for tenure's considerable survival value in an environment of great competition among universities. Where tenure is inefficient, universities should be able to raise faculty wages enough to compensate them for giving up tenure and still wind up better off. The fact that the tenure system still predominates after more than 50 years is surely significant. Second, we would suggest that further analysis of the "institutional economics" of tenure, examining the interplay among university organization, decision-making, and labor contracting arrangements, is likely to be fruitful. Finally, we believe that it is important to get beyond thinking of tenure as an all-or-nothing proposition, which is either valuable for all types of institutions in all circumstances, or is simply wasteful. A more nuanced understanding both of what tenure is and of where it should be applied is called for.

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