The Report of the Ad Hoc Committee on Faculty Resources and Budgeting for the Faculty of Arts and Sciences of Yale University

Committee Members
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I. Background

The present report was prepared in response to a request in May 2011 from Provost Peter Salovey to review the faculty budget and accounting system for the Faculty of Arts and Sciences of Yale University. The committee, formally called the Ad Hoc Committee on Faculty Resources and Budgeting for the Faculty of Arts and Sciences of Yale University (or Faculty Resources Committee), was composed of Professor Lawrence Manley (English), Professor William Nordhaus (Economics, chair), Professor Shirleen Roeder (Molecular, Cellular and Developmental Biology), Professor Ramamurti Shankar (Physics), Professor Francesca Trivellato (History), and Professor Karen Wynn (Psychology). J. Lloyd Suttle, Deputy Provost for Academic Resources, served as liaison with the Provost's Office. (Professor Shankar participated in the deliberations of the committee and agrees with the recommendations, but was unable to participate in writing the entire report in December 2011.)

The committee met over the course of the fall term of 2011. It held interviews with members of the FAS Steering Committee and other key members of the Yale Administration. One or more meetings were held with the President, the Provost, the Dean of Yale College, the Dean of the Graduate School, the Dean of Engineering, current and former Divisional Directors, heads of major programs and centers, and Deputy Provosts who work with FAS departments and programs. In addition, it had four plenary meetings with chairs of the FAS departments as well as several meetings with individual departmental chairs.*

In addition to meetings with Yale faculty and administrators, the committee consulted with administrators at several other major research universities concerning

* The major committees of the Faculty of Arts and Sciences referred to in this report are as follows: (1) The Executive Committee of the Faculty of Arts and Sciences, consisting of the President, the Provost, the Dean of Yale College, and the Dean of the Graduate School. (2) The Steering Committee of the Faculty of Arts and Sciences, consisting of the Provost, the Dean of Yale College, the Dean of the Graduate School, the Dean of Engineering, the Deputy Provosts dealing with FAS departments, and the Vice President for West Campus Planning and Development. (3) The Divisional Advisory Committees, each chaired by a Divisional Director from the relevant division, with committees for the Humanities, Social Sciences, Biological Sciences, and Physical Sciences and Engineering. The committees of the Faculty of Arts and Sciences appointed by the Provost are listed at http://provost.yale.edu/committees.
their faculty budget and accounting systems. The results of those consultations are described below.

The committee described its deliberations at the Yale College Faculty Meeting on December 1, 2011, presented the recommendations to the FAS Steering Committee on December 12, 2011, and discussed the recommendations with the FAS chairs and Divisional Directors in two meetings during February 2012. This report will be made available to the FAS faculty in March 2012.

The next section of the report describes the information gathered by the Faculty Resources Committee and briefly examines the history of budgeting in the FAS at Yale. The final section describes the questions that the committee addressed, the recommendations of the committee, and the reasoning behind the recommendations.

II. Findings

Faculty budgeting at other major research universities

We begin our discussion with a review of the faculty budgeting systems of other major research universities. Members of the committee talked to about 15 former and current chairs, as well as former or current deans at other major research universities (Harvard, Princeton, MIT, Stanford, Michigan, and Berkeley). In synthesizing our findings, we necessarily oversimplify some of the procedures that each system involves.

One striking finding is that major universities have a wide variety of budgeting systems. Many budget full-time-equivalent (FTE) positions, some budget junior-faculty-equivalent (JFE) positions (or did in the past). Others budget all staff (i.e., both faculty and support staff), some use dollars, and some use a combination of positions and dollars.

We found it helpful to distinguish between “bottom-up” and “top-down” systems. This nomenclature divides systems into ones with strong departmental control over positions from ones with weak departmental control. Bottom-up systems are ones in which departments have a given number of positions (or “billets” in the Stanford language). Departments can allocate positions by field and to candidates based on departmental priorities and judgments, with central oversight and supervision. Top-down systems are ones where departments do not have a given number of positions that they control. Rather, they must petition the center for authority to initiate a search or make an appointment. Their success depends upon “the persuasiveness of their case,” in the words of one chair.

As a general rule, a faculty accounting and budgeting system is important primarily for bottom-up systems. All faculty and chairs we spoke with at bottom-up
schools discussed the accounting system in detail, whereas slots and accounting seem largely irrelevant for strongly centralized schools.

Another difference is that faculty at top-down schools talk a great deal about bargaining and pleading with deans and the center about positions and searches. In contrast, the faculty at bottom-up schools talk primarily about negotiations and discussions within departments over fields and appointments. Faculty at top-down schools do not talk about long-term planning but about ad hoc and year-by-year requests.

A thorny issue that comes up in all systems is the need for reallocation of faculty resources from declining fields to growing or newly developing fields. This is an issue in bottom-up schools, where it requires “taxing” and removing slots from some departments to allot them to others. Reallocation across fields is theoretically easier in top-down schools, although the reality is quite different. Faculty members at top-down schools mention that reallocation is distorted because the center often has incomplete or inaccurate information and limited time, so decisions rely heavily on quantitative measures, such as enrollments, statistical summaries of teaching evaluations, or research output. The result, at some top-down universities, is a great deal of bargaining, posturing, using questionable measures, and the like.

Most schools have experienced a rising tenure ratio. This denotes the ratio of tenured faculty to all ladder faculty and is currently 66 percent in the Yale FAS. No university that we talked to has a systematic procedure to control the tenure ratio. However, two schools mentioned that they increase the ratio of junior searches relative to senior searches as an ad hoc mechanism to slow the rising tenure ratio.

All schools we spoke with make some appointments, such as those connected with diversity hiring and special initiatives, through the use of central or non-departmental positions. The central administrations at some schools (Princeton and Stanford) set aside a specific number of new positions in their budgets for diversity programs to ensure that authorized positions are increased in a planned manner.

The Evolution of the Faculty Accounting and Budgeting System in the Yale FAS

Yale’s faculty budget and accounting system took its current form in response to a series of financial crises that began in the late 1970s. Up to that period, faculty resources were monitored and allocated in an informal way during a period of rapid growth in the size of the faculty. In the spring of 1978, Provost Hannah Gray announced that 40 “authorized teaching positions” in FAS would be suspended (left vacant) in 1978-79. In the fall of 1978, Provost Abraham Goldstein initiated a long-range planning process in which a committee of central administrators and faculty would meet with every department chair to discuss the quality of their programs and the adequacy of their resources for meeting instructional and research needs.
In the fall of 1979, Provost Georges May announced the creation of an Academic Review Committee (ARC), chaired by the Provost and composed of the Deans of Yale College and the Graduate School and the four Divisional Directors. The ARC’s charge was “to recommend to the FAS Budget Committee priorities for faculty appointments and to suggest contractions and deletions for the next three to five years in the light of academic needs and financial constraints.”

The ARC met regularly with department chairs for the next five years. During this period it not only developed plans for the number of faculty positions that would be available for appointments in each department, but also implemented more transparent and consistent procedures for counting and allocating positions. The junior-faculty-equivalent (JFE) system was established during this time. The ARC process resulted in a plan to reduce the number of authorized ladder positions by about 4 percent (from 670 to 640) over five years.

During this same period, the number of FAS ladder faculty (that is, the filled subset of all authorized positions) declined by less than 3 percent, from 641 in 1979-80 to 623 in 1986-87, but began to grow after that. By 1990, the size of the ladder faculty was 637, almost the same as it was before the ARC process began in 1979.†

In 1991, in response to budgetary shortfalls of the late 1980s, the administration decided once again to reduce the size of the FAS faculty. President Benno Schmidt and Provost Frank Turner appointed a Committee on Restructuring the Faculty of Arts and Sciences and asked that committee to recommend a 15 percent reduction in the size of the faculty. After long deliberations and discussions with department chairs and Divisional Advisory Committees, the Restructuring Committee released a report in January 1992 that recommended a 10.7 percent reduction in the size of the faculty, as measured by JFEs.

The Faculty of Yale College, taking issue with the report, voted to appoint a committee to review the financial condition of the University and reconsider the recommendations of the Restructuring Committee. That committee, chaired by Professor Thomas Carew, submitted its report in March 1992. It recommended, among other things, that the FAS ladder faculty be reduced by 5.0 percent, rather than 10.7 percent, and that these reductions take place over the following five years and after full consultation with the Divisional Advisory Committees.

Eventually, a “Restructuring Plan” was developed that reduced the number of authorized positions, as measured by JFEs, by 6.6 percent. Those reductions were in fact implemented over the next eight years, through a combination of removing vacant positions and converting tenured positions to non-tenured positions. As had been true a decade earlier, however, the financial pressures eased and reductions in some areas

† For the most part, figures on ladder faculty include the ranks of Professor, Associate Professor, and Assistant Professor. The numbers in this paragraph exclude the President, Provosts, Deans, and Directors with ladder faculty appointments.
were offset by increases elsewhere. Thus by 2002, the number of authorized positions was about 3 percent higher than in 1992, as was the actual number of ladder faculty.

Figure 1 shows the history of the size of the FAS ladder faculty over the last four decades. The estimates differ slightly by source because of details of definitions, but in all cases refer to the actual or full-time-equivalent number of ladder faculty, including those on leave. Consistent data from earlier years are not available, but data from George Pierson, *The Yale Book of Numbers*, indicate that the number of Yale ladder or “regular” faculty was at its peak around 1970 with a total around 710 using today’s methodology. Taken together, these figures suggest that today’s faculty size is approximately equal to or slightly below the historical peak around 1970.

As part of the process of implementing the Restructuring Plan, a more formal set of department-by-department accounts for faculty positions was established. That set of accounts has enabled the FAS Steering Committee to track both the origin and the number of slots in each department, and it is the basis for the current number of JFE positions in FAS departments today.

*The Bubble Years*

Although the basic system for faculty budgeting and accounting in Yale’s FAS has been in place for some time, the size of that budget and the practices for administering it have changed substantially over the last decade. Rapid growth both in the size of the ladder faculty and in the number of authorized positions coincided with an even more rapid growth in Yale’s endowment, an anticipated increase in undergraduate enrollment with the addition of two new residential colleges, and new programmatic initiatives.

The adoption of a tenure-track system of faculty promotion in 2007 did not lead to an increase in the number of FTE positions, but it did make resource accounting more complicated. Additionally, to the extent that it may be contributing to a rise in the tenure ratio, it has put upward pressure on the overall budget for faculty salaries.
The most important factor behind the changes in faculty accounting and size up to 2007 was the rapid growth in the University’s endowment. Correcting for inflation, the value of the endowment grew by an average rate of 12 percent annually in the decade prior to 2007, increasing from $8.1 to $24.4 billion (in 2011 dollars). The increase in allowable spending at a 5 percent rate grew from $404 to $1221 million (in 2011 dollars). For the year 2007-08, the total allowable spending from the endowment (at a 5 percent spending rate) equaled more than half of total University expenditures.

Much of the increase in authorized faculty positions over the last decade can be best understood as responding to the fiscal space and opportunities allowed in those heady years. Table 1 summarizes the changes over the period 1992-2011 by different categories of positions. There was a rebound after the 1992 Restructuring process to 2002 because of the growth of “temporary” positions. (Temporary position is a term denoting a
position that is authorized only for the duration of an incumbent’s time at Yale.) Total permanent positions were steady until 2005. After 2005, there was a growth of 119 authorized positions, of which most were permanent. By the fall of 2011, there were 855 authorized positions, of which 157 were vacant.

<table>
<thead>
<tr>
<th>Year</th>
<th>Authorized Positions (FTEs)</th>
<th>Filled</th>
<th>Vacant</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 1992</td>
<td>672</td>
<td></td>
<td>17</td>
<td>689</td>
</tr>
<tr>
<td>Fall 2002</td>
<td>588</td>
<td>84</td>
<td>672</td>
<td>13</td>
</tr>
<tr>
<td>Fall 2005</td>
<td>586</td>
<td>79</td>
<td>665</td>
<td>14</td>
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<td>Fall 2011</td>
<td>616</td>
<td>147</td>
<td>763</td>
<td>10</td>
</tr>
</tbody>
</table>

**Table 1. Change in ladder faculty positions, 1992 to 2011**

[Source: Data are provided by the Provost’s Office. Details may not sum to totals because of rounding of fractional positions.]

<table>
<thead>
<tr>
<th>Positions (FTEs) Created between Fall 2005 and Fall 2011</th>
<th>Positions Removed</th>
<th>Net Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversity Initiative</td>
<td>Mortgages</td>
<td>1 SR &gt; 2 JR</td>
</tr>
<tr>
<td>Humanities</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Engineering</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>West Campus</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FAS Totals</td>
<td>29</td>
<td>6</td>
</tr>
</tbody>
</table>

**Table 2. Incremental faculty positions, 2005 – 2011, Yale FAS**

[Source: Data provided by the Provost’s Office.]

The committee has analyzed the growth in the number of authorized positions in detail for the period fall 2005 to fall 2011. The overall numbers are shown in Table 2. Over the last six years, 157 new positions were authorized. These came in several areas. The largest category was “program initiatives,” which added 79 new positions. The
most important initiatives were Engineering (18 new positions), Political Science (16), MacMillan Councils (6), and the West Campus (6). A second large set of commitments was in “new endowment.” The largest ones here were MacMillan Councils (12), Engineering (10), West Campus (4), and the Cowles Foundation (4).

The FAS also made a major effort during this period to increase diversity, and this led to 29 new positions. Sixteen further positions were created for other purposes, including six “mortgages” (where a position is authorized in anticipation of retirement), and seven other temporary positions.

During this same period, 39 slots were removed from the budget. Ten of these were temporary positions that were vacated (this occurs when a faculty member in a temporary position leaves). Twenty-nine were in “other” categories. Several of the 29 were promotions that occurred prior to the adoption of the tenure-track system, or promotions of non-tenured faculty who chose to be reviewed under the old system, which required that two JFEs be combined in order to create a tenured position. Note that while a promotion under FASTAP in a department that does not have resources leads to the creation of an incremental JFE under a JFE accounting system, FASTAP promotions do not lead to the creation of incremental positions under a FTE system.

The Bubble Bursts and the University Responds

With the financial crisis of 2008-09, income from the endowment fell by more than $300 million (about 25 percent of the income from endowment). Faced with the need to curb spending, the size of the FAS ladder faculty was fixed at a target level of 700. This target required a sharp reduction in the number of searches that could be undertaken compared to earlier years. Because the number of searches requested was far larger than the number of searches that could be approved within the 700 target, the FAS Steering Committee rationed searches to those that it deemed to have the highest priority. The rationing was done in a manner that had the appearance in some cases of overriding department priorities and of displacing the standard processes by which searches are approved in the FAS.

Faculty understood the need for an adjustment to the changed fiscal circumstances. However, the approach of centralizing decisions in the FAS Steering Committee led to unexpected and unintended consequences. One of the major consequences was the “slot overhang.” We discuss the concept and estimates of the slot overhang in the last section of this report.

More troubling to many faculty members, chairs, and members of Divisional Advisory Committees was that the new process displaced a system that involved strong faculty input and departmental self-governance. Participants became increasingly confused by the changing procedures. When it appeared that the centralized rationing might become a permanent feature of the academic landscape in the FAS, many faculty and department chairs expressed concerns. In the spring of 2011, the Social Science
Advisory Committee wrote to the FAS Steering Committee to ask for a clarification of procedures:

In our discussions, we found considerable concern and uncertainty among chairs about procedures for allocating faculty positions, both in the short and long run. We believe that it is important to address this uncertainty now, to encourage departments to work together in a way that promotes our academic strength well into the future.

Charge by the Provost to the Faculty Resources Committee

In response to the concerns of the SSAC and others, the Provost appointed the Faculty Resources Committee “to review the processes and metrics that we use to support the allocation of faculty resources in the Faculty of Arts and Science, and to advise the FAS Executive Committee on how those systems could be improved.” In an email to the Faculty Resources Committee of June 8, 2011, the Provost charged the Faculty Resources Committee to consider the following questions:

What are the priorities that should guide the FAS Steering Committee in reviewing requests to initiate searches? Should the resources to support existing positions be segregated from those to support expansion into new areas? In much the same way as departments must reallocate faculty positions among fields in order to meet changing needs, is there a way for FAS Steering, in consultation with the Divisional Advisory Committees, to reallocate positions among departments? Should there be a different process, or a different set of resources, for reviewing requests for “targeted searches” rather than truly open searches? How do we reinforce the commitment to hire a more diverse faculty? How do we create the proper incentives for departments to maintain the highest standards in new appointments and promotions? What is the proper role of the Divisional Advisory Committees in allocating faculty resources? And perhaps most importantly, how can we make sure that all of these procedures are clear, transparent, and well understood by the faculty? (Letter to Faculty Resources Committee, spring 2011)

The present report responds to the Provost’s questions. The committee considered that its primary charge was to advise the FAS Steering Committee on the most desirable accounting system and the steps needed to make a transition to a new system. Additionally, the committee considered other questions, particularly those closely connected to the budget and accounting issues and the roles of departments and Divisional Advisory Committees in setting search priorities. The next section provides the committee’s recommendations along with the rationale for each.
III. Recommendations

We begin with a list of the desirable characteristics of a faculty budgeting and accounting system. We then present our conclusions and recommendations.

Desirable Characteristics of a Faculty Budgeting and Accounting System

Based on our study of budgeting systems at Yale as well as at other universities, we recommend that Yale’s FAS faculty budgeting and accounting system be derived from the following principles:

- It should provide departments with reliable and predictable control of resources.
- It should lodge decisions and responsibilities at the level where the best information is available.
- It should provide incentives for appropriate outcomes (e.g., to make the strongest possible faculty appointments, avoid balkanizing the FAS, encourage cross-disciplinary appointments, and address University-wide needs).
- It should incorporate strong input from the faculty at multiple levels.
- It should reflect budgetary realities.
- It should accommodate multiple priorities, departmental and institutional.
- It should contain a process for periodic reassessment of needs and priorities.
- It should provide flexibility for adding, reducing, and reallocating positions over time.
- It should be transparent, easily explained, with information and decisions communicated regularly and openly.
- It should be a straightforward and accurate system in which the rule corresponds to the reality.

Clearly, there are tradeoffs among these desirable features. Perhaps the most critical one is the conflict between the need for predictable and reliable departmental resources and the need for reallocation toward emerging fields. Additionally, in times of budgetary stress, the need for predictable and stable resources may conflict with budgetary realities. Our proposals reflect the need to accommodate the potentially conflicting objectives.

Our major finding is that the newly evolved system, created largely out of the need for a speedy response to the financial crisis and in conjunction with the FASTAP changes, has a preponderance of unfavorable features and few desirable ones. We believe the recommendations laid out below will contribute to a system that better achieves the primary mission of the University.
1. Should the earlier junior-faculty-equivalent (JFE) system for budgeting and accounting for faculty resources be replaced, and if so, with what new system?

The question of a new accounting system arises because the earlier system has been largely discarded in the last three years and is no longer effective. Historically, the JFE system was established to reflect the budgetary fact that a junior position costs approximately one-half of a senior position (on a year-by-year basis). This calculation no longer applies. Because a junior appointment carries the explicit commitment of the resources required for tenure, the long-term cost is higher than one-half, and in some cases might be as large as that for a senior position. This change in budgetary calculus, driven by a change in the tenure-review process, is an important part of the rationale for reconsidering the faculty accounting system.

The systems that seem most appropriate for Yale are JFE and FTE. The committee discarded the dollar system as being too big a discontinuity from current practice and one that would require major changes in overall budgeting procedures.

The JFE system has some attractive features in terms of incentives and flexibility. Its major drawback, which has led other universities to move to FTE accounting systems, is its incompatibility with a tenure-track model of faculty development. Additionally, retaining the JFE accounting system might appear to be an implicit repeal of the tenure-track system.

The FTE system is the major alternative. It has several advantages. The system is understandable, indeed intuitive; it is used by most universities that have faculty accounting systems; and it requires no adjustment of the accounting system when departments promote junior faculty. The economic logic of the FTE system is that, where rates of internal promotion to tenure are relatively high, a junior appointment is, with substantial probability, a commitment to a senior position, and it can therefore logically be treated as equivalent to a senior position.

Finally, we note that the Provost’s Office has already established a tentative set of accounts based on FTE positions, and that this system has been distributed and discussed with most chairs of FAS departments. This suggests that the transition from a JFE system to a FTE system will be relatively smooth (subject to some questions raised below).

Recommendation 1. The budgeting of ladder faculty positions in the Faculty of Arts and Sciences should be converted from a junior-faculty-equivalent (JFE) system to a full-time-equivalent (FTE) system.
2. If the FAS converts to a FTE system, how should the “exchange rate” between JFEs and FTEs be calculated?

This question arises because different exchange rates will produce different FTEs across FAS departments. The only other university we found that has changed from a JFE to FTE system (Harvard) did it on a 1:1 exchange rate that simply took all current positions and converted them to FTEs. However, Harvard has a top-down system. Since departments do not control positions in top-down systems such as the one at Harvard, accounting is less important than in bottom-up systems.

As noted in the discussion of Question 1, the Provost’s Office has made an initial conversion from JFEs to FTEs for each department. A simple description is that existing positions were converted to FTEs on a 1:1 basis.

The committee examined the conversions for a few departments. That examination, along with conversations with staff in the Provost’s Office, led to the following detailed description of the principles of the conversion:

(1) A senior position controlled by a department is converted 1:1 into a FTE controlled by the department. (2) A junior position controlled by a department is converted 1:1 into a FTE controlled by the department. (3) A temporary position (either junior or senior) is converted into a temporary FTE. (4) A junior position controlled by a department that was converted into a senior position by the FASTAP procedures is converted into 1 FTE controlled by the department. (5) A temporary junior position that was converted into a senior position by the FASTAP procedures is converted into a temporary FTE. (6) Open positions are converted into 1 FTE (whether they were previously senior or junior). (7) Fully joint appointments (with department-managed resources split equally) are converted to ½ FTE in each department. (8) Other complicated situations (mortgages, ½ temporary slots, etc.) are decided on a case-by-case basis based on understandings with the departments and applying consistent rules across different departments.

On the whole, these criteria seem fair and sensible. At the same time, the committee registers some concerns. One issue is that different conversion principles will produce different numbers of FTEs depending upon a department’s structure. For example, one department might have a senior vacancy, while another might have converted a senior vacancy into two junior vacancies; the first department would now have 1 FTE, while the second would have 2 FTEs. Another concern is that the conversions might be different for departments with a large number of vacancies than for departments with few vacancies. Yet another concern is the situation of departments with a large number of tenured faculty. For example, one department has 9 ladder faculty, all tenured. This would mean that its 18 JFEs would convert into only 9 FTEs, fewer than if this department had some of its 18 JFEs allocated for non-tenured faculty. These examples indicate that the current conversion necessarily reflects arbitrary elements and accidents of history that need to be factored into any conversion of JFEs into FTEs.
In light of these considerations, the committee suggests that the current conversion by the Provost’s Office be used as the starting point for departmental FTE positions. However, the final FTE allotment for each department should be determined via a careful review by the appropriate Divisional Advisory Committee and the FAS Steering Committee to ensure that any major anomalies are corrected. Determining the final figures for departmental FTEs might be done separately, but we believe it is best accomplished as part of the Academic Review described in Question 7 below.

To help this process, we recommend examining two other conversion ratios. The first would be a simple fixed ratio of FTE to JFE positions for each department. A second would be a conversion based on a “tenure ratio guideline” (a subject discussed below under Question 6). Under this approach, the exchange rate would be determined in part with reference to the guideline ratio. For example, if a department had 40 JFEs, and its tenure ratio guideline was 60 percent, then this would convert to 25 FTEs (= 15 senior at 2 JFEs each plus 10 junior at 1 JFE each). On the other hand, if the same department had a tenure ratio guideline of 66.7 percent, this would lead to 24 FTEs (16 senior + 8 junior). This approach would dovetail with procedures discussed below for managing the overall tenure ratio for the FAS as a whole and for individual departments. While this approach is somewhat more complex than the other two, it recognizes that departments have different desired tenure ratios and that this should enter into the JFE-FTE conversion.

We note that, while the exchange rate issue is complicated, it is necessary to apply an exchange rate calculation only once, when conversion to the new FTE system is made (just as conversion from French francs to Euros was only made once, or so they hoped).

**Recommendation 2.** The Provost’s Office has already made a preliminary set of FTE accounts translating existing positions (whether junior or senior, filled or unfilled) into FTEs on a 1:1 basis. This conversion has been shared with most FAS department chairs. The Committee proposes that this conversion be used as an initial allocation. Because the preliminary conversion reflects historical circumstances, this conversion should be reviewed by Divisional Advisory Committees and the FAS Steering Committee to ensure that it reflects existing understandings and a consensus among all parties involved. However, this initial review should not substitute for an Academic Review of all faculty resources across departments and divisions. For the purpose of planning and flexibility over the longer term, the Committee recommends that the total number of departmental FTEs and their allocation among departments and programs should be determined by an Academic Review (see Question 7 below).
3. **How should the FAS faculty budgeting and accounting system deal with the different categories of positions inherited from the 1992 Restructuring process and others added since that time?**

   The committee recommends that the existing variety of positions be replaced by two categories: “Departmental positions,” managed by departments, and “University positions,” managed by the FAS Steering Committee.

   There are two reasons for this recommendation. First, we propose a change in terminology that applies to current practice, not a fundamental change in the kinds of positions themselves. Our recommendation addresses the sense of stigma or lesser-importance that can be read into labels such as “temporary” or “incremental.” Anecdotally, a number of individuals over the years have resented occupying a position with such a label, feeling that it implies that they are viewed as “temporary” or incremental in their contributions to Yale’s mission. Of course, these labels are not intended to apply to the individual occupying the position, but rather to reflect the accounting fact that the slot will revert to FAS pool when the incumbent leaves Yale; but we are mindful of the power of labels to carry meaning beyond their intended function. With our proposed label changes, we wish to identify clearly the control of each position, while removing the adverse connotations of current labels. The label “University position,” in our view, emphasizes that such a position is deemed valuable to the University as a whole and is central to its mission.

   Second, we recommend this distinction between Departmental and University positions because it embodies a defining and, in the committee’s view, desirable feature of our previous system. Under the proposed system, each department would have a stable and reliable allotment of faculty resources that it controls, and that allotment would be transparently distinct from resources allocated to initiatives and priorities set or implemented by FAS Steering. Control over its faculty resources is what enables a department to identify medium- and long-range planning goals; to make hiring and tenure decisions that reflect its long-term priorities; and to be confident that resources for a proposed joint position, a diversity position, or a hire made in conjunction with another University body will not count against the department in unforeseen ways later on. The stable allocation to each department of a known quantity of faculty resources has provided the basis for a defining and longstanding feature of Yale’s system of faculty decision making, one that we believe has contributed to the high caliber of Yale’s faculty.

   Without a clear separation of resources controlled by departments from ones controlled by the center, departments are plunged into uncertainty about control over and access to future resources. This uncertainty gives rise to perverse incentives, including but not limited to: making below-par tenure decisions out of concern that a position lost through a departure might not be authorized for replacement, or that there might be a long wait for replacement; making below-par hiring decisions out of concern that if a hire is not made in an authorized search, the search may not be re-authorized in
the following year and the slot will be forever lost; making hires orthogonal to the department’s own identified priorities out of a sense that these priorities stand less chance of authorization for a search than those identified by FAS Steering; taking a bird-in-the-hand strategy in which a department grabs any opportunity that comes along; and refusing to cooperate with other units in ventures that do not align squarely within a department’s central priorities, out of a concern that these may be counted against them later on. Each of these consequences threatens the caliber of Yale’s faculty.

Recommendation 3: We propose that the current system of “permanent” and “temporary” positions be replaced by a system with two categories of positions:

A. Departmental positions. These are positions controlled by departments or programs. These should be allocated in the manner described in question 4 below.

B. University positions. These positions are controlled by the FAS Steering Committee with advice from the Divisional Advisory Committees. They can be assigned to departments, divisions, and programs to meet institutional priorities such as new initiatives, inter-disciplinary programs, and diversity opportunities. University positions are allocated from a separate budget (the “FAS pool”) and are separate and distinct from Departmental positions.

4. What process should govern the allocation of Departmental positions?

Between 1982 and the period of recent changes brought on by the FASTAP report and the 2008 financial crisis, the accounting of faculty resources was well understood and reliable. The unit of account and budgeting was a JFE. Each department controlled a given number of JFEs as determined by the 1979-82 Academic Review and, later, the 1990-92 Restructuring process. Departments could allocate their JFEs by field and to candidates based on departmental priorities and judgments, while subject to the advice and review of the Divisional Advisory Committees, the oversight of the deans and FAS Steering Committee, and the budgetary oversight of the Provost's Office. Cognizant deans organized and monitored searches and promotions on such matters as referee letters and faculty diversity, and the Senior Appointments Committees reviewed selected candidates according to their qualifications.

In recent years, by contrast, departments have less control over their appointments decisions, and, as a result, accounting has lost its meaning and usefulness. The erosion of departmental control over faculty resources in recent years has the potential of creating perverse incentives for departments. The committee found a number of troubling examples from the past three years of departments making appointments in fields in which they had not planned to hire, extending searches that they might have chosen to terminate, and making or gaming diversity appointments to obtain additional positions. The process for getting searches approved has become opaque, and the
Divisional Advisory Committees have found their role in the decision process significantly reduced. In Yale’s longstanding faculty self-governance model, Divisional Advisory Committees are meant to play, and historically have played, a central role in reviewing priorities both within departments and across departments within a division, in addition to bringing that expertise to judge the quality of appointments in the Senior Appointments Committees.

We found virtually no FAS Chair or member of the faculty who viewed the current improvised arrangement as a viable long-term arrangement. Moreover, the FAS Steering Committee has stated that it does not view the current rationing of searches as a satisfactory long-term model.

Faculty members in the Yale FAS have grown up with and adapted to the earlier system. They understand how it works. They largely trust the system because it involves strong faculty participation. They understand the roles of faculty, departments, Divisional Advisory Committees, Senior Appointments Committees, deans, and the Provost’s Office.

But tradition is hardly the principal motivating factor in our recommendations. Rather, it is to locate decisions about appointments with the entities that have the best information and incentives. Departments understand their fields. Faculty members in departments usually have the time, detailed knowledge, and incentives to appraise the quality of potential candidates and fields. Strong departmental control of positions promotes high-quality appointments because it has good incentives. Divisional Advisory Committees and Senior Appointments Committees can make appraisals and recommendations across fields and disciplines. The FAS Steering Committee and the FAS Executive Committee have the information to make budgetary decisions and the broad strategic vision to direct the future course of FAS and the University as a whole. This is a system that aligns decisions with knowledge.

Recommendation 4: The process of allocating and budgeting positions in the FAS should be one in which departments have secure and predictable control of positions assigned to them. Departments and programs should be assured that they can undertake searches to fill open Departmental positions under the established guidelines for oversight, review, and approval. Departments and programs should have incentives to pursue the best possible hires in University positions, whether alone or in conjunction with other units (see Question #5).
5. **How does the FTE system deal with issues involving division and liquidity of positions?**

We have discussed the questions of division and liquidity above, and that discussion motivates the following recommendation.

**Recommendation 5.** FTEs may be full or partial and may be split between two or more departments and programs. Units may have fractional positions, and these may be combined with fractional positions from other units or from the FAS pool. The earlier approach of dividing vacant senior positions into two junior positions (or having something left over after a tenured faculty member is replaced at the non-tenured level) no longer applies in a FTE system. To promote predictability, departmental resources should remain in the department in cases of unsuccessful promotions or searches, in order to be used, with the appropriate approval, for a new search.

6. **How should the FAS deal with the issue of a growing ratio of tenured to non-tenured faculty?**

A balance of tenured and non-tenured faculty is important to the life of the University. The tenure ratio (proportion of tenured to total ladder faculty) in departments will vary according to the mission of the department, the maturity or novelty of its areas of study, the profile of professional development in a given discipline, and many other factors. There is no department that does not benefit, however, from a productive balance between the experience and established professional standing of an accomplished body of senior faculty members and the new knowledge and methods that result from the ongoing presence of innovative junior faculty colleagues.

Maintaining an appropriate balance between junior and senior faculty requires particular vigilance and discipline in a tenure-track system that uses FTE accounting. The reasons to be vigilant are twofold. First, there is no resource cost to a department for a promotion to tenure, and, second, there is no requirement, as under the old JFE system, to return a JFE to the divisional pool when a senior vacancy occurs. Overall, the ability to retain the most promising junior colleagues through tenure thus depends on the commitment of departments to be vigilant in ensuring a healthy balance of junior and senior faculty.

In recent decades, the Yale FAS has seen a continuous rise in the share of its ladder faculty members who are tenured. The tenure ratio rose from 52 percent in 1979 to 66 percent in 2011 (see Figure 2).

At the time of the FASTAP report, one of the concerns about the tenure-track system was that it might increase the tenure ratio. The report indicated that the FAS tenure ratio was 62 percent in 2006, while the tenure ratio at six peer institutions in 2002 was 74
percent. The report stated that “[Yale’s] low tenure ratio is not a feature of the current system we seek to change. We recognize the concern that a mandatory tenure review may lead to a higher tenure ratio unless high standards are rigorously maintained.” This statement is sometimes interpreted as a recommendation that the target tenure ratio for the Yale FAS should be around 60 or 62 percent.

![Figure 2. Tenure ratio for the Yale Faculty of Arts and Sciences, 1979 - 2011](Source: Data provided by the Provost’s Office)

In reality, the tenure ratio has continued to rise since the tenure-track system was implemented. However, there are many forces at work increasing the tenure ratio in addition to the new promotion system. These include the abolition of mandatory retirement in 1993 and the financial crisis of 2008, which may have led some faculty to postpone retirement for economic reasons.

The issue of rising tenure ratios was included in our discussion with other universities. Some universities are increasing the share of searches at the junior level in order to slow this trend. For example, one university mentioned it now requires a ratio of 80:20 junior to senior searches for their FAS as a whole. A shift toward junior searches would most likely have a significant effect on the overall tenure ratio. However, it is a blunt instrument, and would need to be used with flexibility.

A second suggestion that would be better tuned to the needs of individual departments would be to develop tenure ratio guidelines for departments. Under a tenure ratio guideline system, departments would develop their search strategies in part
depending upon whether they were above or below their tenure ratio guideline. Suppose that the tenure ratio guideline for department X was 65 percent, while its actual tenure ratio was 75 percent. Then, when a vacancy occurred, the replacement search would presumptively be at the junior level. If instead that department’s actual tenure ratio was 55 percent, then the department would have more discretion about whether to search at the junior or senior level.

The tenure ratio guideline approach would provide more flexibility for addressing these needs than the 80:20 rule on junior-to-senior searches because it could be adapted to the needs of individual departments as well as their current tenure ratios. Tenure ratio guidelines would necessarily vary by department, and would need to be subject to exceptions and flexibility. For example, guidelines in small departments or in departments with a greater emphasis on graduate teaching might be different from those in large departments with heavy undergraduate enrollments. Even large departments need to have senior leadership in different subfields. Furthermore, decisions about whether to search for junior or senior faculty must take into account the stage-of-career profile of the current faculty.

An additional consideration arises here as well as in other recommendations for small departments, including departments with distinct subfields and few faculty. Managing appointments procedures, such as those involving JFE-FTE exchange rates or tenure ratios, in small departments poses particular problems because of the discreteness or lumpiness of decisions, departmental rank and stage of career. For example, if a department has 5 FTE faculty, a change of a single faculty member from a junior to a senior rank will raise the tenure ratio by 20 percent. Clearly, in such cases managing appointments and application of guidelines will require close attention to the needs and structures of the particular field.

Recommendation 6. The committee is concerned about the continued rise in the tenure ratio in the FAS. The committee recommends that affirmative steps be taken to stabilize the tenure ratio. One approach would be to focus searches on junior faculty for both departmental and University positions. Under this approach, the strong presumption should be that searches are normally undertaken at the non-tenured level. This would be subject to exceptions where departments demonstrate special need or opportunity to the Divisional Advisory Committees and FAS Steering Committee.

A second and preferred approach is to establish tenure ratio guidelines for each department. These should be determined by the FAS Steering Committee in consultation with departments and Divisional Advisory Committees. The strong presumption should be that searches would be at the junior level when a department’s actual tenure ratio exceeds its tenure ratio guideline, subject again to exceptions in extraordinary circumstances. Departments with tenure ratios below their guideline ratios would be given more discretion as to whether to search at the junior or senior level.
7. How can faculty resources be reallocated to meet shifting teaching needs and emerging fields of research?

A major research and teaching university must constantly strive to renew its mission and its faculty. If a university does not continuously reappraise its areas of inquiry, it will soon find that it no longer works at the frontiers of knowledge. It is useful to ask what Yale would be if it had retained its structure from an earlier era. The course of instruction in 1850-51 listed the Yale faculty as follows:

The Faculty, to whom are committed the government and instruction of the undergraduate students, consists of a President; a Professor of Chemistry, Mineralogy, and Geology; a Professor of the Latin Language and Literature; a Professor of Divinity; a Professor of Natural Philosophy and Astronomy; a Professor of the Greek Language and Literature; a Professor of Rhetoric and English Literature; a Professor of Mathematics; a Professor of Moral Philosophy and Metaphysics; an Assistant Professor of the Latin Language; an Assistant Professor of the Greek Language; and seven Tutors.

Yale was far ahead of most American universities in its commitment to science in that era, but the sparse coverage of most areas of knowledge is a useful reminder of the need for renewal.

Most of the issues the committee is considering recur periodically in any top-ranked research university. Just three decades ago, in the midst of an earlier financial contraction, a committee led by James Tobin examined the procedures for faculty appointments and promotions. Then, as now, the budgeting system was complex, and departments were concerned about their futures. The Tobin report issued a call that applies today as it did in 1982:

At present, departments do not know, even on a probabilistic basis, what tenured positions may be authorized for them in the future. Vacancies due to resignation, retirement, or death, it has been made clear, do not automatically or even presumptively lead to authorization for replacement. This is understandable during a time of financial reappraisal. At the end of a period of expansion, the allocation of positions must be reconsidered. That allocation must never be frozen; the university must retain the flexibility to respond to new opportunities and to obsolescence, to trends in student tastes, and to shifts in Yale’s comparative advantages. At the same time, departments need more solid bases for future planning than they have recently had. The Provost’s Academic Review Committee, we understand, is in the process of providing these, and we applaud that enterprise.

As a way of balancing departmental needs with those of the University as a whole, the committee recommends a procedure that, following the Tobin report, we call an Academic Review. Under this approach, say once a decade, a committee composed of the Provost, deans, Divisional Directors, and faculty would work closely with
departments to review the overall structure of the FAS and recommend any changes that are necessary to keep Yale at the frontiers in the advance of knowledge. Such a review was successfully led by Provost Georges May in 1979-81. By contrast, the most recent academic review (called “Restructuring” and undertaken in 1990-92) became contentious. As a result, there has been widespread reluctance to undertake another one.

A successful Academic Review is time-intensive and requires a fair balancing of input from all parties concerned. The review conducted by Provost May took several years to deliberate and implement. Such a careful process, combining central decision-making with faculty participation, is the best way of developing and refining a unified strategy for the FAS.

An alternative approach is a “haircut” model. A haircut model is one in which there is an automatic return of positions from departments to either the division or to the FAS Steering Committee. The FAS used a haircut approach in the post-1990 period in which every senior vacancy returned 1 JFE to the department and 1 JFE to the divisional pool. A possible haircut model in a FTE system would consist in returning a small fixed fraction of departmental resources to the division, perhaps 5 percent of FTE slots per decade. The division could then return these fractions to the original department or reallocate them, under guidelines and supervision from the FAS Steering Committee.

Haircut models of resource allocation have the advantage of apparent fairness and swiftness. However, they reinforce the status quo and are thus antithetical to a fundamental review of the mission of the University that has the purpose of shifting resources from declining to emerging areas of knowledge. For this reason, we recommend the Academic Review method.

Recommendation 7: The allocation of positions should be established in an Academic Review, and conducted on a periodic basis, normally every ten years. Every Academic Review would consider the need for reallocation across departments and divisions to ensure the healthy evolution of the core mission of the FAS. The Divisional Advisory Committees should play a central role in decisions about the allocation of positions among departments and programs within their division.
8. *If a FTE accounting system with Departmental and University positions is established, how should the slot overhang (i.e., the excess of authorized positions over budgeted positions and normal vacancies) be dealt with?*

A “slot overhang” refers to a situation in which there are more authorized positions (i.e. the slots in the “slot book” kept by the Provost’s Office) than departments are allowed to fill. More precisely, when the number of authorized positions exceeds the number of budgeted positions plus the departments’ desired number of vacancies (unoccupied positions which departments choose to hold open for the moment), the excess, or number of forced vacancies, is the slot overhang.

A central feature of a decentralized system is that departments can (subject to oversight) fill open positions. But, if they find it advantageous not to fill a position immediately, or decide not to promote a non-tenured faculty member, they can be confident that they will not lose the position. If unoccupied positions are frozen, then departmental efforts will be devoted to getting them unfrozen, or to negotiating to get new positions, or to preserving their already-filled positions, rather than to determining the best way to use existing positions to further their long-term goals. In order to make the highest quality appointments and the best use of resources, the current slot overhang must be resolved quickly.

Our estimate of the slot overhang is as follows: The current number of budgeted positions for 2011-2012 is 700 FTEs. Our understanding is that this number is budget-driven (so tip-top-down from the Corporation to the FAS Steering Committee). Given that the normal vacancy rate in budgeted slots is about 10 percent (because of turnover, searches in process, and the like), the number of authorized slots that would produce 700 filled positions is 778 authorized slots. The actual number of authorized slots in the fall of 2011 (including temporary, endowment, new initiatives, and other categories) is about 855 FTEs. This leads to an estimate of a slot overhang of approximately 77 authorized positions (= 855 – 778).

The 855 authorized positions should be viewed as 855 commitments. At present, because searches are limited, these commitments are not being fulfilled. If they are permanently reneged on, this will reduce departments’ willingness to engage in future university initiatives and cooperative ventures with other departments or programs out of fear that the joint initiatives will be counted against departmental resources later on.

For example, departments were assured that diversity hires, joint hires with centers such as the MacMillan Center, and the like would be incremental additions to their existing resource pool. If positions filled through such initiatives are now counted into a final total that must be capped and reduced, this creates a zero-sum structure in which that assurance is violated. The central problem, then, is to reduce the slot overhang without breaking commitments, or to renegotiate existing commitments in a way that leads people to accept the legitimacy of the outcome. Those to whom commitments have been made should feel that any resolution of the slot overhang is a partnership and shared sacrifice rather than an arbitrary fiat imposed from above.
The committee has discussed many ways of reducing the slot overhang. One is to grow the size of the faculty. The committee recognizes that this option would entail a major budgetary commitment and is unlikely to be available in the short term. A second approach is to wait for temporary slots to expire. Data provided to the committee indicates that the “evaporation rate” of temporary positions has averaged about 2 FTE per year over the last six years. The evaporation route thus appears unrealistic. A third approach is to encourage a higher voluntary vacancy rate of departments. This could be done by allowing departments to replace supernormal vacancies with temporary hires. For example, if a department puts a vacancy into a three-year hold, it might be allowed to hire replacement faculty for the same term. None of these approaches would involve reneging on past commitments.

The committee also discussed a system of haircuts. This system is not recommended for reasons discussed above.

A final approach is an Academic Review. As discussed in Question 7 above, this is the recommended approach for setting the size of departments and programs over the longer run.

The suggestions presented here for a removal of the slot overhang clearly need much greater consideration than this committee could provide in the limited time at its disposal. However, the manner in which the administration decides to deal with the overhang is a central strategic issue for the leadership of the University. The committee is of the view that the slot overhang needs to be addressed promptly. As long as a slot overhang exists, departments will be uncertain about the size of their resources and will have difficulty setting their long-term goals. Moreover, as we emphasize in the next section, the slot overhang must not be made larger by further unplanned growth. The committee emphasizes the central importance of resolving the slot overhang in an orderly, consensual, and timely fashion. There can be no return to the faculty self-governance system – and a system in which the incentives for the highest quality appointments are restored – until the slot overhang is resolved.

**Recommendation 8:** The slot overhang (i.e., the excess of authorized positions over budgeted positions and planned vacancies) needs to be addressed in a consensual and timely fashion in order to provide secure and predictable faculty resources controlled by departments. The problem can be solved by some combination of planned growth in budgeted positions and an increase in voluntary vacancy rates. The committee recommends that any reduction in the number of authorized Departmental positions be done by an Academic Review (see above).
9. *If the slot overhang issue is resolved, what procedures are necessary to ensure that it does not quickly reemerge as new excess positions are created?*

Data gathered for the committee indicate that a substantial part of the slot overhang is the result of unbudgeted growth in authorized positions (see Table 2 above). Over the last six years, 157 new positions have been authorized. These slots were created from many different areas, including diversity initiatives, new or reallocated endowment, the acquisition of the West Campus, programmatic initiatives, and other sources.

All these new positions are for worthwhile purposes. The committee agrees with the spirit of the evolving mission of the University. However, the new initiatives are increasingly perceived as coming at the expense of the core missions pursued by FAS departments, centers, and disciplines. In an environment with a fixed number of budgeted positions (currently 700 FTEs), faculty perceive that appointments are a zero-sum game in which new initiatives crowd out past commitments and core fields.

In its review of other universities, the committee has found that some use a system of budgeting incremental positions. For example, one university budgets diversity positions in the dean’s office, sometimes pooling central resources together with departments for diversity hires. We believe this is a useful procedure and recommend its adoption for all incremental positions in the FAS.

We recognize that there are past commitments to providing “all necessary resources” for certain initiatives. Open-ended commitments, however, are unrealistic because the FAS currently faces severe constraints on the size of its faculty. We believe that it is better to have *every* program and initiative face the scrutiny of a budget review. To do otherwise is not only unrealistic in a constrained environment, but it also leads to gaming and strategic behavior in which departments strive to find candidates that fit the initiatives and might not pass the highest standards of quality. Rather than have an open-ended entitlement, it would be preferable to budget a large number of positions, but to have a system in which every proposal faces careful scrutiny.

Finally, even new initiatives that come with their own resources should be examined in light of the current distribution of faculty and the overall growth aims of the University, including the optimal target size of the faculty body given teaching needs and available space resources.

**Recommendation 9: All Departmental and University positions should be budgeted in advance – including diversity, endowment, and new programmatic initiatives. New positions should not be created without first identifying incremental resources, and new positions should not be given priority over existing positions in periods of budget tightness.**