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WHY DO FIELD DIFFERENTIALS IN AVERAGE FACULTY SALARIES VARY ACROSS UNIVERSITIES?

by

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Abstract

Average faculty salaries at American colleges and universities differ widely across fields at American colleges and universities and the magnitudes of these field differences in salaries have been growing over time. What is less well known, however, is that at any point in time there are wide differences in the magnitudes of field differences in faculty salaries across academic institutions. Our paper uses institutional level data by field on average faculty salaries, which we were granted access to by the universities that participate in a national data exchange, to analyze why these differences across institutions exist. Our main finding is that differences in the quality of faculty present in different fields at a university, as measured by differences in the National Research Council ratings of graduate programs at the university, are important predictors of the field differences in average faculty salaries that exist at the full professor level at the university.

Keywords – faculty salary differentials

I. Introduction

Faculty salaries differ widely across fields in American colleges and universities. One important source of faculty salary data by discipline is the annual *Faculty Salary Survey by Discipline* that has been conducted at a set of doctoral institutions by the Office of Institutional Research and Information Management at Oklahoma State University (henceforth OSU) since 1974. The participating institutions in this survey are members of the National Association of State Universities and Land Grant Colleges, many of which are the "flagship" public doctoral-granting institutions in their states. Two private universities, Cornell and the Massachusetts Institute of Technology and the U.S. Naval Academy also often respond to the survey. Periodically, summary results from the survey are published in the March/April issue of *Academe*.

Faculty salary differentials by field have been growing over time. For example, the average salary of full professors in economics relative to the average salary of full professors in English language and literature at these institutions grew from 114% in 1985-86 to 128% in 2001-2002.[1] Moreover, salary differentials by field are often much larger at the assistant professor level; at the new assistant professor level the comparable change was from 133% to 149%.

What is less well-known, however, is that there are wide variations in the magnitudes of field differentials in salaries across universities that participate in the OSU survey. For example, if we align institutions in the sample by the ratio of their average assistant professor salary in economics to their average assistant professor salary in English literature and language, the ratio was 134% at the 25th percentile institution and 165.3%

[1] Ehrenberg (2004a), figure 4.

at the 75th percentile institutions in 2001-2002.[2] Put another way, the difference in the relative average salary advantage of assistant professors in economics vis-à-vis assistant professors of English language and literature between the 25th and 75th percentile institutions was over 31 percentage points. The spread between 25th percentile and 75th percentile institutions in the relative average salary advantage of full professors of economics vis-à-vis their English language and literature counterparts was 25 percentage points.[3] Similar wide variations across institutions in the relative salaries of faculty in a large number of other fields relative to faculty in English are observed in the survey.

Why do relative faculty salary differentials by fields vary across institutions? The next section discusses the hypotheses that we will test. Section III discusses the data that we used in our analyses and section IV presents our empirical findings. Brief concluding remarks follow.

II. Why Do Faculty Salary Differentials By Discipline Vary Across Universities

There are a number of reasons why we might expect to find the differentials in salaries between faculty members in different fields varying across universities. First, the relative quality of the faculty in the different fields may differ. Other factors held constant, if the faculty in field A are of higher quality than the faculty in field B at a university, we should expect to observe that the salary of faculty in field A will be higher relative to the salary of faculty in field B than if the faculty quality levels were equal in

[2] Ehrenberg (2004b), table D
[3] Ehrenberg (2004b), table C

the two fields at the university.[4] Empirically, we will measure the quality of faculty in different fields at an institution by the 1995 National Research Council (henceforth NRC) ratings of faculty quality at the institution.[5]

Second, it is easier to have large salary differentials between fields at a university, if the faculty members in the two fields are housed in different colleges at the university. There is more pressure to equalize salaries across fields within colleges than there is across colleges at the university. Similarly, one might expect that salary differentials by field will be smaller at public than at private institutions because salary data at the former are often a matter of public record.

Third, although collective bargaining for tenured and tenure-track faculty members has effectively been precluded at private universities because of the *Yeshiva* decision, faculty at public universities are covered by state laws governing collective bargaining for public employees in the state and some states permit collective bargaining for faculty members.[6] Most of the universities in our sample are public universities and, given the long-standing efforts of unions to standardize rates, one might expect that salary differentials by field would be smaller at universities in which faculty are covered by collective bargaining agreements than at universities in which they are not.[7]

Finally faculty members in some fields, such as economics, engineering, law and business, have many opportunities for employment in the nonacademic sector at salaries

[4] Field differences in average faculty quality at a university may also be associated with field differences in other forms of "compensation", such as teaching loads and research support; however, data on these variables are not available to us.
[5] Goldberger, Maher and Flattau (1995). Of course faculty quality data were collected by the NRC only for departments that had PhD programs and in our analyses we control for whether each department had a PhD program.
[6] *NRLB V. Yeshiva University*, 440 U.S. 672 (1980)
[7] However, Rhoades (1998) studied faculty collective bargaining contracts in higher education and found a substantial number of them included provisions that allow for field differentials based upon external labor market conditions.

much higher than academia pays. Faculty members in other fields, such as the humanities and fine arts, have much fewer employment opportunities outside of academia. Because of the external employment opportunities that potential faculty members in the first set of fields face, there may be some minimum level of salary that universities must pay faculty in these fields to attract and retain them. If the university is a high average faculty salary university, it may be able to pay these salaries without the need for large salary differentials to arise between faculty in these and other fields. In contrast, if the university is a low average faculty salary institution, to pay such salaries may require large salary differentials at the institution between faculty in these and other fields. Hence, other factors held constant, we expect to see larger faculty salary differentials by field at low average faculty salary universities than at high average faculty salary universities.

III. The Data

The data that individual universities submit to the annual OSU *Faculty Salary Survey by Discipline* is collected under strict confidentiality conditions. While it would have been interesting for us to use data from the most recent survey year, many universities would likely not have granted us access to these data and, perhaps equally important, the NRC rankings of departmental faculty quality is currently over a decade old. While the NRC rankings were published in 1995, the reputation survey that underlies these rankings was actually undertaken in 1993. Assuming that the faculty members who were rating departments were basing their assessment on the status of the departments in the previous academic year and that department quality in a year is related to current faculty salaries in the year, we decided to try to obtain average faculty salary by discipline data for 1992-93.

The Office of Institutional Research and Information Management at OSU provided us with the names and addresses of all of the current participants to their annual faculty salary survey and agreed to provide us with average salary data by rank for a number of selected fields at each institution, if institutional representatives agreed to grant us access to their institution's submission for 1992-93, or for the year closest to 1992-93 that the institution first appeared in the OSU survey. On our behalf, the Cornell Survey Research Institute wrote to the institutions in February 2004 and requested permission for us to gain access to their data, under the condition that the data would be used by us only to prepare descriptive statistics on faculty salary differentials by field for the sample as a whole and as input into regression analyses. We guaranteed the institutions strict confidentiality, in the sense we would keep their individual institutional data confidential and would not identify the names of the institutions that granted us permission to access their data.

Remarkably, by June 2004, all of the 75 institutions that took part in the 1992-93 OSU *Faculty Salary Survey by Discipline* had given us permission to access their data. Another 6 institutions that participated in the 1993-94 OSU *Faculty Salary Survey*, but not in the 1992-93 survey also gave us permission. Finally an additional 15 institutions that first participated in the OSU survey after 1993-94 gave us permission to access their data. We decided to restrict our analyses to institutions that first reported data to OSU by 1995-96 and this generated a sample of 88 institutions.

Table 1 summarizes how the ratio of average full professor salaries in a number of fields varies relative to average full professor salaries in English language and literature at these institutions. The fields chosen are those included in the 1995 NRC ratings of

graduate programs that were represented at 10 or more universities in our sample.[8] The first column in the table presents the means of the ratio for each field across institutions in the sample, the standard deviation in the ratio across institutions in the sample, and the number of institutions in the sample in which both the field and English language and literature are present. Similar data for assistant professors appear in the second column of the table.

These data confirm that salary differential by field exist, but that they often vary widely across institutions. For example, the mean ratio of the average salary of full professors in economics to the average salary of full professors of English Language and Literature across universities in the sample was 1.234 and the standard deviation of the ratio was .148. In 29 of the 38 fields, the mean ratio for full professors was smaller than the corresponding ratio for assistant professors, reflecting the fact that market forces on salary operate most strongly at the entry level. In most cases, the ratios for high paying fields in 1992-93 are lower than the ratios that have been observed more recently, which indicates that faculty salary differentials by field have widened in recent years.[9]

IV. The Determinants of Field Differentials in Faculty Salaries

Table 2 presents selected coefficient estimates from models in which we regressed the logarithm of the ratio of average full professor salary in a field to average full professor salary in English language and literature at the university on the NRC ratings of faculty quality for the field and for English language and literature, a dichotomous variable that took on the value of one if the two departments were in the same college at the university and zero otherwise, a dichotomous variable that indicated whether faculty at the

[8] In the table, **B** denotes biological sciences field, **E** denotes engineering, **P** denotes physical sciences, **H** denotes arts and humanities, and **S** denotes social sciences.
[9] Ehrenberg (2004b)

university were covered by a collective bargaining agreement and the average salary of full professors at the university in 1992-93.[10] Also included in the model were dichotomous variables for the non reporting of average full professor salaries, for institutions that did not have a PhD program in the field, for institutions that did not have a PhD program in English language and literature, and for whether the faculty salary data by field for the institution came from a year other than 1992-93. Coefficient estimates are reported only for the 20 fields that were present at 40 or more institutions.

Our estimates provide strong support for the hypotheses that faculty quality difference across fields at an institution are associated with average salary differentials across fields at the institution. Faculty quality in the NRC study was rated on a scale of 1(low) to 5(high). The coefficient of the faculty quality in the field variable was positive in all 20 of our regressions and statistically significantly so at at least the .05 level (one-tailed test) in 16 of the 20. Hence, other factors held constant, across universities the higher faculty quality is in a field at an institution, the higher its full professors' average salary is relative to the average salary of full professors in English language and literature at the institution. Similarly, the average quality rating of faculty in English at the institution is negative in 19 of the 20 regressions and statistically so at at least the .05 level (one-tailed test) in 7 of the 20 cases, which suggests that, other factors held constant, the higher the average quality of professors of English language in literature at

[10] Whether the field and English language and literature were in the same college came from a search of institutional web pages in the summer of 2004; if any fields changed colleges since 1992-93 this variable may contain some measurement error. Whether faculty members at the institution were covered by a collective bargaining agreement came from *Directory of Faculty Contracts and Bargaining Agents in Higher Education and the Professions* (1998). Finally because of the small number of private institutions in the sample, it proved impossible for us to test whether faculty salary differentials by field were larger at private universities.

an institution, the lower is the average salary of full professors in the other field relative to the average salary of English professors at the institution.[11]

Findings for our other explanatory variables are weaker. In 15 of the 20 models, when English language and literature and the other field are both in the same college at the university, the average salary differences between professors in other fields and professors in English is smaller, other factors held constant. However, this relationship is statistically significantly different from zero for only 2 of the fields. Similarly in 14 of the 20 models, if the faculty at the university is covered by a collective bargaining agreement, the salary difference between the field and English language and literature is smaller at the university, other factors held constant. This relationship is statistically significantly different from zero at at least the .05 level of significance (one-tailed test) for 6 of the fields. Finally, in only one field (chemistry), is the level of average faculty salaries at the university statistically significantly associated with the differential between the average salary of professors in the field and the average salary of English professors at the university, and in this case the relationship was negative as we expected.

Our choice of English language and literature to be the comparison field in table 1 was based on its being among the disciplines that most often showed up in institutional submissions to the OSU survey. However, to say that the average salary of full professors in a field vis-à-vis their colleagues' average in English is associated with the NRC faculty quality ratings of the two fields at the university, does not necessarily imply that the

[11] A nonparametric test based upon the binomial distribution further supports the hypotheses that field quality matters. Suppose the true probability of observing a negative coefficient for the English field quality variable in a regression was .5 (the true effect of English field quality is zero). In this case the probability of observing 19 out of 20 English field quality coefficients being negative (as we have) would be less than .0000009. Thus, one can reject the hypothesis in favor of the hypothesis that the true effect is negative.

relative salaries of faculty in two fields within the same broad disciplinary grouping at the university, such as sociology and economics within the social sciences, will depend upon the NRC faculty quality ratings of faculty in the two fields at the university.

Very few arts and humanities fields appear in table 1 (because most are not represented in a sufficient number of universities in our sample), however three that do are history, music and philosophy. The results in the three rows of table 1 for these fields suggest that within the arts and humanities fields relative salaries of full professors do depend upon the NRC faculty quality rankings of the fields; the field rating variable has positive coefficient and the English field rating a negative coefficient in all three fields' equations, with three of the six coefficients being statistically significantly different than zero.

To test whether this is true for other disciplinary groupings, we reestimated the models underlying table 2 separately for physical science, social science and engineering fields, using as the base field mathematics, sociology and mathematics, respectively. So, for example in the physical science equations, the dependent variable is the logarithm of the average full professor salary in the field relative to the average full professor salary in mathematics. The dichotomous variable for "same college" in the models now refers to whether the field and the base field, mathematics in the case of the physical sciences, are in the same college at the university.

The coefficients of the faculty quality variables from these equations appear in table 3. Panel A provides strong evidence that average faculty salary differentials within the physical sciences depend upon the relative quality of faculty in different physical science departments at a university. The evidence for the social science fields, where sociology

was chosen as the base field, which are found in panel B, is more mixed. While 4 of the 5 field quality coefficients are positive and all 5 of the sociology field quality coefficients are negative, as we expected, only 3 of the 10 coefficients are statistically significant from zero at the .05 level of significance. Results for the engineering fields, where mathematics is again taken as the base field, are similar to the physical science results and strongly support the view that average faculty quality differences are important explanations of differences in average professor salaries across the engineering fields.

While we have shown that NRC faculty quality difference across fields at a university are associated with field differentials in full professors salaries, when we estimated models similar to those that underlie table 2 for assistant professors and associate professors, we found virtually no statistically significant relationships between field differentials in faculty salary and field differences in NRC faculty quality ratings. This did not surprise us because prior research has shown that the NRC faculty quality ratings for a department are associated with the proportion of its faculty members that are full professors, as well as measures of faculty productivity, such as receipt of research grants, publications and citations, which tend to most often reflect the quality of the senior faculty.[12] A higher average salary for a department's full professors enables a university to attract and retain better full professors for that department.[13]

[12] Ehrenberg and Hurst (1998)

[13] In a study of starting salaries of new assistant professors in economics in the late 1970s, Ehrenberg, Pieper and Willis (1998) found that, other factors held constant, top rated economics departments actually paid lower salaries than other economics departments, presumably because the greater academic gains to young faculty from working at them allowed for a compensating wage differential. Graves, Lee and Sexton (1987) argue that the utility that faculty members get from being associated with top colleagues in their field will moderate the need for higher quality departments to pay higher average faculty salaries.

V. Concluding Remarks

Our study is the first to provide evidence that variations in field differences in average full professor salaries across universities are associated with variations in field differences in average faculty quality, as measured by NRC faculty quality ratings, across institutions. However, we do not find any evidence of such a relationship for variations in field differences in average assistant professor and average associate professor salaries.

Our findings come from data for a set of primarily public universities. The conventional wisdom is that faculty salary differentials by field are larger at private institutions and it would be interesting to replicate our study using data for a set of private universities. When the next NRC faculty quality ratings are published, it would also be interesting to use panel data and to extend our analyses to see if changes in field differences in average faculty salaries across universities are associated with changes in field differences in average faculty quality across the universities.

One hypothesis that we did not address in the paper is whether differences in field differentials in full professor average salaries across universities also may reflect differences in the gender composition of faculty in different departments at different universities. To see why this might occur, consider the following example: Suppose there are only two universities and two departments, economics and English at each. Suppose the economics department at each university hires only males and economists receive the same average salaries at both universities. Suppose further that the English department at the first university hires only males and that the English department at the second university hires both males and females and that the male faculty at both English departments receive the same average salaries, which are lower than the average salaries

paid to economics faculty. Finally, suppose the English department at the second university pays its female faculty members a lower average salary than it pays its male faculty members because of gender discrimination or other factors.[14] If this situation prevailed, the ratio of the average salary of economists to the average salary of English professors would be higher at the second university. Put simply, if, as a long literature suggests, female faculty members on average get paid less than male faculty members, other factors held constant, differences in the gender composition of faculty members within a field across universities may influence the average salary of faculty members in the field vis-à-vis their colleagues in other fields at an university.

We intentionally did not ask the universities from which we requested data to provide us with information on the gender distribution of their faculty in each field, as of 1992-93, because we feared that to raise the issue of gender with them would have set off a "red flag" that would have reduced the willingness of some to grant us access to their historical data on average faculty salaries by field. Instead, we attempted to indirectly test the role that gender differences in the distribution of faculty across fields within an institution may play by using proxies for the fraction of faculty that were female in a department in 1992-93. The proxies we used were the fraction of graduate students in a department that were female in 1992-93 (reasoning that female graduate students prefer to work with female professors) and the fraction of current faculty members in a department that were female (reasoning that departments that had a greater share of female faculty in 1992-93 were likely to have a greater share of female faculty today).[15]

[14] For access to a set of studies conducted by individual research universities that address gender equity in salary at their institutions, see http://www7.nationalacademies.org/cwse/gender_faculty_links.htm

[15] The former came from WebCaspar, while the latter were obtained through an exhaustive search of departmental web pages during the summer of 2004.

However, when we reestimated the model underlying table 2, with these variables for both the field in question and the English language and literature added in, these gender variables never proved to be statistically significant. The measurement errors induced by using these proxies may simply have been too great to test the hypothesis. Subsequent research on field differentials in faculty salaries would do well to study the issue of gender more carefully.

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Table 1

AVERAGE FACULTY SALARIES IN SELECT FIELDS RELATIVE TO AVERAGE FACULTY SALARIES IN ENGLISH LANGUAGE AND LITERATURE IN 1992-93*

Field	Mean Ratio of Ave. Full Prof. Salary to Ave. Full Prof. Salary in English (std. dev) [sample size]	Mean Ratio of Ave. Asst. Prof. Salary in Field to Ave. Asst. Prof. Salary in English (std. dev.) [sample size]
B Biochemistry	1.165(.154)[40]	1.177(.166)[31]
B Ecol, Evol. and Behavior	1.050(.077)[38]	1.121(.110)[37]
B Mol. and Gen. Genetics	1.193(.128)[13]	1.176(0.120)[10]
B Pharmacology	1.211(0.167)[12]	1.175(.074)[9]
B Physiology	1.119(.153)[25]	1.123(.110)[23]
E Aerospace Engineering	1.347(.098)[19]	1.451(.105)[19]
E Biomedical Engineering	1.287(.190)[12]	1.446(.128)[8]
E Chemical Engineering	1.296(.149)[64]	1.463(.136)[59]
E Civil Engineering	1.247(.116)[73]	1.398(.118)[71]
E Electrical Engineering	1.321(.140)[75]	1.456(.117)[73]
E Industrial Engineering	1.278(.147)[43]	1.431(.133)[42]
E Material Sciences	1.317(.204)[21]	1.377(.159)[17]
E Mechanical Engineering	1.283(.132)[75]	1.428(.112)[74]
P Astrophysics/Astronomy	1.100(.149)[21]	1.102(.110)[16]
P Chemistry	1.173(.125)[85]	1.146(.097)[84]
P Computer Science	1.303(.176)[71]	1.495(.166)[74]
P Geoscience	1.080(.111)[76]	1.126(.116)[72]
P Mathematics	1.097(.097)[84]	1.156(.109)[84]
P Oceanography	1.103(.095)[12]	1.117(.118)[12]
P Physics	1.141(.117)[82]	1.215(.116)[77]
P Statistics/Biostatistics	1.146(.131)[39]	1.220(.103)[39]
H Art History	1.004(.121)[18]	0.996(.086)[19]
H Classics	0.989(.114)[32]	0.980(.065)[27]
H Comparative Literature	1.068(.213)[15]	0.974(.071)[10]
H French Lang. and Lit.	0.990(.090)[31]	0.994(.065)[33]
H German Lang. and Lit.	0.949(.091)[33]	0.982(.068)[31]
H Linguistics	1.002(.103)[30]	1.050(.084)[28]
H Music	0.936(.087)[77]	0.973(.084)[78]
H Philosophy	1.019(.119)[82]	0.993(.092)[73]
H Religion	1.003(.124)[27]	1.012(.081)[20]
H Spanish Lang. and Lit.	0.990(.112)[25]	1.014(.084)[27]
S Anthropology	1.004(.099)[65]	1.021(.069)[62]
S Economics	1.234(.148)[79]	1.327(.152)[77]
S Geography	1.036(.109)[62]	1.064(.088)[56]
S History	1.047(.086)[84]	1.010(.064)[83]
S Political Science	1.080(.104)[84]	1.062(.083)[84]
S Psychology	1.085(.112)[85]	1.096(.083)[84]
S Sociology	1.063(.107)[85]	1.067(.098)[81]

*Only fields with at least 10 observations are included in the table

Table 2

LOGARITHM OF FULL PROFESSOR SALARIES IN FIELD RELATIVE TO FULL PROFESSORS SALARIES IN ENGLISH EQUATIONS: 1992-1993 OKLAHOMA STATE UNIVERSITY FACULTY SALARY SURVEY DATA[a] (Absolute value t statistics)

Field / Sample Size	Same College	Field Rating	English Rating	Union	Average Prof. Sal	Adjusted R^2
Biological Sci.						
Biochemistry/40	.021(0.4)	.065(1.7)	-.065(1.2)	-.028(0.4)	-.070(0.3)	.161
Engineering						
Chem.Eng./64	-.080(1.0)	.089(4.1)	-.033(1.0)	-.077(2.2)	-.185(0.9)	.199
Civil Eng./73	-.066(1.2)	.037(1.8)	-.037(1.7)	-.066(2.5)	.081(0.7)	.211
Elec.Eng. /75	-.082(1.3)	.060(3.3)	-.033(1.4)	-.049(1.7)	-.186(1.4)	.179
Ind. Eng /43	-.062(0.7)	.030(0.9)	.002(0.1)	-.084(1.3)	.084(0.2)	-.033
Mech. Eng./75	-.127(2.0)	.049(2.0)	-.017(0.7)	-.053(1.8)	-.363(0.8)	.149
Physical Sci.						
Chemistry /85	-.030(1.5)	.096(5.5)	-.071(3.4)	-.039(1.8)	-.180(1.8)	.363
Comp. Sci. /71	-.029(0.8)	.078(2.7)	-.035(0.8)	-.050(1.3)	-.186(1.1)	.092
Geosciences/76	-.050(2.0)	.029(1.1)	-.007(0.2)	-.001(0.0)	-.138(1.0)	.024
Mathematics/84	-.001(0.1)	.059(2.9)	-.048(2.2)	.005(0.2)	-.075(0.7)	.132
Physics /83	-.021(0.9)	.082(3.8)	-.052(2.2)	-.035(1.3)	-.196(1.5)	.222
Social Sci.						
Anthropology/65	.025(0.7)	.054(2.0)	-.066(2.6)	-.017(0.7)	.140(1.1)	.183
Geography /61	-.006(0,2)	.020(0.6)	-.004(0.1)	.005(0.1)	.053(0.3)	.018
Political Sci./84	.008(0.2)	.070(3.0)	-.042(1.6)	-.018(0.8)	-.038(0.3)	.084
Psychology /85	-.007(0.3)	.088(3.9)	-.047(2.2)	-.033(1.4)	-.093(0.8)	.192
Sociology/85	-.049(1.6)	.046(2.3)	-.024(1.0)	-.018(0.7)	-.014(0.9)	.142
Economics/79	.042(1.5)	.072(2.8)	-.047(1.5)	-.067(2.0)	-.136(0.9)	.085
Arts and Hum.						
History/85	-.049(1.1)	.055(1.5)	-.036(1.5)	.009(0.4)	-.133(1.3)	.006
Music/77	.019(0.8)	.056(1.9)	-.053(2.3)	.031(1.2)	.122(1.0)	.099
Philosophy/82	-.144(1.3)	.061(2.3)	-.031(1.0)	.038(1.2)	.053(0.4)	.089

[a] Also included in each field's equation are dichotomous variables if the field and if English do not have PhD programs at an institution, and for the nonreporting of average faculty salary university wide

Table 3

Coefficients of Field Quality Variables from Within Broad Discipline Area Relative Salary Equations
(Absolute value t statistics)

A) Physical Sciences (Mathematics Base Field)

Field/ Sample Size	Field Rating	Mathematics Rating
Chemistry/87	.088(4.5)	-.082(3.6)
Physics/84	.129(4.4)	-.128(4.2)
Geosciences/77	.043(1.6)	-.041(1.5)

B) Social Sciences (Sociology Base Field)

Field/ Sample Size	Field Rating	Sociology Rating
Anthropology/65	.031(0.9)	-.041(1.7)
Economics/80	.047(1.5)	-.012(0.4)
Geography/63	.134(3.2)	-.097(3.7)
Political Science/85	.035(1.3)	-.025(1.1)
Psychology/	-.000(0.0)	-.018(1.0)

C) Engineering (Mathematics Base Field)

Field/ Sample Size	Field Rating	Mathematics Rating
Chem. Eng./40	.053(2.9)	-.028(1.9)
Civil Eng./42	.046(1.5)	-.064(2.4)
Electric. Eng./45	.046(2.2)	-.044(2.0)
Mech. Eng./43	.011(0.4)	-.020(0.8)