

Appendix C

Using Faculty Assigned Duties (FAD) Derived from the Faculty Annual Report System to Define “Faculty” and the Effect of this Practice on Productivity Measures

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Discussion Paper

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Submitted to the Faculty Responsibility and Rewards Subcommittee by

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The subcommittee exploring the definition and roles of faculty has discussed a number of different ways to define faculty. At a recent subcommittee meeting (January 21, 2009), subcommittee members discussed the possibility of employing the Faculty Annual Review (FAR) system to extract Faculty Assigned Duties (FAD) and employing FADs as an empirical measure or definition of faculty. This discussion paper examines this possibility further and presents an analysis of the effects of using FADs to define faculty for the purpose of productivity analysis.

Why Focus on Faculty Assigned Duties?

The focus on FADs would be consistent with the University’s need to measure: (1) faculty productivity, (2) to present that data to the legislature, (3) to exclude from those data persons assigned to faculty roles who do not have teaching or research assignments (as will be illustrated below, depending on the purpose of the report, FAD based analysis can reflect teaching or research or service assignments, or any combination of these assignments); (4) and to produce a standardized and thus comparable measure of faculty productivity.

Demonstration Exercise: Background

To illustrate how this can be accomplished with FAD data, I produce some brief, illustrative but imaginary data in several tables shown below. These data are used to demonstrate how faculty assignments can be used to measure the term “faculty,” and how these data can also be used to measure faculty productivity.

To begin, the FAD does not define the faculty in abstract, but rather in empirical, concrete terms with respect to actual assignments of responsibilities. Typically, an individual faculty member’s assignment of responsibilities is divided into fractions representing some combination of the five assignments listed in Table 1.

Table 1: Faculty Assigned Duties or Responsibilities, Categories of Assignment

- (1) Research
- (2) Teaching
- (3) Service
- (4) Administration
- (5) Other

The aggregate sum of the percentages assigned to each duty must equal 100% for each individual faculty member who is full time.

Example FAD Data

FADs vary across faculty members. To illustrate this, Table 2 displays the percent teaching, research, service and administrative assignments for a fictional department within the University, Department A. To allow these data to be employed to examine productivity measures with respect to FADs, this table also includes indicators of the number of student taught by a faculty member, the SCH the faculty member generates, and the number of publications produced by the faculty members in the prior year.

Table 2: FADs and Productivity Outcomes, Department A

Faculty Member	% T	% R	% S	% A	N Students	SCH	N Publications
1	90	00	10	00	200	600	00
2	80	10	10	00	200	600	01
3	80	00	10	10	200	600	00
4	70	10	10	10	150	450	01
5	50	40	10	00	100	300	03
6	50	40	10	00	100	300	04
7	20	70	10	00	050	150	05
8	10	10	10	70	020	060	01
9	00	90	10	00	000	000	07
10	00	100	00	00	000	000	10
MEAN	45	37	09	09	107	321	3.2

*In these data it is assumed that each student is equivalent to 3 SCH.

Standardizing Productivity Output by FADs

In Table 3, the data from Table 2 are displayed as assignment ratios. For each ratio, the faculty member’s individual assignment is adjusted to represent 100% effort in each area. Thus, each faculty member’s adjusted productivity output becomes

comparable. When outputs are unadjusted, as in Table 2, comparisons across faculty are difficult because they reflect differential assignments. The implications of these adjustments are discussed further below.

The adjustments applied to the data in Table 2 are simple. Each faculty member’s assignments are converted to 100 percent, and each productivity measure adjusted by the appropriate adjusted assignment. For example, Faculty member A has a teaching assignment of 90% and 200 students, 600 SCH and 0 publications. The multiplier for teaching for this faculty member is 1.111 [(100/90)]. This multiplier is then factored into the number of students and SCH. Thus, for faculty member A, the adjusted Number of Student is 222, and the adjusted SCH 667.

The information contained in Tables 2 and 3 can then be compared to assess the impact of standardization or the adjustment that allows each faculty member’s productivity to be assessed relative to FAD. The effects of adjustment are reflected in both the means and in the ranking of faculty productivity.

With respect to means, the adjusted data produced 72 more students for the department (relative to assigned duties), 216 additional SCH, and 4 more publications. The differences are also impact relative ranking. For example, in Table 2, Faculty Members 1, 2 and 3 produce the largest number of students. Adjusted for assigned duties, however, (Table 3) Faculty Members 2, 3 and 7 produce the largest number of students relative to their adjusted assignment.

Table 3: Full-Time Equivalent Output Assignment Adjustments for Faculty in Department A

Faculty Member	N Students	SCH	N Publications
1	222	667	00
2	250	750	10
3	250	750	00
4	215	645	10
5	200	600	7.5
6	200	600	10
7	250	750	7.1
8	200	600	10
9	000	000	7.8
10	000	000	10
MEAN	179	537	7.2
AFTE MEAN	224	671	9.0

Accounting for Faculty with Zero Assignment in Teaching or Research

The differences between Tables 2 and 3 are important and interesting because they take into account the ratio of FAD and outcome measures. These means, however, are departmental and fail to take into account the fact that some faculty have no or zero

assigned duties in some categories. This is an important point that requires correction since it is part of the empirical definition of faculty.

Empirically, for instance, a faculty member must have assigned duties within a category to be counted as contributing to that category outcome. Thus, an individual with a zero teaching assignment needs to be excluded from the departmental mean for teaching outcome productivity. Thus, omitting each Faculty Member with zero in an assigned duties category leads to the following *Adjusted Full-time Equivalent Means (AFTE MEAN)* for Department A: 224 students; 671 SCH; and 9 publications. It is the Adjusted Full-Time Equivalent Mean that ought to be compared to the means from Table 2, which effectively increases relative productivity even further (i.e., 117 as opposed to 72 students; 351 SCH as opposed to 216 SCH, and 5.8 publications compared to 3 publications).

The Full-Time adjustment procedure reviewed above illustrated two important points. First, it is useful to standardized output by assigned responsibilities since: (1) faculty members can now be readily compared; (2) FADs can be used to differentiate teaching, research, service faculty and administrative faculty from one another, and provide correct denominators for outcome assessments; and (3) unstandardized output measures fail to provide an accurate measure of productivity since the unstandardized output treats faculty as if they all have the same assignment. For example, faculty with research assignments should not count in the denominator of a department’s productivity since these faculty are not assigned teaching responsibilities. The fact that some faculty only have teaching or research or service or administrative assignments needs to be considered to have an accurate assessment of faculty output, and to compare individual faculty outputs (especially within departments), and cross department output and even cross school and cross university outputs. One might imagine a further refinement to this procedure which also takes faculty salaries into account. Such data could be employed to determine the dollar values needed, for example, to produce a student or a publication.

Applying FAD Adjustments to Cross Departmental Comparisons

As an example of how this process can be used to compare departments, consider the imaginary data presented in Table 4 which shows mean productivity and FADs for 4 different departments.

Table 4: Mean Departmental FADs and Productivity

Department	% Teach	SCH	% Research	N Publications
1	70	1000	20	10
2	50	0700	40	25
3	25	0250	70	40
4	00	000	100	60
Mean	36.25	488	57.5	33.75

Based solely on these data, Departments 1 and 2 have above average teaching productivity (SCH above the mean), and Departments 3 and 4 exhibit publication

productivity above the mean. These comparisons, however, do not take FADs into account. The FAD adjusted means are displayed in Table 5. To simplify the calculation of mean productivity by FADs, each department was assumed to consist of ten (10) faculty members.

Table 5: Mean Departmental Productivity Adjusted by FADs

Department	SCH	Publications
1	143	05
2	140	06.25
3	100	05.75
4	-NA	06.0
Mean	127.7	5.75

NA. Not Applicable. The SCH for Department 4 is defined as Not Applicable since no individual members of this unit have a teaching assignment as part of their FADs.

Table 5 demonstrates the effects of standardization. While the rank order of teaching productivity (SCH) does not change, the rank order of publication productivity does once assigned duties are taken into account. Furthermore, standardization demonstrates that Departmental productivity is not as disparate as displayed in Table 4, once assigned responsibilities are taken into account. For example, in Table 4, Department 1 appears much more productive than the second ranked Department (#2). Indeed, employing the data from Table 4, Department 1 appears to be 42.6% more productive than Department 2 $[(1000-700)/700]$. In the assignment adjusted data, however, Department 1 is only 2.1% more productive in terms of producing SCH once assigned duties of each Department are taken into account.

Summary

Faculty Assigned Duties (FAD) can be generated from the Faculty Annual Review (FAR) system. FADs can then be used to produce an empirical definition of faculty by the role they are assigned in their departments. FADs can also be used to create more appropriate output measures that adjusted outputs by assigned duties. The result of doing so is to appropriately categorize faculty and to only use those faculty with specific assignments (e.g., teaching or research) in the denominator of productivity reports and assessments.