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ABSTRACT

This paper evaluates the competitiveness of Ashland University (Ohio) faculty salaries and the degree of compression present in those salaries.. Based on the results of an academic year 1992-1993 evaluation of competitiveness and compression, a program was designed and implemented to increase salary levels of Ashland University faculty and at the same time reduced the degree of compression. This paper examines 1999-2000 academic year salary levels with respect to competitiveness and degree of compression six years after the original program's implementation. Two multiple regression analysis techniques were used to assess the degree of compression in the current salary structure; results indicate no salary compression in 1999-2000 faculty salaries. Average faculty salaries for the various academic ranks within the several colleges in the university system were, however, below the corresponding average salaries of comparable universities. Based on these results, a new program designed to increase the competitive levels of faculty salaries at Ashland University is being considered by the university's administration. (Contains 12 references.) (SM)

Running head: SALARY COMPRESSION

Salary Compression and Noncompetitive Salaries:

An Institution's Faculty Salary Assessment and Adjustment Program

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Abstract

During the 1992-93 academic year, Ashland University evaluated the competitiveness of its faculty salaries and the degree of compression present in those salaries. Based on the results of that evaluation, a program was designed and implemented that increased the salary levels of Ashland University faculty and at the same time reduced the degree of salary compression present in those salaries. This paper presents an evaluation of the University's 1999-00 academic year salary levels with respect to competitiveness and degree of compression six years after the original program's implementation. The two analytical techniques used to assess the degree of salary compression in the current salary structure are presented. The results of this assessment indicated that salary compression was not present in the current salaries. The average faculty salaries for the various academic ranks within the various colleges in the University were, however, below the corresponding average salaries of the comparable universities. Based on these results, a program designed to increase the competitive levels of faculty salaries at Ashland University is being considered by the University's administration.

Salary Compression and Noncompetitive Salaries:

An Institution's Faculty Salary Assessment and Adjustment Program

In 1993 the Board of Trustees of Ashland University undertook a commitment to establish a more competitive faculty salary structure that did not reflect salary compression. A salary adjustment program was designed during the 1992-93 academic year and implemented over a two-year period commencing with the 1993-94 academic year. The program was designed to reduce salary compression and increase the degree of competitiveness of Ashland University's faculty salaries. A detailed discussion of the assessment techniques used and the program designed to address the issues of salary compression and the lack of competitiveness of the faculty salary structure is provided by Fraas (1993). In addition to implementing this salary adjustment program at the beginning of the 1993-94 academic year, the University's Board of Trustees committed the University to a periodic review of salaries.

The purpose of this paper is to present the techniques used to evaluate Ashland University's current faculty salary structure with respect to salary compression and competitiveness. The results produced by the application of those techniques to the University's 1999-00 academic year salary structure are presented. Based on these results, a program designed to change the current salary structure has been proposed to the University's administration. This program is presented along with its impact on the level of competitiveness and compression of the University's faculty salary structure.

Salary Compression and Competitiveness

During the decade of the nineties, Ashland University's administration, like many other university administrations, was confronted with a situation of hiring new faculty at salary levels

equal to or higher than the pay levels of the senior faculty members. This type of salary structure condition, which is known as salary compression, was defined by Toutkoushian (1998, pp. 87-88) as "unusually small salary differential between faculty with different levels of experience". Numerous articles addressing salary compression (see Blum, 1989; Botsch and Folsom, 1989; Fraas, 1993; Heller, 1987; Jennings and McLaughlin, 1997; McCulley and Downey, 1993; Mooney, 1991; Snyder, McLaughlin, and Montgomery, 1992; and Toutkoushian, 1998) indicate that salary compression is an important issue for the faculty and administrators of many universities.

The existence of salary compression at a university may lead to a number of undesirable employment conditions for its faculty. First, salary compression may lead to tension between junior and senior faculty members. Second, senior faculty confronted with salary compression face two employment choices. They can either play the game of musical chairs, i.e., they can seek employment at other universities to increase their salaries; or they can receive less pay in order to remain and work at the university. The faculty who choose the latter of these two alternatives encounter a financial cost which Lois Defleur referred to as a "loyalty tax" (Blum, 1989).

Administrators also face undesirable consequences when operating with a salary structure that reflects salary compression. In addition to creating tension between junior and senior faculty members and the exodus of quality faculty, salary compression may lead to legal action. As noted by Toutkoushian (p. 88), " salary compression . . . is a form of discrimination, arising from institutions compensating junior and senior faculty differently for the same characteristics". The view that salary compression is a form of discrimination was the basis of an age-bias grievance

being filed by eight professors of Florida International University who argued that its policy of paying some junior professors more than the senior professors amounted to age discrimination (Mooney, 1991). Thus, if university administrators use hiring practices that lead to salary compression, the university may be confronted with the negative consequences of a demoralized senior faculty, exodus of qualified faculty, and possible legal action.

In addition to being concerned with the degree of salary compression that existed in the faculty salaries for the 1992-93 academic year, the University's administration wanted to establish a salary structure that was more competitive. The administration believed that a competitive salary structure was an even more important factor than the lack of salary compression in allowing the University to maintain good faculty morale and to improve the quality of applicants for faculty positions. The administration believed that a competitive salary structure would tend not only to reduce faculty turnover and permit the University to hire qualified faculty, but also it would reduce the degree of salary compression in faculty salaries. Thus, the University committed to conducting a periodic study of its faculty salary structure with the goal of establishing a competitive salary structure that did not reflect significant compression.

The remaining sections of this paper present the results and recommendations of the 1999 study of the University's salary structure. The following sections of this paper present: (a) the techniques used to determine whether salary compression existed in the current salary structure, (b) the technique used to determine the level of competitiveness of the University's faculty salaries, (c) the proposed program designed to change the faculty salary structure based on the results of the analyses of the current salary structure and its impact on salary compression and competitiveness, and (d) a summary.

Salary Compression Evaluation Techniques

Two different techniques, which use multiple regression techniques, were used in this study to evaluate salary compression. Table 1 contains a listing of the variables included in the various regression models utilized by both techniques. The first technique, which was also used in the 1993 study of Ashland University's salary structure, was proposed by McCulley and Downey (1993). The second technique, which was proposed by Toutkoushian (1998), was utilized only in the current study.

Suppressor Effect Technique

In the technique proposed by McCulley and Downey (1993), which will be referred to as the Suppressor Effect Technique, an evaluator is interested in determining whether the variable that contains the faculty members' number of years of service acts as a negative suppressor in a regression model used to analyze the variation in faculty salaries. McCulley and Downey believe that evidence of salary compression exists when the years-of-experience variable produces a negative suppressor effect.

As noted by McCulley and Downey (1993) in their salary compression study, the possible existence of a negative suppressor effect produced by the years-of-experience variable is suggested by the presence of two conditions. First, the years-of-experience variable has a positive correlation with the salary variable. Second, this years-of-experience variable receives a negative regression weight in a regression model in which it serves as one of the predictor variables of the faculty salary criterion variable.

To determine if years of experience is producing a negative suppressor effect, McCulley and Downey (1993) suggest using a linear combination approach proposed by Tzelgov and Henik

(1991). In this procedure two sets of variables are formed. The one set, which is referred to as the predictor set, contains variables that would account for some of the variation in the criterion variable. The other set, which is referred to as the suppressor set, contains the suspected suppressor variable or variables.

A suppression effect exits if the following inequality exists (Tzelgov and Henik, 1991):

$$1 - \frac{r_{ps}}{k} > 1 - (r_{ps})^2 \qquad [1]$$

where:

r_{ps} = The correlation between the predictor set and the suppressor set.

k = Ratio of the correlation values of the predictor set and the suppressor set with the criterion variable.

Darlington (1968) and Tzelgov and Stern (1978) stated that suppressor effect is negative when the correlation between the predictor and suppressor sets (r_{ps}) is greater than the ratio of the correlation between the suppressor set and the criterion variable and the correlation between the predictor set and the criterion variable (1/k). That is:

$$r_{ps} > 1/k \qquad [2]$$

If the suppressor set consists of years of experience and the criterion variable represents salaries, McCulley and Downey (1993) interpret a negative suppressor as evidence of salary compression.

Application of the Suppressor Effect Technique

A list of variables used to investigate salary compression are listed in Table 1. The data for two criterion variables were recorded: (a) the nine-month faculty salaries (Y_1) and (b) the natural logarithmic value of the nine-month salaries. Four different pieces of faculty information

constituted the predictor variables. Each faculty member's years of teaching experience at four-year institutions of higher education were recorded. Whether or not each faculty member possessed a terminal degree was noted (X_2). In this variable a value of zero indicated that the faculty member did not possess a terminal degree and a value of one signified that the faculty member did possess such a degree. Each faculty member's academic rank (X_2) and academic area (X_4, X_5, and X_6) was also recorded. It should be noted that a faculty member's rank was represented by a 4, 3, or 2 with the values indicating whether the faculty member was a full professor, associate professor, or assistant professor, respectively. In addition, the academic areas consisted of a series of four dummy variables with each one of the four dummy variables representing one of the following four areas: (a) the College of Business; (b) the College of Education; (c) the Division of Sciences of the College of Arts and Sciences; and (d) the Division of Arts, Humanities, and Applied Sciences of the College of Arts and Sciences.

As previously stated, McCulley and Downey (1993) suggested that the presence of the following two conditions would signal the possible existence of a negative suppressor effect in a salary compression study: (a) the years-of-experience variable has a positive correlation with the salary variable and (b) the years-of-experience variable has a negative regression weight in a regression model in which it serves as one of the predictor variables of the faculty salaries. The correlation between years of experience (X_1) and faculty salaries (Y_1) was positive and statistically significant ($r = .594$, $p<.001$). In addition, when faculty salaries variable (Y_1) was regressed onto the faculty members' years of experience (X_1), academic rank (X_2), and academic area (X_4, X_5, and X_6), the regression coefficient for the years-of-experience variable ($b_1 = 297.48$, $p < .001$) was

positive and statistically significant. Thus, it did not appear that years of experience was serving as a suppressor variable.

In spite of the lack of evidence that years of experience was serving as a suppressor variable, further analysis was conducted by constructing predictor and suppressor sets of variables. The predictor set consisted of the faculty members' academic ranks (X_2) and academic areas (X_4, X_5, and X_6). The suppressor set, consisted only of the variable that contained the faculty members' years of teaching experience in institutions of higher education (X_1). The variable consisting of the faculty members' salaries (Y_1) served as the criterion variable for both predictor sets and the suppressor set.

The correlations value measuring the degree of linear relationship between the predictor set and the criterion variable (r_p), the suppressor set and the criterion variable (r_s), and the predictor set and the suppressor set (r_{ps}) were .89, .59, and .65, respectively. Substituting these values into Inequality 1 produced the following result:

$$1 - \frac{.65}{\left(\frac{.89}{.59}\right)} \quad < \quad 1 - (.65)^2$$

$$.57 \quad < \quad .58$$

Since the left-hand side of Inequality 1 is less than the right-hand side, evidence of a suppressor effect is absent. The lack of support of a suppressor effect negates the need to pursue further analysis by utilizing Inequality 2. Since the Suppressor Effect Technique did not reveal that years of experience served as a suppressor variable in the analysis of the faculty salary data,

evidence of salary compression in the faculty salaries for the 1999-00 academic year was not provided by this analysis.

Residual Salary Technique

Toutkoushian (1998) proposed a five-step regression analysis procedure that researchers could use to determine whether salaries are overly compressed. The first step requires the evaluator to specify a salary model. Toutkoushian suggest that each value contained in the criterion variable, which consists of the faculty members salaries, be transformed to a natural logarithm value. Along with the identification of the criterion variable, a set of predictor variables must be specified.

The second step requires the evaluator to distinguish junior from senior faculty members. Exactly who should be identified as a junior faculty member is open to debate. Snyder, McLaughlin, and Montgomery (1992) suggest that junior faculty be restricted to only newly-hired faculty. In the study conducted by Toutkoushian (1998), junior faculty included faculty members who were assistant professors with less than three years of seniority at the institution.

In step three, a regression model is constructed and analyzed for the senior faculty members only. The regression coefficients obtained from the model are used to predict the salaries of the junior faculty members in step four of this procedure. These predicted salaries are obtained by adding the value of the constant term to the sum of the products produced by multiplying each junior faculty member's characteristics by its corresponding regression coefficient. As noted by Toutkoushian (1998, p. 92), "these values [predicted salaries] show what each junior faculty member would be predicted to earn if they were compensated for their qualifications in the same way as senior faculty." Again, it should be noted that the predicted

salary for each junior faculty member is a natural logarithm value. Once a predicted salary is obtained for each junior faculty member, it is subtracted from that person's actual salary figure, which also has been transformed to a natural logarithm value. When the residual is positive for a given junior faculty member, that member is receiving a higher salary than that faculty member would receive if paid as a senior faculty member according to the regression model. On the other hand, when the residual figure is negative, the junior faculty member is receiving less pay than that faculty member would if paid according to the senior faculty model.

The fifth step requires the evaluator to calculate the mean and standard deviation values for the prediction residual values. Once these values are calculated, the mean residual value is statistically tested to determine whether it differs from zero. When the mean residual value is statistically significantly greater than zero, the average salaries paid to junior faculty are statistically significantly higher than what would be predicted from the senior faculty model. Such a result would provide evidence of salary compression. The claim of salary compression would not be supported, however, when the salaries of the junior faculty are not statistically significantly different from zero .

Application of the Residual Salary Technique to the 1999-00 Academic Year Salaries

Step 1: It was determined that the following independent variables would be used to analyze the faculty salaries for the 1999-00 academic year: (a) years of teaching experience at institutions of higher education (X_1); (b) academic rank (X_2); (c) academic degree (X_3); and (d) academic area (X_4, X_5, and X_6). Again, it should be noted only three of the four dummy variables representing the four academic areas were included in the set of predictor variables due to the fact that they are linearly dependent.

Step 2: The identification of the members of the junior faculty group was not a simple or clear cut process. Thus, it was decided to apply the Residual Salary Technique multiple times with different groups of faculty identified as junior faculty. Four junior faculty groups were identified based on when the faculty members were hired. These groups consisted of faculty members newly hired by the University for the following contract periods: (a) Group 1 — 1999-00 academic year; (b) Group 2 — 1999-00 and 1998-99 academic years; (c) Group 3 — 1999-00, 1998-99, and 1997-98 academic years; and (d) Group 4 — 1999-00, 1998-99, 1997-98, and 1996-97 academic years. Faculty members of these four groups served as the junior faculty group for the four analyses. In each analysis, the faculty members not identified as a junior members were classified as senior faculty members. The analysis of four groups may provide evidence regarding how sensitive the results are to various groups of faculty being identified as the junior faculty group. Consistency of results would add a degree of confidence in the conclusions drawn from the analyses.

Step 3: Four regression models, one for each senior faculty group, were constructed and analyzed. In each model, the criterion variable consisted of each senior faculty member's salary transformed to a natural logarithmic value (Y_2).

Step 4: Residual salary values were generated for the each of the four junior faculty groups using the regression coefficients from the corresponding regression model. Mean and standard deviation values were calculated from residual salary values for each of the four junior faculty groups.

Step 5: A one-sample t-test was used to statistically test whether each mean residual differed from zero. The number of junior faculty, the mean residual salary value, the standard

deviation of the residual salary values, the one-sample t test value, and the corresponding probability value for each junior faculty groups are listed in Table 2. An examination of the probability values produced by the one-sample t tests reveals none of the mean residual salary values was statistically significantly different from zero at the .05 or .10 alpha levels. Thus, the mean predicted salary of the junior faculty group was not statistically significantly different from zero for any of the junior faculty groups. This indicates that when junior faculty are compensated for their qualifications in the same way as senior faculty, their mean predicted salary does not differ from their actual mean salary. The claim of salary compression is not supported by the results produced by these four separate applications of the Residual Salary Technique to the 1999-00 academic year faculty salary data.

Degree of Salary Competitiveness

The other important salary issue addressed by the University's administration and Faculty Welfare Committee was the degree of competitiveness of Ashland University's faculty salaries. As previously mentioned, the goal of the salary review program under which this study was conducted, was to produce a competitive faculty salary structure that did not reflect salary compression. Since the Suppressor Effect Technique and the Residual Values Technique revealed the absence of salary compression in the 1999-00 faculty salary data, the issue remaining to be addressed was whether the current faculty salary structure at Ashland University was competitive.

Determining the Degree of Salary Competitiveness

A six-step procedure was followed to determine the degree of competitiveness of the University's faculty salaries. The first step of this process required that an operational definition

of a competitive faculty salary structure be established. The University's Provost and Deans' Council stipulated that a competitive salary structure would be operationally defined as one that provides a total salary figure to each academic area of Ashland University that is equal to the average financial commitment of comparable universities.

The operational definition of a competitive salary structure dictated the next step of the analysis. In this second step the University's president designated which universities would comprise the comparison group. The president designated 10 universities that he believed should form this comparison group.

In step three of this analysis, salary information for the 10 designated universities was ordered from the College and University Personnel Association (CUPA). Once this information was received, the various faculty classifications under which the salary information was reported, e.g., accounting, music, etc., were identified as belonging to one of the following four academic areas of Ashland University: (a) the College of Business; (b) the College of Education; (c) the Division of Sciences of the College of Arts and Sciences; and (d) the Division of Arts, Humanities, and Applied Sciences of the College of Arts and Sciences. This identification process was undertaken by the University's Provost and Deans.

In step four, three sets of essential values were calculated for each of the four academic areas from the information contained in the CUPA report and Ashland University's salary data. First, using the information contained in the CUPA report, the average salaries of each academic rank, i.e., full professors, associate professors, and assistant professors for each of the four academic areas were calculated. It should be noted that each average salary figure of the various faculty classifications associated with a given academic area were not given equal weight but

rather, these average salary figures were weighted averages. The weight scheme was based on the proportion of faculty contained in each faculty classification for that academic area. Thus, the proportion of faculty in each classification was multiplied by its corresponding average faculty salary; and the sum of these products served as the average faculty salary figure for that academic area.

The second and third sets of key values were obtained not from the CUPA report but rather from Ashland University's salary data. One set contained the total salary figure for each academic area. The other set contained the number of full professors, associate professors, and assistant professors in each of the University's four academic areas.

In the fifth step, a total salary figure for each of the four academic areas was calculated for the comparison group. It is important to note that each of these four total salary figures was calculated in a manner that it would represent the average amount of funds provided by the universities in the comparison group assuming that they had the same number of full professors, associate professors, and assistant professors as Ashland University. The total figure for a given academic area was calculated, first, by multiplying the number of full, associate, and assistant professors in the area at Ashland University by the comparison group's corresponding average salary figures. Second, these products were summed.

Since the CUPA report included 1998-99 academic year salary data rather than current data, each of the four total salary figures was adjusted. Each total salary figure was increased by 3.5% to reflect the across-the-board increases recorded at Ashland for the one-year period. Thus, the assumption was made that similar increases were provided by the 10 comparable universities. The four total salary figures calculated in this manner are referred to as the estimated total salaries.

In the sixth and final step of this procedure Ashland University's current total salary figure for each academic area is subtracted from its corresponding estimated total salary figure. Each of these figures represents the amount of money needed to reach a competitive level for the given academic area as stipulated by the operational definition of a competitive salary structure.

Based on the results of this six-step analysis process, Ashland University would need to increase its commitment to faculty salaries by $712,600 or 9.3% in order to establish a competitive salary structure. If such a commitment is made by Ashland University's Board of Trustees, one issue remains to be resolved. That is, how the additional funds should be distributed.

Salary Adjustment Plan and Process

The proposed method of distributing the additional funds required to establish a competitive salary structure has two goals. First, it attempts to increase the salary levels of the Ashland University faculty in a given academic area to a level equal to the average salary level of the corresponding area in the comparison group. Second, since salary compression is not a significant problem in Ashland University's current salary structure, the distribution should be done in a manner that does not lead to salary compression.

In the 1993 faculty salary study conducted at Ashland University, the distribution of funds was designed not only to increase average salary levels but also to decrease the degree of salary compression (see Fraas, 1993 for a detailed discussion of this distribution process). Since the previous analyses presented in this paper indicated that salary compression is not a problem in Ashland University's current salary structure, the distribution method utilized in the 1993 study is not being proposed in this study.

The distribution procedure being proposed in this study involves calculating one percentage figure for each academic area. To obtain this figure for each academic area, the difference between each of the four academic area's estimated total salary figure and current total salary figure is divided by its current total salary figure. Multiplying each of these proportions by 100 indicates the percentage by which each faculty member's salary should be increased in that academic area. Thus, each faculty member in a given academic area would be given the same percentage salary increase. The percentage increases in faculty salaries would differ, however, across the academic areas. Since this distribution process has not yet been approved by the University's administraton but is only under consideration, the specific percentages for each academic area are not reported in this paper.

Evaluation of the Outcomes of the Proposed Distribution Plan

A review of the outcomes related to the faculty salary structure produced by the implementation of this proposed distribution process reveals two facts. First, Ashland University's average faculty salary for each of the four academic areas would be equal to the corresponding average salary of the comparison group. Thus, the first goal of the distribution process was accomplished.

To determine whether this distribution process produced salary compression, the Residual Values Technique was applied to the proposed new salary figures. The same four groups of junior faculty used in the analyses of the current 1999-00 academic salary levels were also utilized in the four separate analyses of the proposed new salary structure. Table 3 contains the following values for each of the four analyses: (a) the mean residual value, (b) the standard deviation of the residual values, (c) the t-test value of the statistical test of the difference between the mean residual value

and zero, and (d) the probability value of the t-test value. A review of the probability values, which indicates that none of the mean residual values was statistically significantly different from zero, suggests that salary compression is not a significant problem in the proposed new salary structure.

Summary

This study analyzed the faculty salaries at Ashland University to determine: (a) degree of compression and (b) degree of competitiveness. The Suppressor Effect Technique and the Residual Values Technique were used to investigate salary compression. The Suppressor Effect Technique is designed to determine if the faculty's years of experience serves as a negative suppressor when faculty salaries are regressed on it along with other predictor variables. If years of experience does produce a negative suppressor effect, it is an indication that the salary structure reflects salary compression.

The other technique used to investigate salary compression, which has been referred to in this paper as the Residual Values Technique, requires that two groups of faculty be identified. One group, which is known as the junior faculty group, consists of the faculty who fit the operational definition of newly-hired faculty. The remaining faculty are classified as senior faculty members. A regression model is used to analyze the salaries of the senior faculty members. The regression coefficients from this model are used to predict the salaries of the junior faculty members. The mean difference between the junior members' predicted salaries and their actual salaries is statistical tested to determine if it is statistically significantly different from zero. If this statistical test indicates that the difference is statistically significant and the mean value is positive, which

indicates that the junior faculty salaries are above what they would be if they were being paid according to the senior faculty model, salary compression is present in the salary structure.

The application of the Suppressor Effect Technique and the Residual Values Technique to the Ashland University faculty salary data for the 1999-00 academic year indicated that salary compression was not an issue that needed to be addressed. The results of the analysis of the competitiveness of the University salary structure were not as positive.

The operational definition of competitive faculty salaries, which was established by the University's administration, stated that a competitive faculty salary structure is one that provides a total salary figure to each academic area of Ashland University that is equal to the average financial commitment of comparable universities. The analysis of the competitiveness of Ashland University's faculty salary structure for the 1999-00 academic year required that an estimate be made of what the average total faculty compensation figure would be for 10 comparable universities if they had the same number of full professors, associate professors, and assistant professors in each of four academic areas as Ashland University. The total faculty compensation figure for Ashland University was subtracted from this estimated total faculty compensation figure to determine the amount of monies by which the University needed to increase its salaries in order to reach the operational definition of competitiveness. This figure indicated that the University needed to increase its total salary figure by 9.3%.

The last issue to be addressed in this study was the manner by which the additional salary monies would be distributed. A proposal was submitted to the University administration that would increase each faculty member's salary in a given academic unit by the same percentage. That percentage would match the percentage by which the current total salary funds of the

academic area needed to be increased to reach the estimated average compensation figure of the comparable universities. Although the percentage increase received by each faculty member in a given academic area were the same, the percentages across the academic areas differed.

Three elements are important if a study such as this one is to be conducted and its recommendations are to be implemented. First, the university's board of trustees and administration must be willing to have such a study conducted. Second, the university's administration and faculty must have a mutual level of trust. Faith and respect between the administration and faculty allows for earnest discussions of the assumptions and techniques on which the study is based. Third, the university's administration and faculty must be committed to implementing the study's recommendations, or at least a modified version of those recommendations.

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Table 1

Variables Included in the Regression Models

Symbol	Description
Y_1	9-month base faculty salaries for the 1999-00 academic year
Y_2	Natural logarithmic values of the faculty salaries
Y_3	9-month base faculty salaries as established by the salary adjustment program
Y_4	Natural logarithmic values of the salaries established
X_1	Years of teaching experience at institutions of higher education
X_2	Academic rank (Full Professor = 4, Associate Professor = 3, Assistant Professor = 2)[a]
X_3	Academic degree (Terminal degree = 1, Nonterminal Degree = 0)
X_4	The College of Business Administration (Member = 1, Nonmember = 0)
X_5	The College of Education (Member = 1, Nonmember = 0)
X_6	The College of Humanities and Sciences - The Science Division (Member = 1, Nonmember = 0)
X_7	The College of Humanities and Sciences - The Humanities and Applied Sciences Division (Member = 1, Nonmember = 0)

[a]Instructors were not included in the analyses.

Table 2

Residual Values of the Current Salaries for the Junior Faculty Groups

Junior Faculty Groups	Number of Values	Mean	Standard Deviation	t Value[a]	P Value
Group 1	16	-.0313	.1170	-1.070	.301
Group 2	27	-.0058	.0978	- .304	.763
Group 3	36	.0085	.0931	.567	.575
Group 4	44	.0179	.0843	1.404	.167

[a] The t values were used to statistically test the differences between the mean values and zero.

Table 3

Residual Values of the Proposed Salaries for the Junior Faculty Groups

Junior Faculty Groups	Number of Values	Mean	Standard Deviation	t Value[a]	P Value
Group 1	16	-.0315	.1170	-1.078	.298
Group 2	27	-.0060	.0999	- .310	.759
Group 3	36	.0083	.0903	.556	.582
Group 4	44	.0169	.0845	1.326	.192

[a] The t values were used to statistically test the differences between the mean values and zero.

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