Salaries at the University of California, Davis in Comparison with other UC Campuses

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During 2008, a Joint Faculty Salary Task Force at the University of California, Santa Cruz, analyzed the data for faculty salaries across the UC campuses. The charge of that task force was to: "Examine current policies and practices, at all levels of the academic personnel review, which affect faculty salaries and recommend modifications that ensure UCSC salaries are equitable relative to other UC campuses." Their report has recently been submitted to the UCSC administration, and includes recommendations to bring UCSC salaries up to a level that is comparable with the average of other UC campuses.[1]

The goal of this report, prepared at the request of Robert Powell, Chair, UCD Academic Senate, is to describe the salaries and offscale levels at UCD using the same information made available to the UCSC task force.[2] Beyond a presentation of the data, no recommendations are made here; any such action is left to the deliberation of faculty and committees reading this report.

1. The Salary Dataset

The salaries used are as of October 1, 2007, and include all ladder-rank faculty, nine month appointments only, up to Full Professor step IX. No *above scale* faculty are included, but the *offscale* component of salaries is certainly included in the data. For comparability across campuses, professional schools are excluded (business, law, public policy, public health)[3], and the UCSF campus and UCD Schools of Medicine and Veterinary Medicine are also excluded. These selection criteria were used by the UCSC task force. The remaining faculty can be thought of as those in Letters and Sciences *broadly defined*, e.g. including the College of Biological Sciences at Davis. But there are some anomalies across campuses: for example, 57 faculty from the College of Natural Resources at Berkeley are included in the dataset, but only a handful of faculty from the College Agricultural and Environmental Sciences at Davis, most likely because faculty from CAES have fiscal-year appointments. The focus on nine month appointments would exclude other UCD faculty, as well.

The dataset separates faculty who are on the Business, Economic and Engineering scale from other faculty; but since the business schools are omitted entirely, in practice this distinction is between Economics and Engineering faculty versus others in Letters and Sciences (broadly defined). We focus in this report on the L&S data, but include a brief description of the Economics and Engineering salaries in the final section.

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[1] "Senate-Administration Task Force on Faculty Salaries, Report," September 10, 2008

[2] We thank Professor Lori Kletzer, University of California, Santa Cruz, for providing these data to us.

[3] See "Senate-Administration Task Force on Faculty Salaries, Report," September 10, 2008, note 1, for a list of all excluded professional schools.

2. Time to Rank and Step

The focus of the report by the UCSC task force was on salaries and off-scale components. But while this report was being prepared, attention was also given to the time that it takes faculty on each campus to reach the ranks and steps of the UC personnel ladder. That information, shown in Figure 1, suggests that UCD faculty progress up the ladder as rapidly as at other UC campuses, on average. While there is some scatter across campuses, the UCD data fall well within the group.

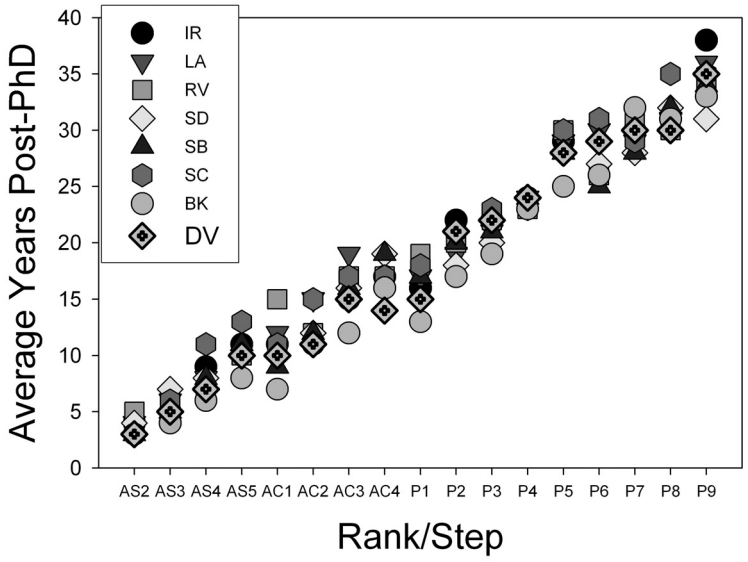

Figure 1: The Average Time to Reach each Rank and Step depending on Years since PhD (L&S Faculty, without Economics)
Source: Professor Bowman, University of California, Santa Cruz.

3. Comparing L&S Salaries at UCD and Other Campuses

Although the rank and steps are not significantly different among the various UC campuses, the salaries differ considerably. Figure 2 shows mean and median salaries, by rank and step, across the various campuses. UCD is shown as the first bar, and is often near the bottom of the various campuses (except at the highest steps). The highest-paid campuses are Berkeley and UCLA, which stand out as the second and third bars (with "lr," for the Lawrence Berkeley National Laboratory, squeezed in-between them).

To see the salary differences more easily, we focus now on the *offscale* component. Our finding in Figure 1 that the time to step and rank is broadly similar across campuses, together with the common salary scale, means the differences in salary must arise from offscale amounts.

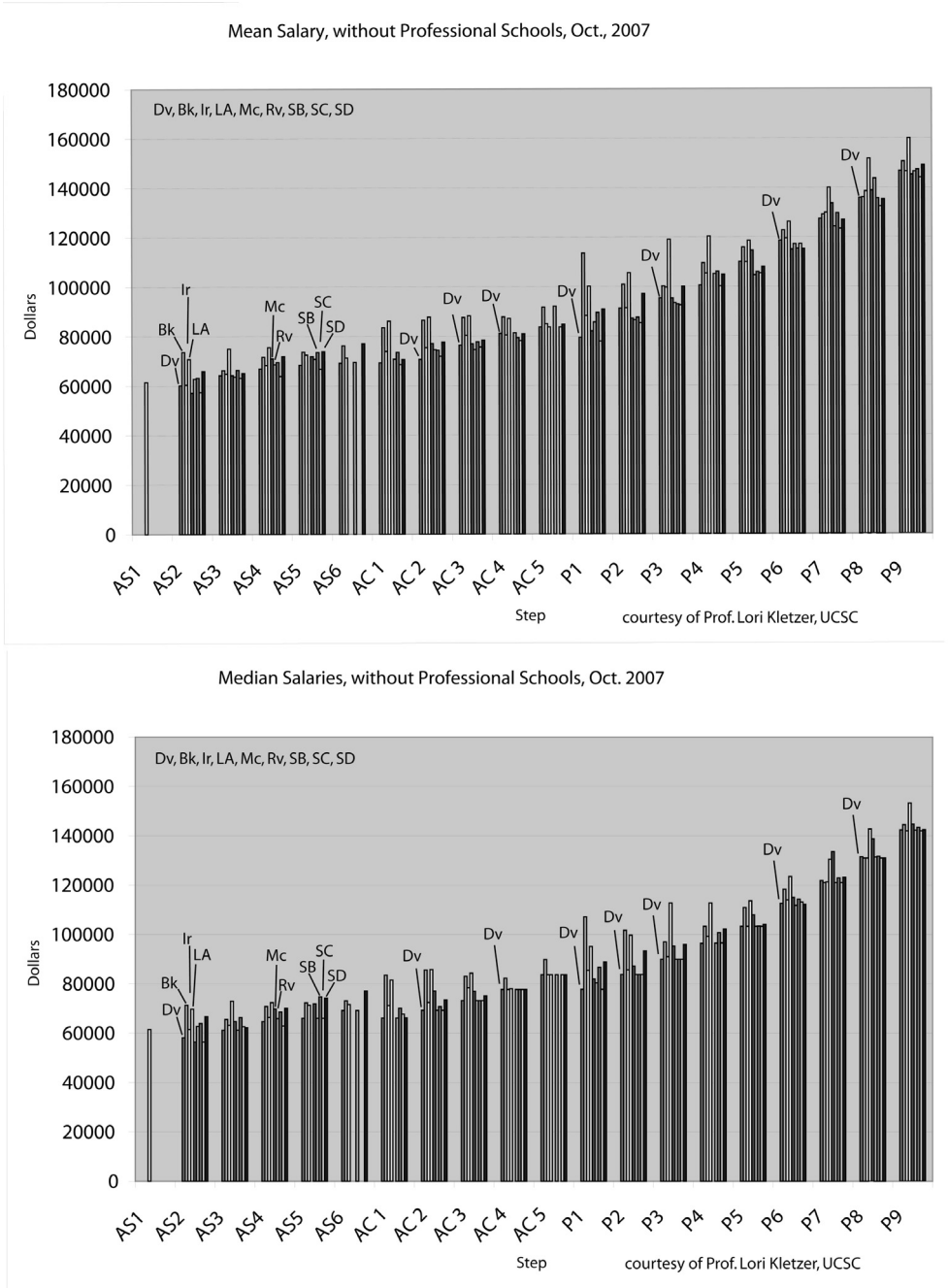

Figure 2: The Mean (top) and Median (bottom) Salaries for Senate faculty with Academic-year appointments in the various UC campuses (L&S Faculty, without Economics)
Note: These salaries include the step salaries and offscale adjustments.

The UCSC task force constructed the percentiles of the offscale amounts by rank and step. For example, the 25th percentile gives the dollar amount of offscale received by the person at that rank and step with 25% of the like faculty earning less offscale. Table 1 in the Appendix to this report shows the minimum, 25th percentile, median (50th percentile), mean, 90th percentile, and maximum offscale earned at each rank and step for each campus.

The Berkeley and UCLA campuses have much larger offscale amounts than the other campuses. For example, considering the 75th percentile of offscale increments, we obtain the following amounts for the nine campuses (taken from Table 1 in the Appendix):

Table 1: 75th percentile of Offscale Dollars, by Rank and Campus
(L&S Faculty, without Economics)

	Assistant	Associate	P1-P5	P6-P9
Berkeley	$12,800	$14,700	$17,900	$7,500
Davis	5,613	959	5,900	7,805
Irvine	8,900	8,300	11,000	6,700
Los Angeles	17,800	21,900	32,200	28,200
Merced	8,300	7,800	5,200	10,000
Riverside	9,100	2,800	3,500	5,800
Santa Barbara	9,000	6,000	6,100	7,400
Santa Cruz	4,100	1,800	2,300	3,000
San Diego	11,600	7,050	13,100	5,400

UCLA pays the highest offscale (in the 75th percentile) at every rank, followed by Berkeley. At the other end, UCSC stands out as paying the lowest in nearly every rank. The Davis campus pays the second-lowest offscale (in the 75th percentile) for Assistant professors, the *lowest* for Associate professors, the third-lowest for P1 – P5, and an amount that is roughly in the middle of the range for P6 – P9.[4] Thus, it is evident that the shortfall of offscale paid by Davis occurs especially at the Assistant and Associate professor ranks.

The high levels of offscale paid by UCLA and Berkeley are shown more fully in Figure 3, where we plot the 25th percentile, median, 75th percentile, and 90th percentile of the offscale dollars at each rank. For example, the 90th percentile of offscale for UCLA is close to $50,000 at the P1 – P5 rank, which is the highest shown in Figure 3. Even the 25th percentile of offscale exceeds $10,000 on both campus for most ranks. In other words, nearly 75% of the faculty on both campuses earn at least $10,000 in offscale, and often much more. While Figure 3 (and Table 1) summarized the offscale amounts by rank, we can instead plot the amounts by *rank and step,* which is done in Figure 4. For both campuses the highest 90th percentile of offscale exceeds $60,000, and there is generally a fall in offscale at grid point 8 (Associate Step IV) and point 14 (Full Step V).

[4] Combining all the campuses, the 75th percentile of offscale at the P6 – P9 rank is $9,600, and combining all campuses except Berkeley and UCLA then the 75th percentile of offscale at the P6 – P9 rank is $5,800. Thus, the offscale paid by Davis at that rank falls in-between these two amounts.

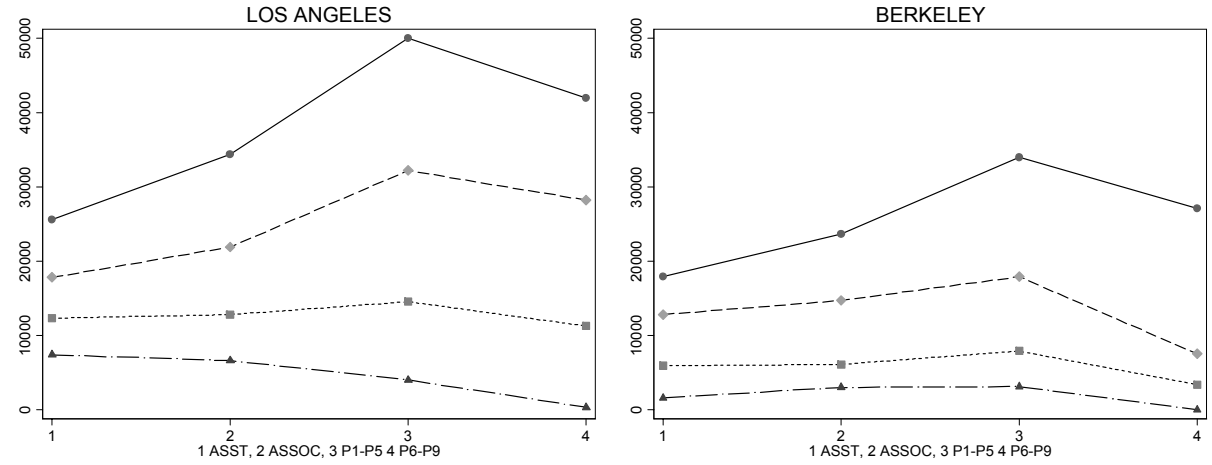

Figure 3. 25th percentile, Median, 75th percentile, and 90th percentile of the Offscale Dollars at each Rank, for UCLA and Berkeley (L&S faculty, without Economics)

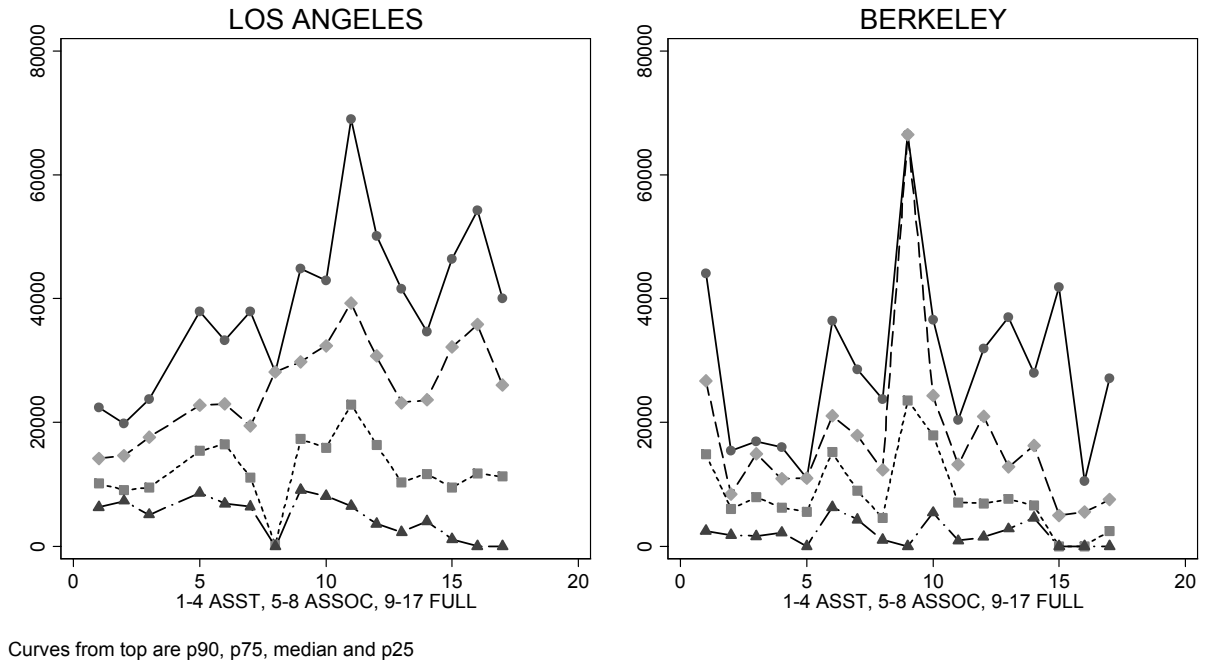

Figure 4. 25th percentile, Median, 75th percentile, and 90th percentile of the Offscale Dollars at each Rank and Step, for UCLA and Berkeley (L&S faculty, without Economics)

Turning now to the other campuses, in Figure 5 we plot the 25th percentile, median, 75th percentile, and 90th percentile of the offscale dollars at each rank, for all other campuses with the exception of Merced.[5] A common scale from zero to $30,000 is used for these other campuses (in contrast to the scale of zero to $50,000 used for UCLA and Berkeley). Figure 5 shows that Davis is below all the other campuses except Santa Cruz at the 25th percentile of offscale, the median and the 75th percentile. Particularly striking is that at the Associate professor level the 75th percentile of offscale is less than $1,000 at Davis, as was also shown above in Table 1. At the 90th percentile of offscale, Davis is closest to Santa Barbara.

Figure 6 summarizes the offscale amounts by *rank and step* for these campuses. The highest 90th percentile of offscale is less than $30,000 at Davis, but exceeds $30,000 on every other campus except UCSC. Again, there is generally a fall in offscale at grid point 8 (Associate Step IV) and point 14 (Full Step V).

3. Economics and Engineering Salaries

The analysis above was conducted on data for Letters and Sciences faculty (broadly defined), excluding Economics. But as explained at the beginning of the report, the salary data also included those faculty on the Business, Economic and Engineering pay scale. Since business schools were excluded from the dataset entirely, we focus now on Economics and Engineering faculty.

Offscale salaries are used more widely in Economics than in Engineering: 56% of people in Engineering across all campuses have offscale components, and 76% of person in Economics.[6] In addition, the offscale amounts are higher in Economics, reflecting the market pressure from business schools and private firms. Across all campuses, the median offscale (for those receiving some) in Engineering is $5,600, while in Economics it is $16,500, However, these amounts hide considerable disparities *across* the campuses.

To illustrate the differences across campuses, we regressed the natural log of each individual's salary on the natural log of the salary scale for that person, and indicator variables for each of the campuses except Davis. That is, we run the following regression:

$$ln(salary) = b_0+b_1 ln(scale)+b_2 LA+b_3 BK+b_4 SD+b_5 IR+b_6 SB+b_7 RI+b_8 SC\ .$$

The indicator variable for each campus takes a value of unity if the individual comes from that campus, and zero otherwise. Notice that the omitted indicator variable is the Davis campus. For that reason, the estimated coefficients of the indicator variables, b_2, b_3, b_4, etc. can be interpreted as the proportionate difference in the salary on each campus due to offscale, *as compared to Davis*. This regression was run separately for faculty in Engineering and Economics, with the results shown in Table 2.

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[5] We omit Merced due to the low number of observations, with just 60 faculty in the dataset, but the data for Merced are reported in Table 1 of the Appendix.

[6] We omitted the Merced campus, where the 28 observations were too few for the regressions we run. We also omit 17 observations from the UCSD management school, because other business schools were excluded.

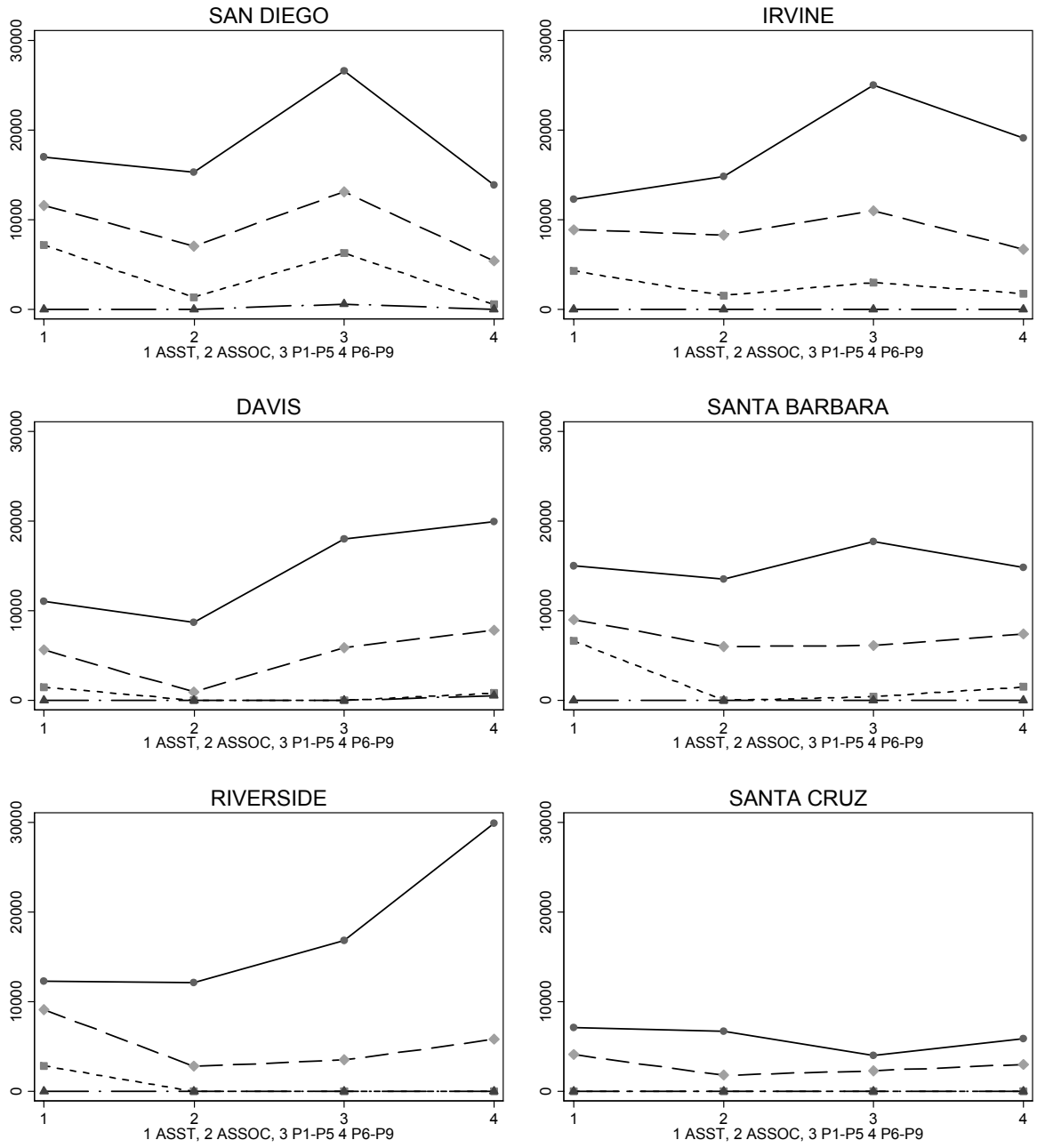

Figure 5. 25th percentile, Median, 75th percentile, and 90th percentile of the Offscale Dollars at each Rank, for other Campuses (L&S faculty, without Economics)

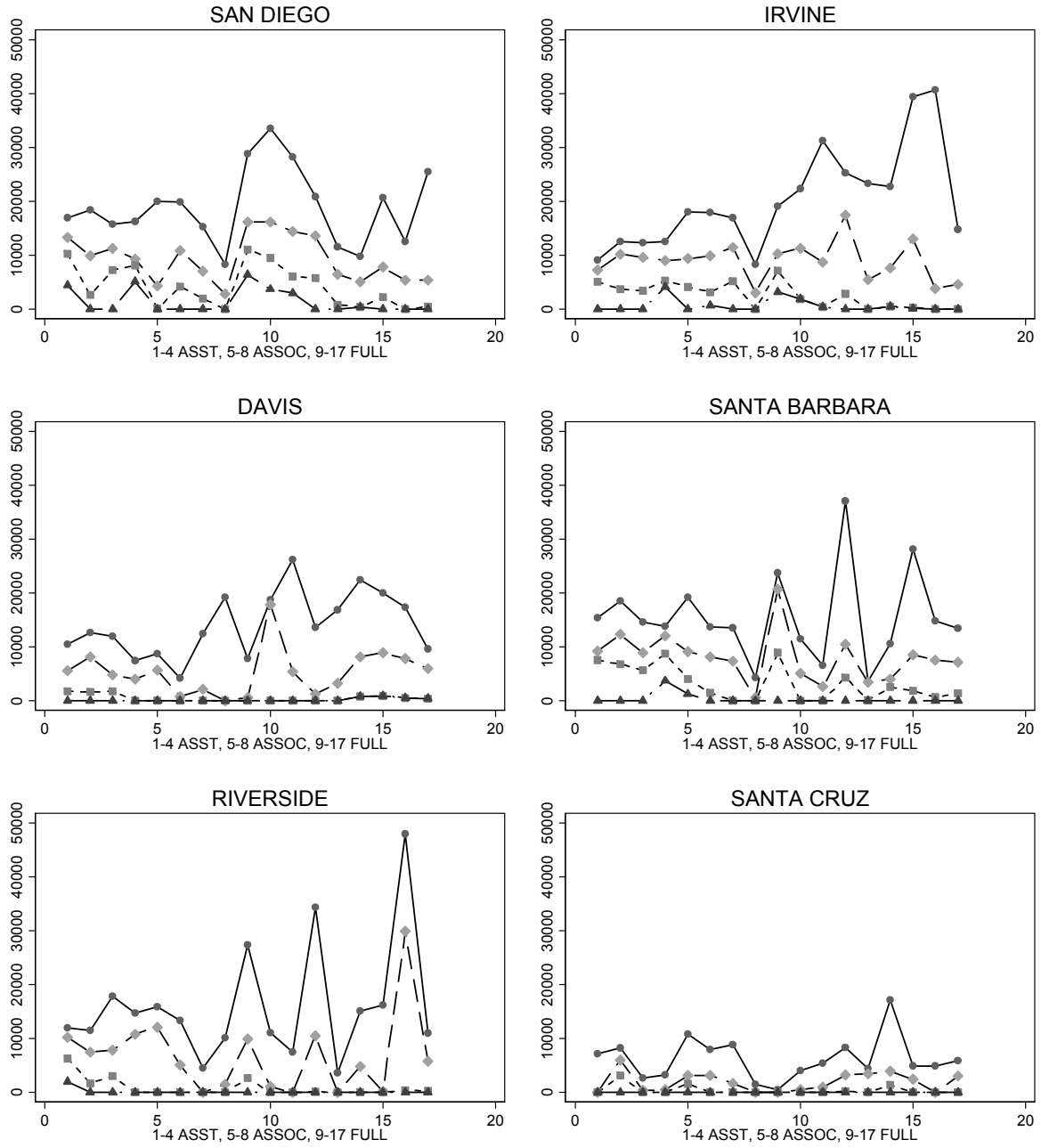

Figure 6. 25th percentile, Median, 75th percentile, and 90th percentile of the Offscale Dollars at each Rank and Step, for other Campuses (L&S faculty, without Economics)

Table 2: Regression Results for Engineering and Economics
Dependent variable – Faculty salary

	Engineering, N = 1,021, R^2 = 0.89			Economics, N = 204, R^2 = 0.71		
	b coefficient	Standard Error	Percent difference from UCD	b coefficient	Standard error	Percent difference from UCD
Ln(scale)	0.983	0.012		0.831	0.049	
LA	0.068	0.009	7.0	0.393	0.042	48.1
BERK	0.030	0.008	3.0	0.189	0.045	20.8
SDIEGO	0.043	0.008	4.4	0.136	0.044	14.6
IRVINE	0.008	0.008	0.8	0.023	0.047	2.3
SBARB	0.018	0.009	1.8	-0.002	0.048	-0.2
RIV	0.023	0.010	2.3	-0.067	0.050	-6.5
SCRUZ	0.000	0.011	0.0	-0.073	0.045	-7.0
Constant	0.219	0.133		2.070	0.563	

Notes:
Results from a regression of the natural log of the salary scale for that person, and indicator variables for each of the campuses except Davis. The column labeled Percent is computed as 100[*exp(b)*-1], where *b* is the coefficient obtained on the indicator variable for that campus. Because Davis is the omitted campus, the Percent column shows the amount by which the salary on each campus differs from Davis due to offscale.

For Engineering, the regression results in Table 2 show that the offscale amounts do not vary that much across campuses. UCLA again pays the highest offscale. The *b* coefficient of 0.068, or 7%, indicates that the offscale at UCLA raises the average Engineering salary 7% above the average salary at Davis, for someone at the same rank and step. Berkeley and UCSD are 3.0% and 4.4% above Davis, on average, and the other campuses are even closer. These amounts may not seem that that large, but because they should be interpreted as percentages *of the on-scale salary,* even a modest amount like 3% or 4% can translate into thousands of dollars.

For Economics, the offscale amounts differ a great deal across the campuses. The offscale paid by UCLA leads to nearly 50% higher salaries than at Davis, while those at Berkeley and UCSD lead to 21% and 15% higher salaries, respectively, for persons at the same rank and step. In these cases, the percentage differences are large and the absolute dollar differences would be larger yet, in the tens of thousands of dollars. The other campuses are not that different from Davis, and because the *b* coefficients have standard errors that are just as large, the differences are not statistically significant (only UCSC is significantly below Davis). The large standard errors in these cases are due to a disparity of offscale components across faculty, reflecting individual differences in productivity and market pressure that prevents meaningful conclusions from being drawn across the remaining campuses.

Table 1
Dollars offscale (including zeros), regular academic scale, no professional schools, eff. 10/1/07

		AS	AC	P1-P5	P6-P9	Total
BK	max	46100	101100	91400	65600	101100
	p90	17900	23700	34000	27100	25900
	p75	12800	14700	17900	7500	13600
	mean	8334	10838	12999	8038	10118
	median	5900	6100	7900	3350	5500
	p25	1600	3000	3100	0	1100
	min	0	0	0	0	0
	share w/ >0 $	0.86	0.89	0.82	0.62	0.79
	N	168	213	201	208	790
DV	max	27915	31350	114000	43248	114000
	p90	11071	8698	17983	19956	14183
	p75	5613	959	5900	7805	5285
	mean	3753	2675	5431	5776	4424
	median	1487	0	0	800	397
	p25	0	0	0	524	0
	min	0	0	0	0	0
	share w/ >0 $	0.57	0.3	0.36	0.91	0.51
	N	155	117	175	98	545
IR	max	33500	43900	69000	52000	69000
	p90	12300	14800	25000	19100	17900
	p75	8900	8300	11000	6700	9000
	mean	5263	5429	8456	6716	6455
	median	4300	1550	3000	1750	2400
	p25	0	0	0	0	0
	min	0	0	0	0	0
	share w/ >0 $	0.7	0.68	0.74	0.64	0.69
	N	142	166	155	112	575
LA	max	70900	113100	151256	145000	151256
	p90	25600	34400	50000	42000	41400
	p75	17800	21900	32200	28200	25400
	mean	13845	16472	21284	18115	18203
	median	12300	12800	14550	11250	12800
	p25	7400	6600	4000	300	5000
	min	0	0	0	0	0
	share w/ >0 $	0.97	0.87	0.87	0.76	0.86
	N	137	181	302	222	842
MC	max	20200	7800	27100	15600	27100
	p90	11800	7800	27100	15600	12500
	p75	8300	7800	5200	10000	7800
	mean	5405	5800	6756	5525	5637
	median	5200	5800	4200	4300	4900
	p25	0	3800	3400	0	0
	min	0	3800	2000	0	0
	share w/ >0 $	0.66	1	1	0.63	0.72
	N	41	2	9	8	60
RV	max	37600	70700	61467	52000	70700
	p90	12300	12100	16800	29900	14150
	p75	9100	2800	3500	5800	6400
	mean	5092	3973	4547	6229	4908
	median	2850	0	0	0	0
	p25	0	0	0	0	0
	min	0	0	0	0	0
	share w/ >0 $	0.64	0.33	0.32	0.48	0.46
	N	146	83	112	69	410

		AS	AC	P1-P5	P6-P9	Total
SB	max	27800	45800	55900	65800	65800
	p90	15000	13500	17700	14800	14800
	p75	9000	6000	6100	7400	7600
	mean	6809	4433	5364	5765	5467
	median	6650	0	400	1500	1600
	p25	0	0	0	0	0
	min	0	0	0	0	0
	share w/ >0 $	0.74	0.5	0.52	0.6	0.57
	N	94	145	158	134	531
SC	max	14400	26800	43700	38800	43700
	p90	7100	6700	4000	5900	6300
	p75	4100	1800	2300	3000	2600
	mean	2235	1980	2094	2777	2239
	median	0	0	0	0	0
	p25	0	0	0	0	0
	min	0	0	0	0	0
	share w/ >0 $	0.46	0.34	0.37	0.41	0.39
	N	93	95	127	81	396
SD	max	90100	64000	62800	66200	90100
	p90	17000	15300	26600	13900	18900
	p75	11600	7050	13100	5400	10100
	mean	7897	5208	9347	5727	7102
	median	7200	1350	6300	550	3400
	p25	0	0	600	0	0
	min	0	0	0	0	0
	share w/ >0 $	0.72	0.52	0.75	0.58	0.65
	N	126	124	141	132	523
Total	max	90100	113100	151256	145000	151256
	p90	15900	21100	31700	28900	23300
	p75	10300	10400	13600	9600	11000
	mean	6746	7391	10365	8683	8411
	median	5000	2900	3500	2200	3400
	p25	0	0	0	0	0
	min	0	0	0	0	0
	share w/ >0 $	0.72	0.62	0.64	0.64	0.65
	N	1,102	1,126	1,380	1,064	4,672
Dropping BK & LA:						
Total	max	90100	70700	114000	66200	114000
	p90	12700	12700	18700	15900	14900
	p75	8300	5450	7200	5800	7200
	mean	5191	4142	6001	5592	5256
	median	3944	0	700	700	903
	p25	0	0	0	0	0
	min	0	0	0	0	0
	share w/ >0 $	0.64	0.47	0.52	0.61	0.56
	N	797	732	877	634	3,040