

8/31/2010

# The Student Faculty Ratio and Related Issues

**Data Reconciliation and Analysis  
Subcommittee to BLP**

Wayne Aitken

Matthew J. Ceppi

Charles De Leone

Mohammad Oskoorouchi

Bill Ward

Daniel Zorn

### Summary, Findings, and Proposals

During the Spring Semester of 2010, the members of the Data Reconciliation and Analysis Subcommittee of BLP studied two issues: (1) recent spending patterns at CSUSM together with spending patterns at comparable CSU campuses using FIRMS data, and (2) issues related to the student faculty ratio. Our report on spending is presented elsewhere; the present report concerns only the student faculty ratio (SFR) and related issues.

Part 1 of this report presents comparative SFR data for campuses across the CSU. Campuses do report SFR to the Chancellor's Office of the CSU as part of the Academic Planning Data Base (APDB), but the reporting methodology varies significantly from campus to campus, and the method of calculating this SFR is prone to error. Consequently, we found the APDB version of SFR not to be a good method of comparing SFR among campuses. Instead, we used a method based on more reliable payroll data.

Part 2 considers another sort of SFR calculation. Instead of focusing on campuses as a whole, we focus on the SFR calculation for individual academic departments and units on our campus. Accurate information at the unit level is vital to budgeting and growth planning on our campus. To gather the data for accurate and meaningful SFR calculation at this level is labor intensive and involves a careful accounting of all courses taught on campus, the number of students enrolled in each course including the number of graduate students enrolled, the faculty funded by grant activities or by campus budgets outside the academic unit housing the faculty member, the faculty involved in administrative activities such as chairing departments, the faculty on leave or partial leave, and so on. Another challenge when determining SFR is that there is no agreed on standard: there are variations across the CSU, and variations on our campus over time and/or between units. For instance, the way CoAS measures SFR does not always match the way that our APDB reports SFR.

Part 2 outlines our attempts toward developing a standard, one we call the "Resident Faculty SFR" (RF-SFR). It is designed to yield a stable and meaningful measure of SFR across academic departments and units at CSUSM. In order to flesh out the RF-SFR metric and to provide the campus with reliable SFR data for at least one semester, we computed the RF-SFR for the Fall 2009 semester. This computation involved tracking the same sort of data as assembled by the campus APDB (Academic Planning Database) report, however our computations were largely independent of the APDB. They relied as much as possible on data obtained directly from the associated deans of the various colleges. By studying the difference between our data and calculations and those used in the preparation of the campus APDB report, we were able to identify problems in the APDB data collecting and reporting processes. Although our method produces SFR figures that are more accurate and meaningful than those traditionally reported in the APDB, our committee's independent SFR calculation was a one-time activity. Implementing the RF-SFR and assuring its accuracy will require reforming the processes related to APDB report. In this report we give suggestions for the improvement of these processes. The CSUSM administration has already accomplished much valuable work during the summer of 2010 in improving these processes, and this work will continue into the 2010-2011 academic year.

Part 3 concerns faculty distribution by rank. Using the payroll data in Part 1, we were able to obtain data about faculty in the CSU that goes beyond simple SFR figures. The most interesting information concerns the distribution of faculty by rank since it gives perspective on instructional spending and SFR patterns on this and other campuses of the CSU. Information for faculty distribution by rank for Fall 2009 is presented in the third and final part of this report.

### Findings:

- (1) The SFR figures appearing in the APDB are not well-suited for cross-campus comparisons. The Pay-SFR should be used instead. We carefully examined our campuses APDB (Academic Planning Database) Report 55 (also called the *Faculty Activity by Department Report*, or FAD), and communicated with other campuses on their methodology. We determined that our existing reports are riddled with inaccuracies, that there is no reliable central systemwide auditing of campus data, and that the methodologies used in calculating the FAD vary from campus to campus. Consequently, the APDB should not be used as a comparative metric of SFR. Our subcommittee proposes that cross-campus SFR comparisons be done instead using a uniform metric we call the *Payroll SFR (Pay-SFR)*. This metric, which is defined and discussed below in the Part 1 of the report, is one of two metrics developed by our subcommittee. The other is the *Resident Faculty SFR (RF-SFR)*, which will be defined and discussed in Part 2 of the report.
- (2) The Pay-SFR is not appropriate for small academic units, but is a reliable metric for campus-level SFR. The Pay-SFR is based on payroll data while our other proposed metric, the RF-SFR, is based on a detailed examination of faculty assignments. The RF-SFR consequently takes into account administrative and externally supported faculty assignments as well as paid leaves. Pay-SFR ignores such considerations and, since these factors affect each academic unit differently and the effects of these factors vary from semester to semester, the Pay-SFR is not a stable measure for small academic units. However, such effects balance out at larger scales, so the Pay-SFR is useful for cross-campus comparisons.<sup>1</sup>
- (3) San Marcos has a higher than average SFR. According to the Pay-SFR our SFR was significantly above the CSU average for Fall 2006, Fall 2007, and Fall 2008. In Fall 2009 our SFR was very close to the system average.
- (4) San Marcos has a growing SFR with a current SFR at an all time high. According to the Pay-SFR metric, after a decline between Fall 2006 and Fall 2007, our SFR has been steadily rising. During the Fall 2009 the Pay-SFR exceeded 23 to 1, which, using reasonable estimates for SFR before 2006, represents an all time high for our campus.
- (5) The CSU-wide SFR is steadily growing. The Pay-SFR for the system as a whole has grown significantly from Fall 2006 to Fall 2009 despite earlier commitments to reduce SFR.<sup>2</sup>

---

<sup>1</sup> The Pay-SFR gives larger values for FTEF (Full-Time Equivalent Faculty) than the RF-SFR since it does not adjust for certain faculty assignments and paid leaves. Consequently, the Pay-SFR values are lower than one might expect. This does not diminish its use as a *relative* measure of SFR since these factors affect all campuses in the same way.

<sup>2</sup> The Cal State ACR 73 task force included recommendation to reduce the SFR in order to accomplish the goals of ACR 73 as enunciated by the California Legislature. See [http://www.calstate.edu/AcadSen/Records/Reports/ACR73\\_07222002.pdf](http://www.calstate.edu/AcadSen/Records/Reports/ACR73_07222002.pdf) for an 8 year plan initiated in 2002. This plan discusses SFR and proposes that “The student/faculty ratio, currently at 19.5:1, needs to be progressively decreased to 18.0 to 1, over the eight-year period, to reflect increases in the CSU base budget necessary to provide long-term improvements in workload expectations.”

## Data Reconciliation and Analysis Subcommittee to BLP

- (6) *The distribution of faculty at CSUSM is unusual in many respects.* A greater proportion of our faculty are lecturers than at most CSUs. Aside from Channel Islands, we have the smallest proportion of assistant professors, but we have the greatest proportion of associate professors (Fall 2009). Finally, full professors constitute a smaller proportion of the faculty at CSUSM than at most CSUs. A consequence of this distribution is that the average salary of faculty on our campus is less than the system average, but not significantly less than salaries at comparably sized campuses.<sup>3</sup> So very little of gap in reported instructional spending between CSUSM and comparably sized CSU campuses can be accounted for by appealing to differentials in average faculty salaries.<sup>4</sup>

### Proposals:

- (1) We propose the calculation of *Resident Faculty SFR (RF-SFR)* be part of the process for developing our Faculty Activity by Department report (FAD) required by the Chancellor's Office. We believe that the FAD has the potential to be more than just a report that we are required to assemble for Long Beach, but could be a report useful for internal planning as well. In order to make the FAD an accurate and useful tool for internal institutional planning, we recommend that we develop an *internal FAD* that is easy-to-read and tailored to the planning needs of our campuses, using codes and designations that can change as our institution evolves. In addition, we recommend that the internal FAD be in a format that allows for simple conversion to the format required by the Chancellor's Office. This includes developing a simple mapping from internal codes and designations used in the internal FAD to codes and designations required by the Chancellor's Office for its APDB report. We recommend that the reporting of Full-Time Equivalent Faculty (FTEF) and SFR in both the internal and external FADs conform as much as possible to that used in the RF-SFR.
- (2) We recommend that systems and processes be put in place to ensure accurate and timely data entry which allow for review of drafts of the internal FAD reports by deans, associate deans and department chairs to identify missing or inconsistent faculty data and initiate action for corrections.
- (3) We caution against using historical APDB reports due to inaccuracies present since at least the adoption of PeopleSoft. The inaccuracies were especially pronounced in Fall 2008, the first semester that PeopleSoft was used in the development of the FAD. During that semester there were, for example, a large number of lecturers (well over thirty) with timebases of 40% or less who were reported as 100% faculty, significantly inflating the count of Full-Time Equivalent Faculty (FTEF) and deflating the SFR. Although the problem of inflated timebases has been largely fixed in recent semesters, there still exist many problems with the accuracy of the APDB 55 FAD report. Every effort should be made to ensure the accuracy of APDB for

---

<sup>3</sup> The comparably sized CSUs include Bakersfield, Humboldt, Sonoma, and Stanislaus. These four campuses form the comparison group selected for our comparative FIRMS spending study.

<sup>4</sup> See our earlier report "Three-Year FIRMS Comparison Study", for more information on reported instructional spending.

current and future semesters, as this is the CSU official reporting system for strategic analysis and planning, informed decision-making, and institutional accountability.

- (4) We recommend that an individual with a deep knowledge of the academic program at CSUSM supervise the process of developing the internal and external FAD, and solicit feedback on the draft reports from deans, associate deans and department chairs. In the next several semesters this task should also include helping IITS design, test, and detect bugs of the automated portions of the process. This committee recognizes that this is a labor-intensive activity, and our own Fall 2009 RF-SFR calculation was a major time commitment for members of our SFR team. However, the importance of the FAD to resource planning demands this level of institutional commitment. Our subcommittee has prepared a list of errata to the Fall 2009 APBD and various other suggestions based on our experiences with our own Fall 2009 RF-SFR calculation to help find ways to improve the process. Many of these suggestions have been implemented during the Summer of 2010.

***Special Thanks.*** Our committee has benefited enormously from useful discussions and correspondences with a large number of people. For the present report on SFR we would especially like to thank Mark Baldwin, Don Barrett, David Barsky, Staci Beavers, Emily Cutrer, George Diehr, Regina Eisenbach, April Grommo, Olaf Hansen, Lynn Dee Harris, Margie Kidd, Jeffrey Marks, Bonnie Mottola, Graham Oberem, Judih Papenhausen, Patricia Prado-Olmos, Victor Rocha, Patricia Runzel, Wayne Veres, Deirdre Wallace, Kathleen Watson, all the members of BLP, AACL, the “3 plus 3” Workload committee, the committee of CoAS department chairs, and the Executive Committee of the Academic Senate for their assistance and their willingness to meet with members of our committee.

## **PART 1. SFR ACROSS THE CSU**

### **I. Introduction**

The Payroll SFR (Pay-SFR) is the metric we employed to compare SFR among campuses of the CSU. While it is a much more reliable measure of SFR than the APDB figures published by the Chancellor's Office, it is not suitable for small units such as departments since it is not adjusted for faculty assignments outside the department. However, it is easy to calculate and reflects well the overall size of the faculty at a given campus in comparison to the size of the student body.

### **II. Calculating the Payroll SFR**

The Payroll SFR is defined as follows

$$\text{Pay-SFR} = \text{FTES} / \text{Pay-FTEF}.$$

Here Pay-FTEF is the total number of Full-Time Equivalent Faculty on the payroll of the university, and FTES is the number of Full-Time Equivalent Students.

The Pay-FTEF is based on data supplied by the California State Controller's Office (the list of CSU faculty and their timebases is a public record in the State of California). To calculate Pay-SFR we simply add the timebases of all faculty. The large majority of tenure-track faculty have a 1.0 timebase, but some, for example faculty participating in the FERP program, have lower timebases. Most lecturers have a timebase of less than 1.0. The sum of these timebases associated with a given campus is its Pay-FTEF. We note the following:

- (1) We included lecturers, professors of all ranks, and visiting faculty. We did not include coaches, counselors, and library faculty since our focus is on instructional SFR. We did not include faculty listed as being on leave without pay.
- (2) We used PIMS (Personnel Information Management System) data for the November pay-period of every year under consideration.

The FTES is the number of Full-Time Equivalent Students. We used data from the CSU website. We note the following:

- (1) Enrollment data can be found at [http://www.calstate.edu/as/stat\\_reports/fall\\_summary.shtml](http://www.calstate.edu/as/stat_reports/fall_summary.shtml) .
- (2) We used the FTES data for the Fall semesters of each year under consideration.
- (3) We used total FTES, not resident only FTES.
- (4) FTES does not include students in self-support (extended studies) courses.

We had to make adjustments for the School of Nursing. During the Fall 2009 Semester, the FTEF for Nursing was about 27, but the FTES was about 75. This gives a SFR of 2.8 to 1. This misleading ratio is reflective of the facts that (1) the full salary of Nursing faculty are paid by the state even if they teach under self-support, and (2) the

majority of students taking Nursing courses take them under self-support are not counted in the calculation of FTES. Because of this we decided to exclude School of Nursing from our calculation of Pay-SFR. (We did calculate School of Nursing RF-SFR, see Part 2 of this report). In order to better compare campuses we excluded nursing students and faculty from other campuses as well. Our calculations were thus subject to the following adjustments:

- (1) Faculty members classified as “Nursing” or “Nursing & Health Science” (East Bay Campus) were excluded from our count of FTEF.
- (2) Likewise, Nursing FTES was subtracted from the overall FTES (based on figures from the CSU website: [http://www.calstate.edu/es/applications/aa/apdb/APDB\\_Disciplines\\_Fall/apd78d.terms004-094.NURS.html](http://www.calstate.edu/es/applications/aa/apdb/APDB_Disciplines_Fall/apd78d.terms004-094.NURS.html) )

### III. Payroll SFR: Fall 2006, Fall 2007, Fall 2008, Fall 2009

Using the above method we computed the Pay-SFR for four semesters for each campus of the CSU. The data is summarized in the following six tables and figures.<sup>5</sup> Campuses of size comparable to San Marcos are shown in bold. This data shows that San Marcos is consistently above or very near the CSU average. This data also shows that the recent general trend is toward sizable increases in SFR, and most campuses, including some campuses of comparable size, are indeed experiencing such an increase. However, it is of interest to observe that some campuses, Sonoma State for example, are not experiencing significant increases in SFR. In Chart 6 we illustrate this by comparing Sonoma State with CSUSM and CSU as a whole.

---

<sup>5</sup> In earlier presentations to BLP and the Academic Senate Executive Committee, we used target FTES for Fall 2009. We have updated with actual FTES, which was in most cases higher. The SFR values, and the rankings, have thus changed somewhat based on these adjustments.

**Data Reconciliation and Analysis Subcommittee to BLP**

**Figure 1. Pay-SFR for Fall 2006**

Campus	FTES	FTEF	SFR	Rank
San Diego	28413.1	1231.1	23.08	1
<b>San Marcos</b>	7062.4	313.8	<b>22.51</b>	<b>2</b>
Northridge	26650.3	1209.4	22.04	3
East Bay	10742.6	490.3	21.91	4
San Bernardino	13545.0	623.1	21.74	5
Fresno	18462.0	850.1	21.72	6
San Francisco	23612.9	1088.5	21.69	7
Fullerton	26699.8	1231.8	21.67	8
Sacramento	22613.4	1050.0	21.54	9
Pomona	17526.7	828.4	21.16	10
<b>Sonoma</b>	7263.8	346.3	<b>20.98</b>	<b>11</b>
Chico	14823.3	709.8	20.88	12
San Jose	22981.1	1103.7	20.82	13
Dominguez Hills	8138.2	392.5	20.74	14
Los Angeles	15902.1	772.8	20.58	15
Long Beach	28027.2	1378.9	20.33	16
San Luis Obispo	17620.3	891.5	19.77	17
<b>Bakersfield</b>	6753.4	357.0	<b>18.92</b>	<b>18</b>
Monterey Bay	3611.8	200.6	18.00	19
<b>Humboldt</b>	6770.9	384.9	<b>17.59</b>	<b>20</b>
<b>Stanislaus</b>	6187.5	369.9	<b>16.73</b>	<b>21</b>
Channel Islands	2639.6	159.7	16.53	22
Maritime Acad	885.9	60.2	14.72	23
<b>Total</b>	336933.3	16044.2	21.00	

**Figure 2. Pay-SFR for Fall 2007**

Campus	FTES	FTEF	SFR	Rank
San Diego	30629.9	1255.9	24.39	1
Maritime Acad	922.0	38.6	23.87	2
San Bernardino	13907.2	621.9	22.36	3
Northridge	27418.0	1237.2	22.16	4
Sacramento	22677.0	1042.6	21.75	5
<b>San Marcos</b>	7399.5	342.1	<b>21.63</b>	<b>6</b>
San Francisco	24263.4	1122.7	21.61	7
East Bay	11098.4	514.5	21.57	8
<b>Sonoma</b>	7785.6	362.0	<b>21.51</b>	<b>9</b>
Fullerton	27760.0	1294.0	21.45	10
San Jose	24941.8	1167.8	21.36	11
Chico	15604.6	739.8	21.09	12
Long Beach	29204.3	1401.3	20.84	13
Fresno	18753.4	900.9	20.82	14
<b>Bakersfield</b>	6721.9	323.1	<b>20.81</b>	<b>15</b>
Pomona	18177.1	875.8	20.76	16
Los Angeles	16381.9	792.5	20.67	17
San Luis Obispo	18566.1	916.1	20.27	18
<b>Humboldt</b>	7076.7	355.9	<b>19.88</b>	<b>19</b>
Dominguez Hills	8152.5	419.1	19.45	20
Monterey Bay	3922.8	209.4	18.73	21
<b>Stanislaus</b>	6523.0	387.1	<b>16.85</b>	<b>22</b>
Channel Islands	3005.2	179.8	16.71	23
<b>Total</b>	<b>350892.3</b>	<b>16500.1</b>	<b>21.27</b>	

**Data Reconciliation and Analysis Subcommittee to BLP**

**Figure 3. Pay-SFR for Fall 2008**

	FTES	FTEF	SFR	Rank
San Diego	30201.0	1236.5	24.42	1
Sacramento	23078.3	1000.3	23.07	2
San Bernardino	14571.5	637.2	22.87	3
Fullerton	27884.4	1220.8	22.84	4
<b>Bakersfield</b>	6751.4	298.3	<b>22.63</b>	<b>5</b>
Pomona	17804.7	787.0	22.62	6
Northridge	28460.9	1262.5	22.54	7
Maritime Academy	883.9	39.5	22.40	8
San Francisco	24363.1	1091.1	22.33	9
<b>San Marcos</b>	7372.3	331.3	<b>22.25</b>	<b>10</b>
East Bay	12115.3	546.9	22.15	11
San Jose	25938.2	1189.0	21.81	12
Chico	15727.6	722.3	21.77	13
<b>Sonoma</b>	8060.1	373.5	<b>21.58</b>	<b>14</b>
Fresno	18912.0	881.4	21.46	15
Long Beach	30316.0	1413.7	21.44	16
<b>Humboldt</b>	7087.6	349.3	<b>20.29</b>	<b>17</b>
Monterey Bay	4129.2	204.6	20.18	18
Dominguez Hills	8190.5	406.4	20.15	19
Los Angeles	15963.5	795.6	20.06	20
San Luis Obispo	18498.4	935.1	19.78	21
Channel Islands	3210.4	186.4	17.22	22
<b>Stanislaus</b>	6453.2	379.6	<b>17.00</b>	<b>23</b>
<b>Total</b>	355973.5	16288.3	21.85	

Figure 4. Pay-SFR for Fall 2009

Campus	FTES	FTEF	SFR	Rank
San Diego	28506.2	1112.1	25.63	1
East Bay	12519.4	491.0	25.50	2
<b>Bakersfield</b>	7140.1	281.1	<b>25.40</b>	<b>3</b>
Dominguez Hills	9509.8	375.2	25.34	4
San Bernardino	14688.8	579.8	25.34	5
Fullerton	27442.0	1117.2	24.56	6
Sacramento	23726.3	974.6	24.34	7
Pomona	18687.2	775.6	24.09	8
San Francisco	24309.4	1017.2	23.90	9
Chico	15554.0	666.7	23.33	10
<b>San Marcos</b>	7519.6	324.5	<b>23.17</b>	<b>11</b>
Fresno	18251.4	795.6	22.94	12
Northridge	27441.6	1203.8	22.80	13
Monterey Bay	4533.6	203.5	22.27	14
<b>Sonoma</b>	7451.3	344.9	<b>21.60</b>	<b>15</b>
Long Beach	28327.2	1312.9	21.58	16
Los Angeles	15617.5	727.8	21.46	17
San Jose	23569.1	1105.9	21.31	18
<b>Humboldt</b>	7351.4	345.4	<b>21.29</b>	<b>19</b>
<b>Stanislaus</b>	6435.7	310.5	<b>20.72</b>	<b>20</b>
San Luis Obispo	18699.3	906.7	20.62	21
Channel Islands	3234.4	181.0	17.87	22
Maritime Acad	901.3	62.4	14.45	23
<b>Total</b>	351416.6	15215.5	23.10	

Figure 5. Trends in Pay-SFR: CSU and CSUSM.

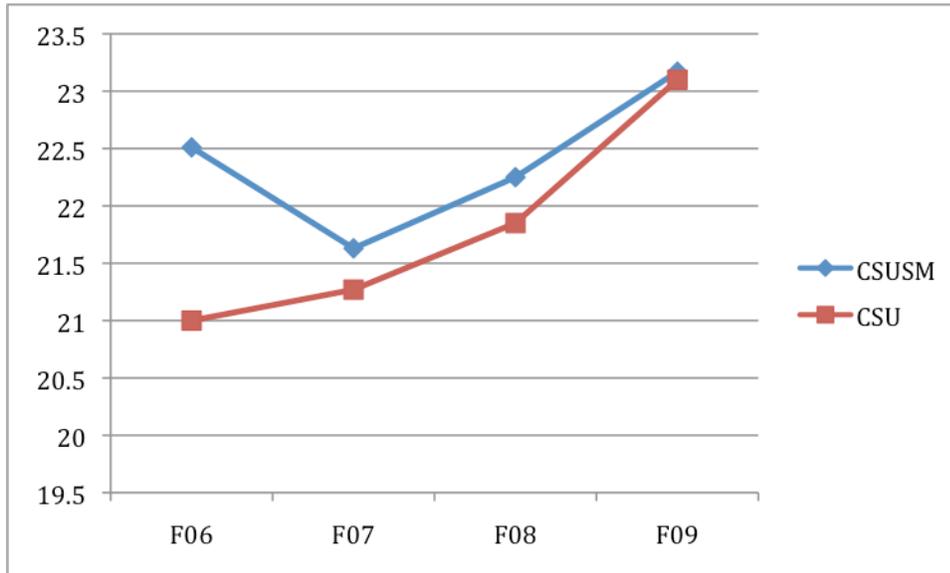
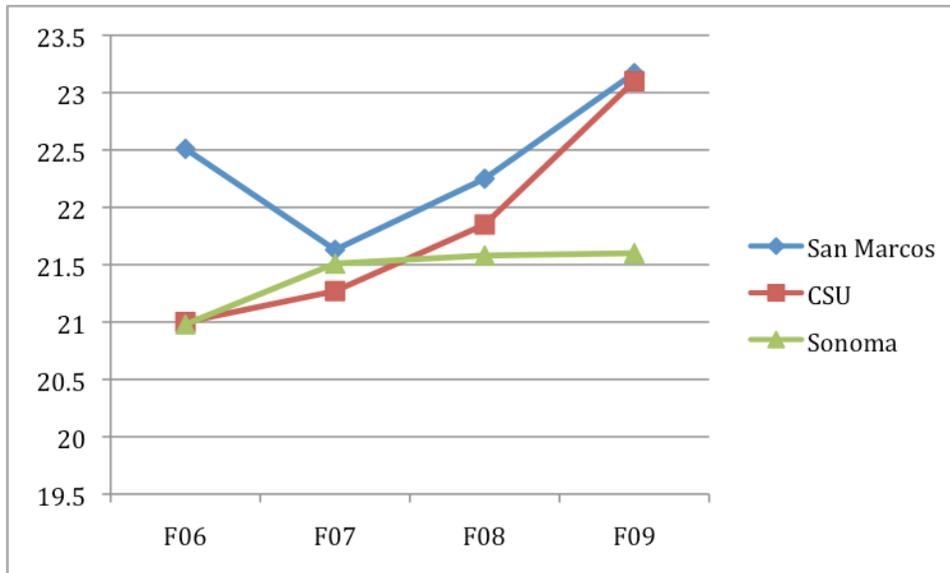


Figure 6. Trends: CSU, San Marcos, and Sonoma.



## **IV. SFR Change in Perspective**

We note that SFR does not measure average class size. For a variety of reasons average class size is significantly higher than the Pay-SFR.<sup>6</sup> Likewise, when the Pay-SFR goes up by one the average class size goes up by much more than one. Although they differ in magnitude, change in pay-SFR is reflected in a corresponding change in average class size and conversely. In fact, all other factors being equal, when SFR changes by a given percent, average class size can be expected to change by the same percentage. So a more concrete way to think of SFR change is in terms of percentage change. For example, in the last two years the Pay-SFR increased by over 7 percent on our campus. This means that a faculty member who was expected to teach 100 students in Fall 2007 would have had to teach 107 students in Fall 2009 to keep up with the trend in increased SFR. At a system level, there has been a 10% increase in SFR between Fall 2006 and Fall 2009.

Another way to put SFR change in perspective is to count the number of faculty positions that were eliminated because of the increase of SFR. On our campus we taught 7519.6 full-time equivalent students (not counting School of Nursing students for reasons discussed above) during the Fall of 2009. If we wanted to teach the Fall 2009 student body at the Fall 2007 rate of 21.63 to 1 we would have had to have 347.6 full-time equivalent faculty. In reality we only used 324.5 full-time equivalent faculty to teach these 7519.6 FTES. *This means that in some sense we are using 23.1 fewer faculty positions than we would have if we kept SFR constant.* Adopting the conservative estimate that most of these 23.1 positions would have been lecturer faculty, and that the average salary for such positions is about \$50,000, this means that *we spent 1.16 million dollars less on faculty salaries than we would have done had we kept the SFR constant.*

A similar calculation can be done for the system as a whole. According to our calculation CSU taught over 350,000 full-time equivalent students (not including nursing students), and the system had a 21 to 1 Pay-SFR in Fall 2006. To maintain that ratio in Fall 2009, the system would have had to use about 1519 more full-time faculty than in use today. With the conservative salary estimate of \$50,000 this amounts to a 76 million dollar difference. *So, because the CSU has increased SFR by 10% in the last three years, the system spends 76 million less on faculty salaries and uses 1500 fewer full-time equivalent faculty.* Although the educational implications of these trends go beyond the scope of this report, it is important to consider the impact on student learning of teaching more students with fewer faculty.

---

<sup>6</sup> Recall that 15 credit hours is considered a standard course load for a full-time equivalent undergraduate student, and that 15 weighted teaching units (WTUs) is considered a standard workload for full-time equivalent faculty. However, 1 WTU does not always equal one student credit hour. Discrepancies occur in lab and activity courses as well as independent study and thesis supervision courses. Furthermore, tenure-track faculty members are assigned WTUs for activities important to the academic program, but that go beyond direct classroom instruction. Because of this, and other factors, SFR is in general lower than average class size.

## **PART 2. SFR AT CSUSM: TOWARD AN INTERNAL FAD REPORT**

### **I. Introduction**

The recent practice on our campus is to invest significant resources to assemble Faculty Activity by Department (FAD) reports because they are required by the Chancellor's Office for its Academic Planning Data Base (APDB). The APDB is the basis for official SFR calculations throughout the CSU. Although preparation of the FAD is costly in terms of employee time and effort, the result is, unfortunately, not particularly usable on our campus because there are too many inaccuracies and much of the information is misleading. Since we put so much effort into these reports, why not put the extra effort and care into producing a report that can be used for internal planning? One of our recommendations is that we produce an *internal* FAD report in parallel with the report required by the Chancellor's Office. The APDB/FAD report required by Long Beach would be one of the results of this process, but, perhaps more significantly, we would also produce a reliable report that gives an accurate record of faculty activities at CSUSM in a user-friendly format that is tuned to our campus culture.

In this part of the report we will give concrete suggestions for implementing such an internal FAD including a proposed method for calculating the SFR (the Resident Faculty-SFR) that we believe would prove useful in campus planning.

### **II. Audit of the APDB and Independent Calculations**

Our committee conducted an audit of the Fall 2008, Spring 2009, and Fall 2009 APDB reports and found many inaccuracies and misleading data in all three semesters. The most striking example was in Fall 2008 where several part time faculty members were reported as full time, causing the size of the faculty to be over-reported, and the size of the SFR to be under-reported. A source of problems was our conversion to PeopleSoft. In addition to the above over-reporting of faculty, problems from one or more of these three semesters include missing sections (all sections of Math 051 in Fall 2008), faculty with part time assignments in multiple departments calculated as if they were in one department, extra WTUs for large sections not reported, chair assignments not reported for whole colleges, faculty on leave often reported as a 1.0 faculty even if their assignment was limited to supervising one or a few graduate students, reported WTUs for lecturers not matching the number of WTU associated to their contracts, timebase for lecturers not matching the WTU reported (the timebase should be WTU/15), academic rank not reported correctly for several TAs, lecturers, and full-time faculty, students in break-out lab sections not counted correctly, students taught by faculty with split assignments assigned to the wrong departments, and so on.

Many of these errors could have been identified and fixed with the following five steps.

1. Ask department chairs and associate deans to review faculty assignments for accuracy.
2. Carefully split faculty, and the corresponding students, for faculty teaching for multiple departments.
3. Compare the WTU assignments for lecturers on the APDB report with the WTUs assigned in contracts.

4. Conduct a careful, course-by-course, faculty-by-faculty, audit of a draft report before submitting the APDB report. During semesters where changes are made to the reporting system, extra care should be taken in auditing the report.
5. Assign an individual to officially coordinate the process. The nature of the process requires the dedicated efforts of many people, but it is important to have one individual be officially responsible for the accuracy of the final report. The coordinator should be someone with deep knowledge of the academic program and how it is implemented on this campus.

In addition to these audits, our subcommittee conducted an independent department-by-department calculation of SFR. We did this for three reasons: (1) to help us find possible sources of error in the current reporting methodology, (2) to help us make suggestions for the format and process of an internal FAD report, and (3) to provide a reliable snapshot of SFR on our campus for the Fall of 2009 semester. The steps and the results of this independent calculation are included below in order to illustrate a methodology for our proposed internal FAD report.<sup>7</sup>

### III. The RF-SFR metric

The five steps discussed above would make the Faculty Activity by Department report more accurate. There are two other ways in which we could make it a more useful internal planning tool. (1) Instead of using the codes required by the Chancellor's Office, which often seem archaic and nonspecific, we should adopt codes or designations that are easily understood on our campus and flexible as our workload reporting evolves. A simple mapping could be used to map our codes to the codes required by the Chancellor's Office. (2) Include the Resident Faculty SFR (RF-SFR, as described below) as a component of the summary data contained in the internal FAD. We envision a process that begins with a data collection phase ending shortly after the census date, followed by the preparation of both an internal FAD and a FAD/APDB report for the Chancellor's office. Both the internal and external versions should be carefully audited at multiple levels, especially in semesters where implementation changes are made.

There are several variations in how SFR can be calculated, but for the purpose of an internal FAD report our committee sought a metric that is stable, based on clear principles, works for small as well as large academic units,

---

<sup>7</sup> Neither the APDB nor our calculations include teaching assignments by librarians. Librarians are faculty at CSUSM and engage in classroom instruction. Unfortunately, this is not reflected in the FAD reports. However, in order not to double count faculty or students, SFR calculations need to restrict themselves to counting faculty who appear as instructors of record. Our current practice is not to list library faculty as instructors of record, but rather to have library faculty teach segments of courses assigned to other faculty.

## Data Reconciliation and Analysis Subcommittee to BLP

and does not penalize departments having faculty that engage in grant work, apply for sabbaticals, or engage in service funded outside the department or academic unit. We developed a metric for calculating an SFR that we call the “Resident Faculty SFR” (RF-SFR). This is based on the concept of measuring the number of faculty “residing” in a given department or unit compared to the number of students taught by the department or unit. It is important to emphasize that our concept of resident faculty does not consider only the time faculty expend in direct classroom instruction. While direct instruction is the dominant activity of faculty at CSUSM, we adopted the view that normal faculty research and service were equally vital to the success of our academic program. Thus most full time faculty members are counted as 1.0 full-time faculty under this method even if only a fraction of that time is spent in duties related to a particular course. For this (and other reasons discussed in Part 1 above) the RF-SFR metric is not a measure of average class size. Instead RF-SFR should be thought of as a comparison between the size of the faculty in residence in a particular academic unit doing normal faculty duties compared to the size of the student body taught in the unit.

Although most tenure-track faculty members are counted as 1.0 faculty for the purposes of the RF-SFR, some tenure-track faculty members will be counted as less. For a given department or academic unit we exclude (1) the proportion of time for high level administrative activities, including chairing a department, since this clearly falls outside the bounds of normal faculty service, (2) faculty time spent on grants funded outside the unit since such work, while of great importance to the university, is considered to be external to a given academic unit, (3) faculty engaged in service funded by the Provost’s Office or other entities outside the given academic unit for work that does not benefit the given academic unit *per se* but benefits the university as a whole including course releases for activities such as chairing committees of the Academic Senate or coordinating the Faculty Center, and (4) faculty on leave including sabbaticals.<sup>8</sup> Items (1), (2) and (3) are often referred to as “paid course releases”, and the RF-SFR is calculated in such a way to exclude such assignments.

To explain RF-SFR in more detail, we start with a simple equation that is common to most SFR-metrics:

$$\text{SFR} = \text{Student Faculty Ratio} = \# \text{ of Students} / \# \text{ of Faculty}$$

In other words, every academic unit’s SFR calculation can be divided into two steps: counting students taught in the unit, and counting faculty in that unit. Variations in SFR metrics are really variations in how students or faculty are counted.

---

<sup>8</sup> Our current practice is to exclude faculty with no teaching assignments from the FAD, including faculty on sabbaticals. For the purposes of Res-SFR we believe faculty in residence should be counted whether or not they have a teaching assignment. However, we would like to preserve the tradition of excluding faculty on sabbatical as “not in residence” since we do not wish to penalize departments or create anomalous data points for having faculty being granted sabbatical leave. Here, we envision sabbaticals as being granted by the colleges and/or the Provost’s office.

Counting students is not done by headcount since different students take different numbers of classes. The current norm in the CSU is to view 15 units per semester as a standard load for a student, except for certain types of graduate students where the CSU-norm is 12 units per semester. A student taking less than the standard load is counted as a partial student, a student taking more than the standard load is counted as more than the equivalent of a 1.0 student. This leads to the concept of *Full-Time Equivalent Students* (FTES). Using the CSU based norms mentioned above, this gives the formula

$$\text{FTES} = (\text{sum of units taken by all UG students} / 15) + (\text{sum of units taken by all Grad students} / 12)$$

We do this at a department-level, say, to compute the department's FTES. This number will change depending on when in the semester that the count of students is made since students add and drop courses early in the semester and, in fact, continue to withdraw throughout the semester. So the specification of an SFR metric should include the date at which the count is made. In the CSU, a particular point early in the semester is designated as the "census" date, and this is widely understood as giving the official count of students. We propose that that student enrollment at the census date be used as the enrollment for the purpose of counting FTES. We also propose that open enrollment students be included.<sup>9</sup>

After students are counted, a method must be employed to count faculty. As mentioned above, there are faculty members that should be counted as less than a 1.0 faculty member. This leads to the notion of *Full-Time Equivalent Faculty* (FTEF) in general, and the notion of *Full-Time Equivalent Resident Faculty* in our proposed metric.

In our calculation of RF-SFR, we counted resident faculty for Fall 2009 using the following steps. We recommend that the data associated with each step be included in the summary data of the internal FAD because the numbers appear in each step are of independent interest.

- (1) We obtained a list of all tenure-track faculty in each department and academic unit. Faculty members with partial timebases were counted according to their timebases, and faculty members on unpaid leaves were excluded. This gives the number of faculty in each department and academic unit. This is a starting point for our calculations.
- (2) We subtracted the portion of faculty time for department chair or other high level administrative assignments. This is done since such activities clearly fall more into the administrative realm than the academic realm. We used information supplied by the associate deans to determine how many faculty had such assignments, and what fraction of the timebases were classified as administrative.

---

<sup>9</sup> In our calculation of FTES for Fall 2009, we used census data including open enrollment students whenever we could obtain it, and we recommend using such data in the future. However, the best data available for graduate student enrollments, based on the same data set used by the APDB report, seems to undercount graduate students by a small amount. Had we used census data, Graduate FTES probably would have been a bit higher, which would have raised the RF-SFR a small amount.

## Data Reconciliation and Analysis Subcommittee to BLP

- (3) Next we subtracted all externally funded assignments (sometimes called “paid course releases”). Here *external* does not only mean external to the university, but also includes funding from the Provost’s Office and other campus entities external to the given academic unit.<sup>10</sup> This includes such assignments as GE Assessment Coordinator, Cultural Diversity Director, Faculty Center Director, Service Learning Director, funded CFA service, Academic Senate officers and committee chairs. This also includes truly externally funded sources such as state and federal grants. We recommend that colleges maintain a list of faculty with such externally funded release time, together with the timebase fraction or number of WTUs devoted to this activity. (Here, as elsewhere, 15 WTUs equals a 1.0 timebase). In the College of Education, this includes CSUSM faculty in Distinguished Teachers in Residence program who engage in activities funded by other schools. It also includes faculty (paid stateside) teaching for extended studies. Finally, faculty members teaching for other departments have the fraction of time involved in such teaching subtracted here (which is later added to the other department’s FTEF in step 7).
- (4) We next subtracted faculty on sabbatical and other forms of paid leave.

The result of this step is the number of full-time equivalent *resident tenure track faculty*. To get total FTEF we add lectures, TAs, and other additional faculty.

- (5) We added the number of lectures assigned to the department or academic unit. This is calculated by taking the contract WTUs and dividing by 15. Such WTUs are mainly assigned for teaching activities, but department or academic unit service is also included. (If the service is for administrative activities on par with step 2 above, then this service is not included).
- (6) We added TAs. Here we include all, and only, graduates students formally assigned as instructor of record to a course. Again, we take the contracted WTUs and divide by 15.
- (7) Finally we include all instructors of record that do not fit into the above categories. These are faculty teaching courses for an academic unit, but not being paid directly by that academic unit. This includes faculty teaching from other departments (where the fraction of the time involved in teaching outside their home department or unit is subtracted in step 3 above), volunteers teaching courses, graduate students not paid to teach but listed as instructor of record, distinguished teachers in residence visiting CoE, and other faculty paid outside CSUSM (even if CSUSM compensates another organization to employ such faculty)

The result of this calculation gives the total *full time equivalent resident faculty* in each academic unit.

Finally the FTES for each given academic unit is divided by the FTE resident faculty to give the RF-SFR.

---

<sup>10</sup> It has been suggested that we add a special department called “academic affairs”, or “university wide” to account for faculty assignments in university-funded activities outside the faculty member’s home department or academic unit.

In some of these steps there are edge cases that require judgment calls in order to decide which department to assign FTES and FTEF, or to decide how to classify certain assignments. However, a cardinal rule should always be followed.

*Students follow faculty: for a given teaching assignment whichever department is assigned the FTE faculty for the class, the FTE students should go to the same department.*

In particular, if a teaching assignment is split evenly between two departments, then the students should be split accordingly.<sup>11</sup>

### IV. Example: Fall 2009

We now present our calculations for the Fall Semester of 2009. The following calculations, which are largely independent of the official APDB calculations, serve to illustrate the RF-SFR metric described above as well as to provide a reliable snapshot of SFR on our campus at a particular point in time.

For convenience we split the calculation between Figures 7 and 8 below. As discussed above, the intermediate steps in the calculation, each corresponding to a column of the following chart, contain valuable information. We recommend that similar information be provided in future internal FAD reports.

Figure 7 illustrates the computation of the Resident Tenure-Track Faculty. The columns are numbered to match the steps discussed in Section III above.

Figure 8 illustrates the computation of the RF-SFR. The first columns show the number of Full-Time Equivalent Students. The column labeled RF-TT FTEF contains the results of Figure 7. The remaining columns illustrate the further steps for calculating the RF-SFR. The last column of Figure 8 gives the RF-SFR itself.

---

<sup>11</sup> A corollary of this is that faculty assignments for teaching under extended studies / self-support should not count toward FTE resident faculty. This follows since students in extended studies are traditionally not counted in the campus's FTES, and since students are paired with faculty, the corresponding faculty assignments should also not count. Of course, it might be useful to have another metric that deliberately includes students taught in certain extended studies courses. Such a metric might be useful in programs such as Nursing. By the above cardinal rule, such a metric should count the instructors of such extended studies courses as FTE faculty and assign such faculty to the same unit as the students.

In cross listed courses taught by a single instructor in a given department, this cardinal rule implies that all the students taught should be assigned to the same department as the instructor. If two departments make an agreement to split students in such a course, then the cardinal rule implies faculty assignment must be split as well and in the same proportion.

## Data Reconciliation and Analysis Subcommittee to BLP

**Figure 7. Resident Tenure Track Faculty Calculation**

<b>Department</b>	<b>(1) Tenure-Track</b>	<b>(2) Admin Assignments</b>	<b>(3) External Assignments</b>	<b>(4) Sabbatical and paid leave</b>	<b>Resident Tenure Track Faculty</b>
Anthropology	2.00	0.20	0.00	1.00	0.80
Biology	14.00	0.40	3.00	0.79	9.81
Chemistry and Biochemistry	7.00	0.40	0.00	0.00	6.60
Communication	10.00	0.40	0.00	0.00	9.60
Computer Science	6.00	0.20	0.40	0.00	5.40
Economics	5.00	0.20	0.00	0.00	4.80
History	11.00	0.00	0.40	2.00	8.60
Human Development	1.00	0.20	0.00	0.00	0.80
Kinesiology	4.00	0.20	0.00	0.00	3.80
Liberal Studies	7.80	0.40	0.20	1.00	6.20
Literature & Writing Studies	9.00	0.40	0.80	0.00	7.80
Mathematics	10.80	0.20	1.35	0.00	9.25
Modern Language Studies	8.00	0.40	0.40	0.00	7.20
Philosophy	2.00	0.20	0.00	0.00	1.80
Physics	4.00	0.20	0.33	0.00	3.47
Political Science	9.00	0.20	0.00	2.00	6.80
Psychology	13.00	0.40	1.00	0.00	11.60
Sociology	16.00	0.40	0.40	1.00	14.20
Visual & Performing Arts	11.00	0.40	1.00	0.00	9.60
Women's Studies	2.00	0.20	0.00	0.00	1.80
<b>CoAS Total</b>	<b>152.60</b>	<b>5.60</b>	<b>9.29</b>	<b>7.79</b>	<b>129.92</b>
Accounting & Finance	8.00	0.27	0.00	0.00	7.73
Management & Marketing	14.50	0.27	0.80	1.00	12.43
Information Systems & OM	10.00	0.53	0.00	3.00	6.47
<b>CoBA Total</b>	<b>32.50</b>	<b>1.07</b>	<b>0.80</b>	<b>4.00</b>	<b>26.63</b>
Education	28.90	2.16	3.60	2.90	20.24
Nursing	4.00	0.00	2.67	0.00	1.33
<b>Total</b>	<b>218.00</b>	<b>8.82</b>	<b>16.35</b>	<b>14.69</b>	<b>178.13</b>

Figure 8. Resident Faculty SFR Calculation

Department	UG FTES	Grad FTES	Total FTES	Res-TT FTEF	5 Lecturer FTEF	6 TA FTEF	7 Guest FTEF	Total Res-FTEF	RF-SFR
Anthropology	120.6	0.0	120.6	0.80	2.20		0.23	3.23	37.30
Biology	358.5	20.8	379.3	9.81	5.82	0.60		16.22	23.38
Chemistry and Biochemistry	192.5	0.0	192.5	6.60	2.57			9.17	21.00
Communication	453.0	0.0	453.0	9.60	7.37			16.97	26.70
Computer Science	98.1	11.4	109.6	5.40	1.33			6.73	16.27
Economics	120.7	8.0	128.7	4.80	0.20		0.20	5.20	24.76
History	417.0	13.0	430.0	8.60	5.20			13.80	31.16
Human Development	121.0	0.0	121.0	0.80	3.40			4.20	28.81
Kinesiology	173.7	0.0	173.7	3.80	2.77			6.57	26.45
Liberal Studies	199.6	1.0	200.6	6.20	1.95			8.15	24.61
Literature & Writing Studies	442.6	14.1	456.6	7.80	11.93	1.20	0.03	20.97	21.78
Mathematics	447.8	8.5	456.3	9.25	3.73	2.13		15.11	30.19
Modern Language Studies	336.9	12.3	349.3	7.20	4.00	5.00		16.20	21.56
Philosophy	176.1	0.0	176.1	1.80	3.00			4.80	36.68
Physics	148.8	0.0	148.8	3.47	2.35			5.82	25.57
Political Science	289.5	0.0	289.5	6.80	2.00			8.80	32.90
Psychology	478.2	20.8	499.0	11.60	4.47		0.73	16.80	29.70
Sociology	584.9	31.1	616.0	14.20	9.40			23.60	26.10
Visual & Performing Arts	364.8	1.1	365.9	9.60	5.37			14.97	24.45
Women's Studies	128.9	0.0	128.9	1.80	2.20		0.21	4.21	30.62
<i>College Wide (PE 200)</i>	13.9	0.0	13.9				1.00	1.00	13.87
<b>CoAS Total</b>	<b>5667.0</b>	<b>142.1</b>	<b>5809.1</b>	<b>129.92</b>	<b>81.25</b>	<b>8.93</b>	<b>2.41</b>	<b>222.51</b>	<b>26.11</b>
Accounting & Finance	243.5	0.0	243.5	7.73	2.27			10.00	24.35
Management & Marketing	474.3	16.1	490.4	12.43	6.47			18.90	25.94
Information Systems & OM	152.7	0.0	152.7	6.47	1.07		0.27	7.80	19.57
<i>College Wide Classification</i>	30.7	7.8	38.4		1.33		0.15	1.48	25.96
<b>CoBA Total</b>	<b>901.1</b>	<b>23.8</b>	<b>924.9</b>	<b>26.63</b>	<b>11.13</b>		<b>0.41</b>	<b>38.18</b>	<b>24.22</b>
<b>Education</b>	<b>627.5</b>	<b>125.2</b>	<b>752.7</b>	<b>20.24</b>	<b>12.43</b>		<b>3.67</b>	<b>36.34</b>	<b>20.71</b>
<b>School of Nursing</b>	<b>75.1</b>	<b>0.0</b>	<b>75.1</b>	<b>1.33</b>	<b>5.97</b>			<b>7.30</b>	<b>10.29</b>
<b>First Year Programs</b>	<b>189.2</b>	<b>0.0</b>	<b>189.2</b>		<b>5.80</b>			<b>5.80</b>	<b>32.62</b>
<b>Grand Total</b>	<b>7460.0</b>	<b>291.1</b>	<b>7751.0</b>	<b>178.13</b>	<b>116.58</b>	<b>8.93</b>	<b>6.49</b>	<b>310.14</b>	<b>24.99</b>

## **PART 3. FACULTY DISTRIBUTION BY RANK**

### **I. Introduction**

While student faculty ratios give an indication of the size of the faculty as compared to the size of the student body, they do not tell us much about *how* the faculty is distributed. As we did for payroll-SFR, we turn to payroll data to obtain information about the percentage of faculty of each rank. The data shows that, compared with other CSUs, our campus has an unusual distribution of faculty by rank. This distribution provides perspective on instructional spending and SFR patterns on this and other campuses of the CSU.

### **II. Methodology**

The source for the following is payroll data for the CSU for December 2009. Due to our focus on teaching faculty, we limited our study to the following categories of faculty: lecturers, assistant professors, associate professors, and full professors. When measuring the size of each category we used full-time equivalent faculty measured by timebase, not headcount. (If we were to measure by headcount the percentage consisting of lecturers would be much higher). We excluded faculty on unpaid leave. Since the factors that led us to exclude departments of nursing, namely students taught under self-support by state-supported faculty, are not relevant here, we included faculty in all academic disciplines including nursing. Since different campuses employ different methods of determining department chair timebases, we included faculty chair assignments in the count of faculty for simplicity. Our data set included over 22,000 faculty (the full time equivalent of 15,720 faculty).

In the final section, we briefly consider salary. To obtain salary we multiplied the monthly salary by 12 to give an annualized salary. Average salary for a campus, and for the system as a whole, was computed by dividing total salary spending by the number of full time equivalent faculty.

### III. Summary of Results

The following gives the distribution by rank among campuses of the CSU. Each campus is designated by its familiar two-letter code. By *Peer* we include campuses of roughly the same size of San Marcos (SM). This includes Bakersfield (BA), Humboldt (HU), Sonoma (SO), and Stanislaus (ST).

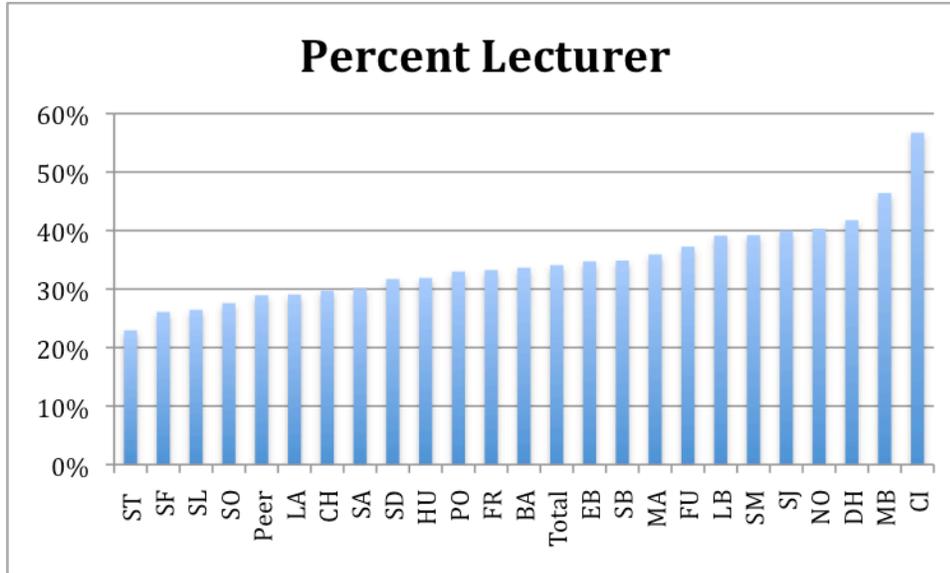
**Figure 9. Distribution by Rank**

Campus	Lecturer	Assistant	Associate	Full
BA	34%	14%	21%	32%
CH	30%	18%	15%	37%
CI	57%	11%	21%	11%
DH	42%	18%	17%	23%
EB	35%	23%	17%	25%
FR	33%	21%	16%	29%
FU	37%	22%	17%	23%
HU	32%	14%	18%	36%
LA	29%	16%	17%	38%
LB	39%	17%	15%	28%
MA	36%	23%	19%	22%
MB	46%	19%	13%	21%
NO	40%	14%	19%	27%
PO	33%	15%	14%	38%
SA	30%	17%	22%	31%
SB	35%	14%	13%	38%
SD	32%	14%	21%	33%
SF	26%	23%	19%	32%
SJ	40%	15%	14%	31%
SL	26%	21%	18%	34%
SM	39%	13%	24%	24%
SO	28%	17%	19%	36%
ST	23%	19%	21%	37%
Total	34%	18%	18%	31%
Peer	29%	16%	20%	35%

**Data Reconciliation and Analysis Subcommittee to BLP**

The following four figures gives the data of Figure 9, but sorted for each rank.

**Figure 10**



**Figure 11**

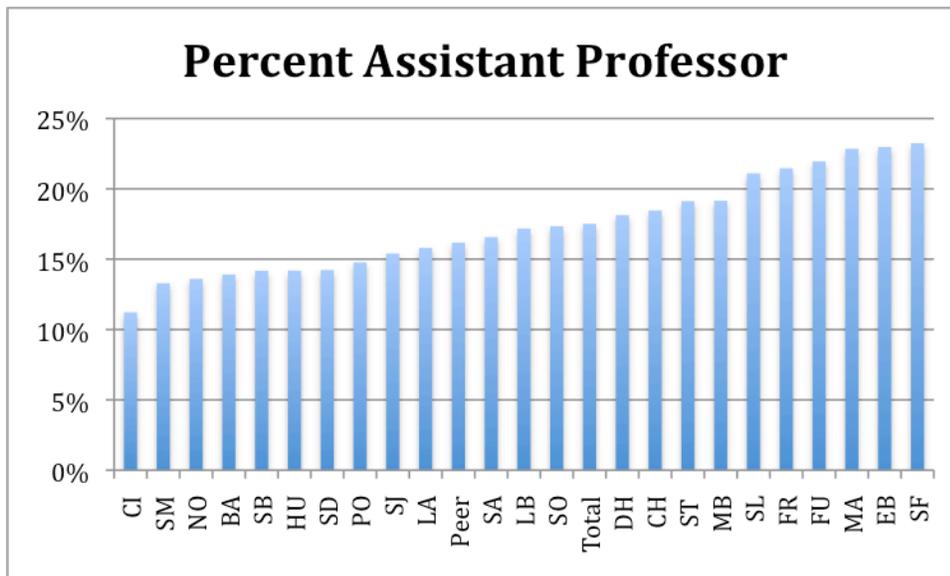


Figure 12

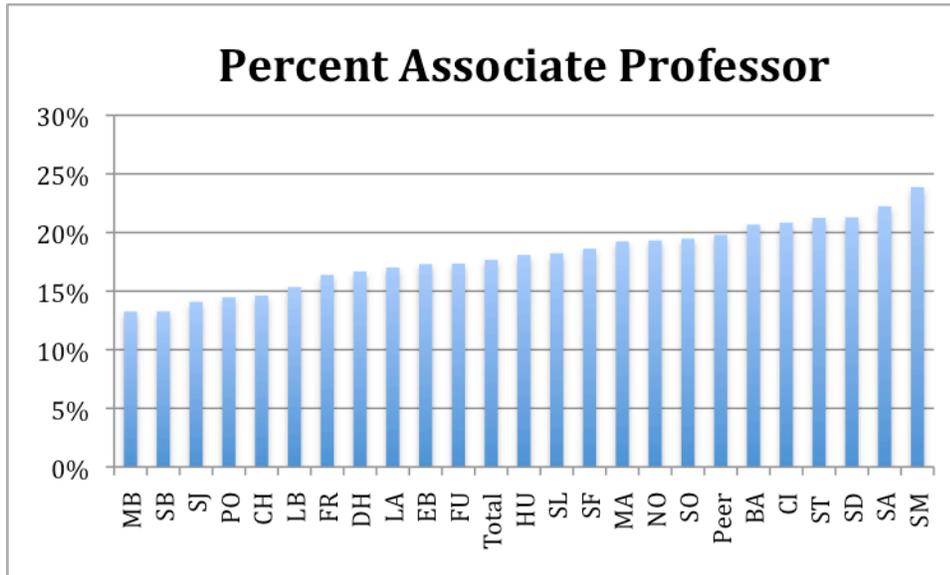
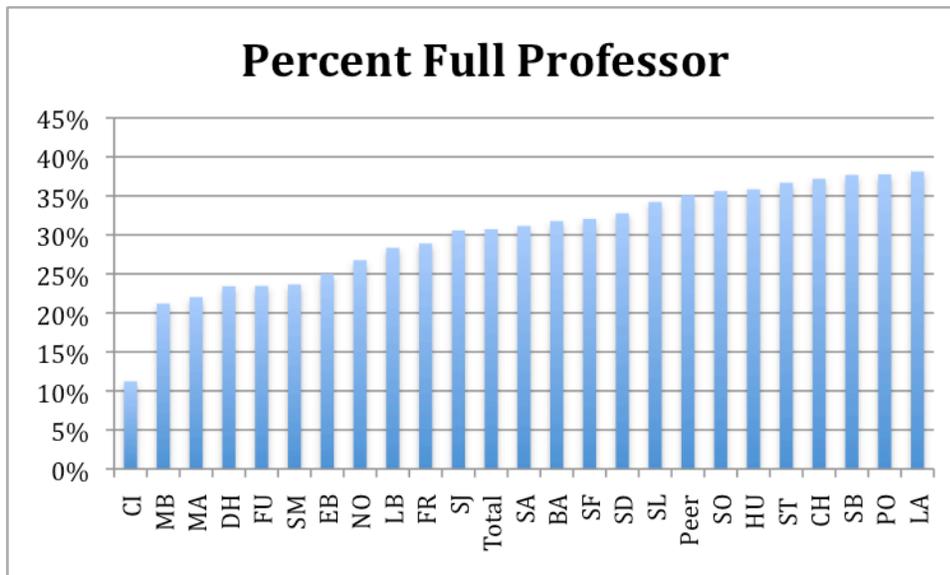


Figure 13



This information shows that the faculty distribution on our campus is nontypical. For example, we have the highest percentage of associate professors in the entire system (24%), significantly more than the system as a whole (18%). We are skewed almost as much in the other direction for assistant professors: aside from Channel Islands, we have

## **Data Reconciliation and Analysis Subcommittee to BLP**

the smallest percentage of assistant professors (13%), significantly less than the system as a whole (18%). As might be expected for a campus only 20 years old, we have a relatively small percentage of full professors (24%). The percent of full professors systemwide is 31%, and at peer campuses it is 35%. Perhaps most importantly, we have a much higher percentage of lecturers (39%) than our peer campuses (29%). We are also higher in percentage of lecturers than the CSU as a whole (34%).

### **IV. Salary per Full Time Equivalent Faculty**

In our other report<sup>12</sup>, we determined that our campus reports significantly less spending on instruction than our peer campuses according to the FIRMS classification of spending. In the early years of our campus, it was argued that we spend less on instruction because we have a relatively young faculty whose average salary is significantly less than that at other campuses. While it is no longer true that we have a large number of assistant professors, we do have fewer full professors as a percentage of the faculty on our campus, and we do have a high percentage of lecturers. How much difference does this make to the cost of faculty as measured by average salary? Below is the average salary among the campuses in the CSU. While we are among lower campuses as measured by average salary, we are not significantly below our peer campuses. Our average annualized salary per FTE faculty is \$64,265, which is only two percent lower than that of our peer campuses (\$65,607). This suggests that the rank distribution of our faculty is a small factor in creating the imbalance of reported instructional spending highlighted in our other report.

---

<sup>12</sup> “Three-Year FIRMS Comparison Study: Final Report” (July 2010).

Figure 14

