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CURRENT ALTERNATIVES IN CAMPUS GOVERNANCE

Unfortunately, most of us are unaware of the fact that contemporary issues in campus governance are part of a long chain of history. By examining this historical material, one is forced to the conclusion that in terms of new governance patterns, there is little new under the sun.

For example, there is considerable debate in higher education over the "proper" function of faculty senates - should they be advisory to the president or have decision-making power? Should they represent all the faculty or the tenured faculty? If their role is that of giving advice to the president, is he then obligated to follow it? If not, what function do they serve in representing a constituency?

These issues are by no means new. The Roman Senate was for the most part a council of elders (the root is Senectus, meaning aged, elderly, or infirm).[1] Its original purpose was to provide the ruler with a council which gave counsel, but by the time of Cato, it had assumed almost complete domination of the decision-making machinery. There may be an historically validated tendency for senates to begin as advisory and end in a struggle for power with the ruler.

Whom does the senate represent? The Roman position is clear - The Senate is the elders, speaking each for himself, with only a limited idea of representation. On the other hand, there is St. Benedict in 529 A.D.:

> Chapter 3. Of Calling the Bretheren to Council. As often as any important business has to be done in the monastery, let the abbot call together the whole community and himself set forth the matter. And, having heard the counsel of the bretheren, let him think it over by himself and then do what he shall judge to be the most expedient. Now the reason why we have said that all should be called to counsel is that God often reveals what is better to the younger... But if the business to be done in the interests of the monastery be of lesser importance, let him use the advice of the seniors only. It is written: Do all things with counsel, and thy deeds shall not bring thee repentence.

Most of the contemporary options are presented above - representative or direct participation, counsel or direct decision-making of senates, bodies of elders or young and old combined, the obligation of the executive to listen and decide. (This concept of the "absolute but not arbitrary king" is a fair parallel to the way some college presidents play their roles today.)

How many advisors should a ruler have? Here is Machiavelli:

> But a prince who consults with more than one advisor, unless he be a wise man, will never know how to coordinate the advice given him. For each of his advisors will see the matter from his own point of view, and a stupid prince will be unable to make allowances and distinctions. Advisors are of necessity of such a nature because unless men are compelled to be good they will invariably turn out to be bad.[2]

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In this description of all 1,144 4-year accredited institutions of higher education having undergraduates, the institutional features of classifying characteristics, admissions selectivity, resources, and the size and shape of the financial aid program are compared. Classifying characteristics consisted of: size of enrollment, source of control (public or private), type and level of instruction (university or liberal arts college), and sex composition. Institutional characteristics date either from the academic year 1962-63 or 1963-64. The source used for measuring enrollment was the Office of Education's 1964-65 "Education Directory, Part III." Information contained in the American Council on Education's (ACE) directory, "American Universities and Colleges, Ninth Edition," was the guide to determining what constituted a separate institution. The ACE directory was also used in measuring the size of the financial aid program, type and level of instruction and source of control. The admissions selectivity rating used was that published in the "Comparative Guide to American Colleges." The Resource Index score and state per capita income were used to measure resources. Tables illustrate the discussion. (JS)

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A DESCRIPTION OF THE 1,144 ACCREDITED FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

George Nash

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Columbia University
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A DESCRIPTION OF THE 1,144 ACCREDITED FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

This is a brief description of all 1,144 four-year accredited institutions of higher education with undergraduates. We will attempt to describe how a limited number of institutional characteristics relate to one another and how they vary from one type of institution to another. This will result in an understanding of what sort of institutions these universities and colleges are. We used information contained in the American Council on Education (ACE) directory, American Universities and Colleges, Ninth Edition,[1] as our guide to what constituted a separate institution. (For example, because separate data was included on each of the seven units of the University of California, they were considered to be seven separate institutions.) On this basis we determined that there were 1,144 separate institutions excluding the military academies operated by the United States Government.

We have broken institutional characteristics into four distinct types of data:

1. Classifying characteristics
2. Admissions selectivity

3. Resources of the institution
4. The size and shape of the financial aid program

Most of our data is taken from figures published in the ACE directory. This directory is published every four years and the figures are verified by the chief executive officer of each institution. Some of the data has been taken from reports submitted to the Office of Education. Admissions selectivity comes from directories and from a study of admissions officers. The institutional characteristics date either from the academic year 1962-63 or 1963-64. The data was the latest available in published form at the time this analysis was begun in the summer of 1965.

Classifying Characteristics

The classifying characteristics are four: size of enrollment; source of control (whether the control is public or private); type and level of instruction (i.e., university or liberal arts college); and sex composition.

Size.--Our measure of the size of the student body is the total Fall 1963 enrollment of all students, undergraduate and graduate alike. Our source of the Office of Education 1964-65 Education Directory, Part III (OE directory).[2] In discussing the size of the financial aid program we use only the total undergraduate enrollment. When we use this figure, our source will be the ACE

directory. On the basis of their total undergraduate and graduate enrollment we have divided our 1,144 institutions into three size categories:

a) 41 per cent of the institutions are classified small with enrollments of 999 or less.

b) 38 per cent of the institutions are classified as medium-size with enrollments of 1,000 to 3,999 students.

c) 21 per cent of the institutions are classified as large with enrollments of 4,000 students or more.

Source of control.--Based on the ACE directory, there are three sources of control:

a) 50 per cent of the institutions are classified as private and church-related or affiliated (private, church-related).

b) 18 per cent are classified as private, non-sectarian.

c) 32 per cent are classified as public. The majority of these public institutions have state support and most of the balance have municipal support. A handful have federal support.

In much of the analysis, we will dichotomize the institutions into the 68 per cent which are private and the 32 per cent that are public.

The public institutions are by far the largest followed in order by the private, non-sectarian institutions and the private, church-related institutions. Sixty per cent of the private, church-related institutions have small enrollments compared to 42 per cent of the private, non-sectarian institutions and only 11 per cent of the

public institutions. Forty-four per cent of the public institutions have large enrollments while only half that many of the private, non-sectarian institutions are large. Only 5 per cent of the private, church-related institutions are large. Most (68 per cent) of the large institutions are public.

Type and level of instruction.--Based on information in the ACE directory we have broken the institutions into four specific types and a residual category:

a) 22 per cent of the institutions are classified as universities. Universities are the largest type. 70 per cent of the universities are large and only 5 per cent are small. 50 per cent of the universities are public, 30 per cent are private, church-related and 20 per cent are private, non-sectarian.

b) 51 per cent (the largest group) of the institutions are classified as liberal arts colleges. In size, the liberal arts colleges are the smallest. 60 per cent have small enrollments and only 8 per cent have large enrollments. 76 per cent of the liberal arts colleges are private, church-related, 16 per cent are private, non-sectarian, and only 8 per cent of the liberal arts colleges are public.

c) 14 per cent of the institutions are classified as teachers colleges. Teachers colleges have fairly large enrollments but they are considerably smaller than universities. Most (61 per cent) are of medium-size while only 11 per cent are large. Almost all the teachers colleges (87 per cent) are public and the other two categories equally share the balance.

d) Only 8 per cent of the institutions are classified as professional or technical colleges. The largest number of these institutions (46 per cent) are small, only 8 per cent are large. Most of the

professional or technical institutions (54 per cent) are private, non-sectarian, but 27 per cent are public and 18 per cent are private, church-related.

e) 5 per cent of the institutions are classified as other. Many of these are theological or special purpose colleges. The largest number of the colleges classified as other (46 per cent) are small. Only 3 per cent are large. Half of the institutions classified as other are public and three out of four of the balance are private, church-related.

A note of caution must be introduced into the consideration of type and level of institution. In a number of cases, institutions were classified as being of two different types. When an institution was classified as a university, it was not classified as anything else. However, a number of institutions were classified as both a teachers college and a liberal arts college. We examined a sample of these institutions. Usually most of their degrees were in education. When an institution was classified as both a liberal arts college and a teachers college we considered it for the purposes of this analysis to be a teachers college. Similarly, when an institution was considered to be either a professional or a technical college and a liberal arts college, we classified it as a professional or technical college.

Sex composition.--

a) 9 per cent of the institutions were classified as being for men only. These we have called men's institutions. Only 7 per cent of the men's

institutions are large, and 42 per cent are of medium-size. Most of the men's institutions (70 per cent) are private, church-related and almost all the rest are under private, non-sectarian control. The largest number of the men's institutions (54 per cent) are liberal arts colleges but 18 per cent are professional or technical colleges and 14 per cent are universities. The balance are classified as other.

b) There are more institutions for women only than for men (16 per cent compared to 9 per cent) but the women's institutions are considerably smaller. 75 per cent of the women's institutions are small and only 1 per cent are large. The control for women's institutions is similar to that of men's institutions. 75 per cent of the women's institutions are private, church-related and 5 per cent are public. Where there are several different types of men's institutions, almost all of the women's institutions are liberal arts colleges. Almost all (92 per cent) of the women's institutions are liberal arts colleges. Almost all the balance are teachers colleges. There are no men's institutions that are teachers colleges.

c) The coeducational institutions (which include coordinate institutions) vary in their size with 40 per cent being medium-size and the balance relatively equally split between those that are small and those that are large. Coeducational institutions are equally likely to be private, church-related (42 per cent) or public (41 per cent). Only 17 per cent are private, non-sectarian. The coeducational institutions are all types, but almost all universities and teachers colleges are coeducational.

In the future when we discuss the sex composition of institutions, we will frequently dichotomize them into the 75 per cent that are coeducational and the 25 per cent that are single sex. The most important points to keep in mind are that coeducational colleges are bigger than single sex colleges and almost all public institutions

are coeducational. Ninety-six per cent of the large colleges are coeducational and 95 per cent of the teachers colleges and 93 per cent of the universities are coeducational. Of the four classifying characteristics we have described above, size is the most important. If we know that an institution is large, we are almost certain that it will be a coeducational, public university.

TABLE I.1

CLASSIFYING CHARACTERISTICS
BY TYPE OF INSTITUTION

Type of institution	All institutions	Large (4000 + students)	Public	Coed
University	22%	70%	50%	93%
Liberal arts college	51	8	8	63
Teachers college	14	11	87	95
Professional or technical college	8	8	27	78
Other	5	3	50	70
Total: all institutions	100%	21%	32%	75%

Admissions Selectivity

The measures themselves.--We have four separate measures of the admissions selectivity of our institutions. When we compare each with the other three, we find that they are highly related. We will use as our one measure of selectivity the one that relates most highly with the other three. This is the admissions selectivity rating published in the Comparative Guide to American Colleges by James Cass and Max Birnbaum in 1966.[3] We will first briefly describe each of the measures and then we will discuss their interrelation. We will then relate admissions selectivity to classifying characteristics.

a) The admissions selectivity rating of Cass and Birnbaum. The admissions rating of a school could place it in any one of five different categories. Only 2 per cent of the colleges were rated as "most select" and another 5 per cent were rated "highly select"; 14 per cent of the colleges were rated "very select" and 17 per cent were "select." By far the largest number (62 per cent) were not rated as to their selectivity despite the fact that other data on these institutions was published in the directory. We will soon see that the colleges not given an admissions rating were largely those that the other raters described as being unselective. For the admissions rating that we will use throughout the rest of this appendix we will collapse and rename the Cass and Birnbaum categories as follows:

   1) 21 per cent of the institutions have an admissions rating of very selective. This is a combination of those that were rated most selective, highly selective, and very selective.

   2) 17 per cent of the institutions have an admissions rating of selective. This is the original Cass and Birnbaum classification.

3) 62 per cent of the institutions have an admissions rating of unselective. These were colleges that were not rated by Cass and Birnbaum. These are generally rated as unselective by the other raters.

b) The admissions selectivity rating of Hawes. Gene R. Hawes compiled a directory, the New American Guide to Colleges in 1962 which rated institutions in a similar fashion.[4] 4 per cent were listed as "highly competitive," and 17 per cent were listed as "competitive." An additional 17 per cent were listed as "accepting almost all with college preparation" and 31 per cent were listed as "accepting all with certain qualifications." 12 per cent of the colleges were listed as "accepting all or almost all applicants." On 15 per cent of the colleges no information was listed by Hawes and 4 per cent were listed as having special qualifications. (These were usually seminaries or theological colleges.)

c) The admissions officer study selectivity ratio of Hauser and Lazarsfeld. The admissions officer study done by Hauser and Lazarsfeld[5] for the College Board in 1962 asked each admissions officer to supply the number of applicants for admissions to the freshman class and the number of accepts. On the basis of this ratio, the admissions selectivity of the college was determined. Unfortunately, 39 per cent of the accredited four-year colleges either did not return the questionnaire or did not answer the question. We have a good measure for the other 61 per cent of the colleges which break down as follows:

1) 27 per cent of the responding colleges were classified as highly selective. This means they accepted 5 out of 10 applicants or less.

2) 45 per cent of the responding colleges were classified as being of medium selectivity. This means they accepted between 6 and 8 out of 10 of their applicants.

3) 28 per cent of the responding colleges were classified as being of low selectivity. This means they accepted either 9 out of 10 or more of their applicants.

d) The National Merit Scholar selectivity score of Astin. The last measure is not truly a measure of admissions selectivity, but rather a measure of the admissions selectivity of the college in regard to those students who score high on the National Merit Scholarship Qualifying Test. This measure, which we will call the National Merit Scholar Selectivity Score, is described by Alexander W. Astin in Who Goes Where to College?[6] published in 1965. It is a normalized score with the colleges scoring the mean receiving a score of 50 and two-thirds of the scores falling between 40 and 60. Scores are listed for 87 per cent of the accredited four-year institutions. The measure is described in the text as follows:

> Estimated selectivity (ability level of the student body) is defined as the total number of highly able students who want to enroll at the college divided by the number of freshmen admitted. Thus the greater the number of these bright students (as determined by their scores on the National Merit Test) who apply relative to the number of freshmen admitted, the more selective an institution can be. We have chosen to label this measure estimated selectivity, however, for two reasons. First, although it is known that academic ability is one of the primary bases for selection of students, it is always possible that some institution may select its students on some other basis. The second reason for qualifying the measure in this way is that expressed institutional preferences, even of highly able students, may change between the junior and senior years in high school. Other evidence (Astin, 1965a) indicates, however, that neither of these potential problems seriously affects the validity of estimated selectivity as a measure of the average ability level of the entering class.

There are good reasons to use this excellent quantitative measure as the only measure of admissions selectivity, however there is one problem with this. The National Merit Scholar Selectivity Score tells us how

difficult it is for a bright student to get into a given college. It does not tell us how selective that college is in general. Those institutions for which we have scores break down as follows:

1) 17 per cent of the institutions have scores of 60 or higher. These are highly selective in regard to students who are highly academically qualified.

2) 36 per cent of the institutions have scores between 50 and 59. These are either average or slightly above average in their selectivity of the brightest students.

3) 48 per cent of the institutions are below average in the selectivity of their admissions policies in regard to brighter students.

Most revealing is the fact that of those colleges which the admissions officer study classified as being low on selectivity, 74 per cent were not rated by Cass and Birnbaum and have been classified as unselective for the purposes of this analysis. Eighty-three per cent of the colleges not rated by Cass and Birnbaum (that returned the admissions officer questionnaire) were classified either medium or low on the admissions officer study selectivity ratio.

Both the National Merit Scholar score and the Hawes rating are strongly related to the other measures, but for each their lowest interrelationship is with the admissions officer selectivity ratio. The lowest of the six inter-relationships of the four measures is the relationship between the admissions officer ratio and the Hawes rating

TABLE I.2

THE INTERRELATIONS BETWEEN THE FOUR ADMISSIONS SELECTIVITY RATINGS EXPRESSED BY GAMMA

	Admissions selectivity rating Cass & Birnbaum	National Merit Scholar selectivity score	Hawes admissions selectivity rating	Admissions officers study selectivity ratio
Admissions selectivity rating Cass and Birnbaum	X	.46	.40	.43
National Merit Scholar selectivity score	.46	X	.39	.33
Hawes admissions selectivity rating	.40	.39	X	.27
Admissions officer study selectivity ratio	.43	.33	.27	X
Average Gamma of 3 relationships	.43	.39	.35	.34

which has a Gamma of .27. The average Gamma of all six interrelations is a strong .38.

The relations of the four admissions ratings to one another.--The four measures relate relatively highly to one another. Their rank in order of strength of their average relationship to one another is as follows:

1) Cass and Birnbaum admissions selectivity rating
2) The National Merit Scholar Selectivity Score
3) The Hawes rating
4) The ratio derived from the admissions officers study.

Using Gamma as our measure of association, we find that association between the Cass and Birnbaum admissions selectivity rating and the National Merit Scholar Selectivity Score is the highest at .46. The relation between the Cass and Birnbaum admissions selectivity rating and that by Hawes is .40.

In the future when we refer to the admissions rating of the college, we will mean that done by Cass and Birnbaum in 1966. The institutions were rated as follows:

a) 21 per cent of all institutions are rated very selective.

b) 17 per cent are rated selective.

c) 62 per cent are rated as unselective.

What we have seen is that by any measure the overwhelming majority of American institutions of higher education accept a large proportion of their applicants. The

TABLE I.3

THE NATIONAL MERIT SCHOLAR SELECTIVITY SCORE COMPARED TO THE CASS AND BIRNBAUM ADMISSIONS SELECTIVITY RATING

	Admissions selectivity rating			
National Merit score	Unselective	Selective	Very selective	Total
No score listed	85%	10%	5%	146
30 - 49	84	14	2	472
50 - 59	47	30	23	353
60 - 81	12	3	85	164
Total: all institutions	62%	17%	21%	100%

Gamma = .46

Reads: Of the institutions which have National Merit Scholar Selectivity scores between 30 and 49, 84 per cent are rated unselective by Cass and Birnbaum while only 2 per cent are rated very selective.

fact that all four of the measures of admissions selectivity are reasonably associated with one another suggests that admissions selectivity is something that can be rated with moderate reliability. There is fairly high consensus as to which colleges are very selective and which are unselective.

The relation of the admissions rating to classifying characteristics.--Large colleges are slightly less likely to be rated as unselective. Although the colleges that are rated as unselective and selective have the same size distribution as the total of all institutions, considerably fewer of the very select institutions are small colleges. The very select colleges are much more likely than other colleges to be of medium size.

The universities, liberal arts colleges and professional or technical colleges are equally likely to have very selective admissions ratings (the total of each being about 25 per cent). However, only 1 per cent of the teachers colleges and 6 per cent of the other colleges are listed as very selective. The institutions most likely to be unselective are teachers colleges and other institutions (87 per cent and 84 per cent) and these are followed closely by professional or technical colleges with 69 per cent being rated unselective. A little over half of the

universities and liberal arts colleges are rated as unselective (53 per cent and 55 per cent respectively).

Public institutions are most likely to have an admissions rating of unselective and they are followed in order by private, church-related institutions and by private, non-sectarian institutions (79 per cent, 58 per cent, and 43 per cent respectively). Private, non-sectarian institutions are by far the most likely to be rated very selective. Forty-eight per cent of the private, non-sectarian institutions are very selective compared to only 20 per cent of the private, church-related institutions and 7 per cent of the public institutions.

Resources

We have two different measures of the resources of the college. One is the Resource Index score which is based on characteristics of the institution such as the number of library books and the faculty-student ratio. The second is the per capita income of the state. We will consider each in turn.

The Resource Index score.--Although it takes into account a number of resources that might be presumed to be useful in imparting an education, it tells us nothing about the academic level of the students or the job actually done by the college. Before going into the

details of the components and construction of the Resource Index score, let us point out that most of the schools that score high on the index are colleges of high prestige: Amherst, Princeton, Stanford, Vassar, Yale, and so forth. Colleges generally regarded as being of low prestige do not usually score high on the Resource Index and conversely highly regarded colleges do not often score low. However, this crude measure which is very useful in dealing with a large number of institutions may not accurately describe the situation at any individual institution for a number of reasons.

The requisites for each of the five items included in the index were that they be generally regarded as related to the quality of education offered, that they be objective and reliable, and available for the great majority of the accredited colleges. All five items on the Resource Index were available for 92 per cent of the 1,144 accredited colleges. Only 1 per cent of the colleges did not have information on two or more of the five items. The five items included in the Resource Index are the following:

1. The proportion of faculty holding the doctorate
2. The faculty-student ratio
3. The total educational and general income per student
4. The number of library volumes per student
5. The total number of volumes in the library

Each of the institutions was assigned a separate decile score from one to ten on each of the five items in the index. (See Illustration I.1.) The following procedure was used. The colleges were ranked from the highest to the lowest on number of library books per student. The 115 colleges in the top decile each had more than 123 books per student. The number of books in each library was based on the figures from the Office of Education. All students, graduate and undergraduate, full- and part-time, were included in the denominator. Those colleges in the 9th decile have between 84.5 and 122.9 books per student. The 112 colleges in the lowest decile each had less than 18.3 books per student. The colleges in the top decile were given 10 points--those in the lowest decile one point. The same procedure was repeated for each of the other four items.

The Gamma of the average interrelationship is .26. Most of the associates are .20 or better and only two of the ten are less than .10. These are the relationship between faculty-student ratio and the proportion of the faculty with the doctorate. There is no relationship between these two items. The second is the relationship between the faculty-student ratio and the size of the library. The two items which relate most strongly to the others are the number of books per student and the income per student.

The range of colleges on the Resource Index is from a low of 5 to a high of 50. The distribution of the 1,144 colleges and universities is as follows:

1) 13 per cent scored 40 or above. For the purpose of this analysis they are considered high Resource Index score colleges.

2) 26 per cent fall between 30 and 39 and they have been classified as having an upper-middle Resource Index score.

3) 40 per cent of the colleges are classified as having lower-middle Resource Index scores because their scores range from 20 to 29.

4) 21 per cent of the colleges were classified as having low Resource Index scores because they scored between the minimum of 5 and 19.

The reason for using an index is that any one figure may be a poor measure of the total resources of a given college. For example, a medical college in the West has a high faculty-student ratio because it has a large number of doctors who serve part-time on the faculty. This particular college is not usually considered to be prestigious. Its lower rankings on each of the other four Resource Index items caused it to have a considerably lower rank than that which it would have earned on the basis of its unusually high faculty-student ratio.

In an attempt to determine the validity of the Resource Index, we have compared it to the rating used by Berelson in Graduate Education in the United States.[7] Although Berelson rated only about 200 institutions, there

ILLUSTRATION I-1

THE FIVE ITEMS IN THE RESOURCE INDEX SCORE

1 Size of Library

Highest Decile: 343,160 or more books

Lowest Decile: Less than 24,681 books

2 Library Books per Student Ratio

Highest Decile: 123.0 or more books per student

Lowest Decile: Less than 18.3 books per student

3 Total Education and General Income per Student Ratio

Highest Decile: $1,780 or more per student

Lowest Decile: Less than $540 per student

4 Faculty-Student Ratio

Highest Decile: .1162 or more faculty members per student

Lowest Decile: Less than .0406 faculty members per student

5 Proportion of Faculty with the Doctorate

Highest Decile: .5111 or more of the faculty with the doctorate

Lowest Decile: Less than .1571 of the faculty with the doctorate

TABLE I.4

THE INTERRELATION OF THE FIVE RESOURCE INDEX ITEMS EXPRESSED BY GAMMA

	(1) Books/ student	(2) Income/ student	(3) Faculty/ student	(4) Doctorates/ faculty	(5) Size of library
1. The number of library books per student	X	.49	.60	.22	.14
2. The total educational and general income per student	.49	X	.50	.21	.19
3. The faculty-student ratio	.60	.50	X	.02	-.09
4. The proportion of faculty holding the doctorate	.22	.21	.02	X	.32
5. The total number of volumes in the library	.14	.19	-.09	.32	X
Average Gamma for all interrelations	.36	.35	.26	.19	.14
Relation of items to total Resource Index score	.69	.64	.51	.44	.39

The average Gamma for all relationships = .26.

is extremely high agreement between the two measures. There is greater agreement on universities (of which there are fewer) than on liberal arts colleges.

TABLE I.5

BERELSON RATING COMPARED TO THE RESOURCE INDEX SCORE

		Resource Index score			
Berelson rating	Number	Low	Lower-middle	Upper-middle	High
Highest rank liberal arts colleges	44	0%	11%	7%	82%
Highest rank universities	12	0	0	8	92
Second rank liberal arts colleges	65	3	38	28	31
Second rank universities	10	0	0	40	60
Other Association of Graduate School universities	20	5	5	30	60
Universities ranked lower than second	42	0	29	57	14
Unranked institutions	951	24	42	24	6
Total: All institutions	1,144	21%	40%	26%	13%

Reads: 82 per cent of the liberal arts colleges ranked highest by Berelson score high on the Resource Index.

Now that we have seen what makes up the Resource Index score for each college, let us see how this score

relates to admissions selectivity and to the four classifying characteristics. The relationship between admissions selectivity and the Resource Index score is very strong (Gamme = .60). The relationship is especially marked for the 34 per cent of colleges which scored either high or low. Only 1 per cent of the low score colleges had an admissions rating of very selective. Sixty-nine per cent of the high score colleges were rated very selective.

Although we will not usually refer to our other three measures of admissions selectivity, the relationships are sufficiently strong to be of interest. The relationship between the National Merit Scholar selectivity score and the Resource Index score is very strong (Gamma = .74). The relationship between the Hawes admissions selectivity rating and the Resource Index score is strong (Gamma = .34). The relationship between the selectivity ratio from the admissions officer study and the Resource Index score is moderate (Gamma = .24). Despite the fact that higher scoring colleges do not necessarily have to have selective admissions policies, we see that the overwhelming majority do.

There is no relationship between size and the Resource Index score. This might be expected since four out of five items on the index are ratios which take into account the size of the institution.

Higher scoring colleges are much more likely to be single sex institutions (Gamma = .35). Twenty per cent of the single sex colleges score high compared to only 11 per cent of the coeducational institutions. Twenty-five per cent of the coeducational institutions score low compared to only 9 per cent of single sex institutions. As one might expect from knowing this, high scoring colleges are much more likely to be private than public (Gamma = .39). Only 14 per cent of the private institutions are of low score compared to 36 per cent of the public institutions.

Universities are most likely to score high on the Resource Index and least likely to be low. Whereas 22 per cent of the universities are high on the Resource Index, only 14 per cent of the professional or technical colleges are and 13 per cent of the liberal arts colleges are. Although only 16 per cent of the liberal arts colleges are low on the Resource Index, 33 per cent of the professional or technical colleges are. Teachers colleges are by far the lowest on the Resource Index. Only 1 per cent are high and 46 per cent are low. Although 39 per cent of all institutions are upper-middle or higher on the Resource Index, this is the case for only 7 per cent of the teachers colleges.

State per capita income.--Much of the difference that exists between one region of the country and another

is related to the per capita income of the state in which the institution is located. Using the 1960 census as our data,[8] we have trichotomized the 50 states on the following basis:

a) 46 per cent of the accredited four-year universities and colleges are located in the 17 states with high per capita income ($2,474 or more).

b) 30 per cent of the universities and colleges are located in the 17 states with medium per capita income ($2,051 to $2,473).

c) Only 24 per cent of the accredited four-year institutions are located in the 16 states with low per capita income ($2,050 or less).

There is only a weak relation between per capita income of the state and the Resource Index Score of the institution (Gamma = .19). This indicates that although there are many more colleges in the wealthier states, the difference in resources of colleges between the richer and poorer states is less than might be expected. Because there is a relationship (although a weak one with Gamma = .10) between per capita income of the state and the enrollment, the wealthier states have a higher proportion of students enrolled than their actual number of institutions warrants. Fifty-five per cent of the 3,656,000 students who were enrolled at all accredited four-year institutions are in the 17 states with the highest per capita income. Twenty-nine per cent are in the states with medium per capita income and only 17 per cent of the students are in states with low per capita income.

We have said that it is per capita income of the state in which a college is located and not the region of the country that accounts for differences. It is difficult to establish the difference between regional variation and variation in state per capita income because the regions differ so from one another.

When we break the United States into five regions, we find that they rank as follows on the distribution of their institutions of higher education. First ranking on the basis of per capita income is the West. The Midwest, the Northeast, the Plains, the South follow in that order. Almost none of the colleges in the West and Midwest are in states with low per capita income and less than 20 per cent are in states with medium per capita income. Although more than one-third (36 per cent) of all the institutions in the Northeast are in states with medium per capita income, almost none are in the states with low per capita income. Most of the colleges in the Plains are in states with medium per capita income. Two-thirds of all institutions in the South are in states with low per capita income and the colleges in low per capita income states in the South constitute two-thirds of all such colleges in the United States. The distribution of colleges in each region is extremely skewed with the modal category always having nearly two-thirds of all the colleges.

A comparison of regions is further complicated by the fact that the distribution of the various types of institutions within region varies greatly from region to region. There is relatively little difference in the Resource Index score of a given type of college from one region to another. Furthermore, our study of students qualifying for the Peace Corps[9] showed that applicants from colleges in medium per capita income states in one region were as likely to be accepted as those from states with medium per capita income in another region. It usually is better to use as an item of data the per capita income of the state in which an institution is located and not its region.

TABLE I.6

THE RESOURCE INDEX SCORE COMPARED TO THE ADMISSIONS SELECTIVITY RATINGS

Resource Index Score	Very selective admissions rating Cass & Birnbaum	60 or higher National Merit Scholar Selectivity rating	Highly selective Admissions Officers Study	Competitive or highly competitive rating by Hawes	Number of institutions
High (40 - 50)	70%	70%	56%	63%	154
Upper-middle (30 - 39)	45	19	32	24	292
Lower-middle (20 - 29)	12	4	25	13	459
Low (5 - 19)	1	0	27	9	239
Total: all institutions	21%	17%	32%	22%	1,144
Strength of relationship expressed by Gamma	.60	.74	.25	.34	

Average Gamma for all 4 measures = .48.

TABLE I.7

DISTRIBUTION ON STATE PER CAPITA INCOME OF INSTITUTIONS BY REGION

Region	High per capita income ($2,474 or more)	Medium per capita income	Low per capita income $2,050 or less)	% of all students in all regions	Number of institutions
West	88%	9%	3%	14%	136
Midwest	84	16	0	21	187
Northeast	61	36	3	26	298
Plains	14	68	18	19	233
South	12	14	74	20	290
% all students	55%	29%	16%	100%	
% all institutions	46%	30%	24%		100%

TABLE I.8

ENROLLMENT FOR TEN TYPES OF INSTITUTIONS

Type of institution	Number of institutions	% of all institutions	% of all students	Mean total enrollment
Public universities	122	11.0%	37%	11,120
Non-sectarian, private universities	51	4.5	13	9,040
Teachers colleges	158	14.0	10	2,370
Protestant universities and colleges	317	28.0	10	1,200
Public colleges	50	4.5	7	5,040
Catholic universities and men's colleges	96	8.0	7	2,500
Professional and technical colleges	94	8.0	5	2,040
Non-sectarian, private colleges	93	8.0	3	1,220
Catholic women's colleges	106	9.0	2	670
Other	57	5.0	6	3,760
Total all institutions	1,144	100%	100%	3,655,600

TABLE I.9

CONTROL, SEX COMPOSITION, RESOURCE INDEX SCORE AND ADMISSIONS SELECTIVITY OF THE TEN TYPES OF INSTITUTIONS

Type of institution	Control; % public	Sex composition; % coed	Mean Resource Index score	Admissions selectivity - % very selective
Public universities	100%	98%	31	10%
Non-sectarian, private universities	0	84	35	61
Teachers colleges	87	95	20	1
Protestant universities and colleges	0	90	29	20
Public colleges	100	92	23	8
Catholic universities and men's colleges	0	54	26	23
Professional and technical colleges	27	78	25	23
Non-sectarian private colleges	0	58	36	58
Catholic women's colleges	0	0	28	27
Other	49	71	25	7
Total: all institutions	32%	75%	28	21%

TABLE I.10

MEAN RESOURCE INDEX SCORE BY REGION AND TYPE OF INSTITUTION

Type of institution	Mean Resource Index score				
	North-east	South	Mid-west	Plains	West
Public universities	34	31	29	30	36
Non-sectarian, private universities	35	37	-	-	-
Teachers colleges	20	20	22	20	25
Protestant universities and colleges	32	27	30	28	27
Public colleges	-	24	-	22	21
Catholic universities and men's colleges	25	27	25	27	28
Professional and technical colleges	26	28	24	-	21
Non-sectarian, private colleges	38	30	36	-	-
Catholic women's colleges	27	28	27	28	32
Other	28	21	-	25	-
Total all institutions	29	27	28	27	28

TABLE I.11

ENROLLMENT BY PER CAPITA INCOME OF STATE AND TYPE OF INSTITUTION

Type of institution	Per capita income high ($2,474 +)	Per capita income medium	Per capita income low ($2,050 or less)
Public universities	47%	33%	20%
Non-sectarian, private universities	77	20	3
Teachers colleges	41	32	27
Protestant universities and colleges	38	38	24
Public colleges	74	17	9
Catholic universities and men's colleges	73	23	4
Professional and technical colleges	59	25	16
Non-sectarian, private colleges	53	30	17
Catholic women's colleges	59	36	5
Other	67	15	18
Total all students	55%	29%	16%
Total all institutions	46%	30%	24%

TABLE I.12

MEAN ENROLLMENT BY REGION AND TYPE OF INSTITUTION*

	Mean total enrollment				
Type of institution	North-east	South	Midwest	Plains	West
Public universities	11,183	9,383	16,567	9,246	10,589
Non-sectarian, private universities	9,813	6,000	-	-	-
Teachers colleges	2,306	2,122	3,307	2,370	2,380
Protestant universities and colleges	1,105	918	1,438	1,271	1,564
Public colleges	-	1,894	-	2,718	9,254
Catholic universities and men's colleges	3,162	2,387	2,832	1,626	1,782
Professional and technical colleges	2,154	2,493	2,450	-	1,290
Non-sectarian, private colleges	1,351	944	1,754	-	-
Catholic women's colleges	703	609	717	600	636
Other	1,275	2,010	-	2,380	-
Total: all institutions	3,108	2,428	3,972	2,924	3,757

*Where there are less than 10 institutions per region, the mean is not reported.

TABLE I.13

PROPORTION OF ALL STUDENTS ENROLLED IN FOUR-YEAR ACCREDITED INSTITUTIONS BY REGION AND TYPE OF INSTITUTION

Type of institution	Proportion of all students					
	Northeast	South	Midwest	Plains	West	Total
Public universities	10%	21%	29%	25%	15%	1,356,600
Non-sectarian, private universities	64	13	12	5	6	460,900
Teachers colleges	31	24	13	25	6	374,900
Protestant universities and colleges	11	25	24	26	14	380,100
Public colleges	26	13	2	12	48	252,200
Catholic universities and men's colleges	38	15	26	13	8	240,300
Professional and technical colleges	42	19	15	10	14	192,100
Non-sectarian, private colleges	49	21	20	6	4	113,400
Catholic women's colleges	39	9	23	19	10	70,800
Other	12	36	11	20	21	214,300
Total: all institutions	26%	20%	21%	19%	14%	3,655,600

The Size and Shape of the Financial Aid Program

We have seven different figures which describe the financial aid program at our universities and colleges. These are the proportion of undergraduates with grants, with loans, and with employment; the value of the average grant, the average loan and the average amount of money earned from employment; and the cost of tuition and fees for one academic year. This data and this analysis apply to all 1,144 accredited four-year universities and colleges and not just the 849 of them that responded to our questionnaire. We will list the source of our data and the distribution of institutions on these measures:

The measures themselves

a) Grants

From the ACE directory[10] we know the proportion of undergraduates with grants and the average value of the grant. We assume these figures include only the grants awarded by or administered by the colleges and universities. The average proportion of undergraduates with grants was 16 per cent. The value of the average grant was $300 in 1964.

b) Loans

The source of our data on loans is also the ACE directory. At the average four-year institution, 13 per cent of the undergraduates were receiving loans in 1964. This was less than the amount with either grants or employment. The value of the average loan was $350 or slightly more than the average grant and nearly double the value of average term-time employment. Although we can assume that these were institutionally administered loans, we do not know the source of the funds. Although we do not know what proportion of the

total loans were National Defense Student Loans, we know that it was considerable. The institutions that didn't participate in the National Defense Student Loan program had a smaller proportion of their undergraduates receiving loans. 91 per cent of the accredited four-year institutions were enrolled in the program in 1964.

c) Employment

Under student financial aid the ACE directory lists the number of "college-assigned jobs" and their average value. We do not know whether this represents all employment for students, or simply all that was administered by a central office. Just as the definitions of grants and loans are uncertain, the type of employment included under college-assigned jobs probably varies from institution to institution. Nevertheless this represents the best data available on the subject. At the average institution, the proportion of undergraduates with term-time jobs was 15 per cent. The value of the mean job at the average institution was $170. This was considerably less than the value of either the loan or the grant.

d) Tuition and fees

For 91 per cent of the colleges we have the data from the report submitted in the Spring of 1964 to the Office of Education on the National Defense Student Loan program. (Each of the colleges was asked to list its actual tuition and fees for the academic year 1963-64 for state residents who were undergraduates.) Although we have this data for only 91 per cent of the colleges, it allows us to see how the financial aid program relates to tuition. It is of little value to know how large the grant program is unless one knows how far grants go toward defraying the cost of tuition and fees. The average cost of tuition and fees was $660. At 24 per cent of the institutions, tuition and fees were $1,000 or more. At 38 per cent of the institutions, costs were between $500 and $999. At 35 per cent of the institutions costs were between $100 and $499. At only 3 per cent of the institutions were tuition fees $99 or less.

The determinants of the size and shape of the financial aid program.--Let us form a matrix of the seven factors related to financial aid (the proportion with grants, loans and employment, the value of loans, and employment, and the cost of tuition and fees) and examine the interrelationships. If an institution had a large proportion of students receiving either grants, loans, or jobs, it was more likely to have a large proportion of students receiving each of the other two forms of financial aid. The value of grants increased with the value of loans. The value of grants and loans increased sharply as tuition rose. The value of employment was not related to the value of either grants or loans or to the cost of tuition. This means that employment paid a decreasing amount of the bill as the cost of tuition rose. (See Table I.14 and Illustration I.1.) At this point a word of caution must be added. Because our data is on institutions and not individuals, we do not know whether the forms of aid are packaged together to aid one student or are given separately. Although the proportion of students with grants increased as did the proportion of students with loans, these grants and loans may have been awarded to the same students or to different students.

As we might expect, there was a strong relationship between the Resource Index score of the institution

ILLUSTRATION I-2

THE COST OF TUITION COMPARED TO THE VALUE OF SCHOLARSHIPS, LOANS, AND JOBS

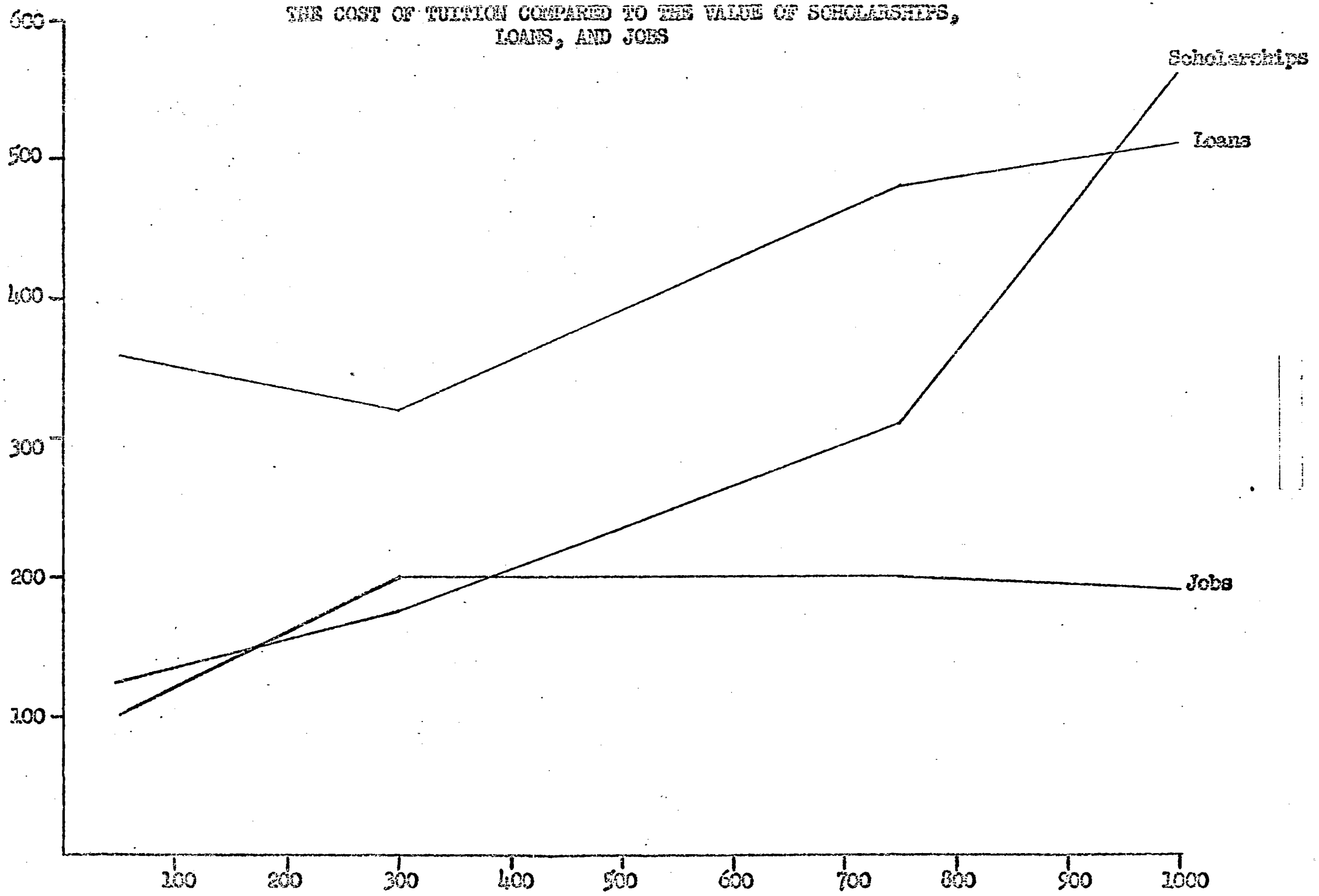

TABLE I.14

THE INTERRELATION OF INSTITUTIONAL CHARACTERISTICS EXPRESSED IN GAMMA

	Size	Control dichotomy (public + private -)	Sex composition dichotomy (coed + single sex -)	Admissions selectivity rating (very selective +)	Resource Index score	State per capita income
Size	X	.74	.56	.12	.05	.10
Control dichotomy (public +, private -)	.75	X	.87	-.53	-.39	-.28
Sex composition dichotomy (coed +, single sex -)	.56	.87	X	-.41	-.35	-.24
Admissions selectivity rating (selective +)	.12	-.53	-.41	X	.60	.33
Resource Index score	.05	-.39	-.35	.60	X	.19
State per capita income	.10	-.28	-.24	.33	.19	X
Proportion with grants	-.36	-.65	-.08	.36	.42	-.07
Proportion with loans	-.09	.08	.49	-.09	.06	-.18
Proportion with employment	-.15	-.06	.23	.03	.20	-.13

TABLE I.14 (continued)

	Size	Control dichotomy (Public + private -)	Sex composition dichotomy (coed + single sex -)	Admissions selectivity rating (very selective +)	Resource Index score	State per capita income
Tuition and fees	.09	-.74	-.20	.53	.31	.24
Value of average grant	-.03	-.54	-.30	.51	.31	.14
Value of average loan	-.02	-.38	-.14	.25	.06	.11
Value of average employment	.15	.03	.19	-.02	-.07	-.08

TABLE I.14 (continued)

	Proportion with grants	Proportion with loans	Proportion with employment	Tuition and fees	Value of average grant	Value of average loan	Value of average employment
Size	-.36	-.09	-.15	.09	-.03	-.02	.15
Control dichotomy (public +, private -)	-.65	.08	-.06	-.74	-.54	-.38	.03
Sex composition dichotomy (coeducational +, single sex -)	-.08	.49	.23	-.20	-.30	-.14	.19
Admissions selectivity rating (selection +)	.36	-.09	.03	.53	.51	.25	-.02
Resource Index score	.42	.06	.20	.31	.31	.06	-.07
State per capita income	-.07	-.18	-.13	.24	.14	.11	-.08
Proportion with grants	X	.40	.43	.40	.26	.18	.09
Proportion with loans	.40	X	.47	.13	-.03	.06	.17
Proportion with employment	.43	.47	X	.18	-.01	.09	.19
Tuition and fees	.40	.13	.18	X	.52	.49	.11
Value of average grant	.26	-.03	-.01	.52	X	.43	.22
Value of average loan	.18	.06	.09	.49	.43	X	.23
Value of average employment	.09	.17	.19	.11	.22	.23	X

and the cost of tuition and fees (Gamma = .31). There was also a strong relationship (Gamma = .31) between resources and the value of the average grant. There was no relation, however, between the Resource Index score of the institution and the value of loans or the value of employment. This suggests that at the high Resource Index score colleges, where tuitions were likely to be higher, grants were the means used to defray the cost of attendance.

There was a strong relationship (Gamma = .42) between the Resource Index score of the institution and the proportion of students receiving grants. There was a moderate relationship (Gamma = .20) between the Resource Index score and proportion with employment, but no relationship between the Resource Index score and the proportion with loans. Because of the high relationship between admissions selectivity and the Resource Index score, the same things tend to hold true for the more selective schools. The same relationships obtain between admissions selectivity and financial aid factors. There is a considerably stronger relationship, however, between admissions selectivity and tuition than between the Resource Index score and tuition (Gamma = .53 compared to .31). At the more selective schools, there was a larger proportion of students receiving grants, but the proportion with either loans or employment was not larger. The value of both

grants and loans increases at the more selective schools, but not the value of employment.

As the size of an institution increased, there was a decrease (Gamma = -.36) in the proportion of students receiving grants. There was no relationship between size and the proportion of students on loan, but there was a weak inverse relationship (Gamma = -.15) between the size and proportion of students with employment. There was no relationship between size and tuition or the average value of grants or loans. There was, however, a weak relationship between size and value of the average job (Gamma = .15). Employment at larger colleges was likely to be worth slightly more. There was no relationship between size and tuition.

As one might expect, the tuition at public institutions was far less than that at private institutions (Gamma = -.74). At 36 per cent of the private institutions, tuition and fees amounted to more than $1,000 in 1964. None of the public institutions was this expensive. At only 3 per cent of the private institutions were tuition and fees less than $500 per year. This was the case at 97 per cent of the public institutions. Many more students received grants at private institutions, but whether or not the institution was private or public did not affect the proportion of students receiving loans or employment. The value of grants and loans was considerably less at public

institutions (Gamma = -.54 and -.38 respectively). Whether the institution was private or public did not affect the value of the term-time job, however.

Coeducational institutions were slightly less expensive than single sex institutions (Gamma = -.20). Coeducational institutions had a much larger proportion of their students receiving loans than did single sex institutions (Gamma = -.49). The coeducational institutions were also slightly more likely to have more students with employment (Gamma = .23). At the coeducational institutions, tuition, grants and loans all were lower (Gamma = -.20, -.30, and -.14 respectively). Term-time jobs were worth slightly more at coeducational institutions (Gamma = .19).

TABLE I.15

TUITION, GRANTS, LOANS AND JOBS AT THE TEN TYPES OF INSTITUTIONS

Type of institution	Mean value of tuition and fees	% with grants	Mean value of grants	% with loans	Mean value of loans	% with jobs	Mean value of jobs
Public universities	$250	10%	$190	12%	$260	13%	$200
Non-sectarian, private universities	1,210	18	550	9	380	10	200
Teachers colleges	240	9	150	16	280	14	140
Protestant universities and colleges	800	25	280	17	380	22	180
Public colleges	140	8	140	13	290	17	180
Catholic universities and men's colleges	840	12	403	11	470	8	200
Professional and technical colleges	760	16	380	11	310	9	170
Non-sectarian, private colleges	1,160	20	550	14	400	19	110
Catholic women's colleges	750	13	330	7	428	11	140
Other	420	15	230	11	270	10	130
Total all institutions	$660	16%	$300	14%	$353	15%	$170

TABLE I.16

VALUE OF MEAN GRANT BY REGION AND TYPE OF INSTITUTION

Type of institution	Value of mean grant				
	North-east	South	Mid-west	Plains	West
Public universities	$200	$230	$171	$186	$179
Non-sectarian, private universities	607	510	-	-	-
Teachers colleges	163	157	133	132	100
Protestant universities and colleges	377	247	316	221	303
Public colleges	-	200	-	145	85
Catholic universities and men's colleges	490	380	368	274	500
Professional and technical colleges	400	347	403	-	438
Non-sectarian, private colleges	641	416	462	-	-
Catholic women's colleges	410	327	274	214	364
Other	242	248	-	60	-
Total: all institutions	$399	$268	$302	$200	$318

TABLE I.17

VALUE OF MEAN LOAN BY REGION
AND TYPE OF INSTITUTION

Type of institution	Value of mean loan				
	North-east	South	Mid-west	Plains	West
Public universities	$350	$307	$275	$249	$147
Non-sectarian, private universities	363	380	-	-	-
Teachers colleges	288	245	307	313	220
Protestant universities and colleges	423	317	409	416	421
Public colleges	-	335	-	209	300
Catholic universities and men's colleges	476	440	377	416	773
Professional and technical colleges	365	240	325	-	267
Non-sectarian, private colleges	451	288	408	-	-
Catholic women's colleges	423	291	457	441	500
Other	333	276	-	250	-
Total: all institutions	$386	$305	$374	$354	$354

TABLE I.18

VALUE OF MEAN TERM-TIME EMPLOYMENT BY REGION AND TYPE OF INSTITUTION

Type of institution	Value of mean term-time employment				
	North-east	South	Mid-west	Plains	West
Public universities	$108	$220	$192	$262	$132
Non-sectarian, private universities	233	260	-	-	-
Teachers colleges	116	133	207	165	100
Protestant universities and colleges	197	140	203	175	255
Public colleges	-	147	-	155	300
Catholic universities and men's colleges	234	233	105	232	164
Professional and technical colleges	141	80	217	-	219
Non-sectarian, private colleges	120	112	100	-	-
Catholic women's colleges	154	91	126	118	191
Other	142	114	-	130	-
Total: all institutions	$158	$148	$166	$185	$194

TABLE I.19

THE AID DIRECTOR AT THE TEN TYPES OF INSTITUTIONS

Type of institution	% with full-time aid director as of academic year 1965-66	% with aid director earning high salary (over $10,000)	Sex of aid director - % male
Public universities	76%	49%	90%
Non-sectarian, private universities	66	55	89
Teachers colleges	43	55	82
Protestant universities and colleges	22	31	92
Public colleges	47	53	90
Catholic universities and men's colleges	34	31	91
Professional and technical colleges	22	44	96
Non-sectarian, private colleges	30	37	65
Catholic women's colleges	15	17	7
Other	32	64	94
Total: all institutions	36%	41%	80%

FOOTNOTES

1. Allan M. Cartter, American Universities and Colleges (Washington, D.C.: American Council on Education, 1964).

2. U.S. Department of Health, Education and Welfare, Office of Education, Education Directory 1964-1965, Part 3, Higher Education (Washington, D.C.: Government Printing Office, 1965).

3. James Cass and Max Birnbaum, Comparative Guide to American Colleges (New York: Harper and Row, 1966).

4. Gene R. Hawes, The New American Guide to Colleges (New York: Signet, 1963).

5. J. Z. Hauser and P. F. Lazarsfeld, The Admissions Officer (New York: College Entrance Examination Board, 1964).

6. Alexander W. Astin, Who Goes Where to College? (Chicago: Science Research Associates, 1965).

7. Bernard Berelson, Graduate Education in the United States (New York: McGraw-Hill, 1960).

8. U.S. Department of Commerce, Statistical Abstract of the United States (Washington, D.C.: Government Printing Office, 1965).

9. George Nash and Patricia Nash, From Which Colleges Come the Peace Corps Volunteers? (New York: Bureau of Applied Social Research, Columbia University, 1965).

10. Cartter, op. cit.