

The Growth of Brown University Since 1955

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This is an abbreviated version of a numerical study of the non-medical operations of Brown University that I did for the Advisory Committee on University Planning (ACUP).¹ My purpose was to discover in numerical terms how and in which ways Brown University has changed over the last forty years. To someone such as myself, who has been here almost thirty years, it was clear that Brown had changed substantially and now feels like a much larger institution. However, prior to this study it was difficult to make precise what change had occurred. As seen below, in some ways, notably in the student/faculty ratio, Brown has changed very little. In other ways, such as the number of non-faculty staff, it has changed greatly, especially between 1975 and 1985. From 1955 until at least 1965 faculty compensation for instruction represented about 30% of Brown expenditures. By 1985 it had dropped to 18% and is now under 16%. We must understand these changes if we are going to respond wisely to the external pressures on us to reduce the rate of growth of tuition.

Two caveats are in order here. Because official historical data on Brown University are severely wanting, the information reported here has been culled from many sources, most of them archival. In most cases estimations were necessary. Nonetheless, the evidence strongly suggests that these data do accurately reflect the important changes that have occurred at Brown since 1955. Second this report does not place the changes that have occurred into historical context. Today Brown University has more students, a larger faculty, many more academic units, and a much larger infrastructure for reasons that are not explained by the data reported below.

Summary

As shown in the accompanying spreadsheet and charts, the Brown non-medical faculty and student body have grown at the same rate since 1955 (each group has grown by about 90%). The faculty student ratio has remained in the range 12.5 to 14.4 and is currently 13.2.

While the student/faculty ratio has remained constant since 1955, the non-medical staff grew dramatically both in absolute terms and relative to the increase in the size of the student body starting after 1965. It rose about 140% between 1965 and 1975 and again between 1975 and 1985. One can reason that during this time Brown was adapting to the staffing needs of a modern university. Between 1985 and 1995 the staff grew another 11% while the faculty grew by 3%. (See Figure 1.) Today there are about 4.5 staff members per faculty and about 3.13 staff members per student. Despite the size of the staff, Brown does have a smaller staff per student than most other universities with which it compares itself, although such comparisons may not take into account the differences between universities. Recent news reports show that institutions of higher education have been competing to improve the "quality" of the services they offer, adding staff as a result.

¹This report was submitted on April 15, 1996 and revised on May 8, 1996.

Time did not permit an analysis of the areas in which there has been staff growth. This issue needs further study.

The estimates of non-medical expenditures were obtained with the help of the Budget Office. Measured in 1992 dollars, Brown non-medical expenditures increased by about 41% from 1975 until 1985 and 52% from 1985 to 1995. (See Figure 2.) This growth, in constant dollars, is greater than the growth of the staff, another issue that needs to be understood.

Faculty compensation for instruction as a percentage of the non-medical budget was above 30% in 1955 and 1965. By 1985 it was about 18%, dropping to under 16% in 1995. (See Figure 3.) This demonstrates that the rapid rise in the budget during the last decade has not been due primarily to faculty compensation. It is interesting to note that if the expenditures on the faculty for instruction were to be halved, Brown's budget would decrease by only 8%!

Brown's tuition in 1992 dollars has risen at a rate of 4% per year since 1955, from \$3,810 to \$18,250 in constant dollars, a rate that cannot be sustained indefinitely. At 4% per year it only takes eighteen years for a quantity to double. Thus, unless we curb tuition growth, in eighteen years the Brown tuition will be double its current level, by comparison with personal expenditures, a development that I personally consider unthinkable.

Clearly, we must find ways to abate the rate of tuition growth. Because salaries for faculty and staff are set by larger markets over which Brown does not have much control and since Brown's budget is dominated by salaries, reductions in the growth of tuition must result from arresting the growth in the number of Brown employees. Given what appears to be our small staff relative to other institutions, this means we must make better use of existing staff, perhaps by re-organizing the work. We must seek productivity gains wherever they can be found, in both academic and non-academic areas. To do this we need a much better understanding of how and where staff are used in this University. Without a deep and continuing commitment to improving staff, faculty, and student productivity, we risk pricing ourselves out of our market.

Data Collection

Data collection for this study was challenging. The Budget Office reported that they did not have reliable staffing data going back beyond the middle 1980's. As a consequence, other sources of information had to be found. My approach was to consult the Catalog of Brown University, annual Brown financial statements, staff directories, and whatever other sources could be found. I also had to decide which information to collect and how to limit the study, since time and the resources available did not allow a lengthy study.

I decided not to analyze the faculty and staff data for the Division of Biology and Medicine. BioMed has grown rapidly since the 1970's, resulting in many hundreds of individuals being listed in the Brown staff directories. Not only is BioMed a very different kind of academic unit than other units, its large

size and unfamiliarity to this author make it very difficult to put it into perspective. For this reason, it was simply removed from consideration.

The data used for this study are summarized in the accompanying spreadsheet and charts. The ACUP report describes the details of the data collection. Data were obtained from Brown catalogs, staff directories, annual financial statements, the Office of the Dean of the Faculty, the Budget Office and the 1980 and 1995-96 Trustee manuals. The first three sources were obtained through the Brown University Archives.

The number of staff outside of Medicine was obtained from staff directories supplied by the Brown University archives except for 1990 and 1995 which were supplied by the Budget Office. Except for the 1955 period, the counts of staff were estimated, as explained in the appendix to the full report. Errors in estimation are thought to be small. For example, a University source for 1990 declares the staff in 1985 numbered 1939, whereas our estimate is 1990.

The number of faculty (Roster FTE) for the years 1985, 1990 and 1995 was obtained from the Dean of the Faculty's Office and the Budget Office and is the non-medical Roster FTE (full-time equivalent) count. The counts for the earlier years are the number of Officers of Instruction (faculty) computed from the Catalog. These appear to be about 15% high, an estimate obtained by comparing the Roster FTE for all faculty in 1977-78 (455) to the Catalog faculty count for 1975-77 (511). This could account for a small error in the student/faculty ratio, causing it to rise during the early period to just about today's level.

Enrollment data and budget totals were obtained from the University's financial statements, the latter supplied by the Budget Office. The consumer deflator used to convert budgets and tuitions into constant dollars is a chain-type price index for personal consumption expenditures and was provided by Prof. William Poole of our Economics Department. Bill informs me that it is a better measure of prices than the CPI.

Instructional faculty compensation was obtained directly from the University's financial statements for the years 1955 and 1965 and from the Dean of the Faculty's Office and the Budget Office for 1990 and 1995. The percentage for 1985 was estimated by reducing an estimate of the medical and non-medical faculty compensation provided by the Budget Office by the percentage that non-medical expenses represented of this total for 1990. The estimate of faculty compensation was taken as the average of \$21.44 and \$24.35 millions, two figures provided by the Budget Office.

I wish to thank Martha Mitchell, the University Archivist, Lori Agresti and Susan Platt of the Computer Science Department, the Dean of the Faculty, Bryan Shepp, and Assistant Vice President Susan Howitt of the Budget Office for their help with the collection of data for this project. I wish to also thank Prof. Bill Poole for supplying the chain-type price index for personal consumption expenditures.

Statistical Information on Brown University

	1955	1965	1975	1985	1990	1995	Average Annl % Increase:
Staff Estimates (non-BioMed)	307	344	833	1990	2108	2214	5.06%
Staff Growth		12%	142%	139%	6%	5%	
Officers of Instruction (non Medical)	*	*	*				
Dean of Faculty (Catalog counts and Roster FTE)	271	438	452	474		489	
Biology (Catalog counts and Roster FTE)	0	4	33	35		37	
Total	271	442	485	509	521	526	1.67%
Faculty Growth		63%	10%	5%	2%	0%	
Enrollment (non Medical)							
Undergraduate	2,975	3,488	5,238	5,452	5,669	5,632	1.61%
Graduate	400	1,144	1,279	1,206	1,311	1,298	2.99%
Total	3,375	4,632	6,517	6,658	6,980	6,930	1.81%
Total Enrollment Growth		37%	41%	2%	5%	-0%	
Budget (Total)	\$4,355	\$13,586	\$44,988	\$123,189	\$197,537	\$258,698	10.75%
Budget (Medical School, Estimated)			\$5,233	\$17,018	\$25,680	\$31,271	
Budget (non Medical, Estimated)	\$4,355	\$13,586	\$39,755	\$106,171	\$171,857	\$227,427	10.39%
Instructional Faculty Compensation (Total)	\$1,337	\$4,416		\$19,146	\$29,471	\$35,600	
% of Non-BioMed Budget	30.70%	32.50%		18.03%	17.15%	15.65%	
Consumer Deflator** (= 1 in 1992)	0.21	0.25	0.40	0.76	0.93	1.07	
Non Medical Budget in 1992 Dollars (\$1,000)	\$20,738	\$55,004	\$99,388	\$140,067	\$184,992	\$212,549	5.99%
Non Medical Budget/Student in 1992 Dollars	\$6,145	\$11,875	\$15,250	\$21,037	\$27,663	\$30,671	4.10%
Growth of Budget/Student in 1992 \$		93%	28%	38%	31%	11%	
Tuition	\$800	\$1,800	\$3,500	\$9,940	\$14,375	\$19,528	8.32%
Tuition in 1992 dollars	\$3,810	\$7,287	\$8,750	\$13,113	\$15,474	\$18,250	3.99%
Growth of Tuition in 1992 \$		91%	20%	50%	18%	18%	
Student/Staff (non Medical)	10.99	13.47	7.82	3.35	3.31	3.13	
Student/Faculty (non Medical)	12.45	10.48	13.44	13.08	13.40	13.17	0.14%
Staff/Faculty (non Medical)	1.13	0.78	1.72	3.91	4.05	4.53	3.52%

* Obtained from the Catalog of Brown University.

**Chain-type price index of personal consumption expenditures.

Growth in Non Medical Faculty and Staff

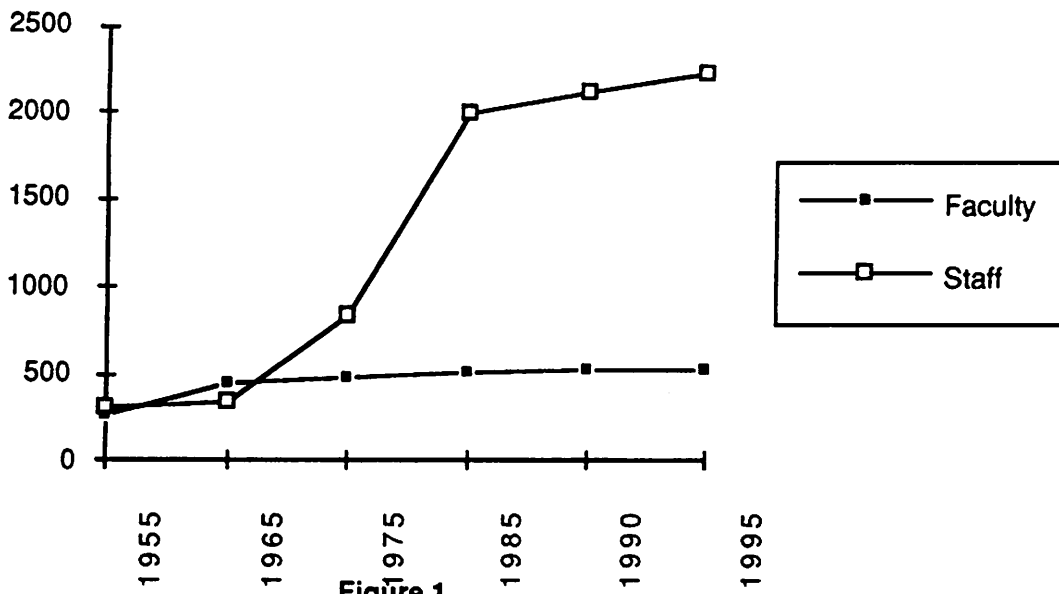


Figure 1

Normalized Non Medical Budget and Tuition in 1992 Dollars

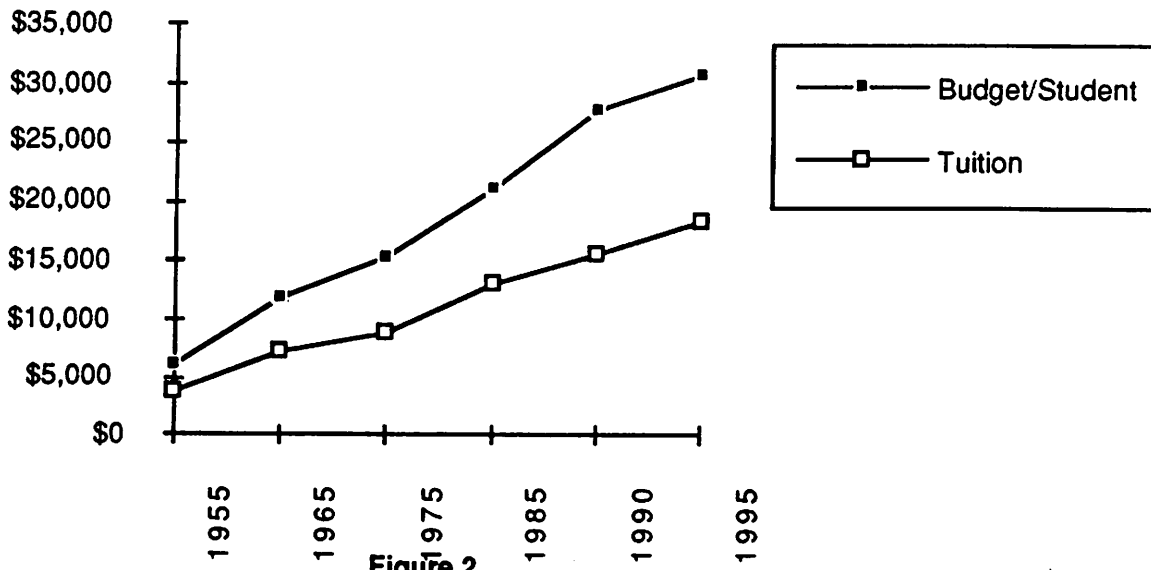


Figure 2

Non Medical Faculty Compensation as % of Budget

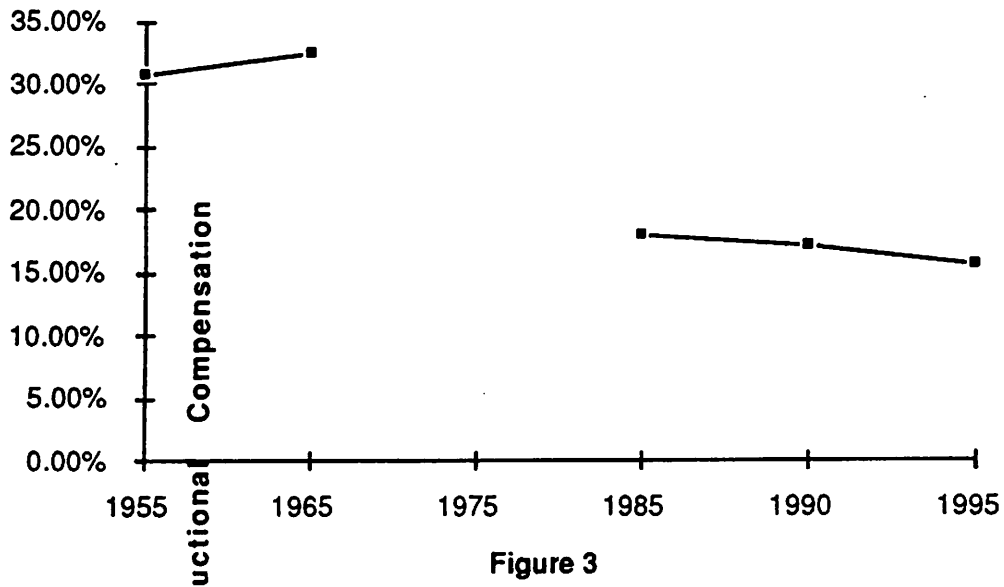


Figure 3

Non-BioMed Student/Staff and Student/Faculty

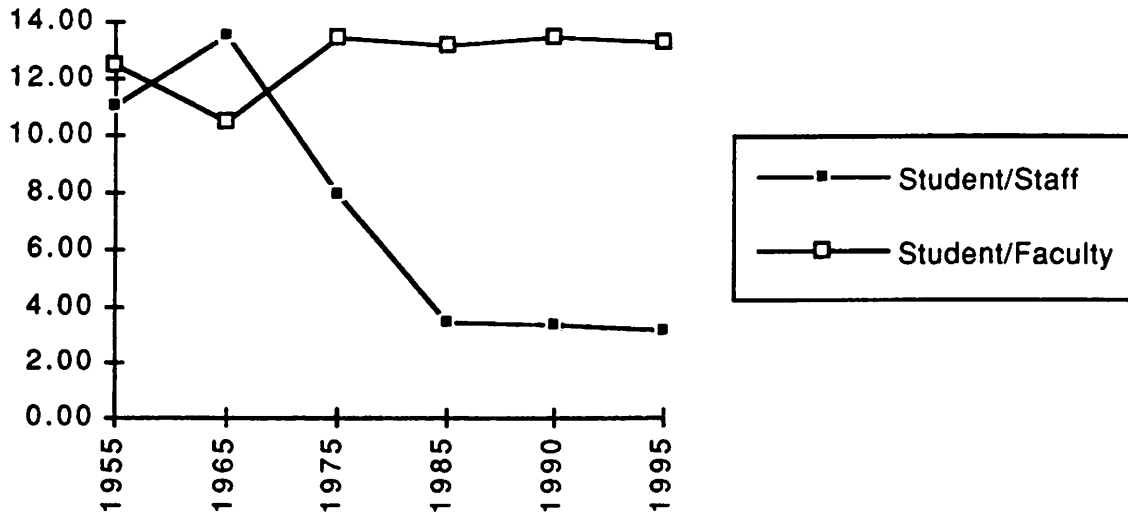


Figure 4