Report on the 1973 Survey of University Patent Programs

by

Northwestern University

Report prepared by the staff of
the Office of Research and
Sponsored Programs under the
direction of the Vice President
for Research and Dean of Science

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I. Introduction

In the fall of 1973 Northwestern University undertook a review of its existing patent policy and patent program administration. Since the emphasis of many of the research programs was shifting from basic research to applied technology and contract research such a review was deemed necessary. Furthermore, the trends of many funding agencies, especially within the Federal Government, were towards more mission or task oriented projects requiring solutions to specific problems. Finally, the University administration, faced with increased operating costs and limited financial resources, believed that a thorough review of patent operations might indicate a potential source of additional revenue.

As part of the review process a questionnaire on the patent programs at other institutions of higher education was prepared and circulated. The accompanying report covers the results of this survey and presents some tentative conclusions based on the returns. The resulting conclusions, by the very nature of the questionnaire and the results obtained are speculative and open to criticism or alternative

interpretation. However, I believe that they are of value to other administrators faced with similar decisions regarding their institutions's patent programs and can well serve as a base for further surveys.

I would like to acknowledge my gratitude to the staff of the Office of Research and Sponsored Programs at Northwestern University for collecting the data and assisting in the preparation of this report.

I welcome any criticisms or suggestions on the interpretation of the results of this survey.

David Mintzer
Vice President for Research
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July 1, 1974

II. Patent Policy and Procedures Surevey: The Questionnaire

In order to determine some of the characteristics of the patent programs at other universities, a survey was made of a number of them. A group of 76 was chosen from a list of the 100 universities having the largest (dollar) amount of government research and development funds obligated during a recent year as compiled by the National Science Foundation. There is no correlation between the total federal funds obligated and either the size of the student body or faculty, or the school's geographical location. It might be expected that the presence of a medical school, an engineering school and, perhaps, a school of agriculture are the most important factors in the size of the federal funding. (These are probably also the most important areas from which patentable items originate.) The complete list of schools (all 100) is given in Appendix A, alphabetically; the 76 schools from which information was solicited were chosen from the list so as to give a good sample of the various types of schools

(large and small; public and private; and various geographical locations.) A sample of the questionnaire sent is shown in Appendix B. Since at the time it was felt that this was probably the first such wide scale survey made, the information requested was to be estimated by the respondent and few details were requested. The purpose of the survey was to get "order of magnitude" results and determine what gross correlations seemed to occur. A detailed survey should be done by some interested research group, since the results of this initial survey seem to show the desirability of further work in this area.

A total of 54 replies (including Northwestern University) were received, although not all questions were answered by every one. Thus, the information contained in the following figures comes from as many as 54 schools, and as few as 25 (in each case, the number of usable responses is shown). The interest in the information, and a possible measure of how relatively uninformed are most schools concerning policies of other schools, may be seen in the fact that 52 of the 54 respondents requested copies of the survey results. Two responding institutions are in the process of developing a patent

policy, and two other institutions indicated that their policy permitted the inventor to work directly with a patent development firm such as Research Corporation. Ten of the remaining 50 institutions appear to operate their patent programs in cooperation with a research foundation affiliated with the university. In such cases, there is some question in the interpretation of the replies since it is not clear whether the answers pertain to the university or the research foundation.

We shall first discuss the responses to the individual questions, and then attempt some interpretation of the results. The latter must be considered quite tentative, especially in view of the roughness of the data; however, some interesting possibilities seem to emerge which warrant further study.

Question 1. The responses to this question can be grouped according to the following Table.

Table 1

Official/Office of University Responsible for Patent Program	Percentage of 49 Respondents
Research Office	67%
Fiscal Office	14%

Legal Office	2%
Separate Patent Office	6%
Academic Officer (e.g., Provost)	10%

One additional institution apparently has its patent program completely operated by a university-associated research foundation. At approximately 10% of the institutions, the responsibility for operating the program appears to be divided between a Research Office and either an Academic Officer or the Legal Office of the University. The results shown in Table I report the responsibility for these cases as residing with the Research Office since it was generally an individual from such an office who completed the questionnaire.

Question 2. In making a decision as to whether or not to pursue a patent application for an invention disclosed to the University, approximately 50% of the universities employ more than one approach in reaching such a decision. Twenty-seven of the fifty institutions indicated that some type of patent committee composed either of faculty members or faculty and administrators were instrumental in making a decision on whether to make a patent application. Of these twenty-seven,

nine relied on additional information from an outside firm such as Research Corporation. Six others worked with an individual who was classified as a "patent administrator," an individual generally associated with the Research Office of the university; titles associated with this individual are Director of an Office of Research, Associate Dean of Research, or Vice President. The remaining twelve institutions, at which the patent committee is reported as the sole body making a decision on patents, have the committee report its decision to either the President, the Vice President for Research or some other academic officer. In some cases, the responding institutions did not indicate to whom such a patent committee may have reported. Besides the nine institutions that used an outside firm in conjunction with a patent committee, an additional thirteen institutions reported that they depended on an outside firm to aid them in making a decision on obtaining a patent. Seven of these used the outside firm exclusively and, judging from the number of disclosures and licenses reported by these seven, only one would appear to be active in pursuing patents through the exclusive use of an outside firm. Also, it is rather surprising to find that forty-two institutions out of

the fifty report that they do use Research Corporation and/or the Battelle Foundation to promote their patents (see below, Question 5), but only twenty-two report that they use them in making a decision on obtaining a patent.

Question 3. The percentage of time and types of individuals devoted to the patent program within the University vary widely. If the percentage of professional staff time was not reported, it was presumed to be an unstaffed position and the percentage of effort was taken to be zero. Generally, for professional staff efforts of 6% of an individual's time or less, the number of licenses is either unreported or reported to be zero, although there are one or two minor (small number of licenses) exceptions. Approximately 40%, or twenty-one of the reporting institutions, show 6% or less professional staff time; these generated 147 disclosures, 27 patent applications and eight licenses per year. The remaining 29 institutions can be broken into a group of twenty institutions having professional staff devoting the equivalent of one person spending between 10 and 50% of "his" time, and nine institutions devoting more than 50% of "his" time. The following table

summarizes the patent activity for these three groups:

Table II - Time Spent by Professional Staff

Total No. of:	Less than 6%	10 to 49%	50% or more
Respondents	21	20	9
Disclosures/yr.	147	331	468
Discl./Inst./yr.	7.0	16.6	52.0
Patent Appl./yr.	27	79	128
Patent Appl./Inst./yr.	1.3	4.0	14.2
License/yr.	8	40	37
License/Inst./yr.	0.4	2.0	4.1

Question 4. Thirty-four institutions indicated that they use a patent attorney from outside the institution. Of these, twenty-six indicated that they also use firms such as Research Corporation or Battelle. The remaining sixteen institutions of the fifty who answered the question depend solely on outside firms such as Battelle or Research Corporation.

Question 5. Twenty-one out of fifty use two or more outside firms, mainly Research Corporation or Battelle, with

Dvorkovitz being listed by five institutions. Eight do not use any outside firms. However, of these eight, four have their own research foundations. Of the remaining twenty-one who listed only one outside firm, eighteen use Research Corporation, two use Battelle and one uses Dvorkovitz. In all, thirty-nine institutions have agreements with Research Corporation, nineteen with Battelle and five with Dvorkovitz.

Question 6. The results of the answers to this question regarding the number of disclosures, number of patent applications and number of licenses processed per year are summarized in Figure 1.

Question 7. Forty-nine institutions gave a response to the question. However, only eight indicated actual percentages for the distribution of the expenses. The remaining institutions merely checked one or more of the methods of supporting the patent program administrative costs. If only one answer was checked, 100% of the expenses was taken to be covered by this method of recovery; whereas, if two answers were checked, the expense was equally divided between the two methods of recovery. The results are summarized in Table III.

Table III - A - Recovery of Expenses

No. of Universities	Method of Recovery
11	Royalties
8	Indirect Cost
14	Direct Univ. Support
2	Royalties + Indirect
7	Royalties + Direct
1	Direct + Indirect

The remaining six institutions were those giving exact percentages which differed from the above breakdown. These are:

Table III - B - Recovery of Expenses

University (arbritrary number)	Royalties (%)	Indirect (%)	Direct (%)
1	90		10
2	75	25	
3	40		60
4	82		18
5	28	36	36
6	50	25	25

It is possible that a number of the universities which report the expenses as being covered by a direct contribution from the university may actually be recovering some portion of the actual costs as indirect cost recovery, since the salaries or other costs involved in administering the patent program may eventually be included in the indirect cost pool.

Question 8. This question was optional on the questionnaire. Twenty-nine institutions answered some or all parts of this question. The cost of administration ran as high as $100,000 per year, with the average for twenty-five schools being $17,500. The annual royalty income was as high as $200,000, with the average for the twenty-five schools being $30,500. If one examines the net income to the university, ten schools showed a net income ranging from $5,000 to $160,000 while twelve schools showed a net deficit ranging from $500 to $60,000. Three schools reported no administrative expenses and no royalty income.

The third part of the question was difficult to interpret since only six schools reported any percentage of university resources devoted to in-house development. Obviously, this question was poorly stated and difficult to answer.

III. Interpretation of the Results

Figures I and II show some of the disparities among the schools, and some interesting results. The number of disclosures per year (Fig. IA) varied from less than 10 (for almost half of the 46 respondents) to 208 in one case. The median number of disclosures for the group is 11; but the highest nine schools had a median of almost 40 per year, while the median of the remainder was about eight. As might be expected, the number of patent applications per year (Figure IB) is markedly less than the number of disclosures, indicating a considerable effort to cull out non-patentable (and, perhaps, non-marketable) items. The median number of patent applications is 3, indicating that for the median school about 27% of the disclosures result in patent applications. This is in contrast to the experience of the Research Corporation (verbal communication from a member of their staff) which patents less than approximately 10% of the items disclosed to it. Undoubtedly, the Research Corporation applies much harsher criteria, especially since their staff has closer connections with possible licensees and can evaluate marketability somewhat better than the average university administrator. Moreover, faculty pressure on university administrators to patent a disclosed item may well result in an easing of standards. It is interesting to note that only

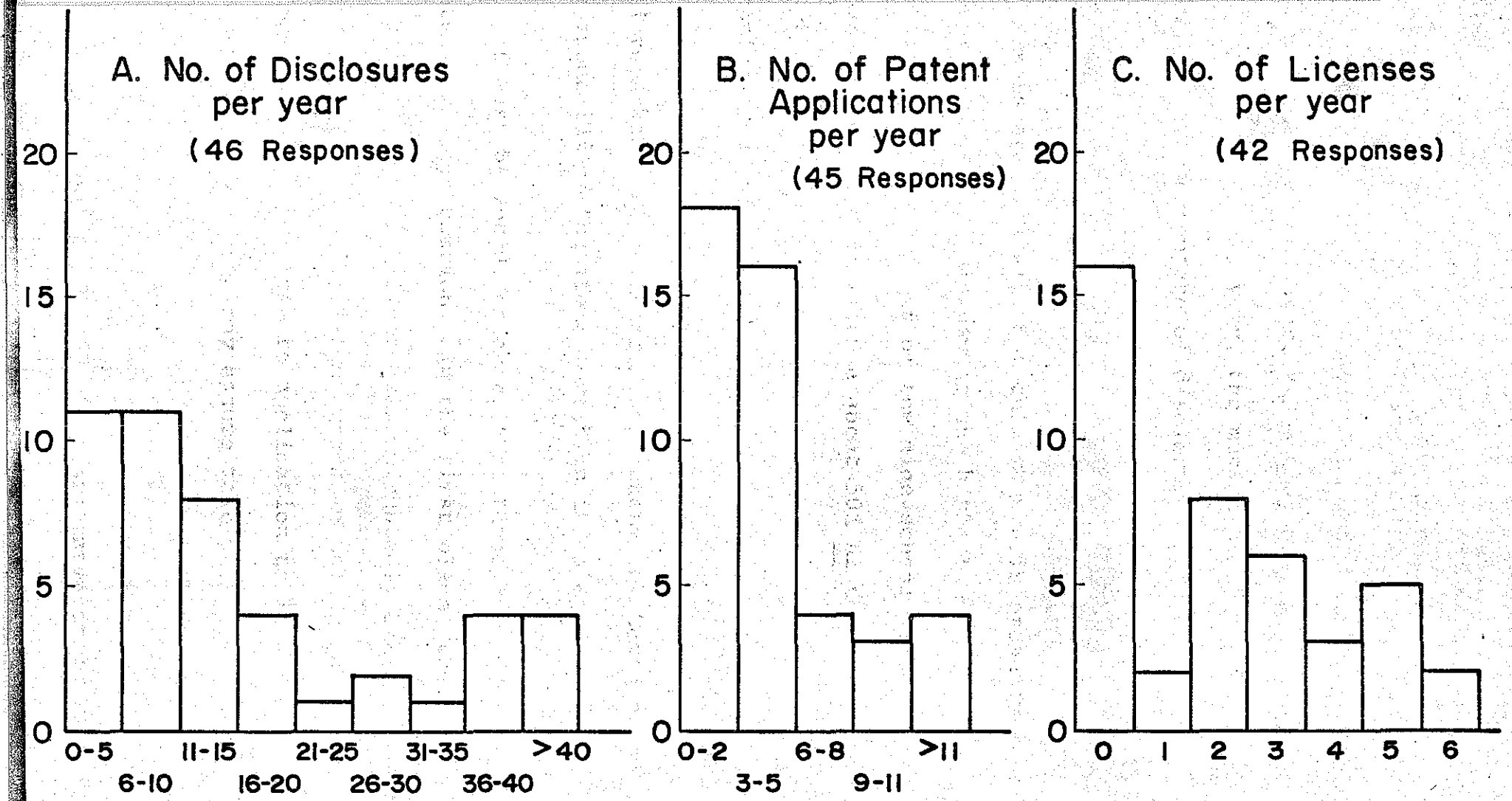

A. No. of Disclosures per year
(46 Responses)
20
15
10
5
0
0-5
6-10
11-15
16-20
21-25
26-30
31-35
36-40
>40
B. No. of Patent Applications per year
(45 Responses)
20
15
10
5
0
0-2
3-5
6-8
9-11
>11
C. No. of Licenses per year
(42 Responses)
20
15
10
5
0
0
1
2
3
4
5
6

Figure I

four of the seven schools applying for the most patents per year are among the nine schools having the greatest number of disclosures per year. However, since they have a median number of 11 applications per year, the median of this group patents about the same percentage of disclosures as does the respondent group as a whole. The median school licenses two items per year, indicating a 66% license-to-patent application ratio, but the numbers are so small that this figure is probably meaningless. However, the ten schools having the highest number of licenses per year, which includes eight of the nine schools having the highest number of disclosures, license about 50% of the items for which patent applications have been made. The median school in the remaining group places about one license per year, which gives a license for only 33% of its patent applications. These are still remarkably high figures, since Research Corporation licenses only about 10% of the items for which it makes patent applications.

It must be noted, however, that these figures should be treated with some caution. In the first place, they are estimates and, although reasonable care was undoubtedly taken, the small numbers involved lead to large errors in taking ratios. Secondly, the process of "disclosure to application to license" is a time-dependent one; while one may assume that only six months to a year

is taken from the time a disclosure is made to the school administrator until a patent is applied for, an additional number of years may pass before an item is licensed. One should really view the process as involving a large store of patented items in a portfolio, which is decreased very slowly by either licensing or loss of patent protection due to age, and increasing (at a much greater rate than the decrease) by new patents. Although it seems reasonable to assume that the most likely candidates for licensing are the newer patented items, increasing pressure on universities to market patents may result in a number of older patents being licensed. Thus, while the populations of research results may be nearly identical for Figures IA and IB, that for Figure IC could be quite different; only a more detailed survey could tell. This effect may well become of even greater importance in the future. With increased pressure from the government to quickly bring research results into practice, and the hope by university administrators for a new source of revenue, the patent portfolios of universities may well increase rapidly during the next decade; with increased pressure for marketing patented items, older patents may be brought forth in a renewed attempt to license them.

Figures IIA and B show, respectively, the distribution among the respondents of annual administrative costs and annual

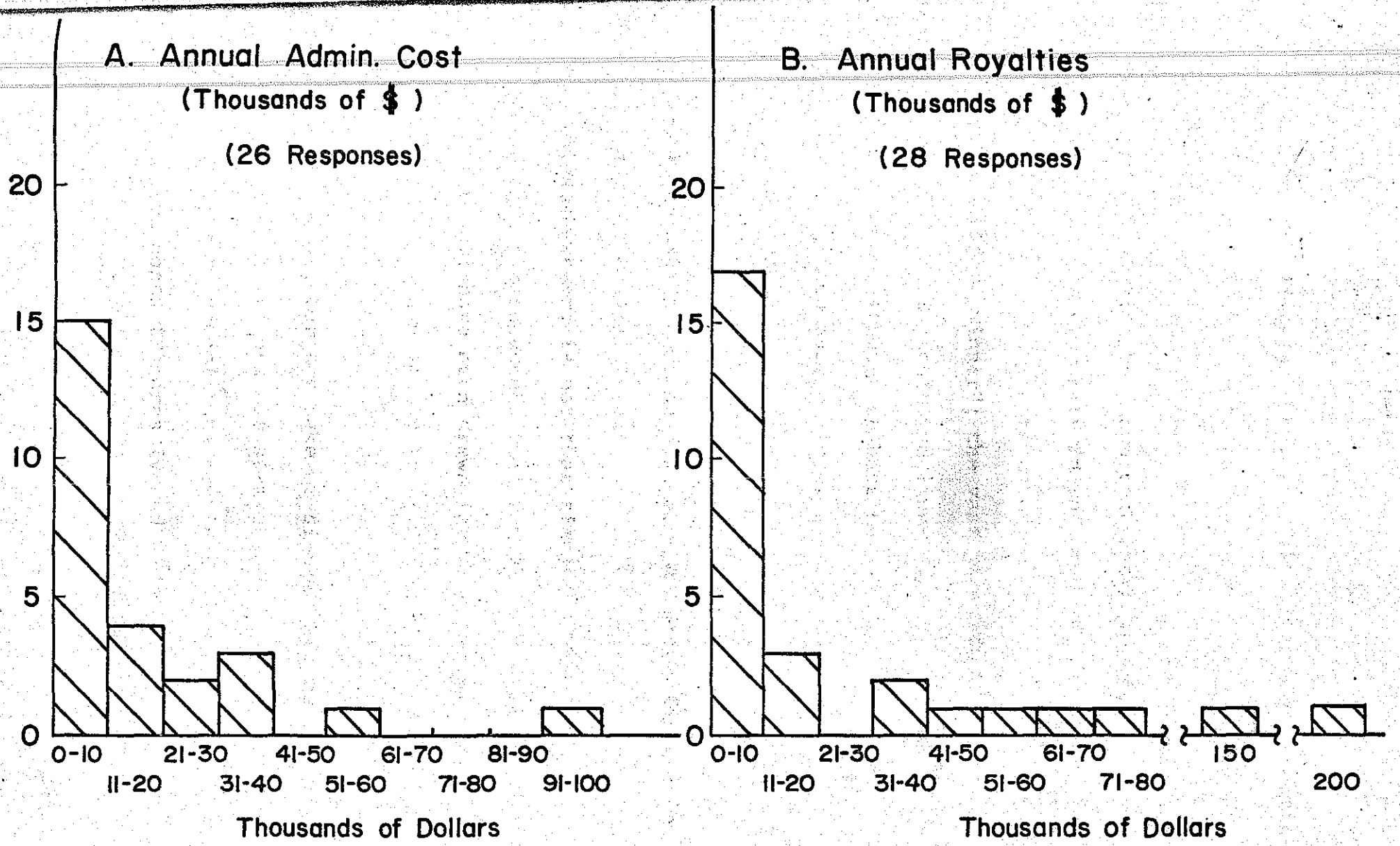

A. Annual Admin. Cost
(Thousands of $)
(26 Responses)
20
15
10
5
0
0-10
11-20
21-30
31-40
41-50
51-60
61-70
71-80
81-90
91-100
Thousands of Dollars
B. Annual Royalties
(Thousands of $)
(28 Responses)
20
15
10
5
0
0-10
11-20
21-30
31-40
41-50
51-60
61-70
71-80
150
200
Thousands of Dollars

Figure II

royalties from licenses. The two schools having the largest annual administrative costs have a large number of disclosures and licenses (they are members of the "high eight" mentioned before), but it will be shown that the correlations are not simple ones. The disparity in royalties is not too surprising: the two schools earning more than $100,000 per year each have licensed a major "winner"; the vast majority of the other schools have, most probably, only one licensed item which earns something for them (although we have no actual data on that point).

It is, of course, of interest to see if there are any correlations among the variables. One might assume, a priori, that a large value for the total federal obligations would, through supporting a great deal of research, result in a large number of disclosures. The correlation between these variables, however, is not that simple. Figure III shows that most of the 46 respondents fall roughly into two groups. Lines marked I and II have been drawn (by eye) on the graphs, with parallel lines drawn nearby (at $\pm$ \$5M and $\pm$ \$2M, respectively); perhaps eight of the points don't seem closely related to either line but, for the sake of simplicity, will be assumed associated with its nearest straight line. The open and solid circles refer to schools who provided additional data on administrative costs (Figures IV and V) while the triangles represent responses from schools which did not supply such information. The I-group is characterized by a relatively large number of disclosures per federal dollar (approximately

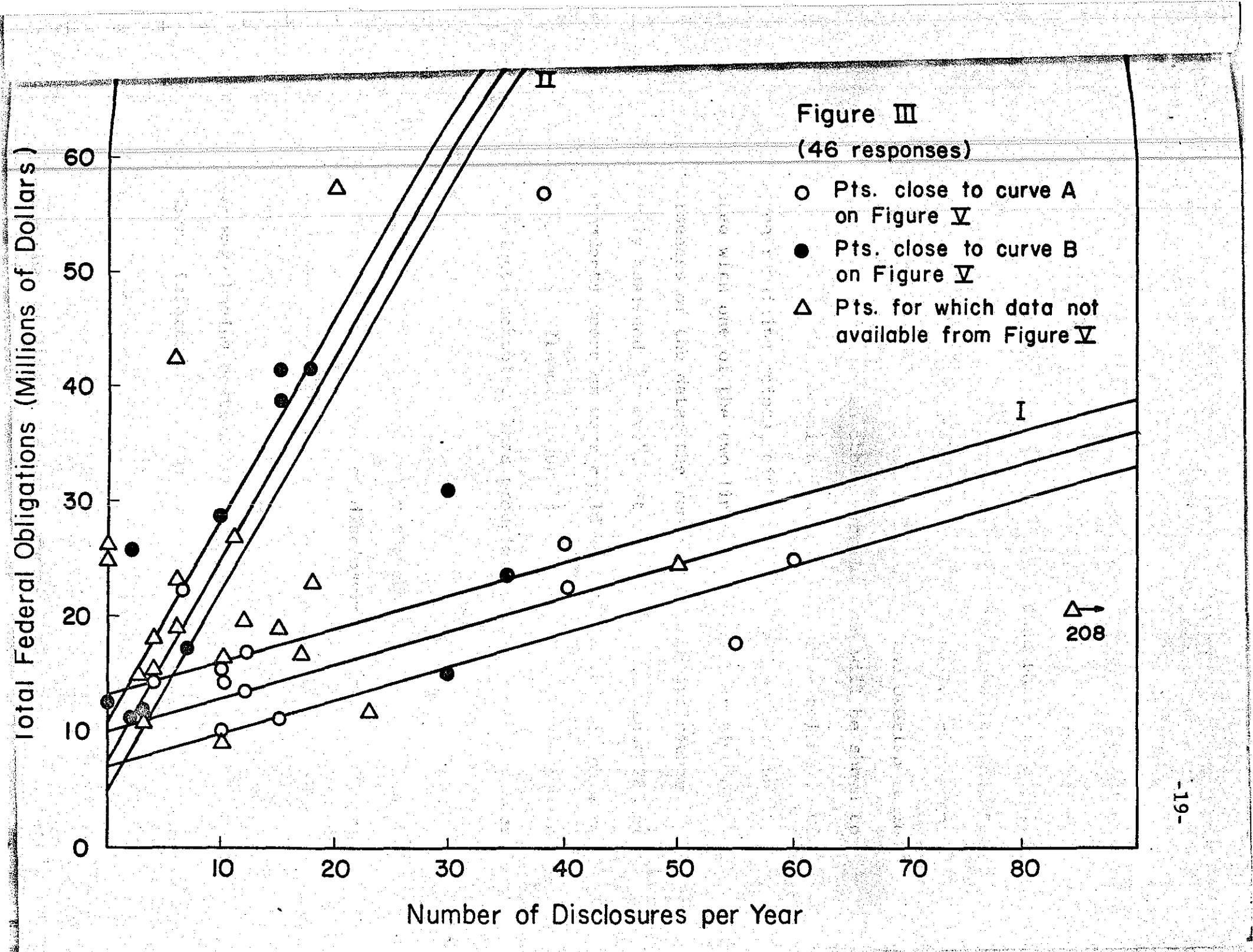
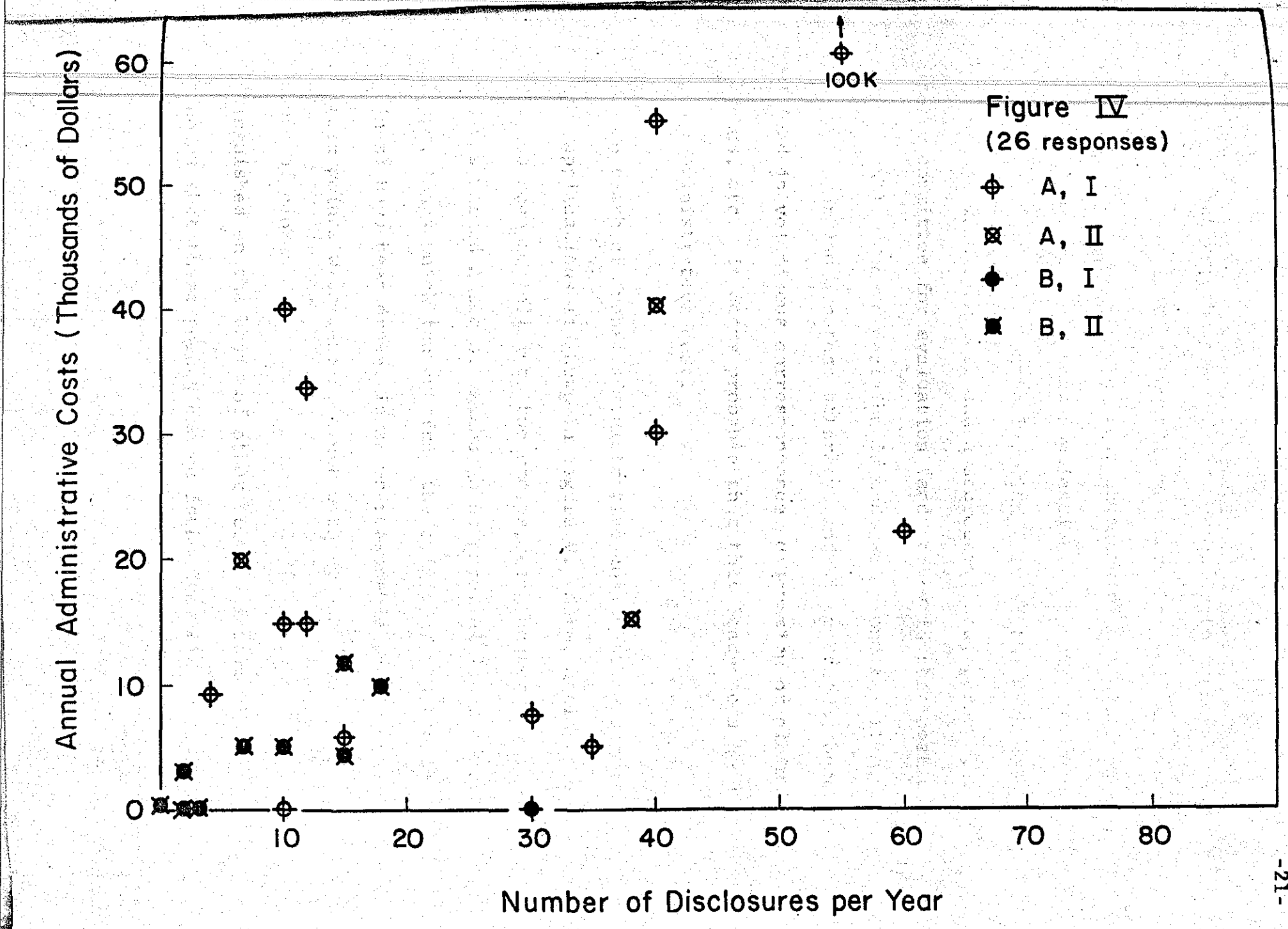


Figure III
(46 responses)
Pts. close to curve A on Figure V
Pts. close to curve B on Figure V
Pts. for which data not available from Figure V
I
II
208
Total Federal Obligations (Millions of Dollars)
Number of Disclosures per Year
0
10
20
30
40
50
60
70
80

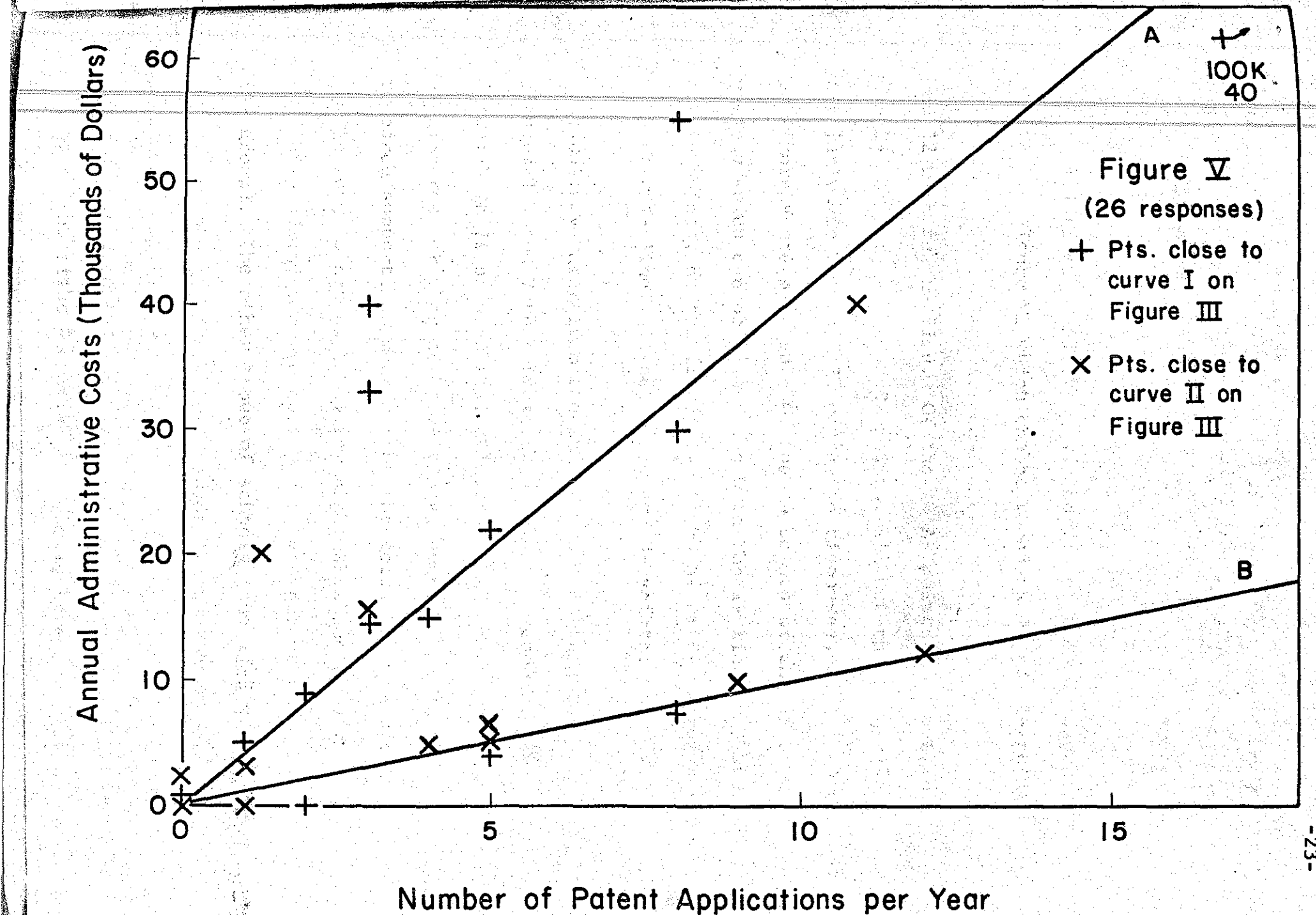
3.5 disclosures per million dollars); the fact that the II-group has less than 0.5 disclosures per million dollars of total federal obligations, would indicate that there is a quite different attitude toward inventions in these schools. Eighteen respondents obviously belong to the I-group; twelve respondents to the II-group. Five respondents belong in the overlap region of the groupings (although other correlations will be shown to distinguish the group to which four of these five belong). Of the eleven remaining points, eight others could be reasonably associated with one of the two lines, especially in view of the coarseness of the data; the remaining three are rather arbitrarily assigned "by eye". It should be noted that 28% of the respondents whose answers could be used in this graph were private schools, although about 38% of the questionnaires were sent to private schools. This grouping will be further discussed later.

It might also be assumed that the administrative costs are closely related to the number of disclosures. However, Figure IV does not show any special relation between the variables. Some respondents with a relatively small number of disclosures per year were having costs as great as respondents having double the number. Unfortunately, this area of annual administrative cost is a difficult one to assess. Many schools have administrators and staff who spend a small portion of their time


Annual Administrative Costs (Thousands of Dollars)
60
50
40
30
20
10
0
100K
Figure IV
(26 responses)
A, I
A, II
B, I
B, II
10
20
30
40
50
60
70
80
Number of Disclosures per Year

on patent matters; the tendency is, probably to underestimate this cost. One might be tempted, however, to feel that such costs are not incurred to a great extent with the disclosure but, rather, with the patent application. The disclosure can be handled relatively routinely, with most of the work being done by the faculty member and a secretary; and, perhaps, a faculty committee for evaluation (and rarely is that cost ever considered!). Once a decision is made to patent the item, an administrator and a patent attorney, and their staffs, become involved in voluminous correspondence, discussion of claims, searches, etc. It seems probable that this leads to a good part of the administrative cost.

The graph of annual administrative costs vs. number of patent applications is shown in Figure V. Here, again, the variables seem to fall into two groups, each centered around the lines marked A and B. Although no parallel lines (or, perhaps, lines which fan out from the origin around the A- and B- lines) have been drawn, it seems reasonable to associate thirteen points with line A, eight with B, and five undetermined because of closeness to the origin (all of which can be distinguished on the basis of other correlations). However, if one notes that these points can be found from Figure III to be in the groups I or II, we find that: of the thirteen "obvious" A- points, three are II- points, and the other ten are I- points; of the eight "obvious" B- points, three are I- points


Annual Administrative Costs (Thousands of Dollars)
60
50
40
30
20
10
0
0
5
10
15
Number of Patent Applications per Year
A
100K
40
B
Figure V
(26 responses)
+ Pts. close to curve I on Figure III
× Pts. close to curve II on Figure III

and the remaining five are II- points; the five points close to the origin can be associated with the I- or II- groups by assuming that the above correlations hold. One can recapitulate the associations in Figures III and V: of the 26 responses plotted in Figure V, which can be found as I- or II- points from Figure III, 14 points can be associated with the A- line and 12 with the B- line. Of the 14 A- points, all but three are I- points; of the 12 B- points, all but three are II- points. Similarly, in Figure III, of the 46 responses, all 26 points of Figure V are plotted. Of the 14 points of the A- or B- variety which can be associated with the I- line, all but three are A- points; of the 12 points of the A- or B- variety associated with the II- line, all but three are B- points.

One may infer from the associations between the points on Figures III and V that there is a group of schools, the I- group, in which it is seen as desirable to make as many patent disclosures per year as is possible, even though the total research support, as measured by the total federal yearly obligation, is not particularly high; this patent effort leads to a high administrative cost per actual patent application (A- group). The other group of schools (the II-B group) makes few disclosures per year for the total research support involved, and incurs relatively small administrative costs for the number of actual patent applications. This is a matter which certainly

deserves greater study, especially in light of the fact that Figure IV does not show any such correlations. The fact that the number of patent applications per year is not proportional to the number of disclosures per year causes the double-grouping of Figure V to disappear in Figure IV. One may infer "scenarios" in which, in one case, an administrative group has been set up to press for disclosures, and patent and market them--although there is not a research base sufficiently large to expect a great number of marketable items; and, in the other case, a school in which disclosures and applications are treated as a rather secondary matter by an administrator, who does not put much time or effort (or money) into the program. It is, presumably, the strong research base of the second case which does produce patent applications, in spite of the uninterested administrative attitude! Finally, it should be noted that the eleven IA respondents include only one private school; of the nine IIB respondents, there were six private schools.

Figure VI is a graph of the "end result," the annual net royalty income (royalty income minus administrative costs) vs. the number of disclosures per year. The purpose of all of the patent policies is presumably to get research results to the public; it is not unreasonable to assume that royalty income is a measure of

the value of these results to the public (admittedly, a very imperfect measure). Several points can be made on the basis of these 25 responses, all of which can be categorized as in Figure V, but with one IB school not responding to the royalty question. Of the five respondents having over $40,000 per year net royalties, three do not fall into the IIA or IIB categories; only two of the remaining twenty are not IA's or IIB's! The implication is strong that, in each case of the five, the incidence of a patent which brought in a large royalty was not related to any particular institutional patent policy. A second point to be noted is that all of the respondents claiming a net loss of $10,000 per year or greater (greater administrative costs than royalty income) are of the A group, with two IIA's and six IA's. Of these six IA's, none are private institutions. Finally, of the remaining 12 schools, which lost no more than $5,000 per year (nor had a gain over $20,000 per year), there is a mixture of four IA's and eight IIB's. Thus, this Figure implies that the strong administrative effort to obtain disclosures, when associated with a research program that is not well funded, will most probably lead to a significant yearly financial loss.

It must be realized that these conclusions can be con-

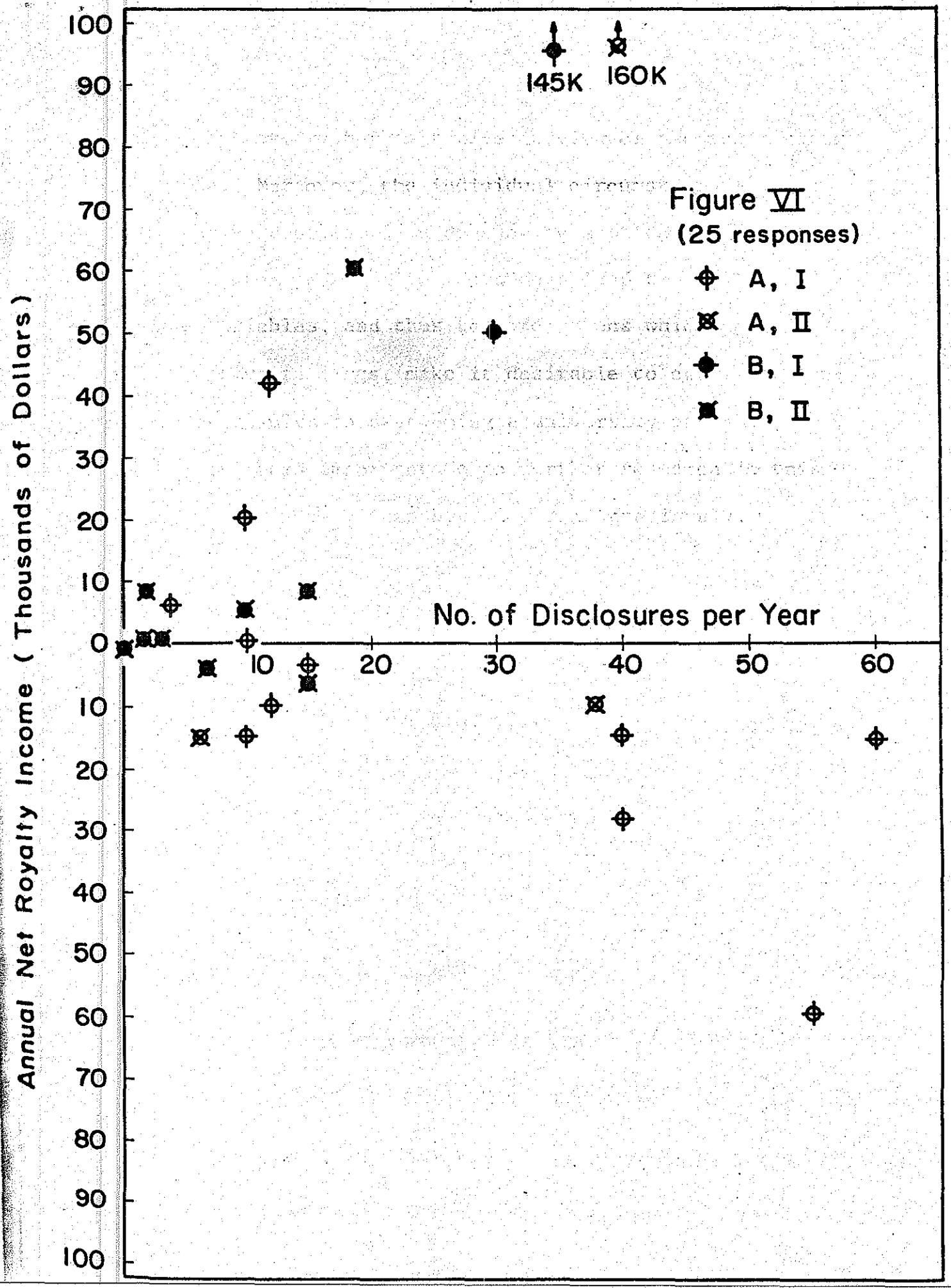


Figure VI
(25 responses)

- A, I
- A, II
- B, I
- B, II

sidered, at best, rather tentative in view of the rough nature of the data. Moreover, the individual circumstances of each school must be considered in developing a patent policy. However, the manner in which the data does lead to correlations among the variables, and thus to conclusions which agree with one's intuitive feelings, make it desirable to carefully consider these results in developing a university patent policy. It certainly seems important to do further research in this area in greater detail than has been done previously.

APPENDIX A

LIST OF SCHOOLS

University of Alabama-Birmingham, Alabama
University of Arizona, Arizona
University of Arkansas, Arkansas
Auburn University, Alabama
Baylor College of Medicine, Texas
Boston University, Massachusetts
California Institute of Technology, California
University of California-Berkeley, California
University of California-Davis, California
University of California-Los Angeles, California
University of California-San Diego, California
University of California-San Francisco, California
Carnegie Mellon University, Pennsylvania
Case Western Reserve University, Ohio
University of Chicago, Illinois
University of Cincinnati, Ohio
Colorado State University, Colorado
University of Colorado, Colorado
Columbia University, New York
University of Connecticut, Connecticut
Cornell University, New York
CUNY Mt. Sinai School of Medicine, New York
Dartmouth College, New Hampshire
Duke University, North Carolina
Emory University, Georgia
Florida State University, Florida
University of Florida, Florida
Gallaudet College, D. C.
George Washington University, D. C.
Georgetown University, D. C.
University of Georgia, Georgia
Harvard University, Massachusetts
University of Hawaii, Hawaii
Howard University, D. C.
University of Illinois-Urbana, Illinois
Indiana University-Bloomington, Indiana
Indiana University-Indianapolis, Indiana
Iowa State University of Science & Technology, Iowa
University of Iowa, Iowa

Johns Hopkins University, Maryland
Kansas State University, Kansas
University of Kansas, Kansas
University of Kentucky, Kentucky
Louisiana State Medical Center-Shreveport, Louisiana
Louisiana State University-Baton Rouge, Louisiana
University of Maryland-Baltimore, Maryland
University of Maryland-College Park, Maryland
Massachusetts Institute of Technology, Massachusetts
University of Massachusetts-Amherst, Massachusetts
Meharry Medical College, Tennesee
University of Miami, Florida
Michigan State University, Michigan
University of Michigan, Michigan
University of Minnesota, Minnesota
University of Missouri-Columbia, Missouri
University of Missouri-Kansas City, Missouri
University of Nebraska-Lincoln, Nebraska
New Mexico State University, New Mexico
University of New Mexico, New Mexico
New York Medical College, New York
New York University, New York
North Carolina State University-Raleigh, North Carolina
University of North Carolina-Chapel Hill, North Carolina
Northwestern University, Illinois
Ohio State University-Columbus, Ohio
Oklahoma State University, Oklahoma
University of Oklahoma, Oklahoma
Oregon State University, Oregon
University of Oregon-Eugene, Oregon
Pennsylvania State University, Pennsylvania
University of Pennsylvania, Pennsylvania
University of Pittsburg, Pennsylvania
Princeton University, New Jersey
Purdue University, Indiana
University of Rochester, New York
Rutgers, The State University, New Jersey
St. Louis University, Missouri
University of Southern California, California
Stanford University, California
SUNY State University-Buffao, New York
Temple University, Pennsylvania
University of Tennessee-Knoxville, Tennessee
University of Tennessee Medical Units-Memphis, Tennessee

Texas A & M University, Texas
University of Texas-Austin, Texas
University of Texas-Houston Medical School, Texas
University of Texas Southwestern Medical School, Texas
Tufts University, Massachusetts
Tulane University, Louisiana
University of Utah, Utah
Vanderbilt University, Tennessee
University of Virginia, Virginia
University of Washington, Washington
Washington University, Missouri
Wayne State University, Michigan
West Virginia University, West Virginia
University of Wisconsin-Madison, Wisconsin
Woods Hole Oceanographic Institute, Massachusetts
Yale University, Connecticut
Yeshiva University, New York

APPENDIX B

NORTHWESTERN UNIVERSITY
REBECCA CROWN CENTER
EVANSTON, ILLINOIS 60201

VICE PRESIDENT FOR RESEARCH
AND
DEAN OF SCIENCE

(312) 492-3485

August 17, 1973

Dear Sir:

Northwestern University has recently revised its Patent Policy and is now reviewing its internal procedures for administering the policy and for promoting its inventions and patents.

In view of the federal government's increased emphasis on transferring the inventions resulting from research to industry for the benefit of the general public, there appears to be increased pressure on universities to develop successful and aggressive patent programs. In order to establish a program appropriate to the environment at Northwestern University, I am asking for your assistance by supplying answers to an enclosed questionnaire. When all of the results have been collected, I would be most pleased to share the results with you or with the official at your university who is responsible for administering your patent program.

Thank you for your assistance in this undertaking.

Sincerely yours,

David Mintzer

DM/tj
Enclosure

UNIVERSITY PATENT POLICY QUESTIONNAIRE

1. What office and/or university official has responsibility for administering your patent policy?

_____

2. How is the decision made on whether to obtain a patent?

_____ Faculty Patent Committee

_____ By outside consulting firm (such as Battelle or Research Corporation)

_____ By University Patent Administrator

What University Rank? _____

_____ By Professional Patent Promotion Consultant

_____ Other _____

_____

3. How is the patent program staffed within the university and what percentage of time does each devote to the program? (Use "professional" categories, e.g. engineer, lawyer, secretary, etc.)

A _____

B _____

C _____

D _____

E _____

F _____

4. What type of firms outside the university are used in the patent application program (e.g. patent attorneys)?

_____

5. Which outside firms does your institution use to promote patents and inventions?

_____ Research Corporation

_____ Batelle

_____ None

_____ Other _____

6. a) Number of Disclosures processed per year _____

   b) Number of Patent Applications filed each year _____

   c) Number of licenses processed per year _____

7. How are the expenses incurred in the University Patent Program covered? (percentages)

   _____ From Royalties

   _____ As an indirect cost item

   _____ As a direct contribution from the University

   _____ Other _____

8. a) (Optional) What is the estimated annual cost of administering the university's Patent Program? _____

   b) (Optional) What is the approximate royalty income to the University from patents and inventions? _____

   c) (Optional) What is the average percentage of in-house development? _____

9. Is your institution interested in reviewing the results of this survey? Yes _____ No _____

_____

_____

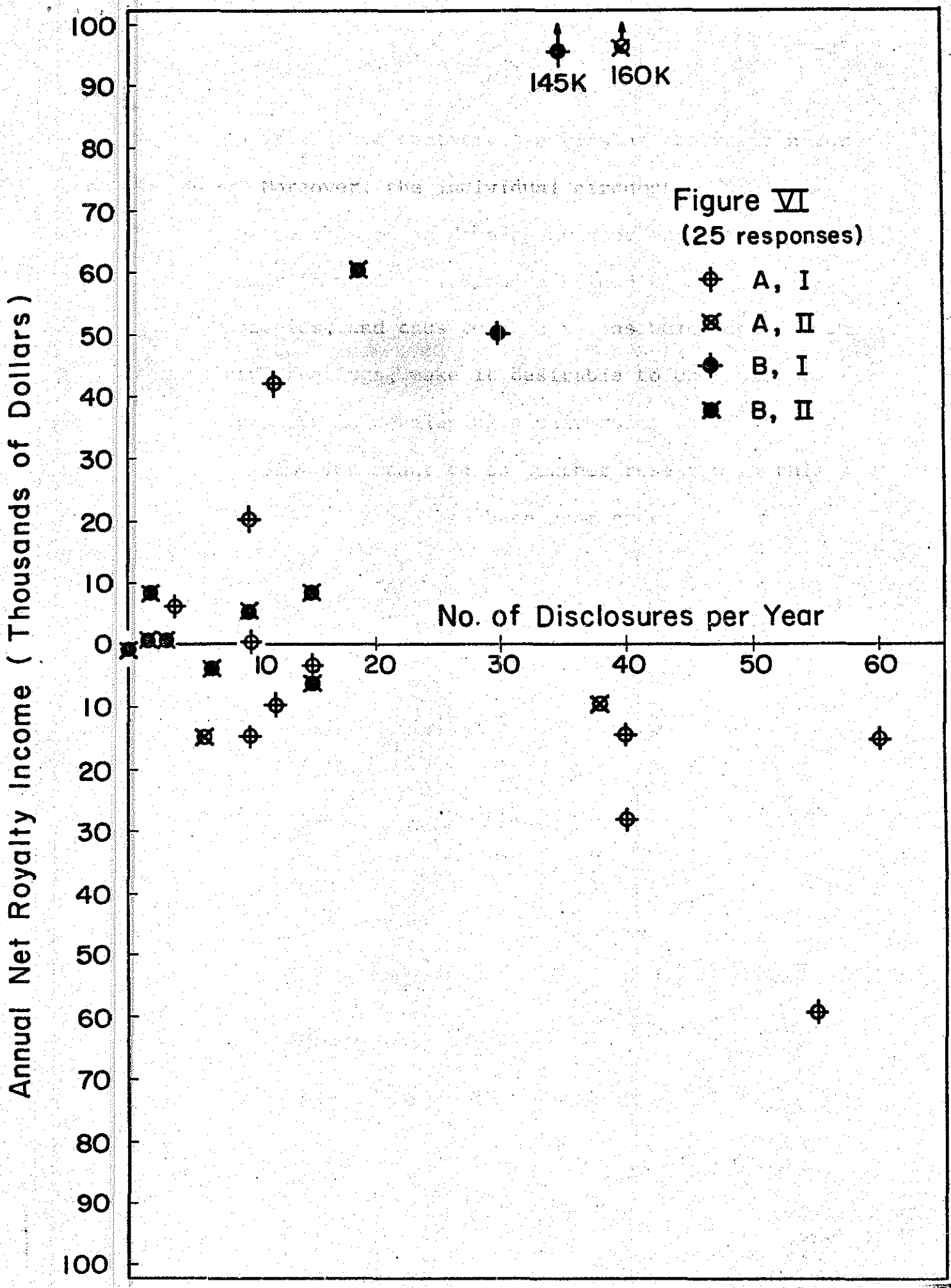
Name and title of official responding to questionnaire

Please return to:

Dr. Earl J. Freise
Office of Research & Sponsored Programs
Northwestern University
633 Clark Street
Evanston, Illinois 60201

the value of these results to the public (admittedly, a very imperfect measure). Several points can be made on the basis of these 25 responses, all of which can be categorized as in Figure V, but with one IB school not responding to the royalty question. Of the five respondents having over $40,000 per year net royalties, three do not fall into the IIA or IIB categories; only two of the remaining twenty are not IA's or IIB's! The implication is strong that, in each case of the five, the incidence of a patent which brought in a large royalty was not related to any particular institutional patent policy. A second point to be noted is that all of the respondents claiming a net loss of $10,000 per year or greater (greater administrative costs than royalty income) are of the A group, with two IIA's and six IA's. Of these six IA's, none are private institutions. Finally, of the remaining 12 schools, which lost no more than $5,000 per year (nor had a gain over $20,000 per year), there is a mixture of four IA's and eight IIB's. Thus, this Figure implies that the strong administrative effort to obtain disclosures, when associated with a research program that is not well funded, will most probably lead to a significant yearly financial loss.

It must be realized that these conclusions can be con-


145K
160K
Figure VI
(25 responses)
A, I
A, II
B, I
B, II
No. of Disclosures per Year
Annual Net Royalty Income (Thousands of Dollars)
0
10
20
30
40
50
60
70
80
90
100

sidered, at best, rather tentative in view of the rough nature of the data. Moreover, the individual circumstances of each school must be considered in developing a patent policy. However, the manner in which the data does lead to correlations among the variables, and thus to conclusions which agree with one's intuitive feelings, make it desirable to carefully consider these results in developing a university patent policy. It certainly seems important to do further research in this area in greater detail than has been done previously.

APPENDIX A

LIST OF SCHOOLS

University of Alabama-Birmingham, Alabama
University of Arizona, Arizona
University of Arkansas, Arkansas
Auburn University, Alabama
Baylor College of Medicine, Texas
Boston University, Massachusetts
California Institute of Technology, California
University of California-Berkeley, California
University of California-Davis, California
University of California-Los Angeles, California
University of California-San Diego, California
University of California-San Francisco, California
Carnegie Mellon University, Pennsylvania
Case Western Reserve University, Ohio
University of Chicago, Illinois
University of Cincinnati, Ohio
Colorado State University, Colorado
University of Colorado, Colorado
Columbia University, New York
University of Connecticut, Connecticut
Cornell University, New York
CUNY Mt. Sinai School of Medicine, New York
Dartmouth College, New Hampshire
Duke University, North Carolina
Emory University, Georgia
Florida State University, Florida
University of Florida, Florida
Gallaudet College, D. C.
George Washington University, D. C.
Georgetown University, D. C.
University of Georgia, Georgia
Harvard University, Massachusetts
University of Hawaii, Hawaii
Howard University, D. C.
University of Illinois-Urbana, Illinois
Indiana University-Bloomington, Indiana
Indiana University-Indianapolis, Indiana
Iowa State University of Science & Technology, Iowa
University of Iowa, Iowa

Johns Hopkins University, Maryland
Kansas State University, Kansas
University of Kansas, Kansas
University of Kentucky, Kentucky
Louisiana State Medical Center-Shreveport, Louisiana
Louisiana State University-Baton Rouge, Louisiana
University of Maryland-Baltimore, Maryland
University of Maryland-College Park, Maryland
Massachusetts Institute of Technology, Massachusetts
University of Massachusetts-Amherst, Massachusetts
Meharry Medical College, Tennesee
University of Miami, Florida
Michigan State University, Michigan
University of Michigan, Michigan
University of Minnesota, Minnesota
University of Missouri-Columbia, Missouri
University of Missouri-Kansas City, Missouri
University of Nebraska-Lincoln, Nebraska
New Mexico State University, New Mexico
University of New Mexico, New Mexico
New York Medical College, New York
New York University, New York
North Carolina State University-Raleigh, North Carolina
University of North Carolina-Chapel Hill, North Carolina
Northwestern University, Illinois
Ohio State University-Columbus, Ohio
Oklahoma State University, Oklahoma
University of Oklahoma, Oklahoma
Oregon State University, Oregon
University of Oregon-Eugene, Oregon
Pennsylvania State University, Pennsylvania
University of Pennsylvania, Pennsylvania
University of Pittsburg, Pennsylvania
Princeton University, New Jersey
Purdue University, Indiana
University of Rochester, New York
Rutgers, The State University, New Jersey
St. Louis University, Missouri
University of Southern California, California
Stanford University, California
SUNY State University-Buffao, New York
Temple University, Pennsylvania
University of Tennessee-Knoxville, Tennessee
University of Tennessee Medical Units-Memphis, Tennessee

Texas A & M University, Texas
University of Texas-Austin, Texas
University of Texas-Houston Medical School, Texas
University of Texas Southwestern Medical School, Texas
Tufts University, Massachusetts
Tulane University, Louisiana
University of Utah, Utah
Vanderbilt University, Tennessee
University of Virginia, Virginia
University of Washington, Washington
Washington University, Missouri
Wayne State University, Michigan
West Virginia University, West Virginia
University of Wisconsin-Madison, Wisconsin
Woods Hole Oceanographic Institute, Massachusetts
Yale University, Connecticut
Yeshiva University, New York

APPENDIX B

NORTHWESTERN UNIVERSITY
REBECCA CROWN CENTER
EVANSTON, ILLINOIS 60201

VICE PRESIDENT FOR RESEARCH
AND
DEAN OF SCIENCE

(312) 492-3485

August 17, 1973

Dear Sir:

Northwestern University has recently revised its Patent Policy and is now reviewing its internal procedures for administering the policy and for promoting its inventions and patents.

In view of the federal government's increased emphasis on transferring the inventions resulting from research to industry for the benefit of the general public, there appears to be increased pressure on universities to develop successful and aggressive patent programs. In order to establish a program appropriate to the environment at Northwestern University, I am asking for your assistance by supplying answers to an enclosed questionnaire. When all of the results have been collected, I would be most pleased to share the results with you or with the official at your university who is responsible for administering your patent program.

Thank you for your assistance in this undertaking.

Sincerely yours,

David Mintzer

DM/tj
Enclosure

UNIVERSITY PATENT POLICY QUESTIONNAIRE

1. What office and/or university official has responsibility for administering your patent policy?

   _____

2. How is the decision made on whether to obtain a patent?

   _____ Faculty Patent Committee

   _____ By outside consulting firm (such as Battelle or Research Corporation)

   _____ By University Patent Administrator

   What University Rank? _____

   _____ By Professional Patent Promotion Consultant

   _____ Other _____

   _____

3. How is the patent program staffed within the university and what percentage of time does each devote to the program? (Use "professional" categories, e.g. engineer, lawyer, secretary, etc.)

   A _____

   B _____

   C _____

   D _____

   E _____

   F _____

4. What type of firms outside the university are used in the patent application program (e.g. patent attorneys)?

   _____

5. Which outside firms does your institution use to promote patents and inventions?

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