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IN MICHIGAN FOR THE 1971-72 ACADEMIC YEAR.

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A STUDY OF THE ACCURACY
OF EXPECTED FAMILY CONTRIBUTIONS AND
SCHOOL BUDGETS USED IN PROCESSING
STUDENT FINANCIAL AID REQUESTS IN
MICHIGAN FOR THE 1971-72 ACADEMIC YEAR

By

Dwight Lee Peterson

A DISSERTATION

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ABSTRACT

A STUDY OF THE ACCURACY OF EXPECTED FAMILY CONTRIBUTIONS AND SCHOOL BUDGETS USED IN PROCESSING STUDENT FINANCIAL AID REQUESTS IN MICHIGAN FOR THE 1971-72 ACADEMIC YEAR

By

Dwight Lee Peterson

The purpose of this study was to explore the relationship between "expected family contributions" computed for full-time, unmarried, undergraduate, and financially dependent students' educational expenses by the College Scholarship Service Parents Confidential Statement, and the amount of such resources reported to have been actually utilized for this purpose by the families in question for the 1971-72 academic year.

The population sampled for this study consisted of all full-time undergraduate students applying under the State of Michigan Competitive Scholarship and Tuition Grant Programs for the 1971-72 school year. Consideration here was also limited to single students who had not as yet met these programs' criteria for independent status, and whose families had submitted the necessary College Scholarship Service needs analysis document (Parents Confidential Statement) for the 1971-72 academic year in question. A sample of 1,121 such cases was selected and contacted with a questionnaire document

during the summer of 1972. A usable return of 634 forms (57%) was generated for analysis from this sample.

For each respondent the overall expected family contribution generated was compared against the total year-end family contribution reported. Separate comparisons were also made between the parental input, student summer earnings input, and student asset contribution portions of the expected family contribution figure and their year-end reported counterparts. A separate test between the total institutional expense budgets computed by the Michigan Department of Education for the school year in question and year-end reported respondent total expenditures was computed as well. Using (two-tailed) t test analysis procedures, it was found that:

- a. expected overall family contribution figures were significantly higher than those totals reported,
- b. expected parental contribution figures were significantly higher than those reported,
- c. there were no significant differences found between expected and reported student summer earnings and student asset contribution figures, and
- d. Michigan Department of Education expense budgets were significantly lower than the total overall expenditures reported for the 1971-72 school year by the study sample respondents.

In reviewing the data, it appeared that the seeming discrepancy between lower reported family and parental input contributions, and higher reported overall expenditure

totals, was actually made up by student loans and employment during the school year itself.

In the second major portion of the analysis, 18 family parameters were compared against these 5 difference score factors (family, parental, student summer earnings, student asset, and overall budget) via a series of one-way ANOVA designs, to see if any of the family factors selected might indeed significantly impact upon the difference scores identified.

The family parameters in question were selected experimentally for their perceived impact upon family willingness and/or ability to support students in post-secondary study. The factors selected were as follows:

- | | |
|---|--|
| 1. <u>family educational background*</u> | 10. student's age* |
| 2. <u>family residence</u> | 11. <u>student's sex</u> |
| 3. <u>average parental age*</u> | 12. <u>school type</u> |
| 4. <u>number of parental retirement programs*</u> | 13. <u>student's residency plan</u> |
| 5. <u>number of dependent children in home*</u> | 14. <u>net parental income for 1971*</u> |
| 6. <u>number of dependent children in post-secondary study*</u> | 15. <u>number of parents employed*</u> |
| 7. <u>number of blood parents in home*</u> | 16. <u>parental adjusted effective income*</u> |
| 8. <u>number of stepparents/guardians in home*</u> | 17. <u>percentage adjusted effective income from assets*</u> |
| 9. <u>family race</u> | 18. student's school class* |

Those parameters underlined were found to have a significant impact upon the one or more of the difference scores previously elicited.

The third major portion of the data analysis focused upon inclusion of all sequential family parameters identified

above (those asterisked) in separate regression equations for each of the five difference score areas initially identified, to see if discrepancies between expected and actually reported data could, in fact, be successfully predicted from the factors at hand. Statistically significant predictability was noted in this regard for overall family, parental contribution, and student asset contribution difference scores; but in no case was more than 30% of the overall difference explained. This factor, plus indication in the data of high factor overlap, would argue strongly for the presence of further yet unidentified categories of explanation parameters.

The final segment of the data analysis consisted of the provision of various types of mean sample contribution and expenditure data for use by future researchers as well as field practitioners seeking comparison base data for their own needs assessment methodologies and budget computations.

It is hoped that this exploratory study can generate subsequent, more sophisticated research, in an effort to more fully explore both the accuracy and equity of present student aid dissemination procedures.

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CHAPTER I

THE PROBLEM

Introduction

The distribution of student financial aid resources is based today in large measure upon each individual applicant's demonstrated financial need. As James Bekkering states:

"...it is usually financial need, rather than any other single criterion, that determines the amount of money a student is eligible to receive in financial assistance for a given academic year."¹

Financial need, in turn, is determined according to the following basic three step process:

1. The amount of money which the student and his or her family can reasonably be expected to contribute toward educational expenses for the academic year in question is determined in accordance with an accepted needs analysis review technique. Normally, this is accomplished by having the student's family file a detailed statement of income and assets through one of the national review networks with the appropriate calculation of expected family

¹Bekkering, James R. A Study of Education Related Expenses Incurred by Full-Time Undergraduate Students Attending Representative Colleges and Universities In Michigan, Doctoral Thesis, Michigan State University, East Lansing, Michigan, 1972, p. 1.

input being subsequently forwarded to the school in question for final review and use.

2. The institutional budget at the student's chosen school is determined for the academic year in question, making provision for all education related expenses which the student is expected to incur during that period. This figure traditionally makes allowance for tuition and fee expenditures, room and board costs, book and supply purchases, as well as transportation and miscellaneous personal expenses. The figures themselves are normally developed by the student financial aids office on each respective campus.
3. In the final step, the expected family contribution derived in step 1 is subtracted from the appropriate institutional budget determined in step 2. If a positive difference remains, this amount is labeled "demonstrated financial need" and every effort is made to bring a variety of student aid resources to bear on this unmet need factor. On the other hand, if there is no positive difference as a result of this procedure, it is assumed that the family in question does not "need" financial assistance at that particular campus and no such award is made.

Steps 1 and 2 of the above process require extensive professional judgment and evaluation, since they deal with

such inherently relative and abstract areas, and since they form the foundation of the entire student financial assistance administration system.

The process of calculating actual family contribution expectations has been the subject of extensive review, and the current result is an intricate and sophisticated evaluation procedure. However, for the most part, considerations of "equity" in this regard are based upon a variety of theoretical assumptions applied to data available from the Bureau of Labor Statistics and the Social Security Administration regarding overall nationwide consumer spending patterns and living standards. Little effort has really been made to systematically investigate whether or not expected family contributions are, in fact, realistic in terms of the actual family input levels subsequently achieved by families with students in college or university study. Froomkin concludes, in this regard, that in all reality,

"...we know less about what makes students succeed or fail than we know about handicapping horses...the big issue in the next few years is going to be determining how much aid is enough (both collectively and individually)."²

The accuracy of such family contribution expectations is pointedly called into question in an extensive California study as well, which concludes that:

²Froomkin, Joseph. "Is Conventional Financial Aid Obsolete?" College Board Review, Summer, 1968, No. 68, p. 5.

"In general actual parental support falls short of the expected College Scholarship Service standard parental contribution (figures)."³

The process of budget calculation in like manner requires extensive judgment, for if it is set too high, precious aid resources will be wasted, and if it is set too low, needy students may be unable to attend even with financial aid. Determining the costs associated with college or university attendance appears to be even at a more crude state of development than that of family contribution evaluation, for the former evidences little or no uniformity in process or content. Bekkering states that:

"There is no commonly accepted procedure by which institutions of higher education can ascertain how much money is required (even on the average) over the course of an academic year to afford their students not only physical necessities but some degree of psychological comfort as well. As this side of financial need analysis is as critical as the determination of family contribution, the need for systematic, scientific research in the area becomes clearly evident."⁴

In addition to basic concern over the adequacy of the parameters involved in the overall needs analysis formula itself; the urgency of the issue is further highlighted as well by the extensive resources currently being committed to this area. The data indicates that by the mid 1960's the annual dollar value of major direct student aid programs had exceeded 700 million dollars, and that by 1972, this

³Report Number One, Student Financial Aid Research Series, California State Scholarship and Loan Commission, Sacramento, California, Fall, 1972, p. vii.

⁴Bekkering, James R. op. cit., p. 2.

figure was well in excess of 1.3 billion dollars on a nation wide basis.⁵

When it is considered that some 92% of these extensive resources are probably being administered on the basis of "demonstrated need," the mandate for accuracy and equitability, is again reinforced.⁶

This mandate is enhanced when it is considered that even these vast resources fall far short of the mark of providing sufficient aid for all needy students capable of benefiting from post-secondary study. As the recent College Entrance Examination Board (CEEB) Panel on Student Financial Need Analysis states:

"The nation has yet to make equality of educational opportunity a reality. The vast resources committed to the support of higher education fail by a substantial margin to be adequate. Research for this study makes it abundantly clear that need, as a primary determinant of student aid, is still only a hoped for goal."⁷

⁵See for example:

a. Froomkin, Joseph. op. cit., p. 6.

b. Moon, Rexford G. Student Financial Aid In The United States: Administration and Resources, Princeton, New Jersey: College Entrance Examination Board, 1963, p. 41.

c. Simon, Kenneth and Grant, W. Vance, Digest of Educational Statistics, Washington, D.C. (U.S. Government Printing Office): U.S. Department of Health, Education and Welfare, 1971, p. 105.

⁶"Family Income Criteria Challenged: College Financial Aid Rules May Be Invalid," Detroit News, May 31, 1973, p. 1A and 4A.

⁷New Approaches to Student Financial Aid, CEEB Panel on Student Financial Need Analysis, New York, 1971, p. 8.

In Congressional testimony in 1972, the CEEB reiterated this stance, stating forcefully that:

"The gap between institutionally determined need for student aid funds and actual appropriations is but one understated measure of the adequacy of funding. Colleges request monies only for those students who are aid applicants or enrolled students and not the gamut of college eligible students, many of whom never apply to college because of their economic circumstances."⁸

As a result of their limited nature, financial aid resources have come to be recognized as a key factor in the access process itself.⁹ The overall inadequacy and

⁸College Entrance Examination Board written testimony before Congressional Committee, May, 1972, pp. 5-6.

⁹See for example:

a. Berls, Robert H. "Higher Education Opportunity and Achievement In The United States," in The Economics and Financing of Higher Education In The United States, Washington, D.C.: U.S. Government Printing Office, 1969, p. 150.

b. Bolton, Roger E. "The Economics and Public Financing of Higher Education, An Overview," in The Economics and Public Financing of Higher Education In The United States, A Compendium of Papers Submitted to the Joint Economic Committee of the Congress of the United States, Washington, D.C.: U.S. Government Printing Office, 1969, pp. 62-63.

c. Current Population Reports, Bureau of the Census, Series P-23, No. 40, January, 1972, p. 20.

d. Population Characteristics, U.S. Department of Commerce, Bureau of the Census, Series P-20, No. 222, June 28, 1971, p. 1.

e. Schlekot, G. A. "Financial Aid...And Socio-Economic Class," Journal of College Student Personnel, Vol. 10, No. 9, June, 1968, pp. 148-149.

f. Tomkin, A. "Who Really Gets Financial Aid," National Association of College Admissions Counselors Journal, Vol. 46, August, 1962, pp. 35-40.

extensive impact of these funds, again makes their distribution a very crucial matter.

Within this overall framework, a direct mandate for further specific evaluation of the College Scholarship Service (CSS) needs analysis technique of the College Entrance Examination Board (CEEB) is demonstrated by the extensive role which this system plays in the needs analysis field. Current information indicates that this system is utilized or accepted by approximately 2,200 of the some 2,800 accredited degree granting colleges and universities across the country.¹⁰

From the above, it can be seen that the CSS needs analysis framework is used or at least accepted at approximately 80% of all accredited degree granting institutions in the country. Similar statistics can be computed on a state-wide basis reviewing the preferences of Michigan colleges and universities.¹¹

In addition to the "CSS" system's widespread use, the fact that current comparison data shows it to be some \$300 more severe in family contribution expectations than its primary competitor (the national American College Testing - ACT - system) also highlights the need for further investigation.¹²

¹⁰Cavanaugh, William J. CSS Student Expense Budget of Colleges and Universities for the 1971-72 Academic Year, Princeton, New Jersey: Educational Testing Service, 1971.

¹¹College Admissions Handbook, Michigan Department of Education, Lansing, Michigan, 1972.

¹²Phase One Report of the Ad Hoc Committee On Evaluation of the American College Testing Program and the College Scholarship Service Needs Analysis Systems and Services for 1971-72, Michigan Student Financial Aid Association, 1972, p. 4.

Additionally, the need for attention to this area is also supported by the fact that this study is being undertaken with support by the Michigan Department of Education's Division of Student Financial Assistance Services, an organization intimately involved in the distribution of need based student aid resources.

Purpose of the Study

The purpose of this study is to explore the relationship between "expected family contributions" computed for full-time, unmarried, undergraduate, and financially dependent students' educational expenses, as defined by one of the major needs assessment instruments (i.e. the College Scholarship Service of the College Entrance Examination Board), and the amount of funds "actually" contributed by these respective families for this purpose for the 1971-72 school year.

While the student sample utilized and its respective population will be defined in detail in a subsequent chapter, several basic definitions which delimit the study should be set forth at the outset.

1. "Full-time" for purposes of this study follows Michigan assistance program policies, which means that it is normally defined by the institution in question. In absence of written school policy, it is defined as enrollment for not less than 12 academic hours during each semester or term of the regular 1971-72 academic year which runs from August or September, 1971 to May or June of 1972. Enrollment consideration for this

study is limited to accredited, degree granting Michigan colleges and universities. These two limitations were imposed because it was felt that vocational school and/or part-time students reflect sufficiently unique patterns of circumstances to warrant separate study and evaluation.

2. "Unmarried" status for purposes of this study means students who were not married during, or prior to, the 1971-72 school year in question. Again, this limitation was imposed because it was felt that married and/or previously married students tend to reflect a population worthy of separate investigation.
3. "Undergraduate" status, as defined here, means that the students in question had not as yet become eligible to receive their initial Baccalaureate Degree at any juncture prior to, or during, the 1971-72 academic year. This limitation was imposed because it was felt that graduate students would add new dimensions to the resource milieu which would tend to skew the subsequent analysis.
4. "Financial dependence" for purposes of this study means that subjects had:
 - a. been claimed as federal tax exemptions by their parents/guardians in calendar 1970;
 - b. received in excess of \$500 from their parents/guardians in calendar 1970; or
 - c. resided with their parents/guardians in calendar 1970.

These three questions were put to students applying

for State of Michigan Competitive Scholarships and Tuition Grants for the 1971-72 academic year, and positive response to one or more of the questions eliminated applicants from independent consideration for this period under these programs. No independent students, demonstrating the essential prior year of separation in this manner, were included in this study because it was felt that such applicants, again, would represent unique needs and spending patterns worthy of separate investigation. They were also eliminated, of course, because the family contribution computation under investigation would not be appropriate. Differing individual family perspectives regarding the prerequisites of, and criteria for, student independence will, though, certainly affect the results of this study.

5. "Educational Expenses" are defined, for purposes of this study, as all expenses incurred by the student (as defined above) during the academic year in question. This inclusive stance on actual resources and expenditures is taken because the "expected family contribution" comparison data is defined by College Scholarship Service as follows:

"...the total amount of money available for support of the applicant during a nine-month period."¹³

¹³Manual For Financial Aid Officers, New York: College Entrance Examination Board, 1970, p. 5-14.

By structuring the comparison in this manner, total actual resources and expenses during the academic year period of full-time study are thus contrasted with the total contribution expectations for the same period. In this way, quantities of like magnitude are considered.

Given these definitional restrictions, the body of the study itself consists of four major parts.

First, there is an overall test for significant differences between "expected" and "actual" family contributions. This segment is divided into an overall difference test and a series of tests for differences in specific segments of the computed family contribution total (parental contribution, student asset contribution, and student summer earnings contribution). These specific tests are included because the factors mentioned represent the three basic subtotals which comprise the total "expected family contribution" under College Scholarship Service methodology. It therefore is of interest not only to determine if overall expected/actual contribution differences exist, but also within which of these three basic segments discrepancies might lie.

Because it is of companion interest, a test will also be run at this point to see if the total of the "actual" family contribution and financial assistance received in each case significantly differs from the appropriate institutional budgets in use for 1971-72 by the Department of Education's Division of Student Financial Assistance Services, for

purposes of determining State Scholarship and Tuition Grant eligibility. A correlation of overall contribution and budget difference scores is made here, as well, to see if any difference relationships can be charted between these two factors.

The second segment of this study entails an evaluation of the difference scores determined in step 1 (overall contribution, parental contribution, student asset contribution, student summer earning contribution, and budget difference scores) to see if they are significantly affected by any of the following individual family parameters:

1. Family Educational Background
2. Family Residence
3. Parental Age
4. Number of Parental Retirement Programs
5. Number of Parental Dependents
6. Number of Parental Dependents in College
7. Number of Blood Parents Present in the Household
8. Number of Stepparents/Guardians Present in the Home
9. Race
10. Student Age
11. Student Sex
12. Type of School Attended by the Student
13. Student Residency Plan
14. Net Family Income
15. Number of Parents Working
16. Parental Adjusted Effective Income Level
(a "CSS" analysis step)
17. Percentage of Adjusted Effective Income Coming
from Assets (another "CSS" analysis step)
18. Student Year in School

These tests are included for the purpose of determining the impact which each of these variables has on the family's contribution efforts and the overall student budget itself.

The next major part of the study entails a regression analysis of all sequential variables from step 2, in an

effort to determine their value as predictors of the difference scores outlined in step 1. The variables included in the regression formula for each difference score are as follows:

1. Family Educational Background
2. Average Parental Age
3. Number of Parental Retirement Programs
4. Number of Parents' Dependent Children
5. Number of Parents' Dependent Children in College
6. Number of Blood Parents In the Household
7. Number of Stepparents/Guardians In the Household
8. Student Age
9. Net Parental Income
10. Number of Parents Working
11. Parental Adjusted Effective Income Level
12. Percentage of Parental Adjusted Effective Income
Coming From Assets
13. Student's Year In School

The total number of variables included here had to be reduced from the original 18 listed on the preceding page because the regression analysis technique employed could only deal with sequential data. This portion of the study is included for the purpose of determining if it might be possible from these factors to predict situations in which expected/actual contribution differences of some form, or overall budget discrepancies, will arise.

The final segment of the study analysis consists of a series of summary statistics pertaining to the data obtained. Tables of average contribution and expenditure data are developed here as an aid to professionals in the field in their evaluation of present needs assessment and student budget preparation techniques.

Hopefully, these initial efforts can serve as an impetus for subsequent research of a more sophisticated and comprehensive nature, so that in the near future student financial

aid dissemination will be based upon a theoretical needs analysis construct which has been fully evaluated by empirical test.

Hypotheses

This investigation raises a number of questions regarding the accuracy and adequacy of current student needs assessment and budget development processes. The following hypotheses are generated to speak to the key issues involved. They are framed in the null format, even as broad research questions here, since implicitly the current mechanisms for dealing with needs analysis and budget determination should adequately be reflecting reality. These hypotheses will be restated in more precise form, with accompanying mathematical formulations, in Chapter Four, for testing purposes.

Hypothesis One: There will be no significant difference between overall expected family contributions and actual family contributions.

Hypothesis Two: There will be no significant difference between expected parental contributions and actual parental contributions.

Hypothesis Three: There will be no significant difference between expected student summer earnings contributions and actual student summer earnings contributions.

Hypothesis Four: There will be no significant difference between expected contributions from student

assets and actual contributions from student assets.

Hypothesis Five: There will be no significant difference between predicted student school budgets and actual school year budgetary expenditures for the specific academic year period in question.

Hypothesis Six: Since no substantive overall family contribution and budget differences are expected, any which do occur are chance happenings, and should lead to no significant correlation between these two parameters. (Note, a related hypothesis $-H_{06a}-$ is added in Chapter 4, to permit further exploration of the differences found above.)

Hypothesis Seven: Since no significant family contribution or student budget differences are expected, no systematically significant difference scores will be isolated by the 18 family parameters reviewed (part 2 of the analysis).

Hypothesis Eight: Since no significant family contribution or student budget difference scores are expected, regression analysis with the 13 sequential variables identified will be unable to predict any such circumstances (part 3 of the analysis).

The last three hypotheses are really collective in nature, each covering numerous separate tests that will be dealt with individually in Chapter Four. They are presented collectively here to preclude the necessity of an inordinately long listing of individual research statements.

Needs Analysis Procedures and Assumptions

The concepts which need delineation at this juncture are those related to the College Scholarship Service (CSS) needs analysis procedure itself; for it is this system which is scrutinized in the comparisons which follow. So that the reader may have a better understanding of this system, both its operational procedures and underlying assumptions are discussed.¹⁴

The "CSS" system has been developed essentially as an attempt to objectively determine family ability to contribute toward student expenses. "Objective" means here that every effort has been made to treat each case uniformly according to guidelines developed from the best research and thinking currently available in the field, given the basic assumption that educational costs should be a first priority within each family situation treated.

The issue of "need" is, of course, an intensely personal and relative one; so such uniformity does not always carry public consensus. The "CSS" does try to remain flexible in its expectations in this regard, by constantly researching and updating its system from new economic data and from the weight of public attitude when the latter can be identified within the priority previously expressed.

In terms of procedures, the "CSS" attempts to consider

¹⁴Procedure and assumptions reviewed will cover the "CSS" system as employed during the 1971-72 comparison school year. Subsequent system changes will be highlighted by footnotes for reader information.

parental income and assets in its computation of overall expected family contribution. For each student wishing analysis, the family files a form called the "parent's confidential statement," (commonly called the "PCS"). This form is analyzed in regional "CSS" offices and forwarded on to all schools and agencies listed in item 2 of the form, as approved for copy referral. Along with the financial statement itself, each organization receives, in addition, a "financial need analysis report," ("FNAR" for short). This computerized print-out gives a breakdown of the assessment made. By following the blank "FNAR" attached in Appendix E, each step of the "CSS" need test procedures for the 1971-72 school year can be explained.

The top line of the "FNAR" asks for certain basic identification information such as name and social security number, etc., so that this form can be rematched to the "PCS" in case of separation. Remaining items on this line tabulate family size, indicate date of processing, designate the institution or organization involved, and print-out classification and unusual condition codes for aid in subsequent review of the "FNAR."

The second line of the "FNAR" indicates the computation made directly against parental income. The income information being assessed here is for the 1971 calendar year, since "CSS"

uses a projected year concept.¹⁵

Proceeding through line 2, first "net income" is determined by adding together all wages, salaries, dividends, net business/farm profits, and other income both taxable and non-taxable; and subsequently subtracting any other allowable business/farm expenses which might be present.

From this total, the following deductions are made:

1. Federal Income Tax (This figure is derived from projected income for 1971)
2. State Income Tax (This figure is derived from projected income for 1971)
3. Housekeeping allowed against parental income if two parents work (This figure is made up of 50% of the first \$2,000 and 25% of balance to a maximum of \$1,500. It is computed on the mother's income)¹⁶
4. Medical expenses (Defined as the sum of 1971 estimated medical expenses not met by insurance, which might exceed 5% of net income. Insurance premiums themselves paid by the family are included in this computation)

¹⁵The "projected year" concept simply means that the parental income data on which the 1971-72 academic year analysis was based, was for the then future 1971 calendar year, requiring projection on the family's part since most such forms were filed in 1970. Subsequently, "CSS" has gone to a "base year" concept in which the family is asked to report last year's actual income as the basis for analysis.

¹⁶This policy has now been altered so that the computation is simply performed on the lower of the two incomes present.

5. Emergency Expenses (Allowance is made here for "reasonably explained" emergency outlays to be incurred in 1971. Acceptability here carries some institutional latitude. Examples of typically acceptable items are such things as funeral expenses, unreimbursed moving expenses, uninsured natural disaster expenses, etc.)
6. Indebtedness (Allowance of 1/3 of the eligible "debt outstanding" which exceeds assets total on line 3. This assumes that debt of this magnitude can be written off over a 3-year period)
7. Other Dependents (A \$600 allowance is made for each additional family tax dependent beyond parents and children)

Items 1 - 7 are combined in the "total allowances" column and subtracted from "net income" to determine the "effective income" figure at the end of line 2. This figure represents the parental income available to meet basic living and discretionary family expenditures.

The actual parental contribution figure is computed in line 4, after an "income supplement" figure from parental assets (line 3) is added to the "effective income" figure (line 2).

Line 3 reviews the computation made against parental assets. First, "CSS" sums up all parental assets by adding the following:

1. Residence Equity (Present market value minus unpaid

mortgage)

2. Other Real Estate Equity (Current market value minus unpaid mortgage)
3. Business and/or Farm Assets (Current market value minus debt outstanding multiplied by percent of ownership and an additional percentage factor)¹⁷
4. Bank Accounts (Total of present savings and checking account balances)
5. Other Investments (Present market value of stocks, bonds, etc.)
6. Applicant's Assets over \$2,000 (The "CSS" treats a student's assets in excess of this amount as part of the family's assets, since it is felt that assets of such magnitude reflect more on the overall family situation than on the student's personal fiscal ingenuity)¹⁸

These items are added to provide a "total assets" figure. Then, allowable "debt outstanding" is subtracted from this total to provide "net worth." This deduction allows for various long-term and emergency loans, etc. Debts for durable consumer goods are not allowed, however, since they are not included in the overall asset evaluation. (Note, if the "net worth" figure is negative, 1/3 of this negative amount is allowed directly against income as "indebtedness" in

¹⁷This procedure has subsequently been modified, deleting the final percentage factor.

¹⁸This factor has since been dropped. All student assets are now dealt with directly in line 4 below.

item 6 on line 2. The remainder, if positive, is identified as "net worth," and defined as the sum of existing asset strength which is available to the family for retirement, discharging obligations, and discretionary spending. The "CSS" wishes to protect assets for these first two uses, but feels that education expenditures should be a realistic priority within the third.)

The final box in line 3, "supplemental income flow," is derived from asset strength (net worth) with these thoughts in mind. Present debt is provided for via the "debt outstanding" deduction mentioned above. The formula involved in extracting "income supplement" from "net worth" protects a portion of the assets for retirement. Retirement provision is allotted in terms of protecting the amount needed to purchase a fully paid annuity of the size needed to meet the current income discrepancy between current Social Security rates and "CSS" moderate level income expectations. Future debts are considered in this table as well, and also in the charts on line 4 from which the actual dollar amount of the expected parental contribution is derived.

With this in mind, the analysis moves to line 4. The first box on this line is entitled "adjusted effective income" and represents the sum of "effective income" (line 2) and "income supplement" (line 3). At this point comes the crux of the entire "CSS" needs assessment technique. The "adjusted effective income" figure represents, according to "CSS", both the dollar potential which a family has to meet

its basic "maintenance" or living expenses, and its resource for "discretionary" use, if any. It is from this combined figure that the expected parental contribution is actually determined.

Since the student will be attending school for nine months of the year, "CSS", in this calculation, extracts the resources available which would be normally committed for maintaining the student in the home for this period and suggests that they follow the student. In addition, if funds are determined to be available for discretionary use over and above "moderate" maintenance levels, "CSS" expects that a portion of these resources will also be used for educational expenses. The theoretical steps undertaken to accomplish this expectation framework are summarized briefly as follows:¹⁹

1. Low and moderate levels of income are determined for a family of 4 from Bureau of Labor Statistics budget standards adjusted for current Consumer Price Indices.

The low level is defined as the point at which the family is just emerging from poverty and can barely cover essential living expenditures much less

¹⁹This rationale is explained at length in the following documents:

a. Bowman, James L. Some Thoughts and Reflections Regarding Parental Ability to Pay for Higher Education, Princeton, New Jersey: College Scholarship Service, 1970.

b. Bowman, James L. and Weiss, Gertrude. Measuring the Financial Strengths of Family Assets, Princeton, New Jersey: College Scholarship Service, December, 1970.

make discretionary purchases. The moderate level of income is defined as that level at which the family can supposedly adequately meet all living expenditures incurred at the middle income (middle third of U.S. population) range. In other words, a family with moderate income and assets can maintain a standard of living similar to the middle income third of the population of the United States.

2. These levels are then approximated for different size families by multiplying the figures by updated Social Security "equivalent living level ratios."
3. To determine expected parental contributions at moderate levels, a weighted differential of budget changes for different size families is employed over a 9-month basis. The result, at present, is a \$900 differential; which, in turn, becomes the maximum maintenance contribution.²⁰ Since it is the estimate of what it should cost a moderate level family to maintain one member for 9 months, this is the amount which "CSS" extracts for each child in college for moderate and higher families, assuming that it can follow the student to campus.

Families living below the established moderate level, of course, are asked to contribute only that

²⁰This "maintenance" figure has subsequently been changed to \$1,150.00.

portion of the total maintenance which their level of living would realistically make available in the home.

4. Contributions between the moderate and low levels of living are determined via a linear regression from the \$900 figure to zero. Present "moderate" levels at which the full \$900 maintenance is expected are as follows:²¹

<u>Family Size</u>	<u>Net Income</u>	<u>Family Size</u>	<u>Net Income</u>
1 child	\$6,600	4 children	\$10,880
2 children	8,250	5 children	11,550
3 children	9,700	6 children	12,210

5. Families living above these established "moderate" levels, are expected to contribute the full \$900 maintenance transfer, plus an added amount from the "discretionary" resources which exceed the moderate living level. Contributions from these so-called "discretionary" resources over the moderate level are computed according to the principle of "equal marginal sacrifice." This is accomplished by using a system of parental ability to pay based upon a single progressive tax rate structure. This pattern of marginal taxing rates used in measuring parental ability to contribute from income above the moderate budget standard is determined by the "elasticity concept", a measure of the rate of change found in

²¹These figures have subsequently been revised upward to cover inflationary trends.

family spending as income increases.²²

As Bowman indicates:

"The pattern of marginal taxing rates used in measuring parental ability to contribute from income above the moderate budget standard is determined by the elasticity concept, a measure of the rate of change in spending patterns for various goods and services as income increases. The elasticity ratio is used to derive the initial marginal taxing rate above the moderate standard, and then the marginal rates are increased at an increasing rate in order to provide a smoothly progressive rate schedule."²³

Given the above considerations as to how the total parental contribution is derived from "adjusted effective income" at the start of line 4, the next two boxes in line 4 then segment this contribution into its maintenance and

²²The actual parental contribution percentage expected from each \$1,000 of "discretionary income" above the moderate level are modified each year to bring these amounts into line with current Bureau of Labor Statistics data regarding present consumption patterns and their elasticity. For the 1971-72 processing year, these percentages were as follows:

<u>Discretionary Income Over Moderate Level</u>	<u>Expected Contribution Percentage per \$1,000 of Discretionary Resources</u>
- \$1,000	25% of 1st \$1,000 discretionary
\$1,000 - \$2,000	29% of 2nd \$1,000 discretionary
\$2,000 - \$3,000	34% of 3rd \$1,000 discretionary
\$3,000 - \$4,000	40% of 4th \$1,000 discretionary
\$4,000 - \$5,000	47% of 5th \$1,000 discretionary
\$5,000 - \$6,000	55% of 6th \$1,000 discretionary
\$6,000 -	55% of all over \$6,000 discretionary

These tables have, of course, subsequently undergone some modification based on updated "BLS" data.

²³Bowman, James L. Measuring the Financial Strength of Family Resources: Suggested Revision in CSS Procedures for 1972-73, Princeton, New Jersey: College Scholarship Service of the College Entrance Examination Board, June, 1972, p. 8.

discretionary portions. Up to the first \$900 in expected contribution, of course, is identified as the maintenance portion, to follow the student from the home to the campus. Contributions above this level are designated as "discretionary" and placed in the 3rd box in line 4. This division is made since the discretionary contribution factor where present is divided evenly among all the family's students in college, if more than 1 is attending. The maintenance contribution, on the other hand, is drawn out separately for each student. The next box in line 4 identifies the number in college by which the discretionary contribution, if present, must be divided. The next box indicates the total parental contribution arrived at through this process.

The following box in line 4 turns to student income contribution. While the "PCS" form itself asks for an itemization of actual student income, the "CSS" automatically makes the following expectation here:

	Freshman	Sophomore	Junior	Senior
Male	\$400	\$500	\$600	\$600
Female	\$300	\$400	\$500	\$500

Various schools follow different policies concerning the circumstances under which they will delete this expectation in office review of the "PCS", but most will do it in cases of disability, etc.

Next, "CSS" looks at student asset resources. Any total listed on the "PCS" (of \$2,000 or less) is divided by the

number of years left in school at the undergraduate level plus one to derive the expected student asset contribution.²⁴

Finally, the "total family contribution" is completed by adding the following:

1. The "parental" contribution (made up of its maintenance and discretionary factors).
2. The student asset contribution.
3. The student summer work expectation.

This sum is then subtracted from the school budget in use for the institution involved, and if a positive difference is found, the student has "demonstrated need" in that amount. Most schools review the "PCS's" and "FNAR's" as they arrive from "CSS" and make any corrections necessary. Award packages are created from a variety of sources (i.e., Federal, State, Institutional, Private) to meet such "demonstrated" student needs.²⁵

²⁴Subsequently "CSS" revised the division factor to include only the number of years left in the student's regular undergraduate program.

²⁵Greater detail regarding the "CSS" analysis procedures and expectations can be found by consulting each year's Manual For Financial Aid Officers, as published annually by "CSS" in New York City.

Overview

While little research has been done on this specific topic, concerning the accuracy of needs analysis expectations and institutional budget totals, in Chapter 2 three related literature areas are reviewed. First, a brief analysis of overall post-secondary student funding policies is undertaken to gain a perspective regarding the role which direct, need based, student aid programs have in this larger milieu. Secondly, the general historical development of student financial aid administration is presented to help provide a basic understanding of this expanding field and the central role which the research topic plays therein. Thirdly, the limited research which has been performed in relation to this specific area of family contribution comparison and student educational budget review is discussed.

In Chapter 3, the sample for this study is described, as are the study design and statistical analysis employed. The questions of reliability and validity are also addressed.

Included in Chapter 4 are the results of the analysis performed, an interpretation of these results, and accompanying discussion regarding significance.

Found in Chapter 5 is a summary of the findings noted above, discussion of the conclusions drawn, and consideration of the implications present for future research.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Student financial aid administration has become an extremely complex task by which over a billion dollars is disseminated to over a million students attending thousands of institutions each year.¹ Beyond the pure logistics and fiscal accountability implications of this massive venture, financial aid administration carries with it, as well, important ramifications for such broad societal concerns as equality of access for the disadvantaged, support for diversity of post-secondary institutional options, the responsible monitoring of limited resources so as to maximize societal benefits, etc.

The fulcrum about which this multifaceted venture turns, however, consists of the individual assessment of expected family contribution and anticipated school budget, wherein the former is subsequently subtracted from the latter to determine whether or not the specific student in question demonstrates financial need and thus establishes eligibility to receive such assistance. This study deals directly with these crucial questions of family input expectation

¹Kirkpatrick, John I. A Study of Federal Student Loan Programs, Senate Committee on Labor and Public Welfare, Washington, D. C.: Government Printing Office, March, 1968.

determination and educational budget evaluation.

To help facilitate better understanding of this specific research topic, and its place in the overall financial aid administration milieu, three basic areas of related research are reviewed in this chapter. First a brief summary of the various options and attitudes regarding student funding in general is provided in an attempt to document the range of alternatives which do exist and the thinking which dominates the present student aid scene. Secondly, the general historical development of student aid in the United States is discussed to highlight the background of this field, and the crucial role which the concept of need plays in it. Thirdly, a brief review of similar research papers dealing with actual and expected family contributions as well as institutional budget determination is undertaken to assess the limited efforts which have been made to date to speak to these issues. The scope of the literature discussed gradually focuses specifically upon the research topic at hand and the next chapter leads directly into the study itself.

Student Financing

The student financing dilemma of higher education is reaching critical proportions. On the one hand, society is demanding more and more in the way of credentialization for access and participation. On the other hand, due to inflation and a host of related factors, post-secondary educational costs are concurrently spiraling out of the grasp of many who

need its benefits most. A recent article in U.S. News and World Report highlights this dilemma. It dramatically emphasized that:

"Higher education is passing out of reach for millions of...American families..."

by demonstrating that:

"At present prices, even before next year's increases, a fourth to a half of an average family's income (would be) needed to pay one child's expenses at most colleges, if the student lives on campus."²

To date, a patchwork of federal, state, and private student aid sources are being utilized in an attempt to speak to this mushrooming difference between "reasonable" family input and total educational costs. These sources employ various types of scholarships, grants, loans, and employment opportunities, which are administered through a variety of governmental, institutional, and private offices. Dissatisfied with this montage of existing efforts, for a number of reasons, a variety of modifications and alternatives have recently been put forth, with the feeling that they might more effectively speak to both societal and student needs.

While much of the more analytical work which has been done in the general area of overall higher education financing has come from the discipline of economics and has concerned itself largely with the application of formal cost-benefit

²"Can You Afford College?" U.S. News and World Report, Vol. 70, No. 8, February 22, 1971, p. 25.

analysis to education,³ the various proposals regarding the

³See for example:

a. Becker, Gary S. Human Capital: A Theoretical and Empirical Analysis, With Special Reference to Education, New York: Columbia University Press, for the National Bureau of Economic Research, 1964.

b. Blaug, Mark. Economics of Education: A Selected Annotated Bibliography, Oxford: Pergamon Press, 1966.

c. Chambers, M.M. Higher Education: Who Pays? Who Gains?, Danville, Illinois: Interstate Press, 1968.

d. Denison, Edward F. The Sources of Economic Growth In the United States and the Alternatives Before Us, New York: Committee for Economic Development, 1962.

e. Denison, Edward F. "Education and Growth," in Charles S. Benson (ed.), Perspectives on the Economics of Education: Readings in School Finance and Business Management, Boston: Houghton Mifflin, 1963.

f. Hancock, Giora. "An Economic Analysis of Earnings and Schooling," Journal of Human Resources, 1967, Vol. 2, pp. 310-329.

g. Hansen, W. Lee. "Economics of Education," in Robert L. Ebel (ed.), Encyclopedia of Educational Research, 4th ed., New York: MacMillan, 1969.

h. Hansen, W. Lee and Weisbrod, Burton A. Benefits, Costs and Finance of Public Higher Education, Chicago: Markham Press, 1969.

i. Mushkin, Selma J. (ed.). Economics of Higher Education, Washington, D.C.: Government Printing Office, 1962.

j. Peckman, Joseph A. "The Distributional Effects of Public Higher Education in California," Journal of Human Resources, 1970, Vol. 5, pp. 361-370.

k. Schultz, Theodore W. The Economic Value of Education, New York: Columbia University Press, 1963.

l. Schultz, Theodore W. "Resources for Higher Education: An Economist's View," Journal of Political Economy, 1968, Vol. 76, pp. 327-347.

student funding portion of this post-secondary financing milieu, have, for the most part, been much more pragmatic in nature and do not systematically reflect a comprehensive analytical posture. Willingham states in this regard:

"Since most of this work is recent, one should reserve judgment, but several shortcomings are worth noting. The actual results of alternative methods of...providing aid to students are more often than not based upon guesswork. Relatively little systematic research has been put to such questions. (Also) too often the arguments for particular programs seem to be primarily economic and political rather than educational and social."⁴

Many of the proposals which have been put forth concerning student funding, however, can be categorized around two basic philosophic constructs: namely those of "benefit" and "marketplace."

The "benefit" concept deals with arguments concerning who receives the major reward from higher education - the student or society at large - and so distributes the primary responsibility for funding.

m. Weisbrod, Burton A. "Education and Investment in Human Capital," Journal of Political Economy, Supplement, 1962, Vol. 70, No. 5, Part 2, pp. 106-123.

n. Windham, Douglas M. Education, Equality and Income Redistribution: A Study of Public Higher Education, Lexington, Massachusetts: D.C. Heath, 1970.

o. Witmer, David R. "Economic Benefits of College Education," Review of Educational Research, 1970, Vol. 40, pp. 511-524.

p. Woodhall, Maureen. "The Economics of Education," Review of Educational Research, 1967, Vol. 37, pp. 387-398.

⁴Willingham, Warren W. The Source Book for Higher Education, New York: College Entrance Examination Board, 1973, p. 146.

Proponents of the social benefit perspective, on the one hand, argue that higher education profits society more than its individual participants. Therefore, they stress the need for increased governmental subsidization of post-secondary education.

Dr. Kenneth Boulding, for example, has stated periodically that the evidence for public support of higher education is "...quite strong."

"If...education were left entirely to the market, there is good reason to suppose that there would not be enough of it, simply because it would have to be financed by parents, whereas the benefits would be received by the children."

and that:

"If education were turned over entirely to the market, this would tend to perpetuate the existing class structure and stratification of our society..."

Using these arguments and the point that public education enhances the societal perception of "community," through exposure to "rather similar experience," Boulding emphasizes the need for public support of higher education.⁵

This view is supported by Dr. Homer D. Babbidge, Jr., former Assistant U.S. Commissioner for Higher Education in his conclusion that:

⁵Boulding, Kenneth. "Fundamental Considerations," in Perspectives on Campus Tensions, D.C. Nichols (ed.), Washington, D.C.: ACE, 1970, pp. 8-9.

"We cannot subscribe to the mischievous generalization that the individual is the sole, or even the principal, beneficiary of his education."⁶

The American Association of State Colleges and Universities (AASCU) and the National Association of State Universities and Land Grant Colleges (NASULGC) issued a joint statement as well, which concluded that:

"Whatever the allocation between the individual and society of the benefits of higher education, it is clear that the primary benefit is to society."⁷

Past National Association of State Universities and Land Grant Colleges President, Russell Thackrey, personally took similar ground at a 1966 Southern Regional Education Board symposium, stating that:

"...the chief beneficiary of higher education is society, and society should play the major role in financing education at all levels."⁸

He contended further that by as early as 1960, some 30 percent of America's collective economic growth was based upon education; and concluded that higher education's social benefit thus by far "overshadowed" its individual values in an economic sense. Other conference participants agreed.

⁶Babbidge, Homer D., Jr. "Financial Plight of Higher Education," Association of Governing Board Reports, October, 1969, p. 28.

See also:

Babbidge, Homer D., Jr. Student Financial Aid, APGA, ACPA Division, Monograph One, Washington, D.C., 1960, pp. 5-7.

⁷"Recommendations for National Action," Washington, D.C.: AASCU and NASULGC, 1969, p. 8.

⁸Thackrey, Russell. "A View From Public Higher Education," in Proceedings from the Southern Regional Education Board's Atlanta Symposium, Atlanta, Georgia: SREB, June, 1966, p. 52.

The social benefit perspective is further argued under specific claims regarding the principles of democracy, personal rights, and equality of access.

Pursuing the "democratic principle" concept, support for the social benefit position and increased public support of higher education also came recently from Dr. Frederick H. Harrington, former president of the University of Wisconsin. Speaking in opposition to rising student fees, he stressed that:

"We in public higher education rest upon the democratic principle that while learning helps the individual, it is mostly for the benefit of our society... Thus, society should bear most of the cost..."⁹

Dr. Eugene B. Power supports the same contention in his statement that:

"...if a democratic society is to preserve itself, it must educate itself. Therefore, education is a social responsibility, not a private privilege...it follows from the nature of this responsibility that the economic support of education at all levels is not a matter of personal desire but of social need."¹⁰

⁹U.S. News and World Report, February 9, 1970, p. 33.

¹⁰Power, Eugene B. "Public Higher Education and the Low-Tuition Principle," Michigan Quarterly Review, Vol. 1, No. 2, Spring, 1962, pp. 90-95.

In a similar vein, Dr. John D. Russell states emphatically:

"In these times there should be no question whatever that education beyond high school for a great many young people is as essential to the public welfare and security as education of elementary or secondary level. To impose barriers to continued attendance, in the form of tuition fees, at the time of high school graduation is as unsound as it would be to impose such barriers at the end of the elementary school or at the end of the fourth grade."¹¹

Others adamantly support the social benefit posture on the basis of their perception of higher education as a right for all who can utilize it, not a privilege for those who can afford it.

Speaking at a recent College Entrance Examination Board, College Scholarship Service Colloquium, for example, Dr. Stephen T. Wright supported a statement from the previously cited Rivlin and Weiss paper which concluded that:

"If a high priority is given to improving equality of opportunity - as we think it should be - then the establishment of a major student aid program, ensuring that all with the ability are able to go to college, is the first order of business for the federal government."¹²

¹¹"Is Higher Tuition the Answer?" in Financing Higher Education, No. 4 in a series, SREB, 1959, p. 4.

¹²Wright, Stephen J. "The Financing of Equal Opportunity in Higher Education," in Financing of Opportunity in Higher Education, CEEB Colloquium, New York, 1970, p. 13 of the proceedings.

John Dale Russell's comments at the previously noted 1966 Southern Regional Education Board Conference reiterated this same position. He states that:

"I personally believe the trend toward increased student fee charges is in the wrong direction, for it tends to make college attendance an economic privilege. It also encourages students to think that their college degree is something they have bought and paid for, something they can exploit at will, without regard to their responsibilities to the society that provided the educational facilities. I should like to see all fees for college attendance abolished, and higher education made as free and open to all capable and interested people as the elementary and secondary schools are now."¹³

In like manner, the issue of access for the disadvantaged is used as yet another argument for the primacy of society's role in the area of student funding. Numerous authors have, of late, contended that full societal support for post-secondary study is, in essence, a prerequisite for

¹³Russell, J.D. Proceedings SREB Atlanta Symposium, op. cit., p. 21.

the successful participation of the disadvantaged.¹⁴

Then, too, in more general terms, Sol Jacobson argues that:

"The economic concept has emerged that public funds are just as appropriately invested in the education of youth as they are invested in highways, bridges, tunnels and other social utilities."¹⁵

On a more long-range basis, Sidar states that:

"We must continue to subsidize needy students... until that time when we are willing to pay the full bill for all."¹⁶

¹⁴See for example:

a. Bowen, Howard R. "Who Pays the Higher Education Bill?" in Southern Regional Education Board Symposium Proceedings, Washington, D.C., June, 1969.

b. Bronson, Herman R. "Financing Higher Education For Poor People: Fact and Fiction," College Board Review, Number 77, Fall, 1970, pp. 5-9.

c. Hatch, William T. "Could This Financial Aid Plan Help End Student Unrest?" College Board Review, Summer, 1969, No. 72, pp. 18-23.

d. Leslie, Larry L. The Rationale For Various Plans For Funding American Higher Education, University Park, Pennsylvania: Pennsylvania State University Center for the Study of Higher Education, Report 18, June, 1972.

e. Muirhead, Peter P.. "The Federal Interest and Student Financial Aid," Journal of the American Association of University Women, Vol. 59, March, 1966, pp. 141-143, 154.

¹⁵Jacobson, Sol. "Financial Aid For College Students," in Martha Farmer (ed.) Student Personnel Services for Adults In Higher Education, Metuchen, New Jersey: Scarecrow Press, 1967, p. 136.

¹⁶Sidar, Alexander C., Jr. "The Need For Reform In Financing Higher Education," College Board Review, No. 84, Summer, 1972, p. 10.

Finally, Stein notes, in similar manner, that:

"One can best conclude from their persistence that the ardent efforts at partial programs of student aid comprise the wellspring for whatever uniform and stable plan of total financing will eventually evolve to make college experience accessible to every capable student."¹⁷

The problem for many who are sympathetic with the social benefit position, however, becomes that of identifying these highly complex and abstract societal assets. Everyone can point to statistics which show that college graduates have bettered their own lots through increased personal earning expectations, improved insurance risk ratings, health and life expectancies, etc. However, putting an analytical finger on the complex pulse of social benefit is much more difficult. Alice Rivlin, Senior Fellow at the Brookings Institute, for example, contends that such benefits are really "...largely unmeasurable."¹⁸ Economist Theodore W. Schultz voices this same concern in his statement that:

"When this box is opened (social benefits), we are in trouble. There is so little agreement on what this box contains...the task of specifying and measuring these benefits has been grossly neglected."¹⁹

¹⁷Stein, Jay W. "Financing College For Everyone," Peabody Journal of Education, November, 1969, Vol. 47, No. 3, p. 151.

¹⁸Rivlin, Alice M. & Weiss, Jeffrey H. "Social Goals and Federal Support of Higher Education - The Implications of Various Strategies," in The Economics and Financing of Higher Education in the United States, Papers submitted to the Joint Economic Committee, U.S. Congress, Washington, D.C.: Government Printing Office, 1969, p. 548.

¹⁹Schultz, Theodore W. "Resources for Higher Education: An Economist's View," Journal of Political Economy, May-June, 1968, p. 343.

On the other end of the "benefit" continuum there is, however, another school of thought, which would posit educational benefit for the most part with the student alone. Those adhering to this position place most of the responsibility for meeting education's rapidly expanding expenses directly on the student and his family.

Economist Robert H. Haveman, for example, makes the following rather caustic comparison between higher education and the business world:

"It is not self-evident that the Federal Government should subsidize the suppliers or buyers of higher education services any more than it should subsidize the suppliers or buyers of shoes or drugs or housing... Is there, in fact, a substantive economic difference between the producer of higher education and the producer of shoes or the producer of health services or the producer of automobiles? Does the market for higher education services have some structural malfunction which generates a less than socially-optimum level of output if left unsubsidized?... Does the representative of the National Association of State Universities and Land-Grant Colleges have a claim on public resources which is prior to that of the lobbyist for the National Association of Bargeline Operators, the American Shipbuilders Association, or the Welfare Rights Organization?"²⁰

²⁰Haveman, Robert H. Writing in "New Federal Support To Institutions and Students: What Emphasis?" Liberal Education, Vol. 56, No. 2, May, 1970, pp. 309-310.

Arguing also from the individual benefit point of view, the Tax Foundation states that:

"Higher education is no longer designed primarily for those who make some special contribution to society which is not reflected in their subsequent salaries or incomes... Since private returns are substantial, the individual who receives the benefits may appropriately bear a large share of the costs. If more people are attending college because of the expected returns in future income, it seems reasonable to ask them to pay a larger portion of the cost... Indeed, it is hardly fair for the general taxpayer to subsidize expenditure that will raise further the incomes of those whose incomes are, or will be, well above the average. This would amount to using governmental finance to increase the inequity in the distribution of income. The case for increased tuition becomes (even) stronger when one considers the large tax funds that will be involved in the future and the possible alternative uses of such funds."²¹

In like manner, Clurman states that students will only really value their education if they pay for it themselves.

"In order to create a more desirable set of student attitudes...we must encourage students to pay the bulk of the direct costs of their education..."²²

To this perspective Stephen J. Tonsor simply adds that, in his opinion, the student should directly bear:

"...a very substantial portion of the total cost of his education."²³

²¹Public Financing of Higher Education, The Tax Foundation, Inc., 50 Rockefeller Plaza, New York, 1966 (Research Publication Number 4), pp. 42-43.

²²Clurman, Michael. "How Shall We Finance Higher Education," Public Interest, Spring, 1970, No. 19, p. 110.

²³Tonsor, Stephen J., from quote found in "Foe of Homogenization of Higher Education," found in Chronicle of Higher Education, May 5, 1969, p. 3.

In response to the inevitable criticism that this position overlooks the general or social benefits of higher education, Milton Friedman comments:

"When I first started writing on the subject, I had a good deal of sympathy with this argument (social benefit accruing from higher education). I no longer do. In the interim, I have tried time and again to get those who make this argument to be specific about the alleged social benefits. Almost always the answer is simply bad economics..."²⁴

The second under-lying philosophic construct, which seems to be present in one form or another, in most student assistance proposals is the concept of "marketplace." This idea assumes that additional aid is needed, and focuses on the degree to which it should free the student consumer to voice his opinion on educational programs via marketplace selection freedoms. This concern springs from perceptions of higher education's inefficiency and access problems; and attempts to speak to these issues by either placing more resources at the disposal of the institution or the student. The former position can be viewed as a "closed-marketplace" attitude and the latter an "open-marketplace" posture.

Opinions on this construct, as on the issue of "benefit," cover the whole continuum, from institutional to individual perspective. At the one extreme, we find those who would direct most of this needed assistance toward institutions, feeling that such "closed-marketplace" assistance would best promote the goals of higher education.

²⁴Friedman, Milton. "The Higher Schooling In America," Public Interest, Spring, 1968, p. 110.

In this camp fall such individuals as Dr. Rodney J.

Morrison, who argues that:

a. "...education has a value to society over and above whatever increase in earning power and consumption the student derives from having a college education. The additional benefits that accrue from a better educated population fall, in economic terms, under the heading of 'externalities.' When positive externalities exist, it behooves society to increase the output of the particular element producing these externalities. For if response is left solely to the private sector, the number of additional benefits may be less than optimal. Therefore, the public sector will generally subsidize the source of increased benefits."

b. "...indirect assistance (aid to students) would provide additional financial resources and free the institution from governmental control, but they might also free it from any pressure to contain its costs...thus while a program of loans or grants or equity investment may provide additional financial resources, it also introduces a fundamental asymmetry...why worry about costs if the market is one in which customers have almost unlimited access to credit and their demand for the product is inelastic with respect to price and elastic with respect in income?"

c. "Recently, economists have come to favor the negative income tax as a means to reduce poverty...while the college or university is a 'not-for-profit' institution, it does little harm to assume that it could act as if it were a profit-making concern...if these institutions were treated like all companies, few would pay any Federal income taxes, because most (with the inclusion of previously unrecorded capital charges) sell their output - education - at a price below the cost of production...most institutions would show operating losses...(and) the principle of negative income tax could be applied."²⁵

While Morrison argues specifically for a unique type of direct institutional aid - the negative tax application - the general progression of thought represents well those promoting direct institutional aid.

²⁵Morrison, Rodney J. "The Negative Income Tax and the Private Institution," Educational Record, Fall, 1970, Vol. 51, pp. 380-381.

In a similar manner, others such as Burns and Chiswick argue that direct student assistance, especially in the form of loans, may reduce society's "externalities" by keeping deserving young people from entering college,²⁶ and still others reiterate that it releases the higher education community from any concern for efficiency.²⁷ Likewise, Reverend Paul Reinert, President of St. Louis University and Director of Project Search (a series of conferences directed toward finding solutions to the fiscal problems of private higher education) recently stated that an estimated one billion dollars in additional aid is needed in higher education. He and his colleagues argue that these funds should be directed toward institutions because it is there that they can be most efficiently and effectively disseminated.²⁸

²⁶Burns, J.M. and Chiswick, B.R. "An Economic Analysis of State Support for University Education," Western Economic Journal, March, 1969, pp. 86-90.

²⁷Campbell, Robert and Siegel, B.N. "Demand for Higher Education in the United States," American Economic Review, June, 1967, pp. 487-496.

²⁸Higher Education and National Affairs, Vol. 20, No. 27, July 16, 1971, p. 6.

Arguing in support of academic program integrity and quality, Spitzberg concludes that:

"Techniques for allocating funds can be divided into two distinct methods - through the students, and through direct funds to institutions of higher education...the drawbacks to the technique of direct student grants are formidable and impair this technique as a device for general support. Whatever contribution the technique makes to equality, it makes only a limited contribution to the improvement of quality. One could not sincerely claim that a high school graduate is in any position to evaluate the quality of a university or to promote the total map of values which one might believe appropriate for it... The second general technique for supporting institutions of higher education provides direct grants. The (only) specific issue (or concern) in this method is the formula to be used (the approach's ultimate virtue is self-evident) to allocate resources amongst them (schools)." ²⁹

Approaching the same position of favoring institutional support in a slightly different manner, others argue that the existing student directed programs should be maintained, but that any increase in aid should be directed toward the institutions themselves. John Morse, director of the American Council on Education's Commission of Federal Relations, for example, states that:

"It seems to me the largest single missing piece (of government aid), if we are to complete the mosaic, is to provide general institutional support for all of our institutions." ³⁰

²⁹Spitzberg, Irving J., Jr. "Current Federal Financing of Higher Education, and a Proposal," Journal of Higher Education, December, 1971, Vol. 42, No. 9, pp. 730-731.

³⁰Morse, John. "The Federal Role in Education: One View," Proceedings, 1966 SREB Symposium on Financing Higher Education, Atlanta, p. 43.

The official American Council on Education position on institutional assistance also clearly states that:

"We believe that beyond adequate funding for existing programs, the principal unfinished business of the Federal Government in the field of higher education is the necessity to provide support for general institutional purposes..."³¹

In a similar fashion, the National Association of State Universities and Land Grant Colleges and American Association of State Colleges and Universities jointly go on record stressing that:

"The first priority among new programs is to provide institutional support for colleges and universities so they can provide quality education for all who can benefit from it at reasonable charges to students... The greatest unmet need in Federal support for higher education is an institutional support program through which flexible, predictable funds are made available to colleges and universities on a continuing basis. These associations urge that such a program is vital to the welfare of the nation and is needed now."³²

³¹"Federal Programs for Higher Education: Needed Next Steps," Washington: ACE, 1969, p. 17.

³²"Recommendations For National Action," Washington, D.C.: AASCU and NASULGC, 1969, pp. 3-4.

H. Edwin Young, a university administrator, likewise states that:

"I lean...to institutional support as a main method of applying some of the resources of the federal treasury to the problem of higher education. I do not hope for, nor do I expect, that present programs of support for students should be abandoned; but I regard them as supplementary to the main thrust of an adequate program. Only institutional support will, in my view, preserve strong institutions with diverse structures and emphases. It will allow institutions - trustees, administrators and faculty - to have a major voice in how resources are to be allocated to accommodate the future as well as the present and the past."³³

On the other extreme of the "marketplace" continuum, many knowledgeable individuals criticize institutional grants in that they fear such aid would (1) not accomplish the goal of increased access for which it was designed,³⁴ (2) actually lead to inefficient university operation by removing its

³³Young, H.E., writing in "New Federal Support to Institutions and Students: What Emphasis?" Liberal Education, May, 1970, p. 307.

³⁴See for example:

a. Feldman, Paul and Hoenack, S.A. "The Private Demand for Higher Education in the U.S.," in The Economics and Financing of Higher Education in the U.S., Papers Submitted to the Joint Economic Committee, U.S. Congress, Washington, D.C.: Government Printing Office, pp. 391-397.

b. Hansen, W. Lee and Weisbrod, B.A. "The Search For Equity in the Provision and Finance of Higher Education," in The Economics and Financing of Higher Education in the U.S., Papers Submitted to the Joint Economic Committee, U.S. Congress, Washington, D.C.: Government Printing Office, 1969, pp. 122-124.

c. Mushkin, Selma J. "A Note on State and Local Financing of Higher Education," in The Economics and Financing of Higher Education in the U.S., Papers Submitted to the Joint Economic Committee, U.S. Congress, Washington, D.C.: Government Printing Office, pp.531-541.

sustenance from the open student marketplace,³⁵ (3) lead to crippling problems in the development of an "equitable" allocation formula,³⁶ and (4) lead to further institutional segregation and increased dependence upon a single source of funds.³⁷

Such critics promote an "open-marketplace" philosophy, in which aid would be concentrated on the student himself, assuming that his market decisions for various educational services could best lead higher education in the desired directions of access, efficiency, diversity and independence.

Clurman introduces this position by stating that:

"An alternative to (institutional) aid by formula is to enhance the role of the market so that consumers (in this case, students and their families) make the choices which allocate resources within higher education."³⁸

³⁵See for example:

Wolk, Ronald A. Alternative Methods of Federal Funding for Higher Education, Berkeley: Carnegie Commission on Higher Education, 1968, pp. 34-39.

³⁶See for example:

a. Clurman, Michael. op. cit., pp. 98-119.

b. Clurman's presentation in The Economics and Financing of Higher Education in the U.S., Papers Submitted to the Joint Economic Committee, U.S. Congress, Washington, D.C.: Government Printing Office, pp. 641-645

c. Toward a Long-Range Plan for Federal Financial Support for Higher Education (Rivlin Report), Washington, D.C.: H.E.W. Office of Planning and Evaluation, p. 26.

³⁷See for example:

a. Kerr, Clark. "The Distribution of Money and Power," Public Interest, Spring, 1968, pp. 101-109.

b. Spaulding, Keith. "The Relevance of Federal Programs to the Purpose of the Institution," Educational Record, Vol. 47, Spring, 1966, p. 141.

³⁸Clurman, Michael. op. cit., pp. 106-107.

Likewise, Watts Hill, Jr., predicts that he sees "...no net reduction in state (and federal) appropriations, but rather their redirection from aid to institutions to aid to students."³⁹ Given the assumption that educational subsidy is desirable, economist Robert Haveman argues, regarding access, that:

"At best, institutional aid is a blunt instrument to achieve equity goals in higher education... Direct student aid, on the other hand, is a much more precise and controllable weapon...such aid can be provided directly to those families which now find access to the higher education market difficult or impossible to attain. If structured appropriately, such dollars would provide a powerful impetus toward reducing the existing inequities in the provision of higher education."⁴⁰

Viewing the situation in terms of student needs, Zacharias emphasizes that:

"A free market in education is one of the very few mechanisms for forcing the colleges - the administrators, the faculties, the trustees, the legislators - to pay real attention to the students' real needs."⁴¹

³⁹Hill, Watts, Jr. "Effects Which...Aid Programs May Have Upon Students..." remarks at the annual meeting of the National Council of Higher Education Loan Programs, Southern Pines, North Carolina, April 24, May 1, 1971, p. 2.

⁴⁰Haveman, Robert H. op. cit., p. 315.

⁴¹Zacharias, Jerrold R. "Educational Opportunity Through Student Loans: An Approach to Higher Education Financing," in The Economics and Financing of Higher Education in the United States, A Compendium of Papers Submitted to the Joint Committee of the Congress of the United States, Washington, D.C.: U.S. Government Printing Office, 1969, p. 656.

Speaking to the question of efficiency, he also states that:

"...it is, I believe, beyond dispute that the primary effect of institutional aid, no matter how disbursed, would be to loosen financial constraints on institutions and to free funds for any use to which the institution might desire to put them... In contrast to this, direct student aid would directly add to the pot of money which the people - individual U.S. citizens - have to spend on higher education and for which institutions would have to compete."⁴²

In terms of enhanced diversity and independence, Stephen

Tonsor says that:

"Indiscriminate federal grants on the basis of administrative judgment rather than student choice have only reinforced this move toward uniformity (in higher education)... Only when there is a free market in education, with the student and his parents able to choose from among schools diverse in kind and quality will we be able to say honestly to students, 'We do not pretend to supply the sort of education you wish or need; but if you really want a totally unstructured, ungraded course of study, segregated, revolutionary and socially relevant, you can get at it...'"⁴³

Rivlin and Weiss add that:

"Emphasis on student aid could also improve the competitive position of the private sector in higher education. Student aid would tend to reduce tuition differences..."⁴⁴

Haveman flatly concludes that:

"Finally, I would argue that expansion of the demand for higher education through direct student aid is by far the most potent stimulant of institutional diversity and competition that is available."⁴⁵

⁴²Ibid., p. 314.

⁴³Tonsor, Stephen. op. cit., p. 3.

⁴⁴Rivlin, Alice M. and Weiss, Jeffrey H. op. cit., p. 552.

⁴⁵Haveman, Robert H. op. cit., p. 315.

Others, though, are quick to point out that direct student (pro-marketplace) assistance also has its shortcomings. They point out, for example, that in the past, student aid has notoriously missed those that needed it most,⁴⁶ and that straight student assistance would concentrate too much economic power in the hands of the student consumer while at the same time actually freezing potential institutional competition within the present status matrix.⁴⁷

Surveying the field of evidence, both pro and con, however, Kenneth D. Roose unequivocally states that in his opinion:

"Aid to students leads to a more effective use of resources and, consequently enhances the national welfare; it can enlarge educational opportunity for low-income and disadvantaged groups; it requires institutions and educational programs to be more responsive to consumers; and it makes possible continued and effective competition between public and private institutions of higher education."⁴⁸

⁴⁶See for example:

a. Hansen, W.L. and Weisbrod, B. Benefits, Costs and Finance of Public Higher Education, Chicago: Markham Publishing Company, 1969.

b. Rivlin, Alice. "Equality of Opportunity and Public Policy," in Financing Equal Opportunity in Higher Education, New York: CEEB, 1970.

c. "Who Really Gets Financial Aid," Journal of National Association of College Admissions Counselors, Vol. 14, No. 3, February, 1970, pp. 20-24.

⁴⁷Bowen, Howard R. "Tuition and Student Loans in the Finance of Higher Education," in The Economics and Financing of Higher Education in the U.S., Papers Submitted to the Joint Economic Committee, U.S. Congress, Washington, D.C.: Government Printing Office, pp. 618-631.

⁴⁸Roose, Kenneth D. "Aid to Students - or to Institutions," Educational Record, Vol. 51, Fall, 1970, p. 367.

Having surveyed briefly some of the positions, pro and con, relative to these two theoretical constructs of benefit and marketplace, it must also be pointed out that these parameters are not separate entities. Indeed, they are largely interdependent; and their matrix can be viewed as the very context for many of the aid approaches being proposed. The interaction of these two conceptual factors can be pictured diagrammatically as follows:

		Benefit	
		Student	Society
Marketplace	Open	I	III
	Closed	II	IV

The first segment of this matrix (Roman Numeral I) would thus depict advocates of a system of assistance based both on the premise of predominately student instead of societal benefit, and on a positive disposition toward the open marketplace concept. Such thinking is found in many of the current proposals for a "student loan bank." Student benefit is emphasized herein in that the student is obligated to carry a bigger share of his educational expenses from future resources; and the open market concept is honored in that funds would be placed directly in the hands of the student consumer. Reference to such a proposal was initially covered in four major governmental documents; the Carnegie

Commission Report on higher education,⁴⁹ the "Rivlin" Report,⁵⁰ the "Zacharias" Report,⁵¹ and the Daniere statement.⁵² The concept is also well covered in private papers, such as that presented by Charles Killingsworth to the Michigan Economics Society.⁵³ While there have been many innovations from this basic "loan bank" theme, fundamentally it calls for a governmental or, semi-autonomous, institutional loan agency which would dispense three basic types of loan monies.

The first proposed loan type is Contingent Student Repayment Loans where repayment rate and/or interest would be calculated progressively based upon subsequent income. Repayment programs would be figured over some 30 to 40 years with those in higher income brackets being charged at a rate which

⁴⁹Quality and Equality: New Levels of Federal Financial Responsibility In Higher Education, Carnegie Commission on Higher Education, H.E.W., Washington, D.C., 1968.

⁵⁰Toward A Long-Range Plan For Federal Financial Support For Higher Education, H.E.W., Washington, D.C.: U.S. Government Printing Office, 1969, ("Rivlin Report").

⁵¹Equal Opportunity Bank, Washington, D.C.: President's National Science Advisory Committee, Panel on Educational Innovation, Report to the President, Washington, D.C.: U.S. Government Printing Office, 1967.

⁵²Daniere, Andre. "The Benefits and Costs of Alternative Federal Programs of Financial Aid to College Students," in the United States Congress Joint Economic Committee Report entitled The Economics and Financing of Higher Education in the U.S., Washington, D.C.: Government Printing Office, 1969, pp. 556-598.

⁵³Killingsworth, Charles C. "How to Pay For Higher Education," presented at The Economics Society of Michigan, Ann Arbor, March 17, 1967.

would cover their own debt plus those of students not moving into the repayment brackets and those of individuals who might default for one reason or another. This collection endeavor would be viewed as a form of personal income tax and administered via the Internal Revenue Service. A second type, Fixed Repayment Student Loans, requiring set interest and repayment schedules, would also be offered. For added flexibility and student benefit many "loan bank" proposals would make these two types of loans interchangeable; so that the student anticipating disproportionate contingent payments could opt for a fixed repayment schedule while the financially encumbered borrower could opt for the contingent approach. The third proposed loan type included in some, but not all, loan bank proposals, would make available limited Fixed Repayment Institutional Loans.

It has been suggested that funds for such a vehicle could be procured from general revenues, a special short run taxation program, a system of bond or stock sales, or a diversion of all current federal and state subsidies for higher education. The Rivlin Report, however, points out that institution of such a program now would cost approximately 200 million dollars annually by 1972 and some 740 million dollars per year by 1976, with slight increases from there on for a period of time. This figure rivals current allocations for institutional and student aid, and would thus represent a sizeable capital outlay for many years

until refunds might some day let the program approach a somewhat self-perpetuating status.

Proponents of the "loan bank" concept, however, argue that such an approach would systematically increase the total resources available to higher education, make aid available easily to all with minimum qualifications (citizenship and acceptance at an accredited school are the only two usually cited), improve the competitive lot of private and vocational schools, let the student (the primary beneficiary) participate more fully in his educational expenses, make higher education more efficient and responsive to student demands as voiced in the competitive marketplace, provide relief for middle income families, make participation voluntary, minimize governmental interference, self-select out those not truly interested in further study, provide a flexible aid tool, and finally, base attendance on ability not socioeconomic status."⁵⁴

⁵⁴See for example:

a. Alchian, Armen and Allen, William. "What Price Zero Tuition?" Michigan Quarterly Review, Fall, 1968, No. 7, pp. 269-272.

b. Bowen, Howard R. and Bowen, William G. "Financing Higher Education: Two Views," Association of Governing Boards Reports, Vol. 10, No. 9, June, 1968, pp. 3-11.

c. Hartline, Jessie C. "Student Financial Aid and the Role of Student Loans," College and University Business, Vol. 47, No. 2, Winter, 1972, pp. 106-117.

d. Johnstone, D. Bruce. "Beyond Need Analysis," College Board Review, No. 87, Spring, 1973, pp. 12-15.

Critics of the "loan bank" concept quickly note that it might, on the one hand, put too much economic strength in the hands of the student consumer,⁵⁵ or on the other, release the institutions from sufficient accountability.⁵⁶ This approach is also criticized in that it would discriminate against the disadvantaged by loading them up with educational debt,⁵⁷ make the disadvantaged tend to avoid higher education,⁵⁸

e. Steif, William. "Who Pays For Rising College Aspirations?" College and University Business, Vol. 46, No. 6, June, 1969, pp. 81, 102.

f. Tobin, James and Ross, Leonard. "Paying For the High Costs of Education: A National Youth Endowment," The New Republic, No. 160, May 3, 1969, pp. 18-21.

g. Windham, Douglas M. "The Efficiency/Equity Quandary and Higher Education Finance," Review of Educational Research, Vol. 42, No. 4, Fall, 1972, pp. 541-560.

⁵⁵Bowen, Howard. op. cit., p. 628.

⁵⁶Morrison, Rodney J. op. cit., p. 381.

and

Campbell, Robert and Siegel, B.N. "Demand For Higher Education in the U.S.," American Economic Review, June, 1967, pp. 489-494.

⁵⁷Morrison, Rodney J. op. cit., p. 381.

⁵⁸Killingsworth, Charles. op. cit., pp. 11-12.

See also:

a. Wharton, Clifton R., Jr. "Higher Education: Who Benefits? Who Pays?" Commencement Address Given at Oakland University, June 5, 1971.

b. Wharton, Clifton R., Jr. "Study Now, Pay Later: Threat to a Great Commitment," The Chronicle of Higher Education, Vol. 6, No. 11, December 6, 1971, p. 12.

provide a negative dowry for women,⁵⁹ open the aid area to increased political control,⁶⁰ and potentially dry up other sources of aid.⁶¹ Those viewing only the flat rate portion of the loan bank concept also argue that such an approach would tend to "force" students into the more lucrative professions.⁶² Brannon raised the additional point that in his opinion, economic success and collegiate certification are not sufficiently correlated to warrant a contingent repayment program either. He actually sees this approach as more regressive than a general popular tax for support.⁶³

Many of these arguments, both pro and con, represent reverse sides of the same coin and reflect the underlying philosophic controversies discussed earlier which will never be resolved without adjustment of the reader's basic a priori stance. One additional criticism should be stressed, however, and that is that the "loan bank" concept has never as yet been adequately researched.⁶⁴ Further "hard" data is

⁵⁹Killingsworth, Charles. op. cit., pp. 11-12.

⁶⁰Mallon, John P. "Current Proposals For Federal Aid to Higher Education: Some Political Implication," American Association of Junior Colleges, Washington, D.C.: February 6, 1970, pp. 1-25. (Prepared for 2/21/70 ACT Conference in Washington).

⁶¹Ibid.

⁶²Killingsworth, Charles C. op. cit., pp. 11-12.

⁶³Brannon, Gerard M. "Contingent Repayment Education Loans Related to Income," Department of the Treasury Paper, Washington, D.C., December 28, 1967, pp. 1-10.

⁶⁴Mallon, John P. op. cit.

needed before an intelligent decision can be reached in regard to the feasibility of this concept.

Hanford and Nelson also conclude, in this regard, that:

"We are concerned that there has been so little opportunity for higher education - meaning students and colleges - to make their interests in the credit approach to paying for education known. It seems imperative to us that the subject be fully aired before it becomes an accomplished fact."⁶⁵

A very similar concept has been proposed via Yale's "deferred tuition program." Here the student effectively "borrows" the needed resources through the school and agrees to make repayment on a contingent basis from future income. The schedules, procedures, and source of funds are somewhat different, as delineated by Treaster,⁶⁶ but in principle the result is really an institutional "loan bank" to which the student can go as often as he sees fit, within limits, on the credit of his future earning power. Since the proposals put forth are contingent, the successful graduate will again be subsidizing his less fortunate compatriot. Duke University⁶⁷

⁶⁵Hanford, George H. and Nelson, James E. "Federal Student Loan Plans: The Dangers Are Real," College Board Review, No. 75, Spring, 1970, p. 21.

⁶⁶Treaster, Joseph B. "Yale Adopts Plan To Defer Tuition," New York Times, January 31, 1971, p. 1, 28.

See also:

a. "Yale to Inaugurate Tuition Postponement Plan Next September," Higher Education and National Affairs, Vol. 20, No. 5, February 6, 1971, pp. 1-3.

b. "Yale Plan: Study Now, Pay For 35 Years," U.S. News and World Report, February 22, 1971, p. 28.

⁶⁷The Chronicle of Higher Education, Vol. 5, No. 22, March 8, 1971, p. 4.

and the State of Ohio⁶⁸ have put forth similar proposals. The Pay As You Earn Plan (PAYE),⁶⁹ which the Ford Foundation is studying currently, and Harvard's Student Education Loan Fund (SELF),⁷⁰ represent still other variations on this same contingent repayment theme. According to a similar suggestion by Collins, an independent, but federally funded Higher Education Finance Corporation would be established to grant

⁶⁸The Chronicle of Higher Education, Vol. 5, No. 25, March 29, 1971, p. 3.

⁶⁹Higher Education and National Affairs, Vol. 20, No. 5, February 6, 1971, p. 4.

See also:

a. Pay-As-You-Earn: Ford Foundation Studies In Income Contingent Loans for Higher Education, New York: Ford Foundation Office of Reports, September, 1972.

b. "PAYE Method of Financing College Education," Intellect, Vol. 101, No. 2348, March, 1973, p. 344FF.

⁷⁰Cooper, Warren. "SELF Lets Harvard Students Financially Help Themselves," College and University Business, Vol. 31, May, 1971, pp. 54-56.

See also for summary of contingency loan plans:

Johnstone, D. Bruce. New Patterns For College Lending: Income Contingency Loans, New York: Columbia University Press, 1973.

loans to students. In Collins' words:

"The Corporation (would be) authorized to extend loans to any citizen qualified to enter the public or private college of his choice... These loans are made (up to) the amount of the average-per-student operating cost of that college plus standard student fees and the cost of books and supplies... No collateral or co-signers would be necessary, for at the time of the loan the applicant would take out (or increase) the corporation's term insurance in an amount sufficient to cover the loan, and name the corporation (as) beneficiary... Since the whole society benefits from the education of any member, the society should not extract interest (and/or operating charges) on borrowed money that results in the betterment of that society. Let the premise then be that the loans will be without interest, that the student (with equal contributions from his employer) will eventually repay exactly the sum borrowed. As noted the (borrower's portion of) the loan would be repaid by a surtax, automatically added to the borrower's Federal income tax when his net income reached a legislated level of 'reasonable affluence.' The borrower would not have to repay before he could afford to repay, and the surtax would be proportionate to the net income over the 'reasonable affluence' level. The borrower who never reached this level would never personally repay (his half of) the loan; he would simply have the corporation's insurance premium added to his income tax each year and when he died, the insurance money would pay off his loan... Not a cent of these premiums would be lost unless the student died or failed throughout life to repay his loan. As the loan was repaid, the borrower would gain dollar-for-dollar equity in his mandatory term insurance policy.

Employers would be notified by IRS that surtax payroll deductions should begin. Since the employer profits directly from the higher education of his employee, he would be required to pay one-half the surtax deduction as long as the debtor was in his employ, or until the loan was completely amortized."⁷¹

Barbara Newell offers yet another essentially similar approach in her suggestion that a "tuition deferment" option be adopted whereby the first several years would be essentially

⁷¹Collins, Charles C. "Financing Higher Education: A Proposal," Educational Record, Vol. 51, No. 4, Fall, 1970, p.376.

free, offset by proportionately higher tuition and fee schedules during the junior and senior years.⁷² The rationale for this suggestion lies in the assumption that once students become successfully acclimated to campus life and its academic rigors, they also become more maze bright in terms of financing options and, thus, better prepared to cope with the higher expense figures.

The same pro and con philosophic arguments that surround the basic "loan bank" concept also enmesh these proposals; with the possible addition of concern over efficiency and uniformity of application due to the duplication of efforts which would occur should these systems ever become popular.

A somewhat different approach to the same philosophic aid matrix of student benefit and market sensitivity is found in the suggestion of Scheps and Franklin.⁷³ These authors agree with the basic premises of the loan bank concept, but then go on to augment it with a suggestion of their own that families also be encouraged to engage in systematic pre-educational savings programs where possible. Perhaps a federally subsidized interest differential for educational time deposits could be utilized in this regard. While such a program would doubtlessly be feasible for only certain socio-economic groups, it, too, might well deserve further study.

⁷²Newell, Barbara W. "Enter Now and Pay Later," Educational Record, Winter, 1971, No. 52, pp. 57-59.

⁷³Scheps, Clarence and Franklin, Carl. "New Directions Needed For Student Aid Funds," College and University Business, Vol. 46, No. 6, June, 1969, pp. 88-89, 104.

Closely connected to this student benefit-market sensitivity position, especially as it is personified in the loan bank concept, is the idea of "full-cost tuition." Advocates of this position see any across-the-board student subsidy as an inefficient use of resources, claiming that it is in effect underwriting part of the educational expense of many students who truly could foot the full bill themselves. Instead, they argue for full cost educational expenses for all students, with all subsidies channelled directly to the truly "needy" student. This position would also place the private and public institutions on a more equally competitive cost basis.

Buchanan and Devletoglon, for example, present the following case:

"...university education is not a free good. It does not abound in nature and considerable scarcity value attaches to it. Resources that could be used to produce other things that are valued by men and women have to be employed to produce university education. Education is, in other words, an economic good. For this reason, the economic aspects of its demand and its supply cannot be wholly neglected. But if people will so curiously insist on arguing that university education is a free good, those who demand, supply, and finance it will begin to act as if it were, in fact, free. Increasing numbers of students will demand more and more university places, better and better physical facilities, and increasingly attentive devotion to their special needs. Regardless of the supply of faculties and facilities, demands will invariably be excessive. When nominal (below cost) or zero prices are fixed on so expensive a good, it becomes inevitable that nonprice rationing, in some form or other, must be adopted. In addition, suppliers become increasingly immune to consumer desires, being allowed as it were, to "give away" an expensive good for which demand is excessive. Worse still, the product predictably deteriorates as suppliers begin to take on the arrogance of despots. But suppliers are not donors. They do not personally bear the costs of charity. Again, the delusion that university education is a free good leads to disregard both for cost reduction and for efficiency..."⁷⁴

Schultz supports this framework and notes that when college and university prices do not reflect their true or full costs, subsequent student decisions will, in effect, be inefficient.⁷⁵

⁷⁴Buchanan, James M. and Devletoglon, N.E. Academia In Anarchy: An Economic Diagnosis, New York: Basic Books, 1970, pp. 5-6.

⁷⁵Schultz, Theodore W. op. cit., p. 342.

Boulding likewise concludes that:

"If education is a financial investment for the student, as in a very large number of cases it is, with a fairly high rate of return...colleges and universities should charge the full cost of their education, so that essentially they are financed by market sales. Then we should set up an educational banking system under government sponsorship which would be prepared to lend the student the full cost of his education, if necessary, as a loan to be repaid over the course of his life by a certain proportion or surcharge on his income tax."⁷⁶

Hill adds that low-cost tuition simply subsidizes those that do not really need it. He, too, advocates "full-cost pricing" with "subsidies to the truly needy."⁷⁷ In fact, he adds that the increased efficiency which should result from such a move might well demonstrate that the current fiscal crisis in higher education is largely managerial, not monetary. Kirkpatrick concurs as well that "...low tuition simply means that all students are at least partially subsidized, whether they need it or not."⁷⁸

O'Hearne, in fact, adds that even present awards could probably be more effective if concentrated among the truly high need cases. He feels that small 100 - 300 dollar assistance stipends are really a waste because, as he interprets the data, they really do not increase attendance anyway.⁷⁹

⁷⁶Boulding, Kenneth. op. cit., p.8.

⁷⁷Hill, Watts, Jr. op. cit.

⁷⁸Kirkpatrick, John. op. cit., p. 24.

⁷⁹O'Hearne, J. "Financial Aid May Help Most by Helping Fewer Students," College and University Business, 1970, Vol. 49, No. 2, pp. 37-39.

The strengths and weaknesses of these arguments again, of course, lie within the a priori assumptions found in this sector of our philosophic matrix.

The second segment of this matrix (Roman Numeral II), in contrast, contains a somewhat different set of references. Here, individuals view higher education as primarily a student, not a social, benefit; and feel that higher education should not be immersed directly into the harsh reality of the consumer marketplace. This can be interpreted, in essence, that the student should pay for his education but not control the surrounding economy in the process.

While this philosophic stance does not seem quite as popular as the first one discussed, it does house several fundamental alternative approaches to the concept of student financial aid.

The first of these is the traditional work-study concept which has been so popular in vocational-technical education and apprenticeship programs for so long. In such a program the student studies for a period of time and then is placed in a job setting to both gain experience and earn funds for further study. Sometimes these two activities are concurrent and in other programs they represent a cycle. The student, thus, at least in part, earns his own way; but is less likely to be accused of controlling the institution's destiny since most such programs operate under institutional control.

Senator Jacob K. Javits, a long-time proponent of

expanded vocationally oriented education, has stressed, for example, that American higher education dare not become "...strangled by degrees." He has supported the work-study approach as a more realistic and viable alternative.⁸⁰

The second fundamental aid approach which is found in this framework actually entails much more than simply the provision of a mechanism for providing student assistance. This approach covers the basic concept of lifelong education. It would, in theory at least, open the nation's institutions of higher education to a free flow of entry and departure. This ultimate expansion of the "work-study" concept would eliminate the traditional time blocks usually associated with various stages of training and completely rechannel today's curricular thought. Students would either come to the campus or study at home via extension and media for short periods of time throughout life. The remainder of their time would be spent in the work force applying their knowledge and establishing a base for further training. Financial assistance would become a by-product of the student's endeavors, not a separate entity in itself.

Such an approach is likely to draw much criticism, at least at the outset, from the majority of the American people who are just now becoming accustomed to the status structure of today's mushrooming degree structure. Doubtlessly, if such a measure were ever to be adopted, it would

⁸⁰The Compass, Vol. 35, No. 6, Washington, D.C.: June, 1971, pp. 1, 11.

face a long and tedious period of examination. Mallan stresses that such "change agent" approaches initially usually have minimal support at best.⁸¹

The third segment (Roman Numeral III) of the philosophical matrix created above emphasizes the social benefit of higher education and the value of the rigorous open student-consumer marketplace. Thus, society is largely responsible for paying the bill and, at the same time, the funds provided are to be controlled directly by the student himself.

Rudd argues vigorously for such an approach in Britain. He advocates full grants (amount of educational and minimal living expense) for all students, regardless of need, and the availability of loans for students who want even more. These proposed grants would neither be based on family resources nor affected by the budget of the institution selected; and they would be directly at the disposal of the student consumer. He states that:

"Under such a scheme, as I envisage it, every student would receive a standard sum as a grant regardless of his parents' income or any of the other factors that at present are used to differentiate between one student and another. I would like to see this grant set at a sum on which a student who lived at home and spent economically could live. If students wanted more money they would be able, within reasonable limits, to raise it under a special loans scheme..."⁸²

⁸¹Mallan, John P. op. cit.

⁸²Rudd, Ernst. "Who Pays for Undergraduate Study?" Universities Quarterly, Vol. 25, No. 1, Winter, 1970, p. 56.

This attitude has found its way into American higher education in several forms. One such approach is that of the "tuition tax credit." In this proposal, families receive a tax break for children in college, so that the expense burden will be eased. A recent issue of The Compass reports, for example, that:

"A bill providing tax relief to parents and students who pay the costs of a college education was (again) introduced to the Senate on March 4 by Senator Abraham Ribicoff...Senator Ribicoff first introduced tuition tax credit legislation seven years ago. The measure was voted down by the Senate in 1964 and 1968. It passed in 1967 and 1969 by close votes crossing liberal and conservative lines, only to be rejected by the House in Conference."⁸³

This indirect method of providing student aid has, however, been attacked vigorously on a number of fronts.

Rodney Morrison, for example, states that:

"This plan has several problems, the most serious again being one of equity. Under this plan, families paying the same tuition would receive the same tax credit, but if families differed in income, the family with the lower income would receive the greater relative benefit. The inequity objectionable to most critics arises, however, because to qualify for or to take advantage of this program, one must be on the tax rolls. Thus, families with little or no income would not benefit under this plan. An additional problem of tax credits is that they aid the family. For the institution to derive any benefit from them, it must still raise tuition. Finally, tax credits may significantly erode the tax base, creating a substantial economic problem."⁸⁴

Brannon also comments extensively concerning the

⁸³"Tuition Tax Credit Proposed," The Compass, Vol. 35, No. 4, Washington, D.C., April, 1971, pp. 1, 12.

⁸⁴Morrison, Rodney J. op. cit., pp. 380-381.

inefficiency which would be found in such an approach.⁸⁵ One is struck as well by the "robbing Peter to pay Paul" undertones which are found in such an approach. Overall funds are not increased, they are simply redistributed so to speak.

A similar approach is found in the extension of the "voucher" system to higher education. Here each student and/or family would receive a basic entitlement which could be used for any form of approved training. Such men as Daniere⁸⁶ and Laird and Schilson⁸⁷ introduced this concept to the U.S. in the mid 1960's while the likes of Peacock and Wiseman⁸⁸ and West⁸⁹ were advocating it in Britain. In reviewing the literature some time later, Woodhall concluded:

"They suggested that adoption of a voucher scheme would have the advantages of attracting increased funds for education, increasing consumer choice, and making schools more responsive to parents' wishes."⁹⁰

⁸⁵Brannon, Gerard. "Student Aid In Higher Education: Scholarships, Loans, and Tuition Tax Credits or Deduction," in Taxation and Education, Symposium of the American Alum. Council, Airlie, Virginia, February 7, 1966, pp. 7-9.

⁸⁶Daniere, Andre. Higher Education and the American Economy, New York: Random House, 1964.

⁸⁷Laird, William E. and Schilson, Donald L. "Financing Investment in Education," Journal of General Education, Vol. 17, April, 1965, pp. 55-62.

⁸⁸Peacock, Alan T. and Wiseman, Jack. Education for Democracy: A Study of the Financing of Education In a Free Society, London: Institute of Economic Affairs, 1964.

⁸⁹West, E.G. "Private Versus Public Education: A Classical Economic Dispute," Journal of Political Economy, Vol. 72, October, 1964, pp. 465-475.

⁹⁰Woodhall, Maureen. "The Economics of Education," Review of Educational Research, 1967, Vol. 37, No. 4, p. 393.

More recently still, the Kellett Commission in Wisconsin has called for:

"...a voucher to be given to each student who could use it at his discretion to assist in financing his post-secondary education in either a public or private institution."⁹¹

William Hatch similarly proposes that:

"Our present financial aid system has evolved from attempts to provide for the many, a kind of education which was designed for the few. It is working fairly well within the limits for which it was designed. But, it is hooked to a rocket which has only one direction and which is loaded with passengers who want to go in many directions. It provides assistance only to those who make the socially accepted choice of going to college. I suggest we unhook financial aid from the rocket and tie it to the passengers. I suggest we make available to all young people the financial resources they need truly to choose or create their own brand of opportunity. Quite simply, the financial aid program I envision...would offer all young people in their post-secondary years a federally-financed stipend based on their financial need and high school achievement... To be eligible for an award, the youngster would need only give evidence of having enrolled in some broadly defined training capacity."⁹²

Parenthetically, he adds:

"I'm well aware what the program I propose means for the careers of my fellow financial aid officers. It means kaput."

⁹¹"New Higher Education Financing Proposed in Wisconsin," Compact, February, 1971, Vol. 5, No. 1, pp. 28-30.

⁹²Hatch, William T. "Could This Financial Aid Plan Help End Student Unrest?" College Board Review, No. 72, Summer, 1969, pp. 22, 24.

Use of educational vouchers for post-secondary study has also been supported in general terms by several other authors.⁹³

James Tobin, similarly, has suggested a National Youth Endowment Program, which actually combines the voucher type methodology with the loan approach previously discussed. Under this plan, every citizen would be provided with some \$5,000 in government post-secondary educational credit at high school graduation or at age 19. These funds could be utilized as desired for a wide variety of collegiate or vocational training, with repayment beginning at age 28.⁹⁴

⁹³See for example:

a. A Forward Look, Final Report of the Governor's Commission on Education, Madison, Wisconsin: State of Wisconsin, 1970.

b. Owen, John D. "The Economics of College Scholarship Policy," Social Research, Vol. 39, No. 4, Spring, 1972, pp. 53-69.

c. The Voucher System and Higher Education In New York State, Albany, New York: New York Department of Education, Bureau of Research in Higher and Professional Education, 1970.

d. Upton, Miller. "G.I. Bill for All Students," College and University Business, No. 43, November, 1967, p. 41.

e. Wish, John R., Cooke, Romney W., and Maltby, Gregory P. "If Private Colleges Are Pricing Themselves Out of the Market, A Voucher Plan Could Save Them," College and University Business, Vol. 52, No. 5, May, 1972, pp. 8-14.

⁹⁴Tobin, James. "Raising the Incomes of the Poor," in Agenda For The Nation, Kermit Gordon, (ed.), Washington, D.C.: Brookings Institute, 1968.

Moving one step further in this regard, Greising even suggests that high risk students be paid a regular hourly wage for their study time as an added incentive for academic success.⁹⁵

When questioned as to the cost involved in such massive "gift aid" programs, the response usually takes the form of comparisons. Hatch, in the College Board article just cited (see footnote 92), for example, retorts:

"If there are questions about the staggering cost of such a program, let thought be given to the cost of war. Let thought be given to the staggering cost to the emotional and mental well-being of this nation when the choices for entry into society have been reduced to two: going to college or into military service. Let thought also be given to the cost of the rehabilitation and welfare programs which are now necessary to correct lives gone awry for lack of such a program... For those who need dollar comparisons...when fully mounted, the program would be costing slightly over \$6.5 billion per year. This is about one-fifth the annual cost of fighting the Viet Nam war...about 65 hundredths of 1 per cent of the estimated gross national produce by 1971."

Others criticize this approach as well, on the grounds that vouchers would siphon off other educational resources, support racist sectarian ventures, uproot the economics of scale assured outside of the marketplace, fragment current programs, destroy long-range planning, lead to government control through institutional licensing, lessen access by supporting undemocratic efforts, etc.⁹⁶ Again, however, the pros and cons stressed seem to flow from the differing

⁹⁵Greising, Robert A. "The High-Risk Student," Central Association Quarterly, Spring, 1969, No. 43, pp. 328-334.

⁹⁶"Boardmen Can't Think of One Good Thing To Say About Voucher Plans," American School Board Journal, Vol. 158, No. 4, October, 1970, pp. 33-37.

a priori assumptions discussed above; and the final reconciliation will have to reflect a change on this level based upon the weight of research evidence.

In this same arena, Goldman offers a somewhat novel approach, which he terms "life-span educational insurance."⁹⁷ Paralleling the G.I. Bill in administration, he proposes an educational adjunct to current social security legislation. Through increased social security rates and a generous contribution from "general funds" he would insure an educational dowry for each citizen which could be utilized at his discretion. This program would be implemented by the Social Security Administration and would be applicable for a wide variety of post-secondary programs. He sees the advantages of such a program in terms of increased individual earning power, and productivity, less welfare, and enhanced social development. Goldman also perceives it as a method of forced savings which could be tapped for income in later years if never utilized for education. Again, however, the funding question becomes critical. Goldman admits that:

"A large part of the Life-Span Educational Insurance Program would necessarily have to be public, with resources drawn from the general revenues."

Since the individual, under this program, though, would be underwriting at least a portion of his additional educational costs via increased social security payments, it really falls between the first and third segments of our philosophic

⁹⁷Goldman, Ralph M. "Life-Span Education Insurance: A Proposal," Educational Record, Vol. 51, No. 1, Winter, 1970, pp. 60-65.

matrix.

Moving next to the fourth and final section of the conceptual matrix (Roman Numeral IV), therein is found suggestions which underscore the social benefit of higher education and simultaneously seek to withhold it from the student marketplace. Thus, it would be primarily society's responsibility to meet the rising costs of higher education, and to do so in a way which would not result in consumer control and manipulation.

One such approach, of course, would be the initiation of direct across-the-board institutional grants which would be nondirectional in nature. Here the school would receive unfettered funds via direct government subsidy which should, in theory at least, help cover mounting operating expenses so that the consumer would not suffer from inflated prices. The various pros and cons of direct institutional subsidy have been discussed earlier in terms of the "benefit" theory. Therefore, this suggestion will not be opened again here except for a brief reiteration of Morrison's concerns:

"Simply stated, if the government provides more of the budget, it will have more to say on how the money is spent (regardless of initial overtones). Beyond this very broad complaint, there are some specific problems of direct Federal grants: they reallocate resources appropriate for teaching, they tend to be concentrated in a few institutions, and those institutions that receive the grants are not always those that produce the best results... Thus, as the government enters more deeply into the field of education, administrative costs rise; as the programs proliferate, they lead to increased gamesmanship by colleges and universities as they attempt to get on the bandwagon. And once having acquired a grant, many institutions find that their costs of operation rise, as they must commit additional resources to implement the grant... In addition...when tax dollars are given to an institution, a substantial inequity arises because all strata of society are taxed to provide funds for institutions attended by only part of society's members."⁹⁸

Clark Kerr ponders some of the ramifications of these same concerns:

"Across-the-board grants to institutions pose the most perplexing problems, for so much depends on the formula... Whatever the formula (though), some observations can be made about institutional grants. Institutions would gain autonomy in the sense that they could set their own internal priorities, but they could lose independence relative to the power of a single dominant source of federal funds. By contrast, federal aid through the hands of students yields the same autonomy with the same risk of loss of independence... In light of these considerations, I would presently suggest (the) ...careful study of the aid to institutions (alternative)."⁹⁹

There also have been, however, a number of other rather innovative suggestions in this area, which would increase institutional resources more via the private community itself.

⁹⁸Morrison, Rodney J. op. cit., pp. 380-381.

⁹⁹Kerr, Clark. "The Distribution of Money and Power," The Public Interest, No. 11, Spring, 1968, pp. 100-104.

Morrison's "negative income tax" proposal is one such idea that has already been alluded to briefly. Morrison describes his proposal as follows:

"If the assumption that educational institutions are not profit oriented but could act as if they were could be accepted for tax purposes, several changes would occur. The negative tax plan would consider as income only tuition, investment income, and income from ancillary enterprises. Donations would be excluded, since most are added directly to the endowment. To tax them when they are given would amount to double taxation. All institutional costs would be recorded, including the capital charges, presently exempted because of the institutional tax-exempt status. With the true costs of a college education reflected in this new accounting system, most institutions would show operating losses. (The cost of converting to a new accounting system could be financed by a one-shot Federal grant.) Given these losses, the principle of the negative income tax could be applied. Under this plan, a progressive system could be initiated in which institutions suffering operational losses would receive a certain proportion of their deficit as a Federal subsidy. If the institution improved its operation in the next year, it would still receive a subsidy, but of a diminished amount. To provide an incentive to improve, the plan would also include provisions for a bonus payment to those institutions that reduced their deficits. If an institution reached the break-even point, it would be eligible for a grant equal to some proportion of its average annual deficit over the period in which it had participated in the program... Those institutions showing a positive balance would, of course, be tax exempt... To avoid the problem of institutions that intentionally incur deficits, the plan could provide that an institution showing no improvement over a stipulated period could expect a sharp reduction in its subsidy... The plan could (also) stipulate that institutions suffering reversals could expect diminished rather than increased subsidies (so that bonuses could not be played effectively against deficits)... Similarly, institutions achieving a balance (could be made ineligible for the plan for a stipulated period)... (Thus) as soon as institutions were able to balance their budgets, their dependence upon the public fisc would be ended."¹⁰⁰

Morrison's proposal combines new methods of institutional

¹⁰⁰Morrison, Rodney J. op.cit., pp. 383-384.

utilization of public subsidy funds with some of the more established tax provisions for private enterprise.

Blanchard, speaking directly to the private college, on the other hand, moves entirely into the private sector for his proposal. He suggests that institutions attempt to make greater use of existing tax provisions by more extensively operating separate businesses and liquid asset investments.¹⁰¹ Wireman and McLean suggest somewhat the opposite approach whereby institutions could supposedly gain additional resources by "selling themselves" to corporations as "fringes." Here it is hypothesized that institutions attach themselves symbiotically to corporations, providing special benefits for employees in return for institutional support.¹⁰² Elliott adds that in his opinion, "...education for the poor and affluent alike would be spurred along if our society could bring greater competition into the educational mainstream by encouraging profitmaking educational venture."¹⁰³

These latter approaches parallel the business community and would certainly warrant much more evaluation prior to any consideration for actual experimental adoption. To say the least, those fearing university control by that greatest of

¹⁰¹Blanchard, Donald E. "Innovative Financing Policies May Keep Colleges In Business," College and University Business, Vol. 49, No. 2, August, 1970, pp. 34-37.

¹⁰²Wireman, B.O. and McLean, E. "Private Colleges Could Sell Themselves As Corporate Fringe Benefits," College and University Business, Vol. 46, No. 3, March, 1969, pp. 73-74.

¹⁰³Elliott, Lloyd H. "Education At A Profit?" Educational Record, Vol. 51, No. 1, Winter, 1970, pp. 53-56.

all bogeymen, the "military-industrial complex," would have their fondest prophecies answered, should Wireman and McLean's proposal win popular support. The above proposals serve only as a brief example, however, representing a literal plethora of articles on increased university subsidy via the private industrial community, which have recently appeared. This area seems destined to receive much more exhaustive scrutiny in the future.

In summary, then, returning briefly to the original outline posited, containing the two basic philosophic constructs of benefit and marketplace; these parameters have been used to characterize a sampling of the various alternative student aid proposals which are now being put forth. The previous skeleton can now, therefore, be filled in as follows:

		<u>Benefit</u>		
		Student	Society	
<u>Marketplace</u>	I Open	1. Loans 2. Deferred Costs 3. Full Price Education	1. Grants to Students - Vouchers 2. Family/Student Tax Credits 3. Direct Scholarships on Grants to Students 4. Youth Endowment 5. Life Span Education Insurance	III
	II Closed	1. Work-Study 2. Life-long Education Concept	1. Grants to Institutions 2. Tax Options 3. Industrial Connections	IV

MARKETPLACE

This quadrant puts emphasis upon student benefit and an open competitive market regarding post-secondary education. Thus, the student is expected to pay most of the costs and is assisted, where necessary, directly to give the consumer control over educational choices. Proponents argue for full-cost tuition and a system of loans and deferred costs options to assist needy students. (student)	(open competitive) This quadrant puts emphasis upon societal benefit and again the open competitive market stance. Thus, society should pay most of the costs of post-secondary education and resources should go directly to students for consumer control. Proponents argue for low-cost tuition and a system of student vouchers, tax credits, endowments, and/or direct student scholarships and grants to assist needy students. (society)	B E N E F I T
This quadrant puts emphasis upon student benefit and a closed protective marketplace for post-secondary education. Thus, the student should pay most of the bill and aid sources should be channeled through institutions themselves. Proponents argue for full-cost tuition along with institutionally-based work-study student aid where needed.	This quadrant emphasizes societal benefit and a closed market system. Thus, society should pay most of the bill and direct student aid should be channeled through the institutions themselves. Proponents argue for aid funds for administration at the institutional level, and a system of broad unrestricted institutional grants and/or private tax incentives. (closed protective)	

Proponents of these various approaches are saying, in effect, that they recognize the current fiscal crisis institutions and students face in higher education and would propose the above alternatives as more equitable and efficient methods of dispensing the limited student aid available.

It is evident, however, that these answers, in many cases, appear somewhat extreme; each aligning itself at a

somewhat specific point within the philosophic schema that has been developed. Compromise and synthesis, however, have traditionally been integral parts of the American higher education dialectic. It is, in fact, in this spirit of eclecticism that the current student aid programs have been developed. They combine student loans, student grants, work-study programs, and selective institutional grants and loans in an attempt to speak to many needs in many ways. Many authorities support some version of this current aid pattern and feel that most of the problems which have been cited could be overcome with adequate increased funding, use of the "correct" percentage distribution of existing aid types, and the development of a plan for continuous program research and review. Many reports are available which promote this type of position.¹⁰⁴

¹⁰⁴See for example:

a. Bowen, Howard R. The Finance of Higher Education, Berkeley, California: Carnegie Commission on the Future of Higher Education, 1968.

b. Bowen, Howard R. and Bowen, William G. "Financing Higher Education: Two Views," Association of Governing Boards Reports, Vol. 10, No. 9, June, 1968.

c. Byrnes, James C. and Tussing, A. Dale. The Financial Crisis In Higher Education: Past, Present and Future, Washington, D.C.: Government Printing Office, December, 1971.

d. Cartter, Allan M. "Student Financial Aid," in Universal Higher Education: Costs and Benefits, Washington, D.C.: ACE, 1971, pp. 107-122.

e. Farrell, Robert L. and Anderson, Charles J. "General Support for Higher Education: An Analysis of Five Formulae," Washington, D.C.: ACE Committee Paper, August, 1968.

f. "Federal Funds," American Education, August-September, 1970, p. 17.

g. "Federal Programs For Higher Education - Needed Next Steps," ACE Policy Statement, op. cit.

h. Financing Equal Opportunity In Higher Education, New York: College Entrance Examination Board, 1970.

i. "Governor's Message and Charge to the Commission on Higher Education," Executive Office, Lansing, Michigan, January 24, 1973.

j. Henry, Joe B. "Trends In Student Financial Aid," Journal of College Student Personnel, Vol. 10, No. 4, July, 1969, pp. 227-234.

k. Higher Education and National Affairs, Vol. 20, No. 22, June 11, 1971.

l. Higher Education: Who Pays? Who Benefits? Who Should Pay?, Recommendations from forthcoming Carnegie Commission Report as reported in The Chronicle of Higher Education, Vol. 7, No. 38, July 16, 1973, pp. 1, 4.

m. "Higher Education: Will Federal Aid Favor Students or Institutions?" Science, Vol. 171, March, 1971, pp. 1219-1221.

n. Mallon, John P. op. cit., pp. 1-5.

o. MASFAA Newsletter, May, 1971.

p. Orwig, Melvin D.F. (ed.) Financing Higher Education: Alternatives For the Federal Government, Iowa City, Iowa: ACT, 1971.

q. Post-Secondary Educational Opportunity: A Federal-State-Institutional Partnership, (A Report of the Task Force on Student Assistance), Denver, Colorado: Education Commission of the States, Report No. 20, February, 1971.

r. Proceedings: A Symposium On Financing Higher Education, Miami Beach, Florida: Southern Regional Education Board, December 6, 1969.

s. Quality and Equality: New Levels of Federal Responsibility for Higher Education, op. cit., 1970.

t. "Recommendations for National Action," A statement adopted jointly by the National Association of State Universities and Land-Grant Colleges and the American Association of State Colleges and Universities in School and Society, Vol. 99, October, 1971, pp. 379-381.

u. "Report of the Committee on Student Economics," New York: CEEB, 1972.

v. Report of the North Carolina Legislative Study Commission on Student Financial Aid, Parts One and Two, Raleigh, North Carolina: North Carolina Board of Higher Education, September, 1970 and March, 1971.

w. Shulman, Carol H. Financing Higher Education, Washington, D.C.: ERIC Clearinghouse, Report No. 3, March, 1971.

x. Sparrow, Frederick T. "Future Income As A Factor In Student Aid," College Board Review, No. 56, Spring, 1965, pp. 33-36.

y. Steif, William. "Who Pays For Rising College Aspirations," College and University Business, Vol. 46, No. 6, June, 1969, pp. 81, 102.

z. Students and Buildings: An Analysis of Selected Federal Programs for Higher Education, Washington, D.C.: Government Printing Office, May, 1968.

aa. Studies of Student Financial Aid Programs and Needs In Florida, Tallahassee, Florida: Department of Education, Division of Elementary and Secondary Education, 1970.

bb. Thackrey, Russell I. Thoughts on the Financing of Higher Education, Washington, D.C.: NASULGC, October 12, 1968.

cc. Thackrey, Russell I. What's Behind the Rising Cost of Education? Washington, D.C.: National Association of State University and Land Grant Colleges, 1971.

dd. Toward A Long-Range Plan for Federal Financial Support for Higher Education: A Report to the President, Washington, D.C.: Government Printing Office, January, 1969.

As Millett asks:

"Who should pay for the higher education costs of instruction? The answer is both student and society. But in public higher education I expect the distribution of these costs between student and society to change in the decade of the 1970's."105

Beck similarly contends that actually:

"From the standpoint of equity and efficiency in the investment of resources in higher education, both institutional appropriations and student financial aids have certain merits. The author maintains, however, that society is best served by a diversified system of higher education and financing of higher education similar to the one we now have where the costs and benefits to the individual and society are of the same order of magnitude. To insure this diversity, the financial supporters of higher education should be kept so numerous as to prevent any one contributor from assuming economic control."106

ee. Trimble, Val. "Student Financial Aid, What, Where, How," American Education, Vol. 5, No. 2, February, 1969, pp. 7-8.

ff. Various articles in The Economics and Financing of Higher Education in the U.S., A compendium of papers submitted to the Joint Economic Committee of the U.S. Congress, Washington, D.C.: Government Printing Office, 1969.

gg. Ward, Robert C. "Long Range Planning--Finances and Higher Education," paper presented at the Council for Business Officers Conference of the ASULGC, Chicago, Illinois, November 9 - 12, 1969.

105Millett, John. "Who Should Pay?" Journal of Higher Education, Vol. 43, No. 7, October, 1972, p. 516.

106Beck, Norman E. A History of Modern Student Financial Aids, Thesis, Ball State University, 1971, (abstracted in Dissertation Abstracts, p. 1309-A).

Bowen and Serville likewise conclude that:

"In general, those who think the student share should be increased place a relatively low valuation on the social benefits and tend to ignore foregone income. They believe that social benefits are not significant at the margin and that society gains little by encouraging the extension of higher education through low tuitions. Some would deal with the problem of equality of opportunity through grants based on a means test and some through loans. Some of those who think the student share should be increased believe that higher education would be more flexible and responsive to student needs if the bulk of its finance came from students in the form of tuitions rather than from government and philanthropy. Some--especially hard-pressed public executives and legislators--would like to remove the mounting costs of higher education from public budgets by shifting the burden to students and their families --presumably with massive loans financed by the private capital market.

"Those who think the share borne by students and their families should be reduced (or held steady) believe that social benefits are substantial and that foregone income is a significant cost. They tend to be more concerned about justice achieved by distributing the load in proportion to total benefit than by considerations of marginal social benefits. They are concerned that the use of loans to finance students will restrict opportunity for those of low income. They are concerned with the possible inequity of forcing the present generation of low-income students (many of whom happen to be of minority races) to take loans whereas previous generations of low-income students who happened to be white enjoyed very low or zero tuitions. They also believe that academic policy should be determined to a significant degree by professional decisions of faculty and administration and that no single group of outsiders--whether government, donors, or students--should become predominant in the finance of higher education. This view leads to advocacy of the present mixed system of finance in preference to a system where students become the main vehicle by which funds are conveyed to colleges and universities. They point out that from the social point of view no basic purpose is served by transferring the costs from public to private accounts, since the costs are still there and must be met.

"The controversy is basically one of values and judgments. Neither side can overwhelm the other. At the moment, the political forces and practical budgetary considerations are causing a sizeable shift to higher tuitions in the finance of institutions and to loans in the finance of students. When one considers

the various elements in the total cost of higher education including foregone income, these shifts have so far been rather modest on a percentage basis.

"Basically the finance of American higher education continues to be a mixed system comprising for institutions a combination of tuitions, public appropriations, private philanthropy and for students a combination of loans, grants, work, family contributions, and foregone income. This system has evolved to meet the exigencies of institutions and students and it has been a product of the complex cross-currents of American politics. The system is not tidy; it is based on no single ideology; it is full of compromises; and it is hard to understand. It fully pleases no one.

"Yet it does apportion the costs to benefit in a rough and ready fashion; it opens up opportunity as shown in the past several decades; it supports a system of higher education that is lively, progressive, and effective (despite its faults); it provides a mixture of financial sources that encourages institutional diversity and academic freedom. To make an air-tight and compelling argument for fundamental or radical change in either direction is difficult."¹⁰⁷

The same essential posture is put forth by Marion Folsom in the statement that:

"The financial support of higher education is a patchwork quilt. This support is drawn from virtually every known source... This patchwork quilt...is no jumble of confusion. Instead, it is a significantly complete list of the groups that form the broad base of support for higher education in our society... It is true that 'he who pays the piper calls the tune.' The integrity of higher education is ensured by the fact that no one group is really paying the piper and thus no one group can 'call the tune.' This broad base of support ensures that our system will remain free of a single, limiting educational creed. And this, in a sense, is the genius of American education--that there is no single interest, no one creed or dogma, that might stifle the freedom and independence we as a people cherish."¹⁰⁸

¹⁰⁷Bowen, Howard R. and Serville, Paul. Who Benefits From Higher Education - Who Should Pay?, Washington, D.C.: AAHE, August, 1972, pp. 35-36.

¹⁰⁸Folsom, Marion B. "Who Should Pay For American Higher Education?" in Economics of Higher Education, Selma J. Mushkin, (ed.), Washington, D.C.: Government Printing Office, 1962, p. 195.

Finally, this attitude is similarly pointed out in economic terms by Roger Bolton in his statement that:

"In the end education's external benefits cannot be exactly calculated, neither the benefits of a 'better society' nor the (general) economic benefits of 'more rapid growth'... It is clear, however, that a large part of education's benefits are private, and in that society can reasonably expect individuals to finance a significant part of the costs, because they get a significant part of the returns.¹⁰⁹

The need for balance again is cited in similar terms by Thackrey's conclusion that:

"I submit that, in terms of economic efficiency, widening educational opportunity, and responding to student needs, there is no evidence that student aid alone is superior to a combination of student aid and institutional support."¹¹⁰

Thus, there appears to be extensive support as well for continuation of some variation of the current eclectic approach to student financing.

In summary, the above discussion builds a conceptual matrix for the overall review of both the current approach to student funding and several of the more popular alternatives presently being considered. It is noted in this regard that the present mixture of approaches brings a delicate balance to the student aid scene that is in many respects highly desirable and likely to be continued in some fashion.

¹⁰⁹Bolton, Roger E. "The Economics and Public Financing of Higher Education: An Overview," in previously cited Joint Economic Committee Papers, p. 37.

¹¹⁰Thackrey, Russell. "Aid To Students-and To Institutions...", Educational Record, Vol. 53, Winter, 1972, p. 29.

It is within this complex structural milieu or scope of assistance options and patterns that student financial aid administration operates; using the key vehicle of "needs analysis," which is the center of this study, to bring this great variety and range of resource options to bear on qualified students. To fully appreciate the crucial role which needs assessment has to play in this process, however, the historical development of the aid administration field must also be briefly considered.

Historical Development of the Student Aid Field

(The Beginnings)

Student financial aid has, of late, taken a variety of sophisticated forms, as demonstrated by the theoretical matrix delineated previously in this chapter. However, the basic concept of student assistance has been present from the earliest days of American higher education. Rudolph states in this regard that really:

"Very few young men and women have paid their (entire) way through an American college or university. Many have been allowed to think they have, but the truth of the matter is that for a very long time and for very good reasons, higher education in the United States has been a major philanthropic endeavor."¹¹¹

According to Orwig, the financial barrier to post-secondary study in America was recognized from the outset and dealt with initially via reduced or waived tuitions, living

¹¹¹Rudolph, Frederick. "The Origins of Student Aid In the United States," in Student Financial Aid and National Purpose, New York: CEEB, 1962, p. 1.

arrangements with faculty, employment provisions, etc.¹¹² Moon indicates that the very earliest direct monetary financial aid efforts in the United States occurred in the late 1600's, were completely centered in the colleges themselves, and were maintained largely from institutional donor funds.¹¹³ Van Dusen adds that the first documented scholarship fund was actually recorded in 1643 when Lady Mowlson gave Harvard College "...the full and entire somme of hundred pownds current English money...to aide some poore schooler..."¹¹⁴

The total impetus for this early movement, however, is less than clear. Rudolph, for example, labels this move "...an act of Christian benevolence," and emphasizes that it demonstrates inherently egalitarian spirit of higher education in the United States. He states that:

¹¹²Orwig, Melvin. Toward More Equitable Distribution of College Student Aid Funds, Iowa City: ACT, 1971.

See also:

Brubacher, J.S. and Rudy, W. Higher Education In Transition, New York: Harper and Row, 1958.

¹¹³Moon, Rexford G. Student Financial Aid In the United States: Administration and Resources, Princeton, New Jersey: CEEB, 1963, p. 9.

¹¹⁴Van Dusen, William D. "Toward A Philosophy of Student Financial Aid Programs," National Association of Student Personnel Administration's Journal, Vol. 4, No. 1, July, 1966, p. 3.

"The college was not to be an institution of narrow privilege. Society required the use of all its best talents, and while it would, of course, always be easier for a rich boy than a poor boy to go to college, persistence and ambition and talent were not to be denied. The American college, therefore, was an expression of Christian charity, both in the assistance that it gave to the needy young men and in the assistance that it received from affluent old men."¹¹⁵

Van Dusen and O'Hearne concur, stating that:

"Early programs of student financial aid were begun with money given to the college by private individuals specifically to aid needy and worthy students; and in many instances those funds were supplemented by allocations from the general funds of the institutions themselves. The original purpose of student aid was to make a college education available to those individuals who could not themselves afford to pay the costs."¹¹⁶

Less optimistically, Moon concludes that there were really two purposes for this action:

"Firstly, they were purposely aimed at assuring a modest representation of impecunious students in a student body largely composed of only the affluent class. This was done to protect the college from undue criticism for snobbishness. Second, these funds provided a means by which colleges could attract a sufficient number of students to keep themselves in operation."¹¹⁷

In a separate source Rudolph also concedes the possibility that the motivation for establishing these initial student aid resources was less than totally altruistic. He notes there that faculty themselves may well have played a role in initial student aid development, having become

¹¹⁵Rudolph, Frederick. The American College and University, New York: Alfred A. Knopf, 1962, pp. 177-178.

¹¹⁶Van Dusen, William and O'Hearne, John. A Design For A Model College Financial Aids Office, New York: CEEB, 1968, p. 2.

¹¹⁷Moon, Rexford. op. cit., p. 9.

dissatisfied with their own poverty condition and mounting unpaid student bills.¹¹⁸

While the ultimate motivations involved remain unclear, the concept of direct monetary student financial aid had been born. It is important to emphasize also, at this juncture, that as originally conceived, student aid was implicitly based upon need. Of course, it was not the sophisticated concept of empirically demonstrated need, based upon intricate uniform procedures that is known today; but the intuitive priority of giving these funds to destitute students was present from the start. Van Dusen and O'Hearne note accordingly that:

"As the term scholarship was used initially in connection with student financial aid, it meant a gift of money granted to a student who could not otherwise afford to attend college."

They add that:

"This original emphasis on student financial need continued through the years until the 1940's, although it is also true that during much of this time alterations and embellishments were made in the institutional practices. These alterations were made in an effort to serve national and institutional purposes through student financial aid while at the same time enabling needy students to attend college."¹¹⁹

Several other facets of the student aid spectrum could also be identified prior to the Civil War.

First in this regard was the continued emphasis upon

¹¹⁸Rudolph, Frederick. "The Origins of Student Financial Aid In the United States," Student Financial Aid and National Purpose, New York: CEEB, 1962, p. 4.

¹¹⁹Van Dusen, William and O'Hearne, John. op. cit., p. 2.

student self-help, as an integral part of their financial aid. Mueller notes that:

"...self help was a characteristic of American college students in the earliest days of higher education in this country."¹²⁰

Secondly, in addition to private philanthropy and institutional funds, state governments also began to enter the student financial aids field at this time. Rudolph reports, for example, that Harvard, Yale and Columbia could not have survived the Colonial period without help from the State.¹²¹ Giddens also chronicles a number of direct state student scholarship ventures which were initiated during this general period.¹²²

Finally, the movement of early private professional groups, and other community sources into the student aid realm, can also be noted at this juncture. Allmendinger notes, in this regard, that during the 1700's when institutions themselves seemed to temporarily falter in their commitment to poor scholars, there developed outside its walls student support from a variety of professional societies and

¹²⁰Mueller, Kate H. Student Personnel Work In Higher Education, Boston: Houghton Mifflin, 1961, p. 467.

¹²¹Rudolph, Frederick. The American College and University, New York: Alfred Knopf, 1962, p. 185.

¹²²Giddens, Thomas R. "The Origins of State Scholarship Programs: 1647-1913," College and University, Fall, 1970, Vol. 46, No. 1, pp. 37-45.

benevolent organizations which, to that point, had not focused their attention in that direction.¹²³

Thus, by the beginning of the Civil War, many of the major factors present in student aid today were already on the scene. The concept of need and its implicit reflection upon family responsibility had been at least informally broached. The validity of the self-help concept had been fully established. Student aid resources had begun to flow from private individual donations, institutional resources, private organizational philanthropic sources, and state governments. Only the federal government had yet to make major entry into this milieu.

(From the Civil War to 1945)

One of the first movements away from the concept of awarding student aid on the basis of need came at the close of the Civil War, whereupon many small private schools, in an effort to raise money, actually sold perpetual scholarships for free attendance to wealthy patrons. These awards were to be held in perpetuity for the person or persons of the patron's designation. Rudolph describes this scheme as

¹²³Allmendinger, David Frederick, Jr. Indigent Students and Their Institutions, 1800-1860, Ph.D. Thesis, University of Wisconsin, 1968.

follows:

"The perpetual scholarship was a particularly attractive idea to the colleges because it promised to solve their basic problems; it would give the colleges the funds that they badly needed in order to stay open, and it would provide them with an immediate supply of students who would justify their being open at all.

"Of course, like so many other get-rich-quick schemes to which Americans turned in the nineteenth century, the perpetual scholarship idea did not work... Not only were the collected funds frittered away, but great numbers of tuition-free students now knocked at college doors and became one more drain on limited resources. The situation at De Pauw became so unwieldy that in 1873, in order to invalidate the perpetual scholarships sold in earlier days, the college simply adopted a universal policy of free tuition and substituted a schedule of miscellaneous fees."¹²⁴

This mechanism was obviously self serving, with any benefits which might precipitate to needy students being purely coincidental.

Student aid developments from this stage on, seemed to take two distinct paths, one supporting the overall concept of need in student assistance and the other beginning to erode this focus.

Firstly, many efforts can be identified during the 1800's which supported the concept of need in student assistance. These were not always successful, but the motivation in each case was clear. One such group of activities can be categorized as self-help ventures, designed to lower the cost of attendance for poor students. For this purpose, separate low-cost dorms and dining halls were proposed.¹²⁵ Similarly,

¹²⁴Rudolph, Frederick. op. cit., pp. 191-192.

¹²⁵Rudolph, Frederick. "The Origins of Student Financial Aid in the U.S.," op. cit., pp. 1-11.

the Manual Labor Movement of the 1830's arose, designed to not only cut costs by systematically providing work assignments, but also give students practical skills and provide healthy exercise.¹²⁶ In like manner, the 1900 Yale Self-Help Bureau was established, to give poor students first preference in locating term-time jobs.¹²⁷

Van Dusen and O'Hearne similarly note that:

"The continued emphasis on the need of the student as a criterion for selection for assistance during those years was evidenced by the establishment of funds by fraternities for indigent members, the arrangement of textbook loans for needy students, the operation of special dining halls for the poor, and the introduction of manual labor programs for students."¹²⁸

Another largely need-oriented factor which was introduced at this juncture was the concept of student loans. Loans, however, were introduced not only because of a lack of scholarship funds, but because it was felt that they were less likely to adversely affect the student's character.

Rudolph notes, here, that:

"In the estimate of New York's Governor Lucius Robinson in 1877, loans taught obligation, while scholarships and other forms of free higher education might fill the masses with discontent, unsettle their purposes and destroy their initiative."¹²⁹

¹²⁶Ibid.

¹²⁷Rudolph, Frederick. "Myths and Realities of Student Aid," College Board Review, Fall, 1962, No. 48, pp. 18-23.

¹²⁸Van Dusen, William and O'Hearne, John. op. cit., p. 3.

¹²⁹Rudolph, Frederick. "The Origins of Student Financial Aid in the U.S.," op. cit., p. 8.

The reaction here, however, was the opposite of that which was expected. The implications of inferiority contained in the disparity between wealthy students, with their extravagant living patterns, and poor students forced to eat and live under segregated second-class conditions, spend long hours at menial low-paying tasks, and take out loans, proved too overwhelming to many. In this regard, Rudolph comments:

"In his inaugural address of 1869 at Harvard, President Eliot remarked that 'no good student need ever stay away from Cambridge or leave college simply because he is poor.' This ideal remained the goal of probably every American college and university, private and public, and it often came close to being real because in the decades after the Civil War, American institutions of higher learning were able to draw on the resources of the country's first great crop of millionaires... This very wealth that accelerated the growth of scholarship funds, however, created, on the campuses, conditions of economic and social disparity that in themselves demanded new approaches to student aid. Wealthy students tended to raise the standards of living beyond the reach of young men and women of humble origin, and a variety of devices, none of them altogether successful, was seized upon to enable poor boys to pursue their studies without undue economic stress."¹³⁰

This apparent overuse of self-help provisions for needy students evidently carries with it ramifications which student aid policy makers would do well to keep in mind today. Overuse of this aspect of need based aid, which tends to segment and demean the recipient, thus unfortunately began to help erode the entire concept of need based assistance.

At the same time, a variety of new proposals were also compromising the need basis of operation in student assistance.

One such move accompanied the industrial revolution

¹³⁰Ibid., pp. 7-8.

which began to blossom in full after the Civil War. With it came increased demand for scientific and technological education. This trend prompted the Morrill Act, the federal government's first major thrust into the field of post-secondary study. Through this act, the federal government poured extensive resources into the creation and development of low-cost public land-grant colleges. The effect of this action in terms of student aid was twofold. First, the broad institutional grants provided low-cost education irregardless of need; and second, it forced the private schools into a more competitive stance requiring that their student aid resources be used more for the institutional purpose of survival than for the purely philanthropic goals of helping the needy.

Another move which helped to break the implicit need base of student aid, was the action of many state legislatures after the Civil War in providing free tuition for veterans at state universities.¹³¹

While in this case the benefits actually went to poorer citizens most of the time due to the inconsistencies in military service obligations, the premise of non-need based aid was established. This principle would again arise in a more extensive way later with the federal G.I. Bill.

The remaining development of student financial aid administration from after the Civil War period to 1945 is somewhat unclear.

¹³¹Ibid., p. 7.

As Bekkering notes:

"The development of student financial aid from the post Civil War until the end of World War II is sketchy and unclear, but three distinct types of aid seem to have emerged: the scholarship or grant, the loan, and part-time on-campus or off-campus employment."¹³²

In addition, it can be noted that all major aid sources that are known today were already on the scene. These include family expectations, student self-help, private philanthropy, institutional funds, state resources, and federal funds. The major philosophic battle that seemed to be waging throughout this period was over the relative importance of the primacy of a need basis for student assistance. Early movement in both directions is noted above, and these trends continued through 1945.

The hard economic times of the depression, for example, spawned numerous need based programs for students on both the state and federal levels. Mueller notes in this regard that:

"During World War I the public became educated to the use of subsidies to solve the economic problems of both individuals and the nation. The depression of the thirties accelerated many kinds of social planning: state-wide scholarship projects; federal underwriting of student employment (NYA); appeals to benefactors of all kinds, including industry, alumni, religious and club groups, and large-scale cooperative housing projects and work-study programs."¹³³

Lyon chronicles a number of the federal student support efforts that were undertaken during this period to aid

¹³²Bekkering, James. op. cit., p. 12.

¹³³Mueller, Kate H. op. cit., p. 468.

destitute students.¹³⁴

The need theme was also essentially supported by President Eliot at Harvard in his early book on administration. Therein he states that:

"In Harvard College...there are both honorary and stipend scholarships, an honorary scholarship being conferred on every student having no need of pecuniary aid, who stands as high as, or higher than, the lowest scholar in his class who receives a stipend scholarship."¹³⁵

Despite these essentially need based emphases, however, Smith notes that by 1936 scholastic ability had become the most frequent basis of scholarship selection, with both test scores and grades being used to measure this ability. Smith urges that loan and scholarship resources should be granted on the basis of both ability and need, rather than ability alone.¹³⁶

(1945 through the present)

The next major development in the student aid field came with the federal government's G.I. Bill which was created at the end of World War II. The Servicemen's Readjustment Act was formally enacted in 1944. This program was developed specifically to help students whose education had been interrupted by military service. Undoubtedly, the

¹³⁴Lyon, Bruce W. The Federal Government and College Students During the Great Depression, Thesis, Ohio State University, 1969.

¹³⁵Eliot, Charles W. University Administration, Boston: Houghton Mifflin, 1908, p. 215.

¹³⁶Smith, M.R. "Student Aid," Journal of Higher Education, 1936, Vol. 7, pp. 29-35.

availability of these resources brought many previously uninterested students to the campus, and the popularity of the program became extensive. Mueller indicates that:

"The G.I. Bill subsidized so many veterans and involved such a large proportion of the citizenry in educational grants that public suspicion changed to public demand almost overnight."¹³⁷

West documented that actually:

"In 1946, 52% of all college degree seeking students were veterans, receiving assistance through the G.I. Bill; in 1947 they were 53%; 44% in 1948; 37% in 1948; and 27% in 1950."¹³⁸

These percentages show the extensive impact which these non-need based resources had on the college scene.

The extensive G.I. Bill funds suddenly available actually served to "free up" many institutional student aid resources which to that point had been at least in part utilized for needy students. Van Dusen and O'Hearne note in this regard that:

"Many institutions found that the amounts of scholarship funds that had been used to support needy students were no longer required for that purpose, and those colleges began to use their funds to attract and award students possessing academic or other special talents with little or no regard to the financial conditions of such individuals. The term scholarship thus gained the additional meaning of a gift of money used to reward talented students, and the public at large became familiar with such phrases as academic scholarship, athletic scholarship and music scholarship."¹³⁹

¹³⁷Mueller, Kate H. op. cit., p. 468.

¹³⁸West, Elmer D. Financial Aid To the Undergraduate, Washington, D.C.: ACE, 1963, p. 79.

¹³⁹Van Dusen, William and O'Hearne, John. op. cit., p. 3.

West similarly concludes that during the decade stretching from 1946 to 1956:

"There is substantial opinion to the effect...that the neediest segment of the population is not getting the financial aid; in fact, there is considerable evidence to prove that children receiving financial aid come from families with above average incomes... It should be noted that many scholarships were actually prizes for high scholarship."¹⁴⁰

It was at this time also that extensive athletic scholarships entered upon the student aid scene. They too were in no way based upon need, and Rudolph concludes that athletic scholarships really:

"...intruded a new dimension of confusion and dishonesty into the life of the American college and university."¹⁴¹

By 1956, the emphasis upon non-need based stipends had reached its zenith. Morse concludes at this juncture that:

"I came to the conclusion then that often the answer to how and why scholarships are awarded was really just this: to serve institutional purpose... It is a fact that colleges devote their scholarship funds in direct proportion to those talents they most highly prize, and that in general they use their funds to strengthen those parts of their programs they feel to be the weakest."¹⁴²

¹⁴⁰West, Elmer D. op. cit., pp. 77-78.

¹⁴¹Rudolph, Frederick. "The Origins of Student Aid," op. cit., p. 9.

¹⁴²Morse, John F. "The Impact of Government Programs on Student Aid Administration," in Student Financial Aid and Institutional Purpose, Princeton, New Jersey: CEEB, 1963, pp. 6, 16.

Orwig also recognizes this trend in his conclusion that:

"Indeed, financial aid to students has served a wide variety of purposes over the years, from rewarding intelligence, academic performance, service to the country, physical appearance and beauty, and athletic prowess to attracting students to critical skill areas, from different geographical areas, and to military service."¹⁴³

However, this trend also had its distinct disadvantages. It placed schools in a keen bidding war for top talent of every kind, and led to extravagant uses of funds for recruiting purposes. Schools soon began to realize that such "cut throat" competition was neither in their best interests nor that of their students. Thus, efforts began to stem this competitive tide.

The vehicle resurrected to assist in this process was none other than the concept of need based awarding. Unwilling to trust each other individually in this process, colleges began to band together and develop, for the first time, commitment to a more uniform system of needs analysis.

¹⁴³Orwig, Melvin D. Toward More Equitable Distribution of Financial Aid Funds, op. cit., p. 2.

Orwig describes this development as follows:

"The systematic consideration of student financial need did not evolve until the 1950's. It was only during the fifties that the concept of financial need was defined, formalized, and evaluated as a criterion for receiving financial aid.

"The development began in the Northeast through a loose consortium of private colleges that desired, through cooperative agreement, to voluntarily limit the amount of financial aid that would be used to recruit academically talented students to the campus. To do this they developed a procedure, later called need analysis, that would enable them to determine a reasonable contribution from the student and his family and limit the scholarship offered to the student to the amount of his financial need, i.e., the difference between the family contribution and the cost of attending an institution. By voluntarily using the same need analysis procedure, colleges were able to minimize financial competition as a means to attract students to their campus. Although previous to this individual colleges were probably implicitly, if not explicitly, evaluating the financial need of applicants, this represents the first inter-college use of a systematic financial need analysis procedure."¹⁴⁴

This coalition led to the creation of the College Scholarship Service (CSS), a subdivision of the College Entrance Examination Board (CEEB), the first professional body charged with the creation and development of a barometer that would fairly and objectively measure family ability to contribute to educational expenses in a uniform manner for

¹⁴⁴Ibid.

all schools. As the Cartter Commission reported:

"The College Scholarship Service (CSS) was established by the College Entrance Examination Board in 1954 and was the Board's first venture into an area not associated with testing activities. The CSS came into being principally as the result of requests from a number of member colleges of the Board for a standardized method of determining parental financial contributions toward the costs of attending college. Competitive bidding for students with exceptional intellectual promise, or other desirable talents such as outstanding athletic ability, had reached proportions that were of widespread concern. In the view of many people, funds in limited supply were being expended unwisely in the competition to induce exceptional students to enroll at particular colleges. The charge to the CSS was to develop a standard need analysis system and collateral services that would provide the following: (1) A standard form for the collection of data pertaining to family income, assets, and other family circumstances that might affect parental ability to contribute to the costs of educating their offspring. (2) A rationale for analysis of the data. (3) Centralized processing and distribution of this information to the institutions designated by students to receive it. (4) Agreement among users of the CSS services to policies for the distribution of funds to students on the basis of actual need rather than competitive bidding."¹⁴⁵

The return to a need based philosophy was not an easy one, as Orwig points out:

"...the transition to need-based student aid did not come easy. For years colleges and students were accustomed to scholarships being a reward for accomplishment. It mattered not whether the student was rich or poor, the scholarship was awarded for what he had accomplished and as an incentive to even greater accomplishment."¹⁴⁶

But, nonetheless, the trend had been established, and student financial aid administration has since returned to a strong

¹⁴⁵New Approaches to Student Financial Aid: Report of the Panel on Student Financial Need Analysis, New York, CEEB, 1971, p. 1.

¹⁴⁶Orwig, Melvin D. op. cit., p. 2.

need based philosophy, a stance that predominates thinking in the field at the present time. As the College Board has recently stated:

"By the mid 1950's, financial aid had become a reward for achievement, bestowed upon students who excelled in scholarship, sports, or other endeavors... (Today) In theory, if not always in practice, the prime criterion for awarding aid has become student need."¹⁴⁷

The end result of the College Scholarship Service (CSS) efforts, alluded to above, was the Parents' Confidential Statement (PCS); the document which serves as the basis for data collection and evaluation under this needs analysis system. While this form is reevaluated each year, it still serves as one of the main needs analysis tools available today.

The chief competition for this system was created by the American College Testing Corporation in 1967. Its origin is described by Orwig as follows:

"...in 1967 ACT (The American College Testing Program) introduced a centralized student need analysis service which institutions could use to analyze the financial need of their aid applicants. Although somewhat different in approach than CSS, the ACT system was similar in that it processed and computed the financial need of individual students who were applying for aid and sent a need analysis report to the institutions designated by the student."¹⁴⁸

These two vehicles form the backbone of current needs analysis methodology, and are highly recommended over vestiges of individual institutional analysis methodologies which

¹⁴⁷The Possible Dream: Meeting Student Financial Needs, New York: CEEB, 1971, pp. 2-4.

¹⁴⁸Orwig, Melvin D. op. cit., p. 4.

still exist at some schools, due to their carefully researched rationale and uniform treatment of applicants.¹⁴⁹

The next major development in student aid came in 1958, with the federal government's reentry into the aid arena through establishment of the National Defense Student Loan Program (NDSL). While this massive new program was initially triggered by the Sputnik Crisis and was designed to target qualified people into fields in line with the national interest, by 1968, it, too, had established a need basis for distribution of funds. Revised regulations for this program stipulated that schools:

"...shall grant (NDSL) loans only to students who are in need of the loan to pursue a course of study at the institution; and that such a determination shall include consideration of: (1) the income, assets, and resources of the applicant; (2) the income, assets and resources of the applicant's family; and (3) the costs reasonably necessary for the student's attendance at the institution."¹⁵⁰

The use of financial need as an award criterion was given further impetus in 1965 with the passage of that year's Higher Education Act. This act created the Educational Opportunity Grant Program (EOG) and the College Work-Study Program (CWS). In a booklet published by the U.S. Office of

¹⁴⁹Kunz, Walter N. A Study of Institutions' Own Methods of Student Financial Need Analysis, Thesis, University of New York at Buffalo, 1970.

(and)
¹⁵⁰Orwig, Melvin D. A Survey of Financial Need Analysis Methods Used In Institutions of Higher Education, Thesis, Indiana University, 1970.

¹⁵⁰U.S. Office of Education. Terms of Agreement With Institutions..., as amended, fiscal ending June 30, 1968, Washington, D.C.: HEW, OE-1018, 1968, p. 1.

Education, it was stressed that:

"...even though the academic qualifications of students selected to receive funds under the federal programs are not rigorous, the financial need qualifications definitely are..."¹⁵¹

In like manner, the Federally Insured Student Loan Concept (FISL) which was initially adopted in 1966, established a need base in 1972; as part of the massive 1972 Higher Education Bill which created as well yet another general need based student aid program. This new source, entitled the Basic Educational Opportunity Grant Program (BEOG) is targeted directly to needy students.

Concurrently, on the State level, Michigan, in 1964 and 1966 respectively, created comprehensive Competitive Scholarship and Tuition Grant Programs for resident students. Both of these programs base the distribution of their resources on financial need as well. In like manner, Boyd points out that some 20 other states also currently provide similar assistance programs for their needy students.¹⁵²

In all, the development of systematic needs analysis techniques and the introduction of these massive federal and state need based programs, along with the emphasis upon access and social consciousness which developed in the 1960's;

¹⁵¹U.S. Office of Education. Determining Awards Under Federal Student Aid Programs, Washington, D.C.: HEW, 1968, p. 2.

¹⁵²Boyd, Joseph D. An Examination of State Efforts In Removing Financial Barriers to Post-Secondary Education, Mimeographed, Deerfield, Illinois: Illinois State Scholarship Commission, 1969.

all helped firmly establish the present commitment to need based awarding for the vast majority of student assistance programs.

An important side effect of these influences was the creation of the centralized professional student financial aid offices which are found on most campuses today. The sophistication of both procedure and program demanded full-time professional attention. As Allen states:

"The financial aid function as we know it is relatively new. Scholarships are old. Loan programs are old. But the concept of the financial aid package, and the financial aid officer who coordinates and directs all types of financial aid as an integrated whole, is relatively new."¹⁵³

In summary, after pursuing a similar analysis of the history of student financial aids, Bekkering concludes that:

"All of the factors affecting the development of financial need which have been mentioned thus far (social consciousness, development and refinement of the College Scholarship Service and American College Testing Program need analysis instruments, federal student aid programs, and state assistance programs) influenced individual colleges and universities to the extent that these institutions have re-established financial need as a fundamental principle in awarding financial assistance to their students. As a result, the federal government, almost half of the state governments, institutions of higher education, foundations, and other organizations each year expend hundreds of millions of dollars to assist financially needy students."¹⁵⁴

However, the evaluation cannot end there. Much dissatisfaction has been expressed, of late, with the current

¹⁵³Allen, James E., Jr. "Diversity of Sources Key to Flexibility in Student Aid," in Student Financial Aid and National Purpose, New York: CEEB, 1962, p. 66.

¹⁵⁴Bekkering, James. op. cit., p. 21.

needs assessment mechanisms.¹⁵⁵ Challenges have been levied for "new" models and "new tools" to take the profession beyond "traditional need analysis,"¹⁵⁶ and concerns are being raised as to the adaptability of current procedures to new program plans, etc.¹⁵⁷

This brief discussion of the conceptual structure of the financial aids field and the accompanying historical resume have been provided to give the reader a better understanding of the overall development of student financial aid in America, and also to demonstrate the central role of needs analysis in this process.

Given this background, however, attention must be turned to the focus of this study itself, which attempts to consider the accuracy of present family assessment procedures and budget determination processes. These two factors form the basis of current needs analysis procedures, and must thus be evaluated fully before responsible suggestions for change can be made. Before considering this study directly, however, an evaluation must be made of the limited research that has already been done on this subject.

¹⁵⁵New Approaches to Student Financial Aid, op. cit., p. 38.

¹⁵⁶Johnstone, D. Bruce. "Beyond Need Analysis," College Board Review, Spring, 1973, No. 87, pp. 12-15.

¹⁵⁷Bowen, Howard. "Financing the External Degree," Journal of Higher Education, Vol. 44, No. 6, June, 1973, pp. 479-490.

Similar Studies

Basically, the current determination of financial need involves the subtraction of a uniformly and objectively determined "expected family contribution" from a comprehensively compiled institutional budget for the academic year in question; with any positive difference found defined as "demonstrated financial need." This procedure can be represented in the following equations:

- (1) School Budget - Family Contribution Expectation = Demonstrated Need.
- (2) Demonstrated Need = Financial Aid Offer Made.
- (3) School Budget = Family Contribution Expectation + Financial Offer Made.

The key factors in this equation, of course, are the institutional budget in use and the family contribution figure determined. If either is inaccurate, the student's college attendance may well be in jeopardy.

Much faith has been placed in the procedures developed by College Scholarship Service and the American College Testing Program for the determination of family contribution expectations. These procedures have developed rigorous rationales based upon data available from other sources regarding population spending patterns and living standards.¹⁵⁸

¹⁵⁸See for example:

a. Manual for Financial Aid Officers, New York: CSS of CEEB, 1971, (updated annually).

b. Handbook for Financial Aid Officers, Iowa City, Iowa: ACT, 1971, (updated annually).

However, these rationales do not speak to the accuracy of these methodologies, in any analytical manner, in terms of comparison of these expectations against actual family willingness and/or ability to contribute in this manner. Numerous concerns have been voiced of late that these sophisticated procedures do not mesh with reality. 159

In like manner, concern has also been raised regarding the adequacy of current budget development procedures. In this regard, Johnson expresses fear that the federal government will actually assume this function due to the lack of uniformity in this process at the institutional level. 160 Dyer concurs that institutional budget determination at this juncture is really largely "guesswork." 161

Johnson concludes that:

"It is one thing to establish budget costs and models and another to verify them. Research must be done and a rationale must be developed for each model and cost cell within the model. The financial aid officer's 'best guess' is not good enough. Reliable figures are needed to back any action taken...it is crucial that the financial aid officer move swiftly to develop sound budget practices lest his prerogative be taken by others." 162

159See for example:

a. Johnstone, D. Bruce. op. cit.

b. New Approaches to Student Financial Aid, op. cit.

160Johnson, Richard. "Student Budgets - Where Are We?" MASFAA Newsletter, February, 1972, p. 2.

161Dyer, James S. Assessing the Effects of Changes In the Cost of Higher Education to the Student, Santa Monica, California: Rand Corporation, June, 1970, p. 13.

162Johnson, Richard. op. cit., p. 3.

Parenthetically, it can be noted that part of Johnson's fears may have been already realized, as the new federal Basic Educational Opportunity Grant (BEOG) Program is much more stringent in its budget guidelines for institutions than past such programs have been.

In any event, the mandate is clear: the current system must be validated if its usefulness is to continue. It is with these concerns in mind that the present study is being undertaken.

As O'Hearne concludes:

"If the aim of financial aid is to make a college education possible for those who otherwise could not afford it, there must be acceptable procedures to determine how much a year in college does cost, and to evaluate how much the student and his parents can pay during that year toward those expenses."¹⁶³

While the exact research design which is undertaken in this study has not been implemented previously, a number of related studies have been completed, attempting to look closely at various aspects of the family contribution and budget development questions. These efforts are reviewed next, to set the stage for the present study itself.

One of the first major studies completed regarding educational expenses was that directed by Ernest Hollis through the U.S. Department of Health, Education and Welfare,

¹⁶³O'Hearne, John J. "Financial Aid May Help Most By Helping Fewer Students," College and University Business, August, 1970, No. 49, p. 37.

which was published in 1957.¹⁶⁴

This study reported basic student expense and resource information for the 1952-53 academic year. The data was based upon questionnaire returns from 15,316 single, dependent, undergraduate students from a stratified national sample (initial "N" unlisted). Among other data reported, this study presented the following findings:

Mean Comprehensive College Expenses (4-Year Only)		Percentage Revenue Source	
(public)	(private)		
\$1,293	\$1,847	Family	41%
		Student Earn-ings	26%
		Savings	20%
		Financial Aid	13%

While this study did not compare its actual response data against any then established methodologies for need determination or budget construction, it does represent one of the early comprehensive ventures in this general area and it does provide some rather solid guidelines as to actual schooling expenditures at that juncture.

Another such study was also undertaken covering the 1952-53 academic year. However, this venture was much less extensive, consisting only of a questionnaire survey of some 318 undergraduates attending three schools of a private

¹⁶⁴Hollis, Ernest V. Costs of Attending College, U.S. Department of HEW, Office of Education, Washington, D.C.: Government Printing Office, 1957.

See also:

Hollis, Ernest V. "Costs of Attending College," Journal of Higher Education, Vol. 13, 1957, pp. 141-143.

university in New York City. The mean budget expenditures reported ranged from approximately \$1,500 for commuters to \$2,100 for resident students.¹⁶⁵ Pooling a variety of institutional surveys conducted over the 1950-51 academic year, a Better Homes and Gardens article published in February, 1952, similarly concluded that comprehensive budgets at four-year public schools were then running between \$1,400 and \$1,800, while similar budgets at private institutions were ranging from \$1,800 to \$2,800.¹⁶⁶

Another such venture was undertaken by the Survey Research Center of the University of Michigan for the 1959-60 academic year.¹⁶⁷ While the purpose of this interview study was primarily to gain a better perspective as to how this representative national sample perceived and intended to provide for post-secondary educational expenses, since a sub-group of 232 of the family units interviewed happened to contain concurrently enrolled unmarried college students during that academic year, some useful year-end expense data was also reported.

This study reported the following regarding educational

¹⁶⁵Cribbin, James J. "What Does It Cost To Attend College?" The Personnel and Guidance Journal, March, 1956, Vol. 43, No. 7, pp. 443-446.

¹⁶⁶Stout, Arthur. "How Much Does College Really Cost?" Better Homes and Gardens, Vol. 30, No. 2, February, 1952, p. 14 and following.

¹⁶⁷Lansing, John B., Lorimer, Thomas, and Moriguchi, Chikashi. How People Pay For College, Survey Research Center, Institute for Social Research, Ann Arbor, Michigan: University of Michigan, 1960.

costs for the 1959-60 academic year:

"Annual cost of college: The average annual expenses of unmarried college students in 1959-60 were about \$1,550 per year. There was a wide variation from student to student in total annual expense depending on whether the student attended full-time or part-time, whether he lived at home or at college, whether he attended a publicly or privately supported institution, and whether he attended a junior college, a college offering a bachelor's degree, or a university.

Main sources of funds: Of the total annual expenses of college students, roughly 60%, on the average, is met from money contributed by their parents. Of the average total for single students of \$1,550, about \$950 came from parents, \$360 from money earned by the student, \$130 from scholarships, and \$110 from other sources. These estimates, however, are approximate and conceal much variation from student to student."¹⁶⁸

While the range of students sampled in this study was extensive (covering part-time students, graduate students, providing no explicit dependency guidelines, etc.), and no comparison regarding expected contribution information or stated campus budgets was provided, this study does again offer a basic feel for the possible scope of actual educational expenditures and parental commitment at this juncture.

A number of other somewhat less extensive studies were also completed in the early 1960's attempting to document the relative degree of parental support for post-secondary study. For example, in a questionnaire study to parents of mostly private college students in 1957 and 1959, Cliff and Ekstrom learned that parents were then contributing roughly 50% of their students' educational support. They reported that the remaining 50% was divided about equally between scholarships,

¹⁶⁸Ibid., p.1.

student earnings, and/or student savings.¹⁶⁹ In 1966, Lowe reported that in his sample of 98 male Jamaican students attending Howard University, 41% of their college expenses were being met by parents, 49.4% were coming from student earnings, 5.2% were coming from scholarships, and the remaining 3.5% were being provided from other sources (usually relatives).¹⁷⁰ Miller, Ivey and Goldstein, on the other hand, concluded more generally from review of the student body on one land-grant university campus in 1966, that parental assistance appeared to be the main source of financial support for students.¹⁷¹

Considering the budget expenditure situation, McKinlay and Ramaswamy, in 1971, attempted to study student expenditure patterns at the University of Illinois via weekly student budget sheet reports. The results indicated that the average student spent roughly \$72 per week.¹⁷² Projected over an estimated 36-week academic year, this would lead to an estimated budget of about \$2,592 for the 1970-71 school

¹⁶⁹Cliff, N. and Ekstrom, Ruth B. Practices and Attitudes In Paying For College, Princeton, New Jersey: E.T.S., 1962.

¹⁷⁰Lowe, G.A. "Education, Occupation of Fathers, and Parental Contributions to Educational Expenses...", Journal of Negro Education, 1966, Vol. 35, pp. 230-236.

¹⁷¹Miller, C.D., Ivey, A.E. and Goldstein, A.D. "Student Patterns of Financing Education At a Land-Grant University," Personnel and Guidance Journal, 1967, Vol. 45, pp. 637-691.

¹⁷²McKinlay, Richard and Ramaswamy, Padmini. The Feasibility of Collecting Student Expenditures and Income Data By Diary Methods, Department of HEW, Bureau of Research, Washington, D.C.: Government Printing Office, February, 1971.

school year in question. Also, Ferrin's review of aid awarded at southwestern U.S. colleges during the 1970-71 academic year (Student Budgets and Aid Awarded in Southwestern Colleges, Survey Report #5, CEEB, 1971) summarized the following budget totals for that year:

	<u>Average Total Budgets</u>		<u>Average Student/ Family Expenses</u>		<u>Average Financial Aid</u>
Four-Year Public Schools	2,084	=	1,900 (90%)	+	184 (10%)
Four-Year Private Schools	3,375	=	2,900 (84%)	+	475 (16%)
Two-Year Public Schools	1,710	=	1,600 (93%)	+	110 (7%)

A further study by the Columbia Research Association concluded that the average full-time student expenses at a four-year school rose from \$2,606 for the 1967-68 academic year to \$3,341 for the 1970-71 academic year.¹⁷³

An actual comparison study was completed in 1961 by Williams, in which the parents of 1959-60 academic year freshmen at Indiana University were asked to complete a questionnaire regarding their perceived ability to support their students in college. While this study was not statistical in nature, it did show that when these parental perceptions were compared against 1959-60 College Scholarship Service need analysis evaluations on the same students, the families tended to systematically underestimate their ability

¹⁷³The Cost of College: II, Cambridge, Massachusetts: Columbia Research Association, August, 1972.

to contribute in this regard.¹⁷⁴

A more recent study, undertaken by College Scholarship Service (CSS), attempted to look more comprehensively at the expenditure patterns and resources available to a group of single, full-time college sophomores. To obtain this information, 8,618 questionnaires were distributed to students who had taken the Preliminary Scholastic Aptitude Test (PSAT) in 1966 and who had subsequently reported enrolling in a post-secondary institution in the fall of 1968. The questionnaires were mailed in July, 1970, to cover the then recently completed 1969-70 school year. The total response consisted of 3,363 returns (40%), but the main analysis group consisted of some 2,402 (28%) single, full-time students. Despite the relatively small usable response rate, the study coordinators claim satisfactory reliability based on the respondents' similarity to the overall universe of full-time undergraduates at that juncture. It must also be pointed out, however, that in reviewing these results, the population was drawn only from prior Preliminary Scholastic Aptitude Test (PSAT) takers, and it was in no way limited to students making formal application for financial assistance. Within this framework, the study offers the following conclusions regarding student resources and expenses:

¹⁷⁴Williams, Reese M. Analysis of Factors Related to Need As Determining Financial Ability of Scholarship Applicants to Attend Indiana University, Thesis, Indiana University, 1961.

"Resources. Analysis of the resources of the average unmarried college sophomores revealed that parents provided most (44 percent) of the students' income. Students themselves provided (another) 35 percent of this income: 15 percent from employment during the school year and 20 percent from other sources such as personal assets, savings from summer employment, and tax refunds. Eleven percent of the students' income came from scholarship and grants, and 10 percent from loans."

"Expenses. Analysis of the expenses for college reported by students revealed that costs for tuition, fees books, and supplies accounted for 43 percent of the total budget, and that food and housing accounted for an additional 31 percent. The average total expenses of students in public four-year institutions was \$1,869 for the 1969-70 academic year; it was \$3,329 at private four-year colleges, \$1,347 at public two-year colleges, and \$1,952 at other types of institutions. Subgroup comparisons revealed that men spent more on the average than women, that black students lived on a budget that was approximately \$500 lower on the average than that of white students, and that residents required higher average out-of-pocket expenses than commuting students."¹⁷⁵

Interestingly enough, these student reported expense budgets were in all categories higher than similar estimated budget figures reported by institutional financial aids officers, as used in the needs analysis process. However, no statistical evaluation of differences was performed since the institutional budget data collected was for the subsequent 1970-71 academic year. Implicitly, however, considering the annual inflationary factor which constantly plagues higher education, it is interesting to note the fact that a prior year's student expense reports actually exceed the

¹⁷⁵Haven, Elizabeth W. and Horch, Dwight H. How College Students Finance Their Education: A National Survey of the Educational Interests, Aspirations, and Finances of College Sophomores in 1969-70, Princeton, New Jersey: College Scholarship Service, 1972, pp. iii-v.

following school year's formal institutionally constructed supposedly "comprehensive" budgets, which are used in the awarding of financial aid. Concise summaries of the extensive study are also provided in the Fall, 1972, issue of Occupational Outlook Quarterly and the March 20, 1972, issue of The Chronicle of Higher Education.

A similar study was conducted in the State of California covering the 1971-72 academic year, using an adaptation of the College Entrance Examination Board's Student Resource Survey instrument.¹⁷⁶ This study consisted of an anonymous student questionnaire which was distributed to a representative sampling of all California college and university students. Responses were received from some 160,000 students, representing approximately 60% of the sample contacted. Respondents, however, included both undergraduate and graduate students, full- and part-time enrollees, and married as well as single students.

In terms of maintenance budgets (total expenditures excluding tuition and fees) for the 1971-72 academic year, the following conclusion was reached:

"For dependent undergraduates living away from the family home, the nine month maintenance budgets by segments are: University of California - \$1,850; California State University and Colleges - \$1,840; Independent Colleges - \$,950; and Community Colleges - \$1,670."¹⁷⁷

¹⁷⁶Report Number One: Student Financial Aid Research Series, Sacramento, California: California State Scholarship and Loan Commission, 1972.

¹⁷⁷Ibid., p. vi.

Actual resources available to the same categories of students were charted as follows (total discrepancies reflect the fact that these latter figures comprise comprehensive resource figures, including tuition and fees as well as the above "maintenance budget" expenses for books and supplies, transportation, room and board, clothing, recreation, and incidentals.¹⁷⁸ Also, in the questionnaire's format, resource figures in this survey did not have to match

¹⁷⁸Ibid., p. 216-219.

expenditures; thus, the two may reflect differences in individual cases.):

Support Source	University of California		California State University and Colleges	
	<u>Dependent at home</u>	<u>Dependent away</u>	<u>Dependent at home</u>	<u>Dependent away</u>
Parents/ Guardians	820	1,280	390	650
Student Employment	890	720	970	850
Student Savings	190	180	160	140
Financial Aid (including loans)	300	420	220	340
Totals	2,200	2,600	1,740	1,980

Average total of all respondents	2,870	1,830
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Support Source	Independent Schools		Community Colleges	
	<u>Dependent at home</u>	<u>Dependent away</u>	<u>Dependent at home</u>	<u>Dependent away</u>
Parents/ Guardians	1,010	1,570	290	300
Student Employment	910	750	810	890
Student Savings	290	270	100	80
Financial Aid (including loans)	700	910	180	330
Totals	2,910	3,500	1,880	1,600

Average total of all respondents	3,310	1,400
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Commenting on these factors the study concludes that:

"The analysis makes one point quite clear: student self-help in the form of employment earnings, loans, and personal savings (presumably from prior employment) is the major resource for California students. Self-help comprises 51.2% of the total resources at the University of California, 68.8% at California State University and Colleges, 47.7% at Independent Colleges and 72.1% at Community Colleges."¹⁷⁹

This study also made an attempt to compare expected parental contributions as would be derived by College Scholarship Service methodologies for similar cases with the levels of parental support actually reported. The conclusion reached, based on all respondents, is summarized as follows:

"Parental support is an important resource for Independent College students (32% of total resources) and University of California students (approximately 30% of total resources). It is much less important to California State University and Colleges and Community College students (16% and 11% of total resources respectively). A comparison of families within the same income ranges indicates higher parental support at more expensive institutions. In general, actual parental support falls short of the expected College Scholarship Service standard parental contribution. The analysis indicated the following pattern: Low income families (under \$6,000) provide more than the CSS expected contribution; middle income families (\$6,000 to \$12,000) generally approach the expected norm; and higher income families (over \$12,000) often provide substantially less support than the standard contribution would indicate... The data clearly indicated that students are paying more of the educational bills and parents less. It does not, however, tell us who is making this decision--parents or students"¹⁸⁰

A separate portion of this study also addressed the related issue of institutional budgets. The following

¹⁷⁹Ibid., p. vi.

¹⁸⁰Ibid., pp. vii-viii.

tables show these comparisons for dependent undergraduate students regarding maintenance budgets only (tuition and fees not included):

"Average Maintenance Budgets
(Excludes Tuition and Fees) For Dependent
Undergraduates Living At Home

	<u>University of California</u>	<u>Calif. State Univ. and Colleges</u>	<u>Independent Colleges</u>	<u>Community Colleges</u>
Student- Reported Averages	1,460	1,340	1,600	1,100
Institu- tional Average	1,440	1,450	1,390	1,490

Average Maintenance Budgets
(Excludes Tuition and Fees) For Dependent
Undergraduates Living Away From Home"¹⁸¹

	<u>University of California</u>	<u>Calif. State Univ. and Colleges</u>	<u>Independent Colleges</u>	<u>Community Colleges</u>
Student- Reported Averages	1,850	1,840	1,950	1,670
Institu- tional Average	2,110	2,080	1,950	2,030

¹⁸¹Ibid., pp. 55-56.

The following conclusion is drawn:

"With the exception of the dependent at home undergraduates in the Independent Colleges, average institutional aid budgets consistently exceed student-reported expenses. Differentials in this area were expected; institutional budgets are more comprehensive than are student estimates of expenses. The institutional budgets normally include such items as health care (including insurance) and often an allowance for the money spent by parents in providing room and board in the family home. Students reacting to a questionnaire would be more likely to report only those expenses they paid for or that were paid for by their parents to the college or to the student directly. Therefore, small differences in budgets of \$200-\$300 could easily be brought out by the more comprehensive budget construction employed by college aid officers. On the whole, the average institutional budgets are generally within acceptable tolerance ranges with the exception of the Community College maintenance budgets which consistently exceed student-reported expenses about \$400 and self-supporting undergraduate budgets at the California State University and Colleges where the institutional average budgets exceed student reported expenses by \$500."¹⁸²

The study does, however, go on to express concern regarding the range of institutional budget figures reported. In this regard, the Commission concludes that:

"The spread of institutional budgets is remarkable and bothersome. The budgets reported by a few institutions are so far apart from the great majority of institutional budgets as to raise serious question about their validity... It appears that students of like financial resources would receive very different aid packages when their resources were subtracted from the institutional budgets reported.

"There is apparently a considerable shortage of equity of treatment inherent in some institutional budgets. More research in this field is definitely needed."¹⁸³

A very similar study was also carried out in the State of Washington covering the 1971-72 school year period. This

¹⁸²Ibid., pp. 56-57.

¹⁸³Ibid., pp. 62-63.

project also used the College Scholarship Service Student Resource Survey technique. Based on a response of some 27,623 usable questionnaire forms, an average overall maintenance budget (excluding tuition and fees) for the nine month academic year ranged from \$1,800 to approximately \$2,000. Also, the pattern of self-help proving to be the major (55-65% of total) source of student funds again was evident; as were the conclusions that institutionally developed budgets tend at times to exceed student reported expenditures, and that an inverse relationship tends to exist between parental income level and their compliance with expected contribution (CSS) figures.¹⁸⁴

Several years previously, the Illinois State Scholarship Commission had attempted a state-wide study in which it attempted to assess the effectiveness of its State Scholarship and Grant Programs.¹⁸⁵ Part of this study also addresses the issues of family contributions and school budgets. The study population was defined as:

"(1) all monetary scholarship recipients during the 1967-68 academic year and

(2) all grant award recipients during the same academic year. From the finite study population

¹⁸⁴Student Financing of Higher Education in Washington, Palo Alto, California: Western Regional College Entrance Examination Board Office, 1972.

¹⁸⁵A Study of 1967-68 Scholarship and Grant Recipients, A Joint Report of the Illinois State Scholarship Commission and Board of Higher Education, Springfield, Illinois, 1969.

of 9,445 and 6,453, respectively, was drawn a random sampling of 1,000 from each group."¹⁸⁶

An anonymous questionnaire was sent to this group of 2,000 in April of 1968, with usable responses returned by 1,387 (69%) students. These students represented full-time undergraduates attending both public and private colleges and universities in Illinois during the 1967-68 school year.

In reviewing the results of the survey, comparisons were drawn between student-reported budget expenditures and parental contributions, as opposed to the Illinois State Scholarship Commission (ISSC) expectations in these areas. Since, however, the survey questionnaire used for student input was anonymous in nature, no direct case-by-case comparisons could be rendered in these areas. Instead, citing a Chi Square test which failed to point up any significant (.01 level) differences between respondents and overall program recipients, average respondent figures are compared against similar data for the overall Illinois Scholarship and Grant recipient populations for 1967-68 in making these comparisons. Also, in viewing these tables, it must be noted that the Illinois State Scholarship Commission utilizes a "modified" version of the national College Scholarship Service needs analysis system in determining its awards.

¹⁸⁶Ibid., p. 6.

"Expectation From Parents'
Income and Assets Versus Actual
Amounts Received

Class Level	Average Theoretically Expected (Amount)		Average Actually Received (Amount)		Percentage Actual to Theory	
	Scholarship	Grant	Scholarship	Grant	Scholarship	Grant
All	686	608	440	315	67%	52%
Freshman	660	555	497	381	75%	69%
Sophomore	708	605	432	309	61%	51%
Junior	728	641	528	316	73%	49%
Senior	663	635	347	255	52%	40%
All Public	451	454	360	269	80%	59%
All Nonpublic	858	660	538	332	63%	50%

Comparison of Reality and Theory"¹⁸⁷
(Average Expenditures)

Source	Reality (Reported)		Theory (Budgets ISSC Constructed)	
	Percentage of Total	Amount	Percentage of Total	Amount
ISSC Scholarship Recipients	28%	\$ 636	28%	\$ 636
Other Scholarships or Loans	26%	593	24%	531
Self-Help Earnings	26%	593	18%	400
Parental Contribution	20%	460	30%	686
		<u>\$2,282</u>		<u>\$2,253</u>
ISSC Grant Recipients	28%	\$ 682	31%	\$ 682
Other Scholarships or Loans	28%	694	9%	201
Self-Help Earnings	31%	732	33%	745
Parental Contribution	13%	315	27%	608
		<u>\$2,423</u>		<u>\$2,236</u>

¹⁸⁷Ibid., pp. 35-38.

While there were fluctuations within various subgroups, the general conclusions were that:

- (1) Parents contributed less than the Illinois State Scholarship Commission (ISSC) system expected, both in terms of physical dollars and overall budget percentage.
- (2) Reported budget expenditures exceed theoretically constructed budget figures by a small margin.

While this study did not submit any of these dollar and percentage differences to statistical analysis, the dollar discrepancies consistently show that the Illinois student in 1967-68 spent more and received less parental assistance than was expected.

Finally, in yet another approach to the question of overall budget adequacy, Bekkering compared student questionnaire responses regarding certain variable maintenance expense items (books and supplies, transportation, clothing, medical, dental, entertainment, and incidental expenses) against the standardized estimates being used for these commodities in budgets utilized by the State of Michigan in determining its State Scholarship and Tuition Grant recipients for the 1971-72 school year. He demonstrated that in all but the dormitory living setting, Department of Education estimates were significantly (.01) lower than actual reported expenditures for these variable items.¹⁸⁸

¹⁸⁸Bekkering, James. op. cit., p. 60.

These various research efforts, by their own discrepancies and limitations as well as their findings, point out that more thorough research is needed to establish sound conclusions regarding the accuracy of present family contribution expectation methodologies and institutional budget tabulations. These two factors undergird the present needs analysis philosophy, and thus definitive evidence concerning their accuracy and comprehensiveness is essential.

Summary

The literature reviewed in this chapter relates to three basic facets of financial aid administration. The first area covered represents a survey of the range of theoretical postures and options currently available in the area of student financial aid. Through discussion of the parameters of "benefit" and "marketplace" the range of perspectives and present sentiment on this issue are viewed. Then, by interacting these two parameters, the rationale for a variety of actual current student aid proposals are covered. The conclusion here, however, seems to be one of compromise and middle ground. There seems to be substantial sentiment indicating that both society and the student "benefit" from post-secondary study, and that a "market" balance of student consumerism and institutional protection is needed. Thus, it is concluded that the current overall balance of direct and indirect student aid taking a variety of scholarship, loan, grant and work-study forms is likely to continue even

if economic conditions periodically dictate a shift in the relative percentage distribution of these factors.

Given this balanced perspective of present student aid alternatives, the second area of literature covered traces the history of the overall student aid concept in American higher education, documenting the origins of the various types and sources of aid as well as demonstrating the key role which financial need plays in this field. This section also traces the beginning of formalized needs analysis procedures, and, together with the theory section of chapter one, identifies the crucial variables of family expectation and institutional budget which are found therein. This section concludes by identifying the question of accuracy as it relates to expected family contributions and adequacy as it pertains to institutional budget construction.

In the third section of the literature review, studies which, to date, have dealt with these two questions, either directly or indirectly, are reviewed. While the data here is limited, and oftentimes very soft, there does seem to be consensus that further such investigation is needed to insure that the limited student financial aid resources are equitably distributed.

Thus, the reason for this present study, as outlined next in Chapter 3.

CHAPTER III

DESIGN OF THE STUDY

Introduction

The focus of financial aid administration, as it impacts on the student population, centers around the assessment of each respective applicant's financial need for such resources. Thus, the determination and analysis of demonstrated financial need is perhaps one of the most critical factors involved in the entire aid dissemination process.

The methodology involved in this needs analysis process normally includes the formal evaluation of the family's current financial circumstances resulting in the determination of an expected family contribution figure; the formal development of an institutional budget meant to comprehensively cover all reasonable educational expenses for the academic year; and finally the subtraction of this predetermined family contribution expectation from the budget developed to see if a positive remainder is found. Any such positive difference precipitated in such a calculation is defined as "demonstrated need," and financial aid administrators subsequently seek to assist the student in this amount, from the variety of resource programs at their disposal. Given this emphasis upon demonstrated need as a fundamental criterion for determining student eligibility, it is evident

that the procedures employed in this process should be as consistent and equitable as humanly possible.

The purpose of this study, as discussed in detail in Chapter I, is to compare the key expected family contribution and budget determination portions of this process against academic year-end reported totals in an attempt to evaluate the accuracy of the overall needs analysis procedures employed and to highlight possible areas of discrepancy. Detailed consideration is given in this chapter to an analysis of the study's sample population (of initial sample selection and possible generalization), data collection, instrumentation and procedures, research design, and the statistical techniques utilized in data evaluation. The issues of reliability and validity are also addressed.

Population and Sample

The population from which this study sample was drawn consists of all full-time undergraduate students submitting application materials under the State of Michigan Competitive Scholarship and Tuition Grant Programs for the 1971-72 academic year. Full-time study, for purposes of this study, is defined by the various colleges and universities involved. In the absence of written institutional policy on this point, the State student aid programs stipulate that the student must enroll for no less than twelve academic credits each semester, or term, to be eligible for award consideration. This policy was carried over into the study.

Since the Michigan Competitive Scholarship and Tuition Grant Programs also restrict their recipients to Michigan residents and applicants who are either currently United States citizens or presently pursuing this status, this population also effectively carries these limitations.

In addition, while the Tuition Grant Program itself is open to graduate students, the sample was restricted to undergraduates because graduate students are more frequently independent from parental support, and are more likely to have educational budgets which contain extensive specialized expenses not common to undergraduates. This group represents an essentially unique population, worthy of individual study.

Within these restrictions, the specific population of State Scholarship and Grant Program applicants for the 1971-72 school year, on which the study sample was drawn, totaled approximately 24,000 students. With the assistance of the Office of Research Consultation in Michigan State University's College of Education, it was determined that a 5 percent random sampling would adequately represent a population of this size. Thus, a random sample of 1,200 students was selected from this population using a computerized random number generator program and the data processing facilities of the Michigan Department of Education, Division of Student Financial Assistance Services.

From the initial sample drawn, two other reductions also had to be made to bring this group into compliance with the

overall scope of the study. First, since actual family contributions were to be compared against needs analysis expectations, only those students were sampled who had filed the necessary College Scholarship Service system Parents Confidential Statement with the Michigan Department of Education for the 1971-72 academic year in question.¹ Second, since this study covers only dependent students, whose eligibility for aid is assessed on the basis of the family's financial posture, those students qualifying under the State Scholarship and Grant Programs for independent status were deleted from the sample. The eligibility criteria for independent status under these programs for the 1971-72 school year required that the applicant have not resided with the parents or received in excess of \$600 from them in 1970. In addition, the applicant could not have been claimed as an exemption on the parents' 1970 federal income tax return either. Imposing these two additional limitations, the final mailing sample was reduced to 1,121 students.

Since individual schools or campuses were not studied, the final study sample students are not reported by

¹It is important to note, at this juncture, that the needs analysis comparison made in this study contrasts the College Scholarship Service (CSS) form (Parents Confidential Statement - PCS) against actual reported contributions. This study does not directly evaluate the comparable American College Testing system due to the factors mentioned in Chapter I, and the fact that the State student aid programs do not utilize it. Some indirect inferences could, however, probably be drawn by utilizing the results of College Scholarship Service/American College Testing Program needs analysis comparison study currently underway at the University of Michigan.

institution. However, they were selected randomly from a State aid applicant population which is at liberty, under State assistance program legislation, to attend any accredited degree-granting college or university in Michigan. Thus, the study sample contained applicants attending both public and private, and both two- and four-year schools. A listing of all schools participating in the Michigan Competitive Scholarship and Tuition Grant Programs during the 1971-72 academic year is found in the following table (3.1).

From this final sample of 1,121 students to whom study questionnaires were mailed in the summer of 1972, 646 responses (58%) were received. Of this total response group, 12 forms had to be deleted either because of incomplete information, or because full-time study had not been maintained throughout the full 1971-72 school year.² This brought the total number of usable responses to 634, or 57% of the initial sample contacted.

The above discussion delineates the specific population from which this study's sample was drawn. Based upon the sample's initial random selection, the overall response rate and the closeness with which the respondent population parallels the overall study population (see table 3.2), generalization of study results to this population appears appropriate.

²It was felt that instead of projecting expenses for one semester or term over the full academic year, it would be better to drop such students from the study. Part year attendance may well carry with it sufficiently unique circumstances and expenditures to warrant separate study.

Table 3.1

Summary of Schools Participating
In the State of Michigan Student Assistance Programs
During the 1971-72 Academic Year

2-Year Public Schools

Alpena Community College
Bay de Noc Comm. College
Delta College
Genesee (now C.S. Mott)
Community College
Glen Oaks Comm. College
Gogebic Community College
Grand Rapids Jr. College
Henry Ford Comm. College
Highland Park College
Jackson Community College
Kalamazoo Valley Comm. Col.
Kellogg Community College
Kirtland Community College
Lake Michigan College
Lansing Community College
Macomb County Comm. Col.
Mid Michigan Comm. College
Monroe County Comm. College
Montcalm County Comm. Col.
Muskegon Community College
North Central Mich. College
Northwestern Mich. College
Oakland County Comm. Col.
St. Clair County Comm. Col.
Schoolcraft College
Southwestern Mich. College
Washtenaw Community College
Wayne County Comm. College
West Shore Comm. College

4-Year Public Schools

Central Michigan University
Eastern Michigan University
Ferris State College
Grand Valley St. College(s)
Lake Superior State College
Michigan State University
Michigan Tech. University
Northern Michigan University
Oakland University
Saginaw Valley College
Univ. of Michigan - Ann Arbor
Univ. of Michigan - Dearborn
Univ. of Michigan - Flint
Wayne State University
Western Michigan University

2-Year Private Schools

Concordia Lutheran Jr. College
Davenport Col. of Business
Michigan Christian Jr. College
Muskegon Business College
Suomi College

4-Year Private Schools

Adrian College
Albion College
Alma College
Andrews University
Aquinas College
Art School of the Society of
Arts and Crafts
Calvin College
Cleary College
Cranbrook Academy of Art
Detroit Bible College
Detroit College of Business
Detroit College of Law
Detroit Inst. of Technology
Duns Scotus College
General Motors Institute
Grace Bible College
Grand Rapids Baptist College
Hillsdale College
Hope College
Kalamazoo College
Lawrence Inst. of Technology
Madonna College
Maryglade College
Marygrove College
Mercy College of Detroit
Merrill Palmer Institute
Midrasha College of Jewish
Studies
Nazareth College
Northwood Institute
Olivet College
Owosso College (John Wesley)
Reformed Bible Institute
Sacred Heart Seminary
Shaw College at Detroit
St. Mary's College
Siena Heights College
Spring Arbor College
University of Detroit
Walsh College of Accountancy
and Business Administration

Beyond comparing respondents to the overall Michigan Competitive Scholarship and Tuition Grant applicant population, subsequent tables (3.3-3.6) also compare this group to overall state and national enrollments for this period, giving the reader an indication as to the degree of certainty with which even further generalization might be made.

Table 3.2

Summary of Study Respondent and
Total Population Characteristic Distributions

	<u>Study Sample</u>		<u>Scholarship/Grant Michigan Applicant Population for 1971-72³</u>	
<u>Sex</u>				
Male	344	(53%)	12,281	(51%)
Female	290	(47%)	11,724	(48%)
Not Reported	0	(0%)	189	(1%)
<u>Class</u>				
Freshman	280	(44%)	8,088	(34%)
Sophomore	155	(24%)	5,744	(24%)
Junior	111	(19%)	5,062	(21%)
Senior	88	(13%)	4,919	(19%)
Graduate/Not Reported	0	(0%)	381	(2%)
<u>Racial/Ethnic Background</u>				
White	601	(95%)	21,546	(91%)
Non-white	33	(5%)	2,441	(8%)
Not Reported	0	(0%)	207	(1%)
Total	Gross 634		Gross 24,194	

³State-Sponsored Student Financial Aid In Michigan, 1971-72, Annual Report, Michigan Department of Education, Lansing, Michigan, 1972, pp. 38, 44.

Table 3.3

Summary of Study Respondents
and Total 1970 Michigan Higher
Education Enrollments

	<u>Study Sample</u>		<u>Overall 1970 Full-time Michigan Undergraduate Enrollment⁴</u>	
<u>Sex</u>				
Male	344	(53%)	156,821	(57%)
Female	290	(47%)	115,655	(43%)
<u>Class</u>				
Freshman	280	(44%)	97,195	(39%)
Sophomore	155	(24%)	74,933	(23%)
Junior	111	(19%)	51,201	(19%)
Senior	88	(13%)	49,147	(19%)
<u>Racial/Ethnic Background</u>				
White	601	(95%)	251,626	(90%)
Non-white	33	(5%)	20,850	(10%)
Gross Totals	634		272,476	

Table 3.4

Summary of Study Respondents
and Total 1971 Michigan Higher Education
Enrollment by School Type

	<u>Study Sample</u>		<u>Total Michigan Enrollment⁵</u>	
<u>School Type</u>				
Public 2-Year	221	(34%)	132,059	(32.7%)
Public 4-Year	353	(56%)	220,165	(54.6%)
Private (2 & 4-Year)	60	(10%)	51,335	(12.7%)
Gross Totals	634		403,559	

⁴1970 Census of Population: Detailed Michigan Characteristics, Department of Commerce, Social and Economic Statistics Administration, Bureau of the Census, Washington, D.C.: U.S. Government Printing Office, 1972, pp. 24-682 to 24-686.

⁵Analysis of Opening Fall Resident and Extension Headcount..., Michigan Department of Education, Higher Education Planning Services, No. 12-72, 1972, (From Higher Education General Information Survey - HEGIS - Form 2300-2.3)

Table 3.5

Summary of Study Respondents and
Total U.S. Enrollment Characteristic Distribution

	<u>Study Sample</u>		<u>United States, October, 1971 Undergraduate Enrollment⁶</u>	
<u>Sex</u>				
Male	344	(53%)	3,353,000	(56%)
Female	290	(47%)	2,590,000	(44%)
<u>Class</u>				
Freshman	280	(44%)	2,038,000	(34%)
Sophomore	155	(24%)	1,634,000	(27%)
Junior	111	(19%)	1,199,000	(21%)
Senior	88	(13%)	972,000	(18%)
<u>Racial/Ethnic Background</u>				
White	601	(95%)	5,334,000	(90%)
Non-white	33	(5%)	609,000	(10%)
Gross Totals	634		5,943,000	

Table 3.6

Comparison of Study Respondents and Total U.S.
Enrollment Characteristics By Family Income Level

	<u>Study Sample</u>		<u>Overall 1970 National Enrollment⁷ By Family Income</u>	
<u>Family Net Income</u>				
Under 5,000	62	(10%)	605,000	(11%)
5,000 - 9,000	200	(31%)	1,502,000	(28%)
10,000 - 14,999	244	(38%)	1,392,000	(26%)
15,000 -	128	(21%)	1,423,000	(27%)
Not reported	0	(0%)	390,000	(8%)
Gross Totals	634		5,312,000	

⁶Population Characteristics: Current Population Reports, U.S. Department of Commerce, Social and Economic Statistics Administration, Bureau of the Census, Washington, D.C.: U.S. Government Printing Office, Series P-20, No. 241, October, 1972, pp. 27-28.

⁷Current Population Reports, U.S. Department of Commerce, Social and Economic Statistics Administration, Bureau of the Census, Washington, D.C.: U.S. Government Printing Office, Series P-20, No. 222, June, 1971, p. 37.

Table 3.6 shows the typical depression at the higher income levels and expansion at the lower levels, which is found in need based program applicants when that population is compared against an overall enrollment sample.

While the percentages found in these tables were not compared statistically, they demonstrate that the respondents seem to follow quite closely not only the original study population, but also, for that matter, the overall United States undergraduate enrollment in 1970 and 1971.

Instrumentation and Procedures

Development of the data collection instrument for this study (a copy of the final form is found in Appendix B) took place over a period of several months. The questions of which specific data items to request and how these items might best be collected were first discussed with the research consultants in the Office of Research Consultation which is housed in the College of Education at Michigan State University.

Rough draft copies of the proposed questionnaire as well as the total research proposal subsequently were submitted to the following organizations, in addition, for review and comment:

1. American Council on Education.
2. U.S. Office of Education, Chicago and Washington Offices.
3. The staff of the Michigan Department of Education's Division of Student Financial Assistance Services.

4. The staff of the Michigan Department of Education's Research and Evaluation Services Office.
5. The Director's Office of all other states then currently sponsoring direct student assistance programs (20 states in all).
6. The Michigan Student Financial Aid Officers Association.
7. The College Entrance Examination Board, College Scholarship Service in Evanston, Illinois.
8. The American College Testing Corporation in Iowa City, Iowa.

The feedback received from these organizations proved to be very supportive regarding the value of the overall project, and extremely helpful in designing the final questionnaire document itself. The Michigan Department of Education's Division of Student Financial Assistance Services even approved substantial support for the project, underwriting the questionnaire printing, mailing, and data processing key punch expenses involved. Therefore, both the questionnaire itself and the accompanying cover letter carried Department of Education letterhead and the letter itself carried the signature of the Department's Division Director. Once the final draft was devised, data processing personnel from the Department of Education assisted with the physical layout of the instrument to facilitate response and subsequent key punch activities.

Space was provided at the top of the final questionnaire

form for the student's name, social security number, and home address. Appropriate mailing labels were prepared for this purpose by the Department of Education's data processing facilities, for the random sample which was computer selected for the study. It was realized that identifying the student on the return questionnaire might well reduce the response rate as anonymity would be lost. It was necessary to proceed in this manner, however, if case-by-case comparison material was to be available from the 1971-72 College Scholarship Service needs analysis form available in the student's file. This matter was approached candidly in the accompanying cover letter (see copy in Appendix A), so as not to leave the matter open to speculation. The purpose of the questionnaire was stated clearly as well, in hopes of eliciting family support in this manner.

In addition, it was hoped that cooperation could be enhanced by the following factors:

1. The opportunity provided for families to participate in a meaningful way in the evaluation of the College Scholarship needs analysis system which many of them may have found distasteful. There would, however, be no possibility of a comparison Hawthorne Effect, in this regard, as families were not informed as to the specific amount of the "expected family contribution" figures on which they were being asked to comment.

2. The emphasis in the cover letter was that all responses would be treated in strictest confidence.
3. The fact that the cover letter was addressed to both parents and student, thus eliciting cooperation and consultation regarding many of the less direct expenses and contributions that other studies have found students often overlook.⁸
4. The fact that a self-addressed postage paid return envelope was enclosed to facilitate response.
5. The fact that the questionnaire was kept extremely short, with all data already available being extracted from the accompanying College Scholarship Service's Parents Confidential Statement, needs analysis form, or program application, for all respondents.

Section I of the questionnaire instrument immediately followed the space for the student address label. The instructions for this section asked that the family complete each item carefully, accounting for all resources used by the student for the full 1971-72 school year. A brief listing of some of the more basic types of expenses normally incurred was also provided, to assist the family in thinking through the areas to be covered. Item A of Section I asked for basic contribution information, by category, from the student's parents or guardians who were living with the

⁸Both the Washington and California Studies cited earlier mentioned this concern.

student in the home. Item B asked for information regarding contributions which might have been received from other relatives. Item C asked for information regarding the amounts which the student might either have available from prior savings or from employment. Item D asked for information regarding financial aid resources available to the student. Finally, Item E left an option open for inclusion of any other resources which might have been available to the student during the 1971-72 academic year in question. The family was asked to total all resources available in Item F. This tabulation was carefully checked for each respondent before the form was submitted to data processing for key punch.

Section II instructed the respondent to indicate the amount of resources spent in each of a number of categories. Item A, here, asked for tuition and fee expenditures, Item B for room and board expenses, Item C for book and supply expenses, and Item D for a summary of miscellaneous expenditures. Several subcategories were provided for this last item, to help the respondent systematically think through this area. Finally, Item E again asked for a summary of the total expenditures involved for the school year. The instructions indicated that the spending pattern total derived in Section II should normally equal the resource total arrived at in Section I. However, discrepant figures were accepted as presented in the evaluation unless the totals were more than \$200 different. Cases exceeding this limit were

followed up by a telephone call for clarification before submission (Note--the group requiring such follow-up totaled only 59 cases, or some 10% of the total of 634 usable responses). In all cases, however, final family decisions were accepted. The addition in this section was also checked carefully prior to key punching.

Section III was provided to enable families to explain dollar differences between Sections I and II, and proved very helpful in dealing with such cases.

Finally, Sections IV and V were included to obtain information regarding two family characteristics which were suspected as possibly affecting the family's perceived ability to contribute toward their student's educational expenses. Other such items were drawn separately from the financial statement and program application in the respondent's file; but since these two factors were not present there they had to be collected on the questionnaire instrument itself. In Section V, pertaining to family residence, no category definitions were provided since those commonly accepted by the Bureau of the Census were perceived as being too intricate and confusing. Thus, this Section represents simply the family's perceived residential status.

Several methods were used to assess the actual reliability of the instrument. Before reviewing these procedures, however, the basic concept in question must be defined. Robert Ebel states, in this regard, that:

"The term 'reliability' means the consistency with which a set of test scores measure whatever they do measure."⁹

In one attempt to assess overall "consistency" a random sample of 25 cases was selected manually from the same study population (exclusive of the actual study sample group) and each was mailed a draft copy of the final questionnaire along with a request for their assistance in completing and evaluating the form. Four days after mailing, each family was contacted by phone. All had received the materials and 18 expressed willingness to cooperate. These 18 families were each given 10 days to complete the form, after which they were interviewed by phone regarding each item on the questionnaire and the overall impressions that the document and instructions had had on them. No problems of interpretation were expressed by this pilot group, and each family, upon specific questioning, expressed a clear and uniform understanding of both the individual items involved as well as the overall purpose of the survey itself.

The only substantive comment offered was that the information requested was at times difficult to recall since no specific records had been kept. This seemed to especially be true for cases where the student was residing in the home while attending school. The suggestion offered by several families in this regard was that study support should be elicited at

⁹Ebel, Robert L. Measuring Educational Achievement, Englewood Cliffs, New Jersey: Prentice-Hall, 1965, p. 310. (Note: While Dr. Ebel's definitions are specifically test oriented, the underlying premises are applicable to other types of experimental measures.)

the outset of the academic year and assistance provided for participating families in keeping of monthly expense logs. This suggestion is discussed further in Chapter 5 of this study.

The extensive discussions held with, and input provided by the various professionals in the financial aids field in the construction of the questionnaire itself, as delineated earlier in this chapter, also supported the consistency of interpretation of the final instrument.

A specific measure of response reliability was built into the data collection process itself. Prior to the mailing of a follow-up letter to nonrespondents, 20 students who had responded were randomly selected and also mailed the regular follow-up packet with the indication that no initial response had actually been received. All 20 members of this subgroup returned the second form, and the correlation between these duplicate responses was used as a second measure of overall instrument reliability. Since the second mailing took place approximately a month after the first, and the materials neither provide a file copy of the questionnaire for the family nor recommend or direct them to make one, it can be assumed that neither memory nor physical records should have substantially influenced this duplicate response. An overall correlation coefficient was subsequently computed for the 20 data items involved on each such pair of questionnaire forms. The resultant average correlation of .759 was clearly significant at the .01 level when the coefficients were converted to standard (Z) scores and tested

for this purpose (a minimum overall average correlation coefficient of .479 would have been required for statistical significance with an N of 20 cases). Thus, the statistical reliability of the instrument was also demonstrated.

Finally, the limited research available seems to indicate that actual income and expenditure data are more reliable than projected figures.¹⁰ The logic of this argument can be carried over into year-end reported contribution information as well. Since the study was administered during the summer of 1972, for the previously completed 1971-72 academic year, the data should be both fresh and final, thus facilitating accuracy of response.

The related issue of this instrument's validity must also be evaluated. Again, by way of initial definition, Ebel states that:

"The term 'validity' means the accuracy with which a set of test scores measure what they ought to measure."¹¹

In light of the exploratory nature of this study, full consensus regarding the validity of such a measure must await further investigation and replication of the procedures and overall design approach involved. However, an intuitive

¹⁰See for example:

a. Orwig, Melvin. Toward More Equitable Distribution of College Student Aid Funds..., op. cit., pp. 5-6.

b. Sharon, Amiel and Horch, Dwight. "Accuracy in Estimating Parents' Contributions to Students' College Expenses," The Journal of College Student Personnel, Vol. 13, No. 5, September, 1972, pp. 448-451.

¹¹Ebel, Robert L. op. cit., p. 310.

measure of face validity was made through the consensus reached with financial aid experts concerning both the questionnaire format and content prior to the instrument's finalization. The general consistency of interpretation found in the pilot sample also supports the overall validity of the document.

Finally, the potential problems raised by Type I (Alpha) and Type II (Beta) Errors must also be discussed. As defined by Glass and Stanley, a Type One Error constitutes wrongly rejecting the null hypothesis in a specific instance; whereas a Type Two Error constitutes wrongly accepting the null hypothesis.¹² After careful discussion of these points with the Office of Research Consultation in the College of Education at Michigan State University, the conclusion was reached that there would be no way to comprehensively safeguard against these two problems in this type of exploratory survey research. With the limited body of data in this field, each area explored represents quite literally "virgin territory." Thus, when such a study is undertaken, a number of different basic tests are run on each respondent. This duplication invariably raises the Alpha or Type One Error potential since such probability factors are cumulative in nature. However, this limitation can only be accepted and acknowledged until the field develops a better data base so that each investigation need not be so comprehensive in scope.

¹²Glass, Gene V. and Stanley, Julian C. Statistical Methods In Education and Psychology, Englewood Cliffs, New Jersey: Prentice-Hall, 1970, p. 284.

The related Type Two, or Beta, Error problem cannot really be addressed at this juncture, since its determination presupposes that the researcher knows what the true differences between actual and reported data are. At this point, neither the real vs. expected family contribution differences nor the real vs. computed educational budget differences are available for such a comparison. Indeed, they may never fully be known, since both factors are constantly in a state of flux within the priority systems of individual families and the economic milieu of society at large. Thus, this study must proceed with full recognition of the limitations of interpretation imposed by these uncontrollable factors.

Data Collection

In June, 1972, final questionnaire and cover letter documents were drafted and printed in cooperation with the Michigan Department of Education. The cover letter (Appendix A) and final questionnaire document (Appendix B) were then mailed, with enclosed preaddressed and postage paid return envelopes, to the 1,121 member sample on July 12, 1972. A return deadline of July 31, 1972, was listed in the cover letter.

By August 5, 1972, 402 usable returns had been received. At this point, the random reliability subsample of 20 cases was selected from these 402 respondents, and a follow-up letter (Appendix C) was prepared and mailed on August 8, 1972,

to the remaining sample members (the 719 nonrespondents and the 20 initial respondents in the reliability sample). The return deadline requested on the follow-up letter was September 11, 1972. By September 25, 1972, an additional 232 usable responses had been received along with the second response from the entire 20 member reliability sample. Processing was begun at this juncture and no further responses were accepted beyond that point (a total of only 3 such late forms were received after this cutoff). Each response was hand screened prior to submission of the form to the Michigan Department of Education's data processing facilities for key punching. This was done both to screen out unusable responses and to facilitate the review of each form for stray marks and misplaced data which might have caused key punching errors.

At the same time, comparison data was drawn from each respondent's file and concurrently submitted on layout forms to data processing for key punch. The comparison data involved included information regarding expected family contribution from the College Scholarship Service, Parents Confidential Statement, the institutional budget figure in use for the student's school by the Michigan Scholarship and Grant Programs for the 1971-72 school year, and a variety of family parameters whose effect on budget and contribution discrepancies were later to be evaluated.¹³

¹³In relation to the program budget figure entered, it should be noted that in cases of mid-year transfer, the appropriate proportions of the standard budget figures were combined to create the necessary formalized hybrid.

Table 3.7 contains a summary of the respondents. The questionnaire response items were punched onto one data processing card and the file comparison data on another. The two were subsequently matched in evaluation on the basis of the student's social security number which appeared on both.¹⁴ Once key punching was completed, the data cards were processed at the Michigan State University Computer Center.

¹⁴Appendix D contains a detailed description of these forms.

Table 3.7

Study Respondents

Initial Study Population	=	24,000	
Initial Random Sample	=	1,200	(5% Population)
Independent Cases and Ones With No Financial Statement On File		- 79	
Final Mailing Sample	=	<u>1,121</u>	
Total Responses Received	=	646	(58% Mailing Sample)
Unusable Forms	=	- 12	
Total Usable Responses	=	<u>634</u>	(57% Mailing Sample)

Respondent Characteristics

1. Sex			
Male	344	(53%)	
Female	<u>290</u>	<u>(47%)</u>	
	634	100%	
2. Race			
White	601	(95%)	
Non-white	<u>33</u>	<u>(5%)</u>	
	634	100%	
3. Class Level			
Freshman	280	(44%)	
Sophomore	155	(24%)	
Junior	111	(19%)	
Senior	<u>88</u>	<u>(13%)</u>	
	634	100%	
4. School Type			
2-Year Public	221	(34%)	
4-Year Public	353	(56%)	
2- & 4-Year Private	<u>60</u>	<u>(10%)</u>	
	634	100%	
5. Family Net Income			
0 - \$ 4,999	62	(10%)	
\$ 5,000 - \$ 9,999	200	(31%)	
\$10,000 - \$14,999	244	(38%)	
\$15,000 -	<u>128</u>	<u>(21%)</u>	
	634	100%	
6 Age			
- 19	441	(70%)	
20 - 22	179	(28%)	
23 -	<u>14</u>	<u>(2%)</u>	
	634	100%	

Study Design With Reference to Hypotheses and Data Analysis

Although this study was technically descriptive in nature, due to the paucity of research in this field, it was also largely exploratory in nature, entering a primarily unexamined area. It is hoped that this design and the data obtained can provide a foundation from which more extensive and sophisticated future research can be generated.

This study was not undertaken with the intention of arguing for the "reasonability" of any specific contribution expectation level or student expenditure pattern. However, it has provided opportunity for extensive comparisons between reported and expected family contribution figures, reported and formally developed school budgets, and the subsequent investigation of the difference scores found in this process. The ultimate program and policy decisions to be drawn from these results must reflect appropriate consideration of the total range of ramifications and alternatives involved.

The analysis of the data began with an overall search for potential differences between expected family contributions and reported family participation in the student's educational expenses; as well as between formally developed school budgets and reported budget expenditures. This portion of the analysis took the form of a series of t tests which were performed on the appropriate comparison data items. This analysis could be depicted graphically as follows:

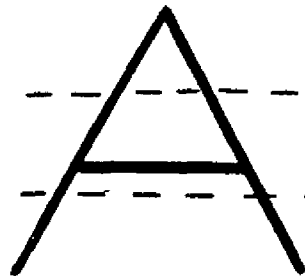
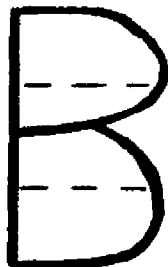
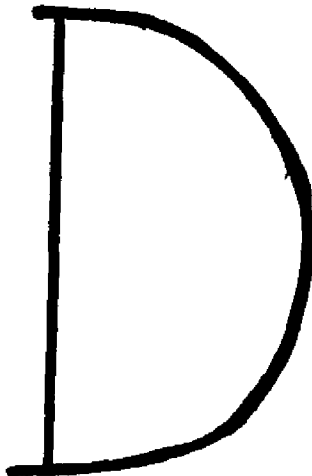
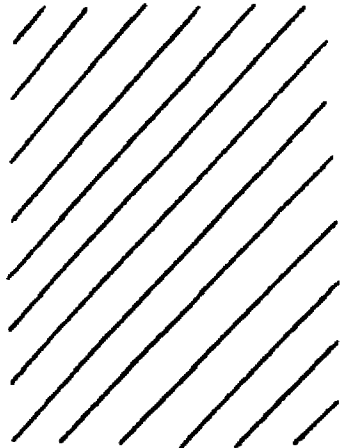
A ₁			B ₁		
A ₂			B ₂		
A ₃			B ₃		
					
TOTAL			TOTAL		

Figure 3.1. t Test Research Design

A = Expected family contribution for the 1971-72 academic year as computed by the College Scholarship Service needs analysis system through review of their Parents' Confidential Statement.

A₁ = expected parental contribution figure for this period.

A₂ = expected student summer earnings contribution figure for this period.

A₃ = expected student asset contribution figure for this period.

B = Actual reported family contribution for the 1971-72 academic year.

B₁ = actual reported parental contribution for this period.

B₂ = actual reported student summer earnings contribution for this period.

B₃ = actual reported student asset contribution for this period.

C = Total financial aid package reported for the 1971-72 school year.

D = School budget used by the Michigan student assistance programs for the student's chosen institution for the 1971-72 school year.

From this graphic display, it is noted that overall "expected"/"actual" family contribution differences were found by comparing factors A and B for each respondent in a t test evaluation for significant difference. The various facets which make up the "expected" family contribution (parental, student earnings, and student asset inputs) were similarly compared with their reported "actual" counterparts in separate t test measures across subjects. Then, too, a comparison of "predicted" budget and "actual" reported budget was accomplished by comparing item D and the sum of items B and C (where applicable) in yet another t test design across all subjects. Finally, in this section of the analysis a correlation of overall contribution differences ($A - B$) and overall budget differences ($D - \{B+C\}$) was performed, to see if discrepancies noted in these two areas tended to be related.

These specific tests could be diagrammed as follows:

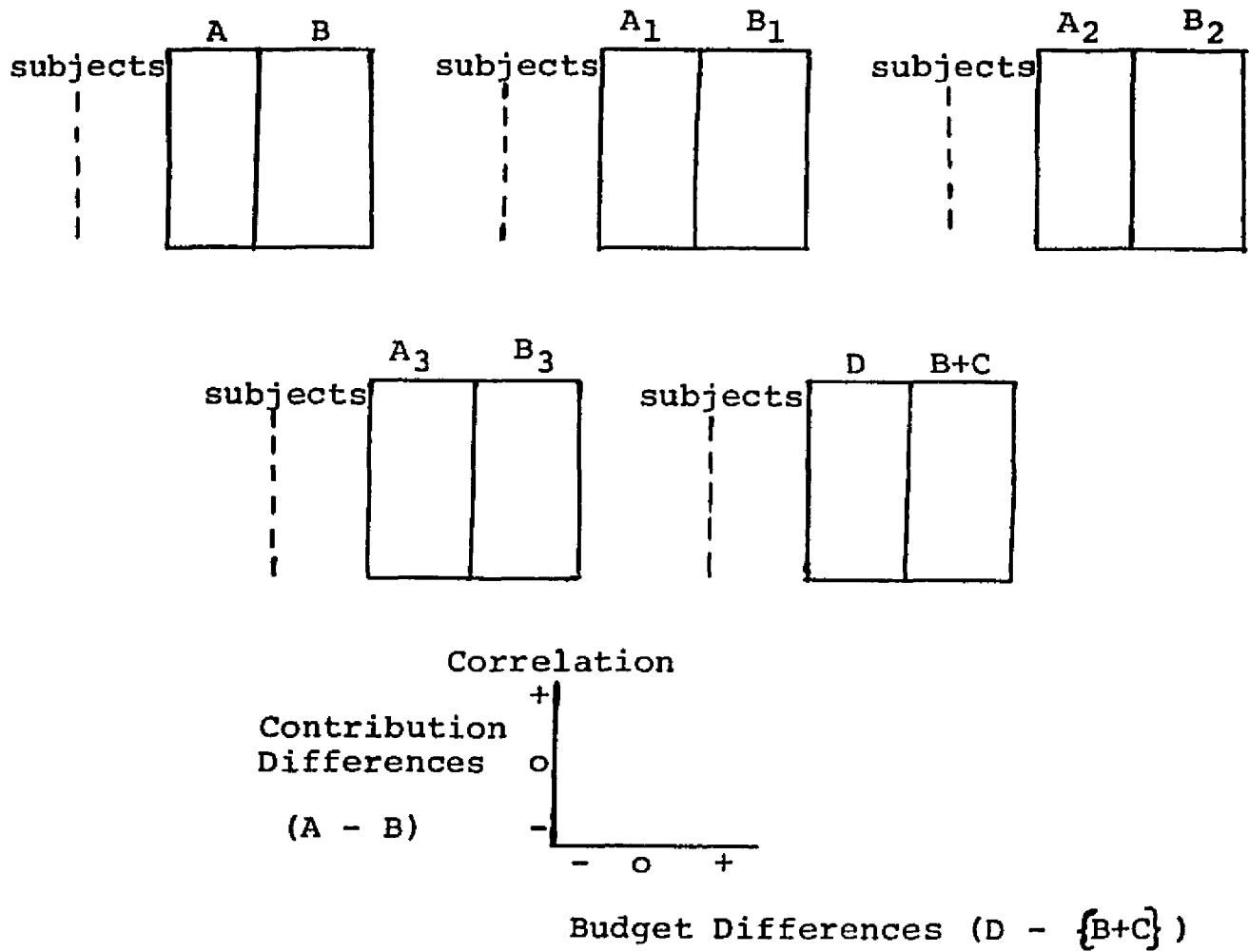


Figure 3.2. ANOVA Research Design

The hypotheses which generated this section of the analysis are stated as follows in final research form:¹⁵

1. No (significant) difference will be found between expected family contribution and actual reported family contribution.

(Equation Format, $H_0: A = B$)

2. No (significant) difference will be found between expected parental contribution and actual reported parental contribution.

(Equation Format, $H_0: A_1 = B_1$)

3. No (significant) difference will be found between expected student summer earnings contribution and actual reported student summer earnings contribution.

(Equation Format, $H_0: A_2 = B_2$)

4. No (significant) difference will be found between expected student contribution from assets and actual reported student asset contribution.

(Equation Format, $H_0: A_3 = B_3$)

¹⁵All hypotheses in this study were presented in the classic null format because current needs analysis and budget preparation procedures have traditionally been accepted by experts as both equitable and accurate. Thus, no significant differences should be expected. If an alternate hypothesis was posed in each case, it would have to simply posit an absolute relationship without regard to direction, since so little data exists as to the direction in which such relationships might flow. To insure the broadest research coverage in this regard, all tests employed used a "two-tailed," nondirectional analysis to insure full coverage of any possible differences.

5. No (significant) difference will be found between predicted student school budget and actual reported total budget expenditures.

(Equation Format, $H_0: D = B+C$)

6. No (significant) correlation will be found between overall family contribution difference scores and expense budget total difference scores.

(Symbolic Format: $(A-B)$ and $\{D-(B+C)\}$ not correlated)

The .01 significance level was used in testing all hypotheses to try and control the Alpha and Beta Error factors alluded to earlier in this chapter.

The second major phase of the study analysis concerned itself with an evaluation of the difference scores found on the first 5 tests completed in the initial analysis phase. A number of family parameters were tested in separate one-way ANOVA designs, using each of the 5 difference scores as succeeding dependent measures; to see if any of these factors might, in fact, have a significant impact upon these apparent discrepancies between actual reported contribution and budget information, and their expected or anticipated counterparts.

The dependent variables utilized in each of these ANOVA designs can be formulated as follows:

$$A - B$$

$$A_2 - B_2$$

$$D - (B+C)$$

$$A_1 - B_1$$

$$A_3 - B_3$$

In each case, the actual reported figure was subtracted from

the expected figure for consistency of interpretation.

In this manner, the impact of the 18 family parameters on each of the 5 difference scores identified was assessed. The categorical groupings used for each family variable parameter, and the source of the data are summarized as follows:

1. Family Educational Background

(highest level attained by either parent):

- a. 0 - 8th Grade
- b. 9 - 12th Grade
- c. Post High School - B.A. Degree
- d. Graduate Level Study

This data was obtained on the questionnaire, as it was not available in the student's file.

2. Family Residence

(as perceived by family)

- a. Rural Setting
- b. Small Community
- c. Suburban Setting
- d. Urban Setting

This data was obtained on the questionnaire, as it was not available in the student's file.

3. Average Parental Age (as of September 1, 1971)

- a. - 40 years old
- b. 41 - 50 years old
- c. 51 - 60 years old
- d. 61 - years old

This data was obtained from the student's file.

4. Number of Parental Retirement Programs

(major wage earner)

- a. - 1 program
- b. 2 - programs

This data was obtained from the student's file.

5. Number of Dependent Children In the Home

(as of September 1, 1971)

- a. 1 - 3 children
- b. 4 - 6 children
- c. 7 - 9 children
- d. 10 - children

This data was obtained from the student's file.

6. Number of Dependent Children in Full-time

Post-secondary Study (as of September 1, 1971)

- a. 1 in full-time post-secondary study
- b. 2 in full-time post-secondary study
- c. 3 - in full-time post-secondary study

This data was obtained from the student's file.

7. Number of Blood Parents in the Home

(as of September 1, 1971)

- a. 0 Blood Parents in the home
- b. 1 Blood Parent in the home
- c. 2 Blood Parents in the home

This data was obtained from the student's file.

8. Number of Stepparents/Guardians in the Home

(as of September 1, 1971)

- a. 0 Stepparents/Guardians in the home
- b. 1 Stepparent/Guardian in the home
- c. 2 Stepparents/Guardians in the home

This data was obtained from the student's file.

9. Family Race

- a. White
- b. Non-white

This data was obtained from the student's file.

10. Student's Age (as of September 1, 1971)

- a. - 19 years of age
- b. 20 - 22 years of age
- c. 23 - years of age

This data was obtained from the student's file.

11. Student's Sex

- a. Male
- b. Female

This data was obtained from the student's file.

12. School Type Attended (as of September 1, 1971)

- a. 4-year public
- b. 2-year public
- c. 4-year private
- d. 2-year private

This data was obtained from the student's file.

13. Student's Residency Plan (as of September 1, 1971)

- a. Resident
- b. Commuter

This data was obtained from the student's file.

14. Net Parental Income for 1971 (as projected on the Parents Confidential Statement and used as the need analysis basis for 1971-72 academic year awards)

- a. \$ - \$ 5,000
- b. \$ 5,001 - \$10,000
- c. \$10,001 - \$15,000
- d. \$15,001 - \$20,000
- e. \$20,001 -

This data was obtained from the student's file.

15. Number of Parents Employed (as of September 1, 1971)

- a. 0 employed
- b. 1 employed
- c. 2 employed

This data was obtained from the student's file

16. Parental Adjusted Effective Income Level (This figure represents the adjusted parental income and asset figure from which the expected parental contribution factor is directly extracted)

- a. 0 - \$ 5,000
- b. \$ 5,001 - \$10,000
- c. \$10,001 - \$15,000
- d. \$15,001 - \$20,000
- e. \$20,001 -

This data was obtained from the student's file.

17. Percentage Adjusted Effective Income Level From Assets

- a. 0 - 25%
- b. 26 - 50%
- c. 51 - 75%
- d. 76 - 100%

This data was obtained from the student's file.

18. Student's School Class (as of September 1, 1971)

- a. Freshman
- b. Sophomore
- c. Junior
- d. Senior

This data was obtained from the student's file.

These 18 factors were selected because financial aid officers have often felt that they seemed to influence various families' perceived ability to contribute to their students' educational expenses. Originally, a variety of

two-way ANOVA designs had been proposed in an effort to test several interaction effects as well in this process. However, this plan was abandoned because the two-way selections would, at best, have been arbitrary pairings. With no real logic and evidence to support the combinations made, it was felt by the Office of Research Consultation that the inclusion of such arbitrary interaction evaluations might statistically detract from the rigor of the main effect evaluations while not lending sufficient weight of new information to the study to justify their use. Also, two-way pairings would, at best, have covered but a smattering of the possible overall interaction effects present. Perhaps more sophisticated subsequent research could better build on these initial one-way ANOVA results and explore this interesting area more closely.

Building on the 18 independent one-way ANOVA analysis variables identified, covering all 5 difference scores for each such family parameter, a total of 90 separate hypotheses could theoretically be generated. However, due to the highly speculative nature of this exploratory work, one overall hypothesis was used to encompass this arena. This hypothesis, again, was phrased in the null format, since current systems of needs analysis and budget construction have intuitively been perceived as adequate and equitable by experts in the field for many years. The comprehensive hypothesis in question is stated as follows:

(Hypothesis 7): The 18 family parameters identified will not (significantly) affect any difference scores identified in hypotheses 1 - 5.

The third major area of the research design entailed the development of a regression equation built around the family parameters identified in the second section, in an effort to investigate whether or not these factors could be used to actually predict potential difference scores in the 5 areas identified in the first section. In preparing these regression formulae, only 13 of the original 18 family parameters could be utilized because such equations can only utilize sequential (quantitative) parameters in a meaningful way. Thus, the categorical variables involved had to be deleted from consideration.¹⁶ The usable variables included:

1. Family Educational Background
2. Average Parental Age
3. Number of Parental Retirement Programs
4. Number of Dependent Children in the Household
5. Number of Dependent Children in Full-time
Post-secondary Study
6. Number of Blood Parents in Household
7. Number of Stepparents/Guardians in Household
8. Student Age

¹⁶By definition, categorical variables cover nominal scale data where the categories represent only unique subdivisions of an overall whole. Sequential variables, on the other hand, include data which has a relative scale or ranking of importance involved. The regression equation format can only utilize the latter.

9. Net Parental Income
10. Number of Parents Employed
11. Adjusted Effective Income Level
12. Percentage Adjusted Effective Income From
Income Supplement
13. Student's School Class

Using these variables, a separate regression equation was constructed for each of the 5 difference scores identified in the first section of the design. The relative importance of each variable in each equation was also evaluated in this process.

Theoretically, at least one separate hypothesis could be constructed about the nature of each equation. But, here again, due to the extremely exploratory nature of this research, only one formal umbrella hypothesis was developed. This, again, took the null format since the assumption to this juncture has been that there should be no systematic discrepancies between theoretical expectation and recorded reality to predict via such methodology.

(Hypothesis 8): The (13) family parameters identified will not (significantly) predict any difference scores identified in hypotheses 1 - 5.

Finally, the fourth major section of the data analysis consisted of a variety of summary statistics regarding the various contribution patterns and expenditure schedules identified in the questionnaire itself. Such data means or averages should be of assistance to the various needs

analysis organizations and those responsible for constructing various educational budgets, as a possible yardstick of comparison for their present machinery and procedures.

Summary

The discussion in this chapter has centered around the identification of the overall State assistance applicant population and random sample selected from it for this study. Procedures and techniques used in designing the survey instrument itself, conducting the pilot study, and completing the actual data collection process were also described. The questions of reliability, validity, and Alpha and Beta Error factors were also discussed. Finally, the study design itself along with its related hypotheses and statistical techniques were identified as well. With this map or plan, as a backdrop, the actual study results can be dealt with next in Chapter 4.

CHAPTER IV

DATA ANALYSIS

Introduction

The data analysis procedures involved in this study were divided into four main segments or sections. The first section entailed a test for significant differences between the overall expected family contribution calculation and actual reported year-end input on the family's behalf; as well as corresponding subtests between the expected parental portion of this overall family contribution and its year-end reported counterpart, between the expected student summer earnings component of the computed family contribution and its year-end reported counterpart, and between the expected student assets input component of the overall family contribution figure and its year-end reported comparison figure. The first section of the analysis also included a test of significant differences between computed school budgets and actual reported year-end expenditure totals. Each of these tests were accomplished via separate "two-tailed" t tests, utilizing the .01 significance level. This section concluded with an overall correlation of family contribution and budget differences to see if these two factors might, in fact, appear to be related.

The second main portion of the analysis focused around

the evaluation of the 5 difference scores found in the t tests in the first section, to see if they might be significantly affected by any of 18 family parameters selected. For this purpose, separate "one-way" ANOVA designs were used pairing each family parameter as the independent measure and each difference score as the dependent measure. These 90 tests (18x5) were also conducted at the .01 significance level.

The third major section of the data analysis incorporated the 13 sequential family parameters found in the initial listing of 18, into separate regression equations for each of the 5 overall difference scores identified in the first section, in an attempt to assess the relative value of these 13 factors as predictors of the 5 different types of difference scores involved.

The fourth and final section of the data analysis included a series of summary statistics built from the various resource and expenditure categories found on the questionnaire instrument itself. It was thought that these figures could be of interest to practitioners in the financial aids field as they daily involve themselves in the questions of needs analysis and institutional budget construction.

Progressing through these major analysis segments, the specific research hypotheses are reintroduced in the same order in which they were found in Chapters I and III respectively. A brief verbal and graphic portrayal of each

section's major findings is made, followed directly by a section interpreting and discussing the specific data involved. A brief conclusion section is then provided at the end of the chapter to summarize the data involved.

Analysis of First Section Findings - The Overall Difference Scores

The first four hypotheses in this section focused upon the differences between various aspects of the College Scholarship Service needs analysis expected family contribution figure, as derived for each respondent, and the actual contributions, as reported in these categories by the family itself after the close of the 1971-72 academic year. The first such t test compared the overall expected family contribution figure, as determined for the family in question by the College Scholarship needs analysis system for the 1971-72 school year, with the actual reported family contribution figure as submitted by that family on the study questionnaire at the end of the 1971-72 academic year. The second t test involved a comparison of the assessed parental input portion of the expected family contribution with the actual questionnaire reported parental contribution as submitted at the end of the 1971-72 school year. The third t test consisted of a comparison between the assessed student summer earnings portion of the College Scholarship Service expected family contribution and the actual summer income from the summer of 1971, reported as having been available to the student during the 1971-72 school year on

the year-end questionnaire. The fourth t test involved a comparison of the assessed student asset input portion of the College Scholarship Service family contribution figure and the actual input contribution from student asset resources which were on hand prior to the summer of 1971 as reported on the year-end questionnaire.

The hypotheses which generated these tests were stated in Chapter III as follows:

H_{01} :No (significant) difference will be found between expected family contribution and actual reported family contribution.

H_{02} :No (significant) difference will be found between expected parental contribution and actual reported parental contribution.

H_{03} :No (significant) difference will be found between expected student summer earnings contribution and actual reported student summer earnings contribution.

H_{04} :No (significant) difference will be found between expected student contribution from assets and actual reported student asset contribution.

The results of the t tests involved are highlighted in Table 4.1.

Table 4.1

t Test Comparison of Expected and Actual
Reported Contribution Figures

<u>Comparison Made</u>	<u>Mean Expected</u>	<u>Mean Actual Reported (1,536)**</u>	<u>Mean Difference (245)</u>	<u>Signifi- cance <(.0005)*</u>
Overall Family Contribution	1,781	- 1,657	= 124	.006*
Parental Contribution	1,234	- 988	= 246	<.0005*
Student Summer Earnings Contribution	446	- 425	= 21	.262
Student Asset Contribution	102	- 123	= -21	.055

*demonstrated significant difference at the .01 level

**the \$1,536 figure reported mean represents only the direct parental, student summer earnings, and student asset component. The companion \$1,657 figure reported mean includes consideration of average Social Security, Veterans Administration and Vocational Rehabilitation input as well as mean reported contribution from other relatives. This latter figure was provided for the consideration of those who would conclude that these additional inputs more correctly should be part of the family contribution figure than the financial aid figure. It should be noted in this regard that statistical significance was found with both approaches. All tests of difference scores in this study have exclusively utilized the former approach.

Based upon this analysis, the null hypotheses positing no significant differences between expected vs. actual reported overall family contribution figures (H_{01}) and expected vs. actual reported parental contribution figures (H_{02}) were rejected; but those predicting no significant differences between expected vs. actual student summer earnings figures (H_{03}) and expected vs. actual student asset contribution figures (H_{04}) were not rejected.

The fifth hypothesis in this analysis section focused upon a comparison of institutional budget figures, as used by the Michigan Department of Education's Division of Student Financial Assistance Services in its award determination process for the 1971-72 school year, and actual total budget expenditures as reported by questionnaire at the end of the 1971-72 school year. This hypothesis was stated as follows in Chapter III:

H_{05} : No (significant) difference will be found between predicted school budget and actual reported total budget expenditures.

The results of the t test involved in this hypothesis is highlighted in Table 4.2.

Table 4.2

t Test Comparison of Expected and Actual
Reported Expenditure Budget Figures

<u>Comparison Made</u>	<u>Mean Expected</u>	<u>Mean Actual Reported</u>	<u>Mean Difference</u>	<u>Signifi- cance</u>
Total Budget Expenditures	2,578	- 2,879	= -301	$\leq .0005^*$

*demonstrated significant difference at the .01 level

Based upon this analysis the hypothesis which posited no significant difference between expected and actual budget expenditures was rejected.

The mean overall expected vs. reported contribution data by collection category are listed as follows in Table 4.3.

Table 4.3

Overall Mean Contribution Data

Expected Contribution Totals		Reported Contribution Totals	
1. Parental		1. Parental	
Contribution	\$1,234	Contribution	\$ 988
2. Student Summer		2. Other Relative	
Earnings		Contribution	53
Contribution	446	3. Student Asset	
3. Student Asset		Contribution	123
Contribution	102	4. Student Summer	
4. Mean Remaining		Earnings	
Need for		Contribution	425
Assistance*	<u>817</u>	5. Student Financial	
5. Mean Standardized		Aid**	<u>1,311</u>
Budget Utilized***	\$2,599	6. Total Contribution	
		Reported***	\$2,900

*computed as a remainder

**sum of grants, loans and school year employment, etc. as outlined in Table 4.4 (some of the school year employment has evidently been undertaken privately without the guidance of the financial aids office, and thus could not be considered need based financial aid in the traditional sense of the term as used in this study).

***contribution totals of Table 4.3 were not required to exactly match expenditure totals of Table 4.2. In most cases, they did per questionnaire suggestion, but discrepancies were not forced. (See Chapter III for procedural discussion on this point.)

The sixth and final preplanned hypothesis to be discussed in the first analysis section attempted to ascertain whether or not there was a significant (.01) correlation between the overall family contribution differences and budget expenditure discrepancies demonstrated above. This hypothesis was stated as follows in Chapter III:

H₀₆:No (significant) correlation will be found between overall family contribution difference scores and expense budget total difference scores.

Since a significant difference was also found above between the expected and actually reported year-end statement of the parental contribution portion of this overall family contribution, a hypothesis testing the overall correlation of this difference score and that found between budget discrepancies was also calculated. This hypothesis could be stated as follows in the null format:

H_{06a} : No (significant) correlation will be found between parental contribution difference scores and expense budget total difference scores.

Upon analysis, a correlation coefficient of .389 was found between overall family contribution difference scores and budget difference scores; and a correlation coefficient of .249 was found between parental contribution difference scores and budget difference scores. With the respondent group numbering 634 in this study, both of these coefficients prove to be statistically significant at the .01 level. Thus, both hypotheses (H_{06} and H_{06a}) would be rejected. The fact that both correlation coefficients were positive also indicated that a direct relationship existed in both cases. In other words, as the size of the expected minus actual overall family or parental contribution difference score increased, so did the size of the expected minus actual budget difference score.

Interpretation of First Section Findings

This section of the study has revealed that the average

expected family contribution figure, as derived by College Scholarship Service methodology on this Michigan sample for the 1971-72 academic year, tended to be significantly higher than the actually reported family contribution for this period, as submitted at the end of the academic year. An overall mean difference of some \$124 was noted in this regard. Even a larger discrepancy was noted between the expected parental contribution, as determined by College Scholarship Service, and the contribution actually reported by parents for this same period. Here the expected parental input proved to be, on the average, \$246 higher than that actually reported at the end of the 1971-72 academic year. Similar differences between expected and actual student summer earnings, as well as between expected and actual student asset contributions, however, did not prove to be significantly discrepant.

The flow of the differences, as shown in Table 4.1, also was of note. With consistent subtraction of actual from expected contribution figures, it was found that overall expected family contribution was higher than that actually provided, and that the main influence involved here seemed to be the substantial discrepancy between expected and actual parental input. While expected student summer earnings contributions also exceeded their actual reported counterparts by some \$21 on the average, this difference was not significant. Only the expected student asset contribution reversed this trend, as, here, actual reported

contributions actually exceeded expectations by some \$21.

Table 4.2 indicated, on the other hand, that, in terms of overall resources expended, the average reported budget utilized actually exceeded the expected budget figures in use by the Department of Education's Division of Student Financial Assistance Services for the 1971-72 school year by some \$301 on the average. These two tables indicated the presence of divergent trends. Expected contribution figures, on the one hand, tend to exceed reported contribution figures. Overall reported budget expenditures, on the other hand, tended to substantively exceed their expected counterparts. The primary explanation for these two divergent trends, as highlighted in Table 4.3, seems to lie in the substantially higher student financial aid figure as reported by the families on the questionnaire form than would be warranted from a strict interpretation of the demonstrated need present as defined by the difference between expected family contribution and standardized budget.

An overall breakdown of the reported \$1,311 average student aid package noted in Table 4.3 was outlined in Table 4.4 as follows:

Table 4.4

Summary of Reported Student Aid Package

<u>Source</u>	<u>Amount</u>
Grants and Scholarships	\$ 667
Loans	220
Work during the 1971-72 school year	324
SS/VA/VR Benefits*	85
Other aid sources	<u>15</u>
Total	\$ 1,311

*Social Security, Veterans Administration, and Vocational Rehabilitation Educational Benefits respectively.

The projected need for outside student aid following the formal needs analysis formula should have been only \$817 on the average (see Table 4.3). This left a discrepancy of some \$494 between formally computed need and total size of the average reported aid package. Since the great majority of student scholarship and grants, and even some loans, reflect traditional needs analysis thinking in their distribution, it must be concluded that much of the sizable academic year work component reported along with some of the loans taken out were actually undertaken on a voluntary basis and, thus, helped not only make up for large deficiencies in the parental segment of the overall expected family contribution, but also helped lead to an average overall reported budget that significantly exceeded that utilized by the Michigan Department of Education.

The final hypotheses (H_{06} and H_{06a}) tested in this section were rejected, demonstrating that there is a

significant and direct correlation between both family and parental contribution difference scores, and overall expense budget difference scores. Thus, as the total reported family contribution, or its parental subsection tends to decrease in comparison to the expectation levied, the excess of the reported overall expense budget over its formalized counterpart tends to increase. No rationale is available at this juncture which would fully explain this relationship, but perhaps there exists an inverse relationship between parental support and individual student self-help incentive which should be explored further.

Analysis of Second Section Findings -
The Family Parameters and the Difference Scores

The second major portion of the study focused around the evaluation of the 5 t test difference scores found in the first segment of the analysis. Here, each of these 5 difference score parameters (overall contribution difference, parental contribution difference, student summer earnings contribution difference, student asset contribution difference, and overall budget difference) was utilized as a dependent variable for each of the 18 family circumstance parameters identified to see if the latter might indeed be having a significant effect on the former. For this purpose, a series of separate "one-way" ANOVA designs were used, pairing each family parameter independent measure with each difference score dependent measure for evaluation. These 90 separate analyses (18x5) were all conducted at the

.01 significance level.

Actually, 90 separate hypotheses could have been generated to cover each of the specific situations tested. However, in light of the highly speculative and exploratory nature of this initial study, and in light of the study's previous assumption regarding the sufficiency of current needs analysis and budget determination processes to adequately speak to all types of family situations, which undergirds the null hypothesis stance consistently taken, it was decided to simply state one collective hypothesis for this overall segment of the research design. Subsequent research may wish to speak to this complex issue in more definitive terms. The collective hypothesis considered was stated as follows in Chapter III:

H₀₇:The (18) family parameters identified will not (significantly) affect the difference scores identified in hypotheses 1 - 5.

The overall results of the ANOVA tests employed are highlighted in Table 4.5.

Table 4.5

Summary of the Significance of
Family Parameter Effects on Contribution
and Budget Difference Scores

	Probability of Significant Effect on Dependent Difference Score Variable				
	Overall Family Contribution Difference Score A - B*	Parental Contribution Difference Score A ₁ - B ₁ *	Student Summer Earnings Contribution Difference Score A ₂ - B ₂ *	Student Asset Contribution Difference Score A ₃ - B ₃ *	Overall Expenditure Budget Difference Score D - (B+C)*
1. Family Background					
Educational Level	<u>.001</u>	.028	.757	.992	.130
2. Family Residence	<u>.032</u>	.004	.127	.792	.213
3. Average Parental Age	.286	<u>.513</u>	.033	.309	.130
4. Number of Parental Retirement Programs	<u>.0005</u>	<u>.0005</u>	.566	.069	.296
5. Number of Dependent Children	.287	.435	.135	.248	.624
6. Number of Children in Post-secondary Study	<u>.002</u>	<u>.0005</u>	.167	.568	.650
7. Number of Blood Parents in Home	<u>.0005</u>	<u>.007</u>	.231	<u>.0005</u>	.174
8. Number of Stepparents/ Guardians in Home	.204	.090	<u>.004</u>	<u>.0005</u>	.152
9. Family Race	.021	<u>.0005</u>	<u>.001</u>	<u>.639</u>	.354
10. Student Age	.117	<u>.187</u>	<u>.566</u>	.280	.056
11. Student Sex	.901	.416	<u>.009</u>	.861	<u>.008</u>

Table 4.5 (continued)

Summary of the Significance of
Family Parameter Effects on Contribution
and Budget Difference Scores

	Probability of Significant Effect on Dependent Difference Score Variable				
	Overall Family Contribution Difference Score A - B*	Parental Contribution Difference Score A ₁ - B ₁ *	Student Summer Earnings Contribution Difference Score A ₂ - B ₂ *	Student Asset Contribution Difference Score A ₃ - B ₃ *	Overall Expenditure Budget Difference Score D - (B+C) *
12. Type of School Attended	<u>.002</u>	<u>.004</u>	.415	.079	.397
13. Student Residency Plan	<u>.0005</u>	<u>.0005</u>	.853	.920	<u>.0005</u>
14. Net Parental Income	<u>.0005</u>	<u>.0005</u>	.930	.833	<u>.024</u>
15. Number of Parents Working	<u>.0005</u>	<u>.0005</u>	.999	.307	.034
16. Adjusted Effective Income Level	<u>.0005</u>	<u>.0005</u>	.337	.528	<u>.009</u>
17. Percentage of Adjusted Effective Income From Income Supplement (Assets)	.183	.034	.110	.128	.735
18. Student's Year in School	.274	.760	.305	.778	.023

*Formulae for the respective difference scores are diagrammatically displayed in Figure 3.1.
These identical formulae are subsequently reproduced in selected tables.

The significance probabilities underlined in the chart indicate the situations under which a specific family parameter is significantly related to the respective difference score involved.

Thus, it must be concluded that the comprehensive hypothesis cited in relation to this segment of the analysis must be rejected under certain sets of conditions, as some of the family circumstances identified did significantly affect the various contribution and budget scores in question.

Interpretation of Second Section Findings

This section of the study revealed that various family circumstances or parameters did, in fact, significantly affect differences between various types of reported year-end educational contribution figures and their "a priori" expected counterparts. It also demonstrated that these same family conditions were at times significantly related to similar discrepancies between reported year-end expenditure totals and their formally composed counterparts as utilized by the Michigan Department of Education's Division of Student Financial Assistance Services, in its student assistance programs.

To fully interpret the impact of this overall conclusion, however, each family parameter's impact must be reviewed in greater depth.

First to be considered was family educational background.

From experience, many aid officers have periodically concluded that a family's perceived ability or willingness to contribute toward their student's post-secondary educational expenses is directly related to their own prior experience in this arena. With this concern in mind, the family was asked on the study questionnaire instrument to identify the highest educational level attained by either parent. These categorically aligned responses were then tested against each of the 5 difference scores involved to determine the overall effect of the parental education variable in this area. As Table 4.5 indicated, this family parameter did significantly affect the overall family contribution difference score, but did not so affect any of the other 4 difference scores. Table 4.6 summarizes the overall effect of the family educational background variable.

Table 4.6

Family Educational Background
Impact on Difference
Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. = 0-8th Grade	49	-389	-68	-26	-24	-459
2. = 9-12th Grade	345	81	198	13	-19	-333
3. = Post-High School - B.A. Degree	160	231	331	32	-25	-229
4. = Graduate Level Study	<u>80</u>	<u>412</u>	<u>467</u>	<u>56</u>	<u>-23</u>	<u>-213</u>
	N = 634	$\bar{X}$ = 124	246	21	-21	-301
		(Sig. = .001	.028	.757	.992	.130)

In reviewing the one significant test involved, that between family educational background and overall family contribution (A - B), it is of interest to note that the mean difference scores by category actually flow from a negative figure to succeeding higher positive figures as the categorical educational level of the parent increases. Since, as outlined earlier in Chapter III, actual reported contribution figures were consistently subtracted from their expected counterparts, it can be concluded that an inverse relationship actually exists between parental educational level and contribution. Families with lower educational levels were, in fact, reporting contributions which exceeded College Scholarship Service expectations, whereas more highly educated families consistently reported smaller contributions than were expected of them. This same trend held true as well, but not as dramatically, for specific parental contribution discrepancies ($A_1 - B_1$) and student summer earnings discrepancies ($A_2 - B_2$). No such pattern seemed to exist, however, for student asset contribution discrepancies ($A_3 - B_3$). Finally, it should also be noted that, in terms of budget differences, the formally composed figures used by the Michigan Department of Education were lower than those total expenditures at all levels of parental education ($D - \{B+C\}$). The size of the discrepancy seemed to diminish, however, as the parental educational level increased.

The second family parameter considered was that of family residence. Aid officers have periodically commented

that rural families seem to have less in the way of liquid resources and less in the way of interest in post-secondary study, and that this situation and attitude often tends to influence various families' perceived willingness to contribute toward their student's educational expenses. It was with that contention in mind that respondents were asked to identify their family residence along a rural/urban continuum, and that these categorized responses were subsequently compared against the difference scores in question.¹ As Table 4.5 indicated, this family parameter did significantly affect the parental contribution difference score, but did not so affect any of the other 4 difference scores involved. Table 4.7 summarizes the overall effect of this family residence variable.

¹The reader should note that the families were simply asked to self-select themselves into the continuum category which they perceived to be most accurate. The selection was not guided by specific Census Bureau definitions as it was felt that they might be too confusing.

Table 4.7

Family Residence Impact
on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. Rural	113	81	184	40	-39	-228
2. Small Community	143	149	247	48	-27	-225
3. Suburban	232	265	421	-35	-21	-351
4. Urban	<u>146</u>	<u>-88</u>	<u>11</u>	<u>67</u>	<u>-3</u>	<u>-354</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .032	.004	.127	.792	.213)

In reviewing the significant relationship found between parental contribution discrepancies and residency, it was of interest to note that, of all categories, urban parents most closely contributed amounts approximating their expected inputs (deviating by only \$11 on the average). Rural families were not the most discrepant, as might have been projected, however. Instead, suburban parents tended to most greatly deviate from their expected contribution patterns, providing, on the average, some \$421 less than was expected of them. Table 4.7 also points out that the largest discrepancies between computed Department of Education educational budgets and reported total resource expenditures ($D - \{B+C\}$) seems to occur among urban families. Perhaps urban life styles represent standards of living with unique expectations which are not presently being fully considered under present budgetary construction processes.

The third major family parameter receiving consideration was that of average parental age. It has been contended in financial aid circles that as parents near retirement age, they tend to put greater emphasis upon saving for this purpose, and thus might be less willing or able to support children in post-secondary study at this juncture. It was with that concern in mind that data regarding average parental age was gathered from each respondent's file and categorically submitted for comparison against the difference scores in question. As Table 4.5 indicated, however, no significant relationship was found in this regard. Table 4.8 summarizes the overall effect of this parental age variable.

Table 4.8

Average Parental Age Impact
on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. - 40 Years	60	245	336	-9	-30	-278
2. 41 - 50 Years	380	156	279	-14	-24	-266
3. 51 - 60 Years	174	57	153	107	-26	-348
4. 61 - Years	<u>20</u>	<u>-258</u>	<u>120</u>	<u>26</u>	<u>98</u>	<u>-628</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .286	.513	.033	.309	.130)

While no significant relationships were found here, it is interesting to note that in the case of overall family contribution difference scores (A - B), the oldest parental category seemed to actually contribute more than was expected whereas the younger subgroups did not. A similar trend in reduced discrepancies is noted in terms of the specific parental input difference scores, however, the actual parental contribution never really exceeds the expectations made in this category. Then, too, it should be noted that in terms of budget discrepancies ($D - \{B+C\}$), Department of Education formal figures appear most inadequate for students of older parents. The reason for this is not readily apparent, but, in speculation, it could be surmised that the older parents are also likely to be supporting older students with more extensive budget needs. Further research is definitely needed at this juncture. Regardless of parental age, however, once again the formal budgets prepared by the Department of Education were, in all cases, lower than the expenditure totals actually reported.

The fourth family parameter or situation considered was that of the number of parental retirement programs available. The point has periodically been made that perhaps families in which multiple retirement programs are available feel more secure in utilizing more of their own resources for other purposes, and, thus, would perceive themselves as more able to contribute toward their student's educational expenses. It was with that concern that data concerning the

number of retirement programs available to the family's major wage earner was collected from the file of each respondent and submitted for evaluation against the difference scores in question. Table 4.5 indicates that this family variable did, indeed, have a significant effect on both overall family and specific parental contribution discrepancies. Table 4.9 summarizes the overall effect of this parental retirement provision variable.

Table 4.9

Parental Retirement Program Impact
on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. - 1 programs	385	-72	97	11	-38	-326
2. 2 - programs	<u>249</u>	<u>429</u>	<u>475</u>	<u>33</u>	<u>3</u>	<u>-263</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .0005	.0005	.566	.069	.296)

In reviewing this table, it can be noted that, contrary to assumption, as number of retirement provisions increase, the disparity between expected and actual family and parental input actually grows. Thus, there appears to be somewhat of an inverse relationship between these factors. As the number of retirement provisions grow, families and parents seem less likely to meet the educational contribution expectations levied against them.

The fifth family parameter considered was that of the number of dependent children currently residing in the home. The professional financial aid community has periodically speculated that as the size of the family grows, there might be an increased reluctance to contribute extensively to any particular student's educational expenses due to the magnitude of the other family responsibilities present. To explore this assumption, sibling data was drawn from each respondent's file and submitted for evaluation against the difference scores in question. Table 4.5 indicates, however, that no significant relationships were noted in this regard. Table 4.10 summarizes the overall effect of this family size variable.

Table 4.10

Family Size Impact on
Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 1-3 Children	387	176	296	48	-14	-301
2. 4-6 Children	212	41	156	-8	-35	-303
3. 7-9 Children	26	212	301	-71	35	-192
4 10+ Children	<u>9</u>	<u>-375</u>	<u>13</u>	<u>-208</u>	<u>-168</u>	<u>-569</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .287	.435	.135	.248	.624)

While no significant differences were found, it was interesting to note, however, that the larger families appeared to more closely approximate their family (A - B) and parental ($A_1 - B_1$) expectations than did the smaller family groups. While this trend was not consistent, it was most evident in large (10 plus children) families. Interestingly enough, students from the largest families also tended to report expenditure budgets ($D - \{B+C\}$) most in excess of those computed by the Department of Education. Perhaps the excess parental input experienced here, coupled with the enlarged aid packages which were computed through traditional needs analysis methodologies, served to create this situation.

The sixth family issue of concern was the number of dependent children currently involved in post-secondary education on a full-time basis. The financial aid community has periodically speculated that families with more than just a single student oftentimes tend to be conservative in their perceived ability to help each, in light of the magnitude of the overall expense involved. To study this concern, data regarding sibling enrollment was extracted from each respondent's file and submitted for evaluation against the difference scores in question. Table 4.5 shows that, indeed, a significant relationship between this variable and parental contribution discrepancies was found. Table 4.11 summarizes the impact of this enrollment variable.

Table 4.11

Enrollment Impact on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 1 enrolled	370	257	395	25	-22	-321
2. 2 enrolled	225	-79	41	-8	-13	-265
3. 3+ enrolled	<u>39</u>	<u>51</u>	<u>4</u>	<u>141</u>	<u>-66</u>	<u>-321</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .002	.0005	.167	.568	.650)

In reviewing this data, it appears that the results are exactly opposite, once again, to the assumption initially made. Families with one student enrolled fell significantly below the contribution expectations levied against them, whereas families with more than a single student enrolled much more closely approximated their contribution expectations. This trend also should warrant further study.

The seventh family parameter of concern was the number of blood parents in the home. In reviewing student circumstances, financial aid officers have often noted that blood parents seem more committed toward educational support than do stepparents or guardians. It has concurrently been felt that family units with both parents present feel more able to support their student than do single parent families. With these concerns in mind, data regarding the number of blood parents in the home was drawn from each respondent's file and compared against the difference scores in question. Table 4.5 indicates that this factor was indeed significantly related to overall family and parental, as well as student asset contribution difference scores. Table 4.12 reports the details associated with this analysis.

Table 4.12

Blood Parent Impact on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 0 Blood Parents in Home	2	-401	-122	-450	756	-1,211
2. 1 Blood Parent in Home	93	-356	-74	62	65	-343
3. 2 Blood Parents in Home	<u>539</u>	<u>209</u>	<u>302</u>	<u>15</u>	<u>-39</u>	<u>-291</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .0005	.007	.231	.0005	.174)

Once more, the trend present seemed to run counter to the assumption made. In cases where both blood parents were not present, reported overall family and parental contributions exceeded comparable College Scholarship Service expectations, whereas the opposite proved to be true in the regular family situation where both blood parents were present. Before accepting this phenomenon at face value, however, further research would definitely be warranted in this area. Such review should include systematic reevaluation of the procedures used in reviewing each family financial statement involved, use of a larger subsample, and perhaps an interview procedure to cover the families involved. Effort should be made also to separate the two different home patterns which confound the present design at this juncture; namely single parent families as opposed to remarriage situations in which only a single blood parent might actually be present.

Within the limitation of these concerns, however, the present data do clearly indicate that atypical family settings tend to support post-secondary study much more extensively than do the normal two blood parent home situations. If this trend is supported by subsequent research, perhaps it could be explained at least in part by a quasi-Hawthorne effect which might be present around students within such atypical home settings.

Interestingly, a review of the budget differential segment of this comparison ($D - \{B+C\}$) shows that while the

Department of Education budgets were lower than expenditure totals reported at all points, the largest discrepancy by far came in cases where no blood parents were present in the home. Since the frequency here consisted of only two cases, little basis for generalization can be made in that regard at this juncture. However, discrepancies of the magnitude listed would certainly warrant further study as well.

It may also be noted here that the only difference score presenting an opposite trend in terms of this family parameter was that of student asset contribution. Here, students in atypical family situations with less than two blood parents present tended to contribute from their assets less than expected, whereas students from the regular two blood parent home situations tended to exceed the expected contribution from this area. One possible interpretation for this finding might be increased security anxiety on the part of the student with the atypical home setting, which might precipitate a more conservative approach to personal asset resource expenditure. Trust funds with legal limitations established by the departed parent(s) might also play a role here. In any event, due to the magnitude of the discrepancies noted and the statistical significance involved, this area should certainly receive further investigation.

The eighth area of review really represents at least a partial converse of the seventh. The family parameter under consideration here reflects the number of stepparents or legal guardians present in the home. This portion of the

analysis was subject to the same limitations expressed above regarding the effect of the number of blood parents present in the home, and must be viewed accordingly. In reviewing Table 4.5, it is noted that this family parameter is also evidently significantly related to several other of the difference scores involved. This finding in itself opens further concern relative to the high degree of significance found on several of the difference scores by the preceding blood parent variable. If the concomitant presence of stepparents or guardians do not reflect the same finding, then perhaps much of the significance of the preceding variable is, in fact, really due to the confounded single parent setting situations found in the same sample stratification per this research design.

Table 4.13 presents the details associated with the stepparent/guardian variable.

Table 4.13

Stepparent/Guardian Presence Impact
on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 0 Stepparent/ Guardians in Home	614	137	256	18	-26	-295
2. 1 Stepparent/ Guardians in Home	19	-320	-172	156	48	-417
3. 2 Stepparents/ Guardians in Home	<u>1</u>	<u>698</u>	<u>1,755</u>	<u>-1,400</u>	<u>1,513</u>	<u>-1,625</u>
	N = 634	$\bar{X}$ = 124	246	21	-21	-301
		(Sig. = .204	.090	.004	.0005	.152)

The areas of computed significance relate to student summer earnings difference scores ($A_2 - B_2$) and student asset difference scores ($A_3 - B_3$). Again, it must be cautioned that due to the extremely small cell size involved in several of the cells, replication would be a necessity to adequately deal with this section. Should current data be supported, however, it would be concluded that student summer earnings contributions fluctuate directly with the number of step-parents or guardians in the home. Perhaps students residing with stepparents or guardians learn greater self-sufficiency at an early age and, thus, tend to be more extensively employed. This interpretation tends to be supported by the extensive deficiency in parental and family input found in the sample two stepparent/guardian case.

Interestingly enough though, in the home situation including one stepparent/guardian (assuming one blood parent also present in most such cases) both overall family ($A - B$) and parental ($A_1 - B_1$) reported contributions tended to exceed expectations. While statistical significance was not found, this indication might indicate a rethinking of reluctance to submit such mixed families to the full rigors of traditional needs assessment procedures.

The second instance of actual statistical significance found in this test centered around the effect of the stepparent/guardian variable on student asset contribution difference scores ($A_3 - B_3$). Here, students with stepparent/guardian home situations tended to contribute less from

assets than expected whereas the opposite was true for students from homes with no stepparents or guardians present. This factor could be explained similarly to the parallel finding discovered on this difference score for the preceding blood parent family variable: namely, with the conclusion that perhaps atypical living conditions precipitate an insecurity which manifests itself in extremely conservative spending patterns. This whole area, however, would certainly warrant further investigation before any such firm conclusions could be drawn.

The ninth area of family concern focused on the race of the family. The financial aid profession has periodically expressed concern that minority students often are not supported by their families as extensively as caucasian students due to a variety of reasons. Given this concern, racial information was also gathered from each respondent's file and compared with the difference scores in question. Table 4.5 indicates that there was, indeed, a significant relationship between race and both parental contribution and student summer earnings difference scores. Table 4.14 presents a summary of this analysis.

Table 4.14

Race Impact on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. White	601	149	283	6	-20	-308
2. Nonwhite	<u>33</u>	<u>-320</u>	<u>-445</u>	<u>276</u>	<u>-45</u>	<u>-185</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .021	.0005	.001	.639	.354)

In reviewing this data, it can be noted that once again the initial stereotype seems to be erroneous. White parents actually tended to contribute significantly less than that which was expected of them, whereas the opposite was true for minority parents. In terms of student summer earnings contribution, however, it could be noted that minority students were significantly more delinquent in meeting this expectation than were white youth. The explanation for these factors may well be tied to an intricate webbing of the perceived role which post-secondary study plays in upward mobility and the difficult socio-economic limitations which are often associated with minority racial heritage. Minority families thus may be more keenly sensing the importance of post-secondary study and, therefore, could be more prepared to make sacrifice to support their students than similar caucasian families would be. Conversely, family responsibilities, location, and discrimination could be limiting the self-help summer work contribution of these same minority students.

While no statistical significance was found, it should also be noted that in terms of overall expenditure differences ($D - \{B+C\}$), minority youth tended to more closely approximate formal Department of Education budgets, on the average, than did white students. Perhaps minority youth, who tend more often to come from disadvantaged backgrounds, do not approach educational expenditures with quite the same level of living expectancies that white students do.

The tenth family parameter considered was that of student age. Financial aid officers sometimes are concerned that as students get older, families become more reluctant to support them in school. Since current needs analysis procedures make no such longitudinal provision for decreasing responsibility based on age alone, this matter would have extensive ramifications for current evaluation techniques. With this consideration in mind, student age data was extracted from each respondent's file and subjected to evaluation in conjunction with the difference scores in question. While Table 4.5 indicates that no significant effect was found, Table 4.15 highlights some interesting results from this specific analysis.

Table 4.15

Student Age Impact on
Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. -19 years old	441	173	282	30	-32	46
2. 20-22 years old	179	-15	132	5	-3	-107
3. 23- years old	<u>14</u>	<u>399</u>	<u>521</u>	<u>-86</u>	<u>64</u>	<u>-80</u>
	N = 634	$\bar{X}$ = 124	246	21	-21	-301
		(Sig. = .117	.187	.566	.280	.056)

While the trend is not consistent, it can be noted, here, that older students do tend to receive less from their parents ($A_1 - B_1$) in comparison to the amounts expected than do younger students. Also, the youngest age category represents one of the few test situations recorded in which the formally constructed total expense budgets of the Department of Education actually, on the average, exceeded reported overall expenditure ($D - \{B+C\}$). These potentially serious discrepancies in contribution and resource expenditure merit further investigation with a larger student sampling.

The eleventh such family parameter selected for scrutiny was that of student sex. Fear has also been periodically expressed in the financial aid community that families are more reluctant to support female students than male students, since they tend to perceive the study of the former as only a route to marriage whereas the study of the latter tends to carry more perceived importance in terms of ultimate vocational needs, etc. Since present needs analysis procedures carry no real provision for this factor, significant differences found therein could have extensive ramifications for current need determination procedures. Table 4.5 indicates that student sex, however, only has significant impact in terms of student summer contribution ($A_2 - B_2$) and overall budget expenditure ($D - \{B+C\}$) difference scores. Table 4.16 summarizes the results of this test.

Table 4.16

Student Sex Impact on
Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. Male	344	127	278	-23	-20	-372
2. Female	<u>290</u>	<u>121</u>	<u>206</u>	<u>72</u>	<u>-23</u>	<u>-217</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .091	.416	.009	.861	.008)

The average results of this test proved to be surprisingly similar, even for the cases in which statistical significance was found. For both sexes, expected family contributions tended to exceed actual reported ones ($A - B$) by some \$120. Expected parental contributions ($A_1 - B_1$), on the other hand, rather uniformly exceeded such reported input by some \$240. Differences between expected and actual reported student summer earnings contributions ($A_2 - B_2$) varied according to sex by some \$100. This significant difference supports, well, the principle of differential student summer earnings allowance according to sex, as presently utilized in the College Scholarship Service needs analysis system. Reported student asset contributions for both sexes exceeded expectations ($A_3 - B_3$), but only by some \$20. A significant budget differential by sex was identified, however. While reported expenditure totals in both cases again exceeded Department of Education estimates for these amounts ($D - \{B+C\}$), the differential for males proved to be some \$160 greater than it was for females. Perhaps differential social spending habits account for some of this difference.

Yet a twelfth family parameter which was considered in this regard was the type of school which the student chose to attend. Question has often been raised in financial aid circles as to whether this factor might not influence parental support and budget expenditures beyond the consideration given to it in current methodology. With this

thought in mind, data regarding school type was extracted from each respondent's file and submitted for evaluation in conjunction with the difference score questions at hand. Table 4.5 indicates that a significant relationship was actually found here in terms of both family and parental contribution difference scores. Table 4.17 summarizes the results of this test.

Table 4.17

School Type Impact on
Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 2-Year Public	221	-75	65	0.4	22	-301
2. 4-Year Public	353	281	384	35.2	-2	-278
3. 4-Year Private	39	-105	112	54.2	-39	-490
4. 2-Year Private	<u>21</u>	<u>24</u>	<u>50</u>	<u>124.2</u>	<u>-134</u>	<u>-335</u>
	N = 634	$\bar{X}$ = 124	246	21	-21	-301
	(Sig. = .002		.004	.415	.079	.397)

Reviewing this data, it can be noted that public four-year schools have the greatest overestimation of both expected family ($A - B$) and parental ($A_1 - B_1$) contribution utilizing current needs assessment procedures. The four-year private school, on the other hand, has by far the greatest budget expenditure deficiency ($D - \{B+C\}$) when utilizing Department of Education's estimates in this regard. Interestingly enough there also seems to be somewhat of a systematic discrepancy in terms of student asset contribution ($A_3 - B_3$) when school type is considered. Only at the public community college do actual reported student asset inputs exceed expectations. In all other categories of institution, expectations exceed reported student asset contributions, but no statistical significance was found in regard to this trend. Further research would certainly be recommended in this important area.

The thirteenth family parameter reviewed was that of student residency plan. Do resident students' contribution and/or budget difference scores substantively differ from those found for commuter students? With this question in mind, residency data was taken from each respondent's file and submitted for evaluation in conjunction with the difference scores in question. Table 4.5 indicates that this factor did, indeed, significantly affect overall family contribution differences, parental contribution differences, and budget expenditure discrepancies. Table 4.18 summarizes the effect of this test.

Table 4.18

Residency Plan Impact on
Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. Resident	432	289	401	18	-21	-163
2. Commuter	<u>202</u>	<u>-226</u>	<u>-87</u>	<u>24</u>	<u>-22</u>	<u>-596</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .0005	.0005	.853	.920	.0005)

Reviewing this data, it can be noted that both overall family ($A - B$) and parental ($A_1 - B_1$) contribution expectations exceed actual reported contributions for resident students, whereas the opposite is actually true for commuters. The difference there was clearly statistically significant. Likewise, the deficiency in Department of Education budget estimates ($D - \{B+C\}$) is significantly greater for commuters than it is for resident students. The range of average response discrepancies and high degree of differential significance found here certainly call for further research in this area as well.

The fourteenth family parameter reviewed in terms of these difference scores was that of net parental income. Concern has often been raised in the financial aids community over the relative equity of present needs analysis procedures and budget development methodologies for families of various income strata. With this thought in mind, this data was likewise extracted from each respondent's file and evaluated in terms of the five difference scores in question. Table 4.5 demonstrates that this parameter does, in fact, have a significant impact as well on overall family and parental contribution difference scores. Table 4.19 elaborates on this test.

Table 4.19

Parental Net Income Impact on
Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 0-\$ 5,000	62	-830	-450	53	1	-478
2. \$ 5,001-\$10,000	200	-122	-10	31	-22	-189
3. \$10,001-\$15,000	244	148	249	12	-27	-372
4. \$15,001-\$20,000	92	565	624	-8	-37	-266
5. \$20,001-	<u>36</u>	<u>1,859</u>	<u>1,871</u>	<u>25</u>	<u>19</u>	<u>-227</u>
	N = 634	$\bar{X}$ = 124	246	21	-21	-301
		(Sig. = .0005	.0005	.930	.833	.024)

In terms of overall family ($A - B$) and parental ($A_1 - B_1$) contribution difference scores, lower net income level families actually report contributions in excess of expectations, whereas the opposite is true at the higher net income levels. The discrepancies identified here were statistically significant, but it would be wise to review this issue further before drawing final conclusions, as lower socio-economic groups have been shown to overestimate incomes and the same may be true of their reported contributions. In any event, this phenomenon, along with the undoubtedly larger student aid packages extended to these lower income students, does lead to greater budget discrepancies for such lower socio-economic students than were found at any other parental net income ranges ($D - \{B+C\}$). This latter discrepancy was not quite statistically significant though. There are, however, extensive implications here which warrant further study.

Yet a fifteenth family parameter which was studied in terms of these five difference scores was the number of parents which might be employed. The financial aid community has periodically been concerned with the impact which second incomes might tend to have on the families' perceived ability to support students in post-secondary study. With this question in mind, parental employment data was extracted from student files for each respondent and also submitted for evaluation in conjunction with the difference scores in question. A review of Table 4.5 indicates that this factor did, indeed, have a significant impact on both overall family

contribution difference scores as well as parental contribution difference scores. Table 4.20 presents the highlights of this test.

Table 4.20

Impact of Number of Parents Employed
on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 0 Employed	21	-1,048	-498	23	48	-685
2. 1 Employed	405	36	160	20	-15	-307
3. 2 Employed	<u>208</u>	<u>414</u>	<u>485</u>	<u>20</u>	<u>-19</u>	<u>-251</u>
	N = 634	$\bar{X}$ = 124	246	21	-21	-301
		(Sig.= .0005	.0005	.999	.307	.034)

It is most interesting to note, from this data, that families (A - B) and parents ($A_1 - B_1$) reporting neither parent employed actually contributed in excess of the expectations levied against them, whereas the opposite was true especially for families with both parents employed. This finding could well, however, be confounded with the concern regarding overestimation on the part of the lower socio-economic families, which was registered earlier. Thus, further research, with a somewhat larger subsample, would again be recommended. The inverse relationship between approximation of expected contribution amounts and the increase in employed parents seems clear, though, in light of the sample size involved. Second parental incomes evidently do not go proportionately toward student support.

The larger discrepancies between expected and actual reported overall expense budgets ($D - \{B+C\}$) is also of interest even though statistical significance was not quite obtained here. Evidently, as a function of the parental overcontribution noted and the greater financial aid packages which normally accrue to students whose parents are unemployed, such students appear to be living at a rate substantially above their counterparts from employed homes. Amidst concerns that present needs analysis and budget preparation procedures are too severe on disadvantaged students (those with unemployed parents might well be lodged here), this trend, if replicated, would have extensive ramifications for present aid allotment procedures.

A sixteenth so-called family parameter which was pursued in this manner was parental adjusted effective income level. This is a College Scholarship Service needs analysis term which refers to the final dollar figure from which the expected parental contribution figure is directly computed. The computation of this adjusted effective income figure has made allowance for all direct reductions to parental income and assets which are allowed under current College Scholarship Service methodology. Therefore, it would be important to note whether this distilled parental resource figure affects the difference scores any differently than did the overall net parental income figure identified in test 14 above. With this question in mind, the appropriate data was, again, drawn from each respondent's file and submitted to the analysis at hand. Table 4.5 demonstrates that, as in the case of net income which was investigated in test 14, adjusted effective income significantly affects both overall family contribution difference scores and parental contribution difference scores. Table 4.21 elaborates on this finding.

Table 4.21

Adjusted Effective Income Impact on
Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 0-\$ 5,000	62	-846	-478	53	-14	-541
2. \$ 5,001-\$10,000	230	-85	9	60	-27	-202
3. \$10,001-\$15,000	239	199	310	-12	-26	-351
4. \$15,001-\$20,000	86	744	793	-28	17	-226
5. \$20,001-	<u>17</u>	<u>2,332</u>	<u>2,394</u>	<u>74</u>	<u>-105</u>	<u>-438</u>
	N = 634	$\bar{X}$ = 124	246	21	-21	-301
		(Sig. = .0005	.0005	.337	.528	.009)

Here, as in test 14, in terms of overall family ($A - B$) and parental ($A_1 - B_1$) contribution difference scores, lower income levels actually reported contributions in excess of expectations, whereas the opposite was true at higher income levels. While this conclusion is subject to the same concerns expressed earlier in relation to the similar net income findings, it certainly does warrant further study.

The adjusted effective income parameter also precipitated a significant effect upon budget difference scores ($D - \{B+C\}$), although this finding is also subject to the questions raised concerning the relative net income impact. Nonetheless, if these findings are supported in replication, they could have significant impact on current needs assessment and budgetary procedures.

Another related family parameter which was also pursued in this vein was the percentage of adjusted effective income which happened to flow from parental assets as opposed to income. Concern has periodically been expressed in the financial aids community that assets tend to be less liquid than income and, thus, families relying largely on asset type resources for their livelihood may well be more reluctant to support students in post-secondary study. This matter was reviewed by similarly drawing pertinent data from each respondent's file and submitting the categorized results to evaluation in terms of the five difference scores at hand. Table 4.5 indicates, however, that this parameter did not have a significant effect upon the difference scores involved. Table 4.22 summarizes the results of this test.

Table 4.22

The Effect of Asset Percentage in Adjusted Effective
Income on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 0 - 25%	519	97	213	32	-32	-301
2. 26 - 50%	98	298	498	-68	13	-285
3. 51 - 75%	13	-256	-298	167	91	-209
4. 76 -100%	<u>4</u>	<u>662</u>	<u>628</u>	<u>202</u>	<u>153</u>	<u>61</u>
	N = 634	$\bar{X}$ = 124	246	21	-21	-301
		(Sig. = .183	.034	.110	.128	.735)

The data here really present no clear-cut trends, and it would have to be concluded, at this juncture, that asset percentage does really not significantly affect contribution difference scores. The effect upon budget difference scores, on the other hand, presents an interesting pattern which would lead the viewer to speculate that students supported from high asset foundation families tend to live more frugally than do others. This finding and interpretation would require further testing, however, in light of the high chance happening potential present in this test.

A final eighteenth family parameter, namely student school class, was also pursued here. This factor was investigated because it was felt that perhaps as students proceed through school, they become effectively more independent of parental aid, even though current needs analysis techniques make no provision for this eventuality. Table 4.5 would indicate that no such effect exists, however, as no significant relationship was found between school class and the difference scores in question. Table 4.23 summarizes the effect of this test.

Table 4.23

Class Level Impact on
Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. Freshman	280	214	292	52	-21	-223
2. Sophomore	155	-7	179	-34	-39	-279
3. Junior	111	120	248	10	-2	-441
4. Senior	<u>88</u>	<u>79</u>	<u>209</u>	<u>27</u>	<u>-17</u>	<u>-412</u>
	N = 634	$\bar{X}$ = 124	246	21	-21	-301
		(Sig. = .274	.760	.305	.778	.023)

This parameter is probably closely related to the issue of student age which was undertaken in test 10 above, and the results are somewhat similar in that no significant effects were found in either case.

In terms of budget discrepancies, however, a trend was noted wherein class level was directly related to the disparity between Department of Education budgets and expenditure totals reported by students. No provision currently exists for this factor in Department budget composition procedures.

In summary, the interpretation portion of the second major section of the study analysis has sought to point out some of the effects which the 18 various family parameters seemed to have on the five basic difference scores identified in the first section of the study. The conclusions reached, here, were oftentimes incomplete and tentative, as they must be in such an exploratory venture. The tables of results and accompanying comments were provided for each of the 18 family parameters in hopes that this complete reporting might serve as the skeleton basis for more sophisticated research regarding the effect of various family circumstances upon current needs analysis and budget determination processes.

Analysis and Interpretation of Third Section Findings - The Regression Equations

The next logical step beyond the actual identification of contribution and budget discrepancies, and their evaluation

in terms of specific family parameters suspected of influencing these differences, would be the alignment of these parameters into regression equations which would enable the financial aids administrator to actually predict these discrepancies and effectively deal with them within the present needs analysis framework. As the third major segment of the current study, this task was undertaken.

However, at the outset, it was noted that all 18 of the family parameters identified could not be accommodated in this approach because the regression equation technique demands sequential data not just categorical variables. This problem was explained in Chapter III, as part of the study design analysis. Table 4.24 indicates the parameters which could thus be safely carried over into this regression analysis.

Table 4.24

Summary of Variable Transition Identifying Family
Parameters From the ANOVA Analysis
Which Are Applicable For Regression Analysis

<u>Family Variables Covered in Section II</u>	<u>Those Considered Categorical and Deleted From Section III</u>	<u>Those Considered* Sequential and Carried Into Re- gression Analysis (Regression Variable No.)</u>
1. Family Educational Background		X (#1)
2. Family Residence Area	X	
3. Average Parental Age		X (#2)
4. Number of Parental Retirement Provisions		X (#3)
5. Number of Dependents		X (#4)
6. Number of Dependents in Post- secondary Study		X (#5)
7. Number of Blood Parents		X (#6)
8. Number of Step- parents/Guardians		X (#7)
9. Family Race	X	
10. Student Age		X (#8)
11. Student Sex	X	
12. School Type	X	
13. Student Residency Plan	X	
14. Net Parental Income		X (#9)
15. Number of Parents Employed		X (#10)
16. Parental Adjusted Effective Income		X (#11)
17. Percentage of Item 16 Coming From Assets		X (#12)
18. Student's School Class		X (#13)

*Note - This decision was made in conjunction with staff of
the (MSU) College of Education's Office of Research
Consultation

As discussed in Chapter III, theoretically at least, a single hypothesis could be generated around the 13 variable equation constructed for each of the five difference scores in question. However, due to the extremely exploratory nature of this aspect of the research design, only a single umbrella hypothesis was generated in this area. For consistency sake, this hypothesis also took the null format; since the assumption has been made throughout this study that present needs analysis and budget development techniques must be considered adequate and equitable unless evidence to the contrary becomes significant, in light of the study which has gone into them and due to the weight of collective credence given to these systems by experts in the field. The collective hypothesis thus constructed here for this study, was stated as follows:

H₀₈:The (13) family parameters identified will not (significantly) predict any difference scores identified in hypotheses 1 - 5.

The regression procedure, in effect, attempts to ascertain the portion of the various difference scores which can be explained by these 13 parameters and their cumulative interaction effects. The following tables present the results of this regression analysis.

Table 4.25

Effect of Regression Analysis
on Overall Family Contribution
(A - B) Difference Scores

(R^2) Overall Per- centage of Difference Explained By This Combination	Beta Weight Equation Multiplica- tion Factors (Variable)	$(R^2 \text{Deletes})$ Remaining Percentage Difference Explained if Factor Removed From Equation (Variable)	Overall Equation Signifi- cance Probability
0.2965	1. = -0.04064	1. = 0.29510	.0005
	2. = 0.00011	2. = 0.29646	
	3. = 0.02196	3. = 0.29605	
	4. = -0.15361	4. = 0.27812	
	5. = -0.17543	5. = 0.26930	
	6. = -0.02783	6. = 0.29599	
	7. = -0.04844	7. = 0.29475	
	8. = 0.01795	8. = 0.29630	
	9. = 0.30748	9. = 0.27791	
	10. = 0.07613	10. = 0.29209	
	11. = 0.25412	11. = 0.28315	
	12. = 0.09097	12. = 0.28965	
	13. = 0.00983	13. = 0.29641	

Table 4.26

Effect of Regression Analysis
on Parental Contribution
($A_1 - B_1$) Difference Scores

<u>(R^2)</u> Overall Per- centage of Difference Explained By This Combination	Beta Weight Equation Multiplication Factors (Variable)	<u>(R^2 Deletes)</u> Remaining Percentage Difference Explained if Factor Removed From Equation (Variable)	<u>Overall</u> Equation Signifi- cance Probability
0.2758	1. = -0.06165	1. = 0.27264	.0005
	2. = 0.01858	2. = 0.27547	
	3. = -0.01767	3. = 0.27550	
	4. = -0.12749	4. = 0.26314	
	5. = -0.21877	5. = 0.23353	
	6. = -0.07793	6. = 0.27207	
	7. = -0.06060	7. = 0.27310	
	8. = 0.01270	8. = 0.27569	
	9. = 0.28152	9. = 0.26022	
	10. = 0.06040	10. = 0.27302	
	11. = 0.29884	11. = 0.25736	
	12. = 0.08064	12. = 0.27042	
	13. = 0.03113	13. = 0.27531	

Table 4.27

Effect of Regression Analysis
on Student Summer Earnings Contribution
($A_2 - B_2$) Difference Scores

(R ²) Overall Per- centage of Difference Explained By This Combination	Beta Weight Equation Multipli- cation Factors		(R ² Deletes) Remaining Percentage Difference Explained if Factor Removed From Equation	Overall Equation Signifi- cance Probability
	(Variable)		(Variable)	
0.0241	1. =	0.06481	1. = 0.02061	.292
	2. =	0.06778	2. = 0.02017	
	3. =	0.05154	3. = 0.02184	
	4. =	-0.06595	4. = 0.02069	
	5. =	0.04060	5. = 0.02262	
	6. =	-0.00445	6. = 0.02406	
	7. =	0.00116	7. = 0.02407	
	8. =	-0.04213	8. = 0.02321	
	9. =	0.02866	9. = 0.02391	
	10. =	-0.00360	10. = 0.02406	
	11. =	-0.10132	11. = 0.02196	
	12. =	-0.00756	12. = 0.02403	
	13. =	-0.01689	13. = 0.02394	

Table 4.28

Effect of Regression Analysis
on Student Asset Contribution
(A₃ - B₃) Difference Scores

(R ²) Overall Per- centage of Difference Explained By This Combination	Beta Weight Equation Multiplica- tion Factors (Variable)	(R ² Deletes) Remaining Percentage Difference Explained if Factor Removed From Equation (Variable)	Overall Equation Signifi- cance Probability
0.0590	1. = -0.00772	1. = 0.05891	.0005
	2. = 0.04246	2. = 0.05743	
	3. = 0.08471	3. = 0.05291	
	4. = -0.02753	4. = 0.05837	
	5. = -0.00190	5. = 0.05896	
	6. = -0.15297	6. = 0.04472	
	7. = 0.06406	7. = 0.05597	
	8. = 0.09479	8. = 0.05460	
	9. = 0.08951	9. = 0.05739	
	10. = -0.03340	10. = 0.05812	
	11. = -0.01755	11. = 0.05890	
	12. = 0.11043	12. = 0.04893	
	13. = -0.04462	13. = 0.05801	

Table 4.29

Effect of Regression Analysis
on Budget Discrepancy
(D - {B+C}) Difference Scores

<u>(R²) Overall Per- centage of Difference Explained By This Combination</u>	<u>Beta Weight Equation Multiplica- tion Factors (Variable)</u>	<u>(R² Deletes) Remaining Percentage Difference Explained if Factor Removed From Equation (Variable)</u>	<u>Overall Equation Signifi- cance Probability</u>
0.0356	1. = 0.08002	1. = 0.03031	.046
	2. = -0.06934	2. = 0.03150	
	3. = 0.04109	3. = 0.03416	
	4. = -0.02990	4. = 0.03489	
	5. = 0.04103	5. = 0.03418	
	6. = 0.00752	6. = 0.03555	
	7. = -0.04643	7. = 0.03402	
	8. = -0.01108	8. = 0.03552	
	9. = -0.05424	9. = 0.03501	
	10. = 0.08608	10. = 0.03001	
	11. = -0.03147	11. = 0.03538	
	12. = 0.02438	12. = 0.03509	
	13. = -0.09446	13. = 0.03135	

In light of the limited nature of the scope of these initial regression analysis attempts, detailed interpretation would be impossible at this juncture. However, the following general conclusions can be drawn:

1. Much of the respective variance remains yet to be explained, since the percentage covered never exceeded 30%.

Perhaps one fruitful approach here would be to identify the most significant regression items (via Beta weights and/or R^2 Delete effect) and explore them more closely in an attempt to identify yet further factors of importance.

2. There seems to be a great deal of regression factor overlap, as the R^2 Deletes do not show drastic reductions in predictive effectiveness if single equation items are removed.

Thus, it appears that there may be yet further entirely different constellations of significant impact variables which yet remain to be identified and factored out.

3. From the statistical significance that was periodically found, however, even in light of these limitations, evidence thus does seem to be present which would argue for the selective rejection of the categorical hypothesis posited at the outset of this section.

In summary, though, the primary conclusion which must be

drawn here seems to be that while evidence has been found which would indicate that this procedure can be an effective mechanism for the isolation and identification of various needs analysis and budgetary discrepancies, the process must be further refined and sophisticated before its full potential can be realized.

Analysis and Interpretation of Fourth Section Findings - Summary Statistics

This final section of the data analysis was incorporated in an attempt to provide several types of detailed information regarding individual expense items and various types of specific budgets as reported by the respondents. This data may be of assistance to financial aid administrators in the field as they attempt to evaluate their specific needs analysis procedures and student budget projection techniques.

Table 4.30, in this regard, presents average reported resource expenditure by category for all respondents, as indicated on the questionnaire document. The figures presented there represent overall averages computed by dividing the entire (N = 634) respondent population into the categorical sum to produce the average.

Table 4.30

Mean Reported Contribution Resources
By Source Category

<u>Category</u>	<u>Overall Mean Amount</u>	
1. Parental Contribution from Income	\$ 617	
2. Parental Contribution from Savings	278	
3. Parental Contribution from Loans	87	
4. Other Parental Contribution	<u>6</u>	
5. Total Parental Contribution		\$ 988
6. Other Relatives Contribution		53
7. Student Savings (Asset) Contribution		123
8. Student 1971 Summer Earnings Contribution		425
9. Student 1971-72 School Year Work Contribution	324	
10. Student Scholarships/Grants	667	
11. Student Loans	220	
12. Student Social Security/Vocational Rehabilitation/Veterans Administration Benefits	85	
13. Student Other Sources	<u>15</u>	
		1,311
14. Total Resources Available		\$2,900

The following table (4.31) redistributes these overall average resources according to the manner in which they were reportedly expended. Some discrepancies in overall totals are noted here because, as discussed in Chapter III, reported data was accepted and families were not forced to balance the resource and expenditure category sections of their questionnaire. In Table 4.31, averages again were obtained by dividing the entire respondent (N = 634) population into each categorical sum to produce the desired mean.

Table 4.31

Mean Reported Expenditures
By Use Category

<u>Category</u>	<u>Overall Mean Amount</u>
1. Tuition and Fee Expenses	\$ 944
2. Room and Board Expenses	1,093
3. Book and Supply Expenses	144
4. Miscellaneous Expenses	<u>698</u>
5. Total	\$ 2,879

Within nearly every reported contribution category (from Table 4.30), however, some zero responses were found. Thus, to help obtain a clearer idea as to the actual mean contribution figure for each category, for the sample subgroup which identified a non-zero response therein, the following additional tables are provided which indicate the number of non-zero responses by category and the mean amount reported for this specific group. This tactic may not as accurately

represent the entire population in question, but it does serve to provide more accurate comparison information for student financial aid officers who might be able to identify specifically corresponding subgroups on their own campuses. It can also be quite revealing to compare the overall sample size ($N = 634$ in this study) against the specific number reporting actual use of the various resource subcategories. Such comparisons can, for example, give an indication as to the viability of our expected parental assistance, student summer employment, school year employment, student loan needs analysis parameters, etc.

Table 4.32

Mean Non-Zero Reported Contributions
By Resource Category

<u>Category</u>	<u>Number of Non-Zero Responses/ Total Sample</u>	<u>Non-Zero Respondent Mean Amount</u>
1. Parental Income Contribution	459/634	\$ 852
2. Parental Savings Contribution	205/634	\$ 861
3. Parental Loan Contribution	61/634	\$ 833
4. Other Parental Contribution	16/634	\$ 272
5. Total Parental Contribution of Some Kind	524/634	\$1,195
6. Other Relatives Contribution	45/634	\$ 456
7. Student Savings Contribution	267/634	\$ 294
8. Student 1971 Summer Earnings Contribution	482/634	\$ 560
9. Student 1971-72 School Year Work Contribution	370/634	\$ 541
10. Student Scholarships/Grants	548/634	\$ 772
11. Student Loans	192/634	\$ 729
12. Student Social Security/ Vocational Rehabilitation/ Veterans Administration Benefits	58/634	\$ 932
13. Student Other Sources	31/634	\$ 319

A similar recasting of expenditure categories (from Table 4.31) is not needed, as just about all respondents entered a non-zero figure in each fund use category provided.

As much question has also been raised of late as to the special needs of various subsets of the overall student aid applicant population, the following supplemental charts were also included, which chronicle resource availability and expenditure category by student race, student sex, school type, and net parental income level.

Table 4.33

Mean Resources by Race

<u>Category</u>	<u>Non-Zero Respondents/ Total</u>		<u>Non-Zero Respondents Dollar Mean</u>		<u>Overall Respondent Mean</u>	
	<u>White</u>	<u>Non- White</u>	<u>White</u>	<u>Non- White</u>	<u>White</u>	<u>Non- White</u>
1. Parental Income Contribution	435/601	24/33	\$ 849	\$ 912	\$ 615	\$ 663
2. Parental Savings Contribution	196/601	9/33	\$ 858	\$ 939	\$ 279	\$ 256
3. Parental Loan Contribution	58/601	3/33	\$ 825	\$ 983	\$ 79	\$ 89
4. Other Parental Contribution	15/601	1/33	\$ 250	\$ 600	\$ 6	\$ 18
5. Total Parental Contribution	497/601	27/33	\$1,192	\$1,263	\$ 985	\$1,033
6. Other Relatives Contribution	42/601	3/33	\$ 465	\$ 333	\$ 32	\$ 30
7. Student Savings Contribution	258/601	9/33	\$ 297	\$ 214	\$ 127	\$ 58
8. Student 1971 Summer Earnings Contribution	467/601	15/33	\$ 566	\$ 371	\$ 440	\$ 168
9. Student 1971-72 School Year Work Contribution	355/601	15/33	\$ 548	\$ 357	\$ 324	\$ 162
10. Student Scholarships/Grants	516/601	32/33	\$ 749	\$1,134	\$ 643	\$1,100
11. Student Loans	173/601	19/33	\$ 728	\$ 733	\$ 209	\$ 422
12. Student Social Security/ Vocational Rehabilitation/ Veterans Administration Benefits	55/601	3/33	\$ 937	\$ 835	\$ 85	\$ 75
13. Other Student Resources	28/601	3/33	\$ 294	\$ 552	\$ 13	\$ 50
14. Total Resources					\$2,867	\$3,102

Table 4.34

Mean Expenditures By Race

<u>Category</u>	<u>Overall</u>	
	<u>Respondent</u>	<u>Mean</u>
	<u>White</u>	<u>Non- White</u>
1. Tuition and Fee Expenses	\$ 921	\$1,363
2. Room and Board Expenses	\$1,093	\$1,096
3. Book and Supply Expenses	\$ 144	\$ 139
4. Miscellaneous Expenses	\$ <u>709</u>	\$ <u>506</u>
5. Total Expenses	\$2,867	\$3,104

Table 4.35

Mean Resources by Sex

<u>Category</u>	<u>Non-Zero Respondents/ Total</u>		<u>Non-Zero Respondents Dollar Mean</u>		<u>Overall Respondent Mean</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
1. Parental Income Contribution	249/344	210/290	\$ 841	\$ 867	\$ 608	\$ 627
2. Parental Savings Contribution	118/344	87/290	857	868	294	260
3. Parental Loan Contribution	33/344	28/290	736	948	70	91
4. Other Parental Contribution	9/344	7/290	317	215	8	5
5. Total Parental Contribution	287/344	237/290	1,191	1,201	993	981
6. Other Relatives Contribution	18/344	27/290	470	446	24	41
7. Student Savings Contribution	145/344	122/290	311	273	131	115
8. Student 1971 Summer Earnings Contribution	276/344	206/290	646	444	518	315
9. Student 1971-72 School Year Work Contribution	195/344	175/290	606	468	343	282
10. Student Scholarships/Grants	292/344	256/290	758	788	643	695
11. Student Loans	91/344	101/290	748	711	198	247
12. Student Social Security/Vocational Rehabilitation/Veterans Administration Benefits	30/344	28/290	913	951	79	91
13. Student Other Resources	10/344	21/290	299	329	8	23
14. Total Resources					\$2,946	\$2,800

Table 4.36

Mean Expenditures by Sex

<u>Category</u>	Overall Respondent Mean	
	<u>Male</u>	<u>Female</u>
1. Tuition and Fee Expenses	\$ 929	\$ 961
2. Room and Board Expenses	1,100	1,084
3. Book and Supply Expenses	143	144
4. Miscellaneous Expenses	<u>773</u>	<u>610</u>
5. Total Expenses	\$2,945	\$2,799

Table 4.37

Mean Resources by School Type

Category	Non-Zero Respondent/Total				Non-Zero Respondent Dollar Mean			
	2-Year Public	4-Year Public	4-Year Private	2-Year Private	4-Year Private	4-Year Public	2-Year Public	2-Year Private
1. Parental Income Contribution	166/221	252/353	31/39	10/21	\$ 962	\$ 770	\$ 891	\$ 985
2. Parental Savings Contribution	74/221	117/353	8/39	6/21	935	824	464	1,206
3. Parental Loan Contribution	25/221	33/353	1/39	2/21	1,098	624	400	1,199
4. Other Parental Contribution	0/221	9/353	7/39	0/21	0	308	226	0
5. Total Parental Contribution	191/221	285/353	32/39	16/21	1,358	1,108	991	1,218
6. Other Relatives Contribution	15/221	27/353	2/39	1/21	510	458	200	100
7. Student Savings Contribution	102/221	140/353	15/39	10/21	237	325	342	367
8. Student 1971 Summer Earnings Contribution	167/221	271/353	30/39	14/21	607	532	583	471
9. Student 1971-72 School Year Work Contribution	147/221	188/353	25/39	10/21	529	539	578	631
10. Student Scholarships/Grants	208/221	289/353	32/39	19/21	974	659	436	842
11. Student Loans	75/221	105/353	4/39	8/21	757	608	1,037	839
12. Student SS/VR/VA Benefits	22/221	32/353	3/39	1/21	1,042	854	1,193	208
13. Student Other Resources	21/221	8/353	2/39	0/21	327	315	254	0

Table 4.37 (continued)

Mean Resources by School Type

<u>Category</u>	<u>Overall Respondent Dollar Mean</u>			
	<u>4-Year Private</u>	<u>4-Year Public</u>	<u>2-Year Public</u>	<u>2-Year Private</u>
1. Parental Income Contribution	\$ 723	\$ 550	\$ 708	\$ 469
2. Parental Savings Contribution	313	273	95	344
3. Parental Loan Contribution	124	58	10	114
4. Other Parental Contribution	7	7	0	0
5. Total Parental Contribution	1,174	894	813	928
6. Other Relatives Contribution	34	35	10	4
7. Student Savings Contribution	109	129	131	174
8. Student 1971 Summer Earnings Contribution	459	409	449	314
9. Student 1971-72 School Year Work Contribution	352	287	370	300
10. Student Scholarships/Grants	917	539	357	762
11. Student Loans	257	204	106	319
12. Student SS/VR/VA Benefits	103	77	91	9
13. Student Other Resources	31	7	13	0
14. Total Resources	\$3,439	\$2,589	\$2,369	\$2,814

Table 4.38

Mean Expenditures By School Type

<u>Category</u>	<u>Overall Respondent Mean</u>			
	<u>4-Year Private</u>	<u>4-Year Public</u>	<u>2-Year Public</u>	<u>2-Year Private</u>
1. Tuition and Fee Expenses	1,531	625	451	1,036
2. Room and Board Expenses	1,041	1,134	1,082	970
3. Book and Supply Expenses	142	146	143	118
4. Miscellaneous Expenses	<u>724</u>	<u>682</u>	<u>707</u>	<u>689</u>
5. Total Expenses	3,439	2,587	2,383	2,813

Table 4.39

Mean Resources by Parental Net Income Level

<u>Category</u>	<u>Non-Zero Respondent/Total</u>				
	<u>\$0 -</u> <u>5,000</u>	<u>\$5,001-</u> <u>10,000</u>	<u>\$10,001-</u> <u>15,000</u>	<u>\$15,001-</u> <u>20,000</u>	<u>\$20,000</u> <u>-</u>
1. Parental Income Contribution	28/62	130/200	192/244	82/92	27/36
2. Parental Savings Contribution	12/62	54/200	81/244	39/92	19/36
3. Parental Loan Contribution	3/62	16/200	27/244	9/92	6/36
4. Other Parental Contribution	3/62	3/200	6/244	3/92	1/36
5. Total Parental Contribution	37/62	152/200	212/244	88/92	35/36
6. Other Relatives Contribution	8/62	13/200	18/244	4/92	2/36
7. Student Savings Contribution	26/62	89/200	92/244	47/92	13/36
8. Student 1971 Summer Earnings Contribution	40/62	153/200	192/244	67/92	30/36
9. Student 1971-72 School Year Work Contribution	33/62	120/200	150/244	47/92	20/36
10. Student Scholarships/Grants	62/62	192/200	215/244	65/92	14/36
11. Student Loans	22/62	80/200	63/244	21/92	6/36
12. Student SS/VR/VA Benefits	24/62	20/200	11/244	2/92	1/36
13. Student Other Resources	5/62	13/200	7/244	5/92	1/36

Table 4.39 (continued)

Mean Resources by Parental Net Income Level

Category	Non-Zero Respondent Dollar Mean				
	\$0 - 5,000	\$5,001- 10,000	\$10,001- 15,000	\$15,001- 20,000	\$20,000 -
1. Parental Income Contribution	\$ 635	\$ 648	\$ 886	\$1,042	\$1,246
2. Parental Savings Contribution	774	733	787	986	1,344
3. Parental Loan Contribution	1,166	499	979	946	733
4. Other Parental Contribution	295	98	363	266	200
5. Total Parental Contribution	884	870	1,252	1,504	1,822
6. Other Relatives Contribution	408	689	418	106	175
7. Student Savings Contribution	270	298	320	241	323
8. Student 1971 Summer Earnings Contribution	602	542	561	602	489
9. Student 1971-72 School Year Work Contribution	492	553	589	417	476
10. Student Scholarships/Grants	1,138	794	702	646	504
11. Student Loans	516	622	845	750	1,632
12. Student SS/VR/VA Benefits	965	789	1,196	386	1,170
13. Student Other Resources	541	237	345	306	174

Table 4.39 (continued)

Mean Resources by Parental Net Income Level

<u>Category</u>	<u>Overall Respondent Dollar Mean</u>				
	<u>\$0 -</u> <u>5,000</u>	<u>\$5,000-</u> <u>10,000</u>	<u>\$10,001-</u> <u>15,000</u>	<u>\$15,001-</u> <u>20,000</u>	<u>\$20,000</u> <u>-</u>
1. Parental Income Contribution	\$ 286	\$ 421	\$ 697	\$ 929	\$ 934
2. Parental Savings Contribution	149	198	261	418	709
3. Parental Loan Contribution	56	39	108	92	122
4. Other Parental Contribution	14	1	8	8	5
5. Total Parental Contribution	527	661	1,087	1,439	1,771
6. Other Relatives Contribution	52	44	30	4	9
7. Student Savings Contribution	113	132	120	123	116
8. Student 1971 Summer Earnings Contribution	388	415	442	438	407
9. Student 1971-72 School Year Work Contribution	262	331	362	213	264
10. Student Scholarships/Grants	1,138	762	619	456	196
11. Student Loans	183	249	218	171	272
12. Student SS/VR/VA Benefits	373	78	53	8	32
13. Student Other Resources	43	15	9	16	4
14. Total Resources	\$3,058	\$2,710	\$2,953	\$2,869	\$3,038

Table 4.40

Mean Expenditures By Parental
Net Income Level

<u>Category</u>	<u>Overall Respondent Means</u>				
	<u>0 - 5,000</u>	<u>5,001- 10,000</u>	<u>10,001- 15,000</u>	<u>15,001- 20,000</u>	<u>20,000 -</u>
1. Tuition and Fee Expenses	\$ 972	\$ 878	\$ 951	\$1,005	\$1,005
2. Room and Board Expenses	1,144	1,024	1,107	1,104	1,264
3. Book and Supply Expenses	132	144	145	149	143
4. Miscellaneous Expenses	<u>809</u>	<u>667</u>	<u>748</u>	<u>609</u>	<u>574</u>
5. Total Expenses	\$3,057	\$2,713	\$2,951	\$2,867	\$3,036

By and large, the information contained in Tables 4.32 - 4.40 is self-explanatory. Each provides an item-by-item review of mean category resources and/or expenditures for various types of student groups. This data can be used for purposes of comparison by individuals interested in exploring the cost figures reported by various student classifications.

Summary

The results of the data analyses presented in this chapter can be broken down into four main parts. First, basic t test analyses were run between expected and actual reported overall family contribution figures; actual reported and

expected parental contribution figures; actual reported and expected student summer earnings contribution figures; actual reported and expected student asset contribution figures; and actual reported total expenditures versus Department of Education institutional budgets for the 1971-72 school year. Tables 4.1 and 4.2 indicate that significant differences were indeed found in this regard between overall family contribution differences, parental contribution differences, and total expenditure differences. These latter three discrepancies were subsequently found to be significantly related, as well, via correlation coefficients.

The second major portion of the study attempted to review these five basic difference scores in terms of 18 selected family parameters which were viewed as potentially having an impact on the family's perceived ability to make educational contributions and upon the overall budget expenditures themselves. Table 4.5 lists the family parameters involved and indicates their relative significance in terms of impact on the difference scores in question. Tables 4.6 through 4.23 provide the details associated with each individual one-way ANOVA which was computed in this regard.

In the third major section of the analysis, all sequential family parameters under consideration (13 of the original 18 as per Table 4.24) were placed in regression equations to see if indeed the five difference scores in

question could be accurately predicted from the variables at hand. The success, at this juncture, was mixed at best and the results are displayed in Tables 4.25 through 4.29.

The fourth and final segment of the study analysis consisted of a series of summary statistics, providing information regarding mean categorical resource and expenditure patterns. This data is provided both on an overall respondent basis (see Tables 4.30 through 4.32), as well as in terms of race (see Tables 4.33 and 4.34), sex (see Tables 4.35 and 4.36), school type (see Tables 4.37 and 4.38), and relative parental net income level (see Tables 4.39 and 4.40). This data was generated for the assistance of subsequent financial aid practitioners and researchers who might wish to compare such reported statistics against standardized needs analysis and budget construction assumptions or methodologies in use.

It is hoped that the raw research data presented in this chapter and the conclusions which appear in the next can serve as the foundation for more comprehensive and sophisticated research in this very important field.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

The cornerstone of modern student financial aid administration is the evaluation of financial need, for it is this factor, rather than any other single criterion, that usually determines the amount of financial assistance which any particular student might be eligible to receive. Demonstrated financial need for such assistance is measured today according to the following formula or procedure:

- a. First, an appropriate overall student expenditure budget is determined by the school's student financial aid office for the academic year in question.
- b. Secondly, the expected financial contribution from the family itself is determined, utilizing one of the major uniform needs assessment techniques available.
- c. Thirdly, the expected family contribution is subtracted from the appropriate school budget. Any positive difference which results is labeled as demonstrated financial need, and the aid officer moves to meet this figure from the variety of resources at his or her disposal.

In light of the crucial role which this process plays

in the dissemination of financial assistance resources, and the implications it bears for both the access and success of the student as well as the heavy charge of fiscal responsibility associated with the delegation process itself, it is imperative that this procedure be as accurate and equitable as possible. This statement is made with full realization that total agreement will never really be available on this point since each family's perceived need for outside educational assistance will doubtlessly reflect their own personal fiscal standards and priorities, which may vary from the essentially normative and uniformly objective needs assessment formula described above. This realization in no way, however, releases the professional financial aids community from its ultimate responsibility of seeing that each budget figure and needs analysis measure is fully researched and tested for both accuracy and equity.

The overall purpose of this study was to attempt to identify and analyze discrepancies which might exist between various current need analysis procedures and actual family behavior patterns in this area. The study itself consisted of five major thrusts:

- a. To determine whether or not significant differences exist between various facets of the expected family contribution figures derived by the College Scholarship Service needs analysis methodology and the actual year-end contribution figures reported by the families themselves.

- b. To determine whether or not significant differences exist between the overall student expense budgets employed by the Michigan Department of Education's Division of Student Financial Assistance Services in disseminating its Competitive Scholarship and Tuition Grant stipends for the 1971-72 academic year, and actually reported total family expense budget figures for this period.
- c. To determine whether or not a variety of potentially related family circumstance parameters might significantly affect any differences found between expected and reported data.
- d. To determine whether or not regression equations could successfully be built around these family circumstance parameters which might permit financial aid officers to actually predict discrepancies from the expectations being utilized.
- e. To provide a variety of average reported contribution and expenditure data to assist other researchers and practitioners in the evaluation of their methodologies and procedures.

To set the stage for this analysis, several related areas of literature were covered. First, a brief survey of current student aid alternatives was provided to familiarize the reader with the range of options available and the essential philosophical assumptions of each. Secondly, a brief survey of the history of student financial aid was provided,

highlighting the development of current needs analysis methodologies. Finally, the limited research which has been undertaken to date, in terms of assessing actual family educational expenditures and contributions and/or their comparison against existing needs analysis procedures, was undertaken to identify the data presently available in this area.

The population for this study, itself, consisted of all full-time undergraduate aid applicants under the State of Michigan's Competitive Scholarship and Tuition Grant Programs for the 1971-72 school year. The study sample contacted was further restricted to such applicants (a) who did not meet the Department's criteria for independent status and, thus, had to have their State financial aid eligibility determined on the basis of their parent's financial circumstances for the year in question, and (b) whose families had actually submitted the formal College Scholarship Service needs analysis form for this period so that the basic comparisons between expected and reported data could be made. A random sample of 1,121 cases was selected from this population and contacted by questionnaire at the end of the 1971-72 school year. Of this sample total, 634 usable responses were received (a 57% response rate).

The survey instrument itself was designed with the assistance of a variety of professionals in the student aid field. It was constructed to collect both demographic and financial information for comparison against items in the

student's State financial assistance application file for the 1971-72 school year. The instrument was field tested prior to use, and the questions of reliability and validity as well as Alpha and Beta Error possibilities were addressed.

The differences between expected and reported data were treated via a series of t tests. The evaluations of potential relationships between the various family circumstance parameters and the difference scores determined from the discrepancies between expected and reported data were treated by a series of one-way ANOVA designs. The relative predictive value of the family circumstance parameters in question was assessed via regression analysis. The average reported budget and contribution figures displayed in all cases represented mean data. Each statistical test of significance was performed at the .01 level.

Major Findings

The College Scholarship Service needs analysis system derives an expected overall family contribution figure which is comprised of separate parental, student asset, and student summer earnings input expectations. A separate t test was performed on the differences between expected and actual reported expenditure data for each of these categories. Table 5.1 reproduces the results originally identified earlier in Chapter 4 (Table 4.1) regarding the results of these tests.

Table 5.1

t Test Comparison of Expected and Actual
Reported Contribution Figures

<u>Comparison Made</u>	<u>Mean Expected</u>		<u>Mean Actual Reported</u>		<u>Mean Difference</u>	<u>Signifi- cance</u>
Overall Family Contribution	1,781	-	1,657	=	124	.006*
Parental Contribution	1,234	-	988	=	246	<.0005*
Student Summer Earnings Contribution	446	-	425	=	21	.262
Student Asset Contribution	102	-	123	=	-21	.055

*demonstrated significant difference at the .01 level

The basic conclusions which can be drawn from this table are as follows:

1. Overall expected family contribution figures, as generated by College Scholarship Service, significantly exceed actual year-end reported total family contribution figures as submitted by families at the close of the 1971-72 school year.

In reviewing the subcategory difference scores involved, it appears that the primary cause for this overall significant difference lies in the substantial discrepancy between expected and actual parental contribution data. Only relatively small and insignificant differences were found between expected and reported student asset and student summer earnings contributions.

2. A significant difference was identified between expected parental and actual reported parental contribution figures. Evidently, parents are not subsidizing their students to the extent expected by the 1971-72 College Scholarship methodology.
3. A very close approximation was found between expected and actually reported student summer earning and student asset contribution figures. These portions of current College Scholarship Service needs analysis methodology were thus largely substantiated.

In addition to evaluating the differences which existed between expected and actually reported family contribution data, a similar t test evaluation was made between the student budgets being employed by the Michigan Department of Education's Division of Student Financial Assistance Services for the 1971-72 school year, and the total resource expenditures actually reported by students and their families at the end of that period. Table 5.2 reproduces the results of this test which were originally presented in Table 4.2.

Table 5.2

t Test Comparison of Expected and Actual
Reported Expenditure Budget Figures

<u>Comparison Made</u>	<u>Mean Expected</u>	<u>Mean Actual Reported</u>	<u>Mean Difference</u>	<u>Signifi- cance</u>
Total Budget Expenditures	2,578	- 2,879	= -301	<.0005*

*demonstrated significant difference at the .01 level

The results of this test indicate that reported expenditure totals significantly exceeded the overall expense figures in use by the Michigan Department of Education's Division of Student Financial Assistance Services for the 1971-72 school year.

Returning to the original need analysis formula (School Budget - Expected Family Contribution = Demonstrated Need), however, the question then becomes where is the discrepancy between reported family contribution deficiency and reported overall expenditure excess made up? The following data, originally cited in Tables 4.3 and 4.4 respectively seem to indicate the answer.

Table 5.3

Overall Mean Contribution Data

<u>Expected Contribution Totals</u>		<u>Reported Contribution Totals</u>	
1. Parental Contribution	\$1,234	1. Parental Contribution	\$ 988
2. Student Summer Earnings Contribution	446	2. Other Relative Contribution	53
3. Student Asset Contribution	102	3. Student Asset Contribution	123
4. Mean Remaining Need for Assistance*	<u>817</u>	4. Student Summer Earnings Contribution	425
5. Mean Standardized Budget Utilized***	\$2,599	5. Student Financial Aid**	<u>1,311</u>
		6. Total Contribution Reported***	\$2,900

*computed as a remainder

**sum of grants, loans and school year employment, etc., as outlined in Table 5.4 (some of the school year employment has evidently been undertaken privately without the guidance of the financial aids office, and thus could not be considered need based financial aid in the traditional sense of the term as used in this study).

***contribution totals of Table 5.3 were not required to exactly match expenditure totals of Table 5.2. In most cases, they did per questionnaire suggestion, but discrepancies were not forced (See Chapter III for procedural discussion on this point).

Table 5.4

Summary of Reported Student Aid Package

<u>Source</u>	<u>Amount</u>
Grants and Scholarships	\$ 667
Loans	220
Work during the 1971-72 school year	324
SS/VA/VR Benefits*	85
Other Aid Sources	<u>15</u>
Total	\$1,311

*Refers to student Social Security, Veterans Administration, and Vocational Rehabilitation assistance

The reported student financial aids package includes grants and scholarships and other educational benefits which, for the most part, would be subject to the strict needs analysis formula identified above. Thus, these inputs could not be inflated. However, much of the student's school year employment and some loans would not be subject to these strict restrictions; and, thus, it is evidently in this sector that family contribution deficiencies are actually overcome and exceeded to bring about the larger overall expenditure figures. In short, extensive student school year employment and loans evidently are being used to more than make up for family, and especially parental, contribution deficiencies.

As part of this initial portion of the analysis, contribution (both overall family and parental) differences and budget discrepancies were also correlated to see if these phenomena might not be related. Both overall family contribution difference scores and parental difference scores proved to be significantly related to overall expenditure budget discrepancies. These correlation coefficients were also positive, indicating that a direct relationship existed. As the deficiency discrepancy between expected and actual reported contribution differences grew, so did the excess discrepancy between formally expected and actually reported total expenditures.

The second major portion of the analysis entailed the review of the five difference scores identified in the first analysis segment (i.e.: family expected contribution -

family reported contribution, parental expected contribution - parental reported contribution, student summer earnings expected contribution - student reported summer earnings contribution, expected student asset contribution - reported student asset contribution, formal expense budget - actually reported expenditure total) in conjunction with 18 major family experience parameters which were suspected of substantively influencing family contribution and budget expenditures. A series of one-way ANOVA designs were used in this portion of the analysis. Table 5.5 reports a summary of these findings as originally compiled in Table 4.5.

Table 5.5

Summary of the Significance of
Family Parameter Effects on Contribution
and Budget Difference Scores

	Probability of Significant Effect on Dependent Difference Score Variable				
	Overall Family Contribution Difference Score A - B*	Parental Contribution Difference Score A ₁ - B ₁ *	Student Summer Earnings Contribution Difference Score A ₂ - B ₂ *	Student Asset Contribution Difference Score A ₃ - B ₃ *	Overall Expenditure Budget Difference Score D - (B+C)*
1. Family Background					
Educational Level	.001	.028	.757	.992	.130
2. Family Residence	.032	.004	.127	.792	.213
3. Average Parental Age	.286	.513	.033	.309	.130
4. Number of Parental Retirement Programs	.0005	.0005	.566	.069	.296
5. Number of Dependent Children	.287	.435	.135	.248	.624
6. Number of Children in Post-secondary Study	.002	.0005	.167	.568	.650
7. Number of Blood Parents in Home	.0005	.007	.231	.0005	.174
8. Number of Stepparents/ Guardians in Home	.204	.090	.004	.0005	.152
9. Family Race	.021	.0005	.001	.639	.354
10. Student Age	.117	.187	.566	.280	.056
11. Student Sex	.901	.416	.009	.861	.008

Table 5.5 (continued)

Summary of the Significance of
Family Parameter Effects on Contribution
and Budget Difference Scores

	Probability of Significant Effect on Dependent Difference Score Variable				
	Overall Family Contribution Difference Score A - B*	Parental Contribution Difference Score A ₁ - B ₁ *	Student Summer Earnings Contribution Difference Score A ₂ - B ₂ *	Student Asset Contribution Difference Score A ₃ - B ₃ *	Overall Expenditure Budget Difference Score D - (B+C)*
12. Type of School Attended	<u>.002</u>	<u>.004</u>	.415	.079	.397
13. Student Residency Plan	<u>.0005</u>	<u>.0005</u>	.853	.920	<u>.0005</u>
14. Net Parental Income	<u>.0005</u>	<u>.0005</u>	.930	.833	<u>.024</u>
15. Number of Parents Working	<u>.0005</u>	<u>.0005</u>	.999	.307	.034
16. Adjusted Effective Income Level	<u>.0005</u>	<u>.0005</u>	.337	.528	<u>.009</u>
17. Percentage of Adjusted Effective Income From Income Supplement (Assets)	.183	.034	.110	.128	.735
18. Student's Year in School	.274	.760	.305	.778	.023

*Formulae for the respective difference scores are diagrammatically displayed in Figure 3.1.
These identical formulae are subsequently reproduced in selected tables.

The cases in which statistically significant relationships (.01 level) between the various difference scores and family parameters were found are underlined in the preceding matrix. Family parameters positing significant impacts on one or more of the difference scores are further elaborated in the following matrices:

Table 5.6

Family Educational Background
Impact on Difference
Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. = 0-8th Grade	49	-389	-68	-26	-24	-459
2. = 9-12th Grade	345	81	198	13	-19	-333
3. = Post-High School - B.A. Degree	160	231	331	32	-25	-229
4. = Graduate Level Study	<u>80</u>	<u>412</u>	<u>467</u>	<u>56</u>	<u>-23</u>	<u>-213</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .001	.028	.757	.992	.130)

Table 5.7

Family Residence Impact
on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. Rural	113	81	184	40	-39	-228
2. Small Community	143	149	247	48	-27	-225
3. Suburban	232	265	421	-35	-21	-351
4. Urban	<u>146</u>	<u>-88</u>	<u>11</u>	<u>67</u>	<u>-3</u>	<u>-354</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .032	.004	.127	.792	.213)

Table 5.8

Parental Retirement Program Impact
on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Earnings Contribution Difference Score A ₂ - B ₂	Summer Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. - 1 programs	385	-72	97	11	-38	-326
2. 2 - programs	<u>249</u>	<u>429</u>	<u>475</u>	<u>33</u>	<u>3</u>	<u>-263</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .0005	.0005	.566	.069	.296)

Table 5.9

Enrollment Impact on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 1 enrolled	370	257	395	25	-22	-321
2. 2 enrolled	225	-79	41	-8	-13	-265
3. 3+ enrolled	<u>39</u>	<u>51</u>	<u>4</u>	<u>141</u>	<u>-66</u>	<u>-321</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .002	.0005	.167	.568	.650)

Table 5.10

Blood Parent Impact on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 0 Blood Parents in Home	2	-401	-122	-450	756	-1,211
2. 1 Blood Parent in Home	93	-356	-74	62	65	-343
3. 2 Blood Parents in Home	<u>539</u>	<u>209</u>	<u>302</u>	<u>15</u>	<u>-39</u>	<u>-291</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .0005	.007	.231	.0005	.174)

Table 5.11

Stepparent/Guardian Presence Impact
on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 0 Stepparent/ Guardians in Home	614	137	256	18	-26	-295
2. 1 Stepparent/ Guardians in Home	19	-320	-172	156	48	-417
3. 2 Stepparents/ Guardians in Home	<u>1</u>	<u>698</u>	<u>1,755</u>	<u>-1,400</u>	<u>1,513</u>	<u>-1,625</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .204	.090	.004	.0005	.152)

Table 5.12

Race Impact on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. White	601	149	283	6	-20	-308
2. Nonwhite	<u>33</u>	<u>-320</u>	<u>-445</u>	<u>276</u>	<u>-45</u>	<u>-185</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .021	.0005	.001	.639	.354)

Table 5.13

Student Sex Impact on
Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. Male	344	127	278	-23	-20	-372
2. Female	<u>290</u>	<u>121</u>	<u>206</u>	<u>72</u>	<u>-23</u>	<u>-217</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .091	.416	.009	.861	.008)

Table 5.14

School Type Impact on
Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 2-Year Public	221	-75	65	0.4	22	-301
2. 4-Year Public	353	281	384	35.2	-2	-278
3. 4-Year Private	39	-105	112	54.2	-39	-490
4. 2-Year Private	<u>21</u>	<u>24</u>	<u>50</u>	<u>124.2</u>	<u>-134</u>	<u>-335</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .002	.004	.415	.079	.397)

Table 5.15

Residency Plan Impact on
Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. Resident	432	289	401	18	-21	-163
2. Commuter	<u>202</u>	<u>-226</u>	<u>-87</u>	<u>24</u>	<u>-22</u>	<u>-596</u>
	N - 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .0005	.0005	.853	.920	.0005)

Table 5.16

Parental Net Income Impact on
Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1. 0-\$ 5,000	62	-830	-450	53	1	-478
2. \$ 5,001-\$10,000	200	-122	-10	31	-22	-189
3. \$10,001-\$15,000	244	148	249	12	-27	-372
4. \$15,001-\$20,000	92	565	624	-8	-37	-266
5. \$20,001-	<u>36</u>	<u>1,859</u>	<u>1,871</u>	<u>25</u>	<u>19</u>	<u>-227</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .0005	.0005	.930	.833	.024)

Table 5.17

Impact of Number of Parents Employed
on Difference Scores

Category Level	Category Frequency	Difference Score Test Means				
		Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score $\bar{A}_1 - B_1$	Student Summer Earnings Contribution Difference Score $A_2 - B_2$	Student Asset Contribution Difference Score $A_3 - B_3$	Overall Expenditure Budget Difference Score D - (B+C)
1. 0 Employed	21	-1,048	-498	23	48	-685
2. 1 Employed	405	36	160	20	-15	-307
3. 2 Employed	<u>208</u>	<u>414</u>	<u>485</u>	<u>20</u>	<u>-19</u>	<u>-251</u>
	N = 634	$\bar{X} = 124$	246	21	-21	-301
		(Sig. = .0005	.0005	.999	.307	.034)

Table 5.18

Adjusted Effective Income Impact on
Difference Scores

Category Level			Difference Score Test Means				
			Overall Family Contribution Difference Score A - B	Parental Contribution Difference Score A ₁ - B ₁	Student Summer Earnings Contribution Difference Score A ₂ - B ₂	Student Asset Contribution Difference Score A ₃ - B ₃	Overall Expenditure Budget Difference Score D - (B+C)
1.	0-\$ 5,000	62	-846	-478	53	-14	-541
2.	\$ 5,001-\$10,000	230	-85	9	60	-27	-202
3.	\$10,001-\$15,000	239	199	310	-12	-26	-351
4.	\$15,001-\$20,000	86	744	793	-28	17	-226
5.	\$20,001-	<u>17</u>	<u>2,332</u>	<u>2,394</u>	<u>74</u>	<u>-105</u>	<u>-438</u>
	N = 634		$\bar{X}$ = 124	246	21	-21	-301
			(Sig. = .0005	.0005	.337	.528	.009)

The following are among the major conclusions prominent in these significant interactions of family parameters and contribution and/or budget difference scores:

1. An inverse relationship actually exists between parental educational level and family contribution discrepancy. As parental educational level rises, reported family contributions fall increasingly below the expectations made for the families sampled.
2. As family residence moves from rural toward urban settings, the deficiency between reported and expected parental contribution is reduced. Thus, urban parents more closely meet their expected educational contributions than do rural families. Suburban parents, not rural parents, however, appear to be most delinquent in meeting their specific contribution expectations.
3. An inverse relationship exists between number of parental retirement programs and approximation of expected family and parental contribution figures. As the number of retirement programs increases, actual reported family and parental contributions become more deficient when measured against their expected counterparts.
4. As the number of children in the family concurrently enrolled in college increases, the deficiency between expected and actual family and parental contributions actually decreases.

5. Atypical home situations not containing the traditional two blood parents actually tend to contribute in excess of College Scholarship Service expectations, whereas for traditional two blood parent settings, the reverse proved to be true.
6. Home settings containing two stepparents or guardians tend to precipitate student summer earnings in excess of College Scholarship Service expectations whereas for the normal two blood parent settings, the opposite proved true. An opposite trend was noted in terms of student asset contributions. Here the two blood parent setting precipitated student asset contributions slightly in excess of expectations, whereas for the two stepparent/guardian setting reported student asset contributions fell far below expectation.
7. Nonwhite parents tend to contribute in excess of expectation, whereas for whites the opposite is true. Nonwhite students, on the other hand, contribute significantly less through summer earnings than do white students.
8. Male students' reported summer earnings exceed College Scholarship Service expectations whereas female students' reported summer earnings fall below this expectation. Actual reported expense budgets for both sexes exceed Michigan Department of Education's Division of Student Financial Assistance Service

figures, but the budgets of male students also exceed these norms by a significantly greater margin.

9. Reported parental contributions for students attending 2-year schools are less deficient than parental contributions reported for students attending 4-year schools.
10. Both reported family and parental contributions for commuter students exceed expectations, whereas the opposite is true for resident students. Also, the Department of Education's Division of Student Financial Assistance Services budgets employed are significantly more deficient for commuter students than they are for resident students.
11. As net parental income increases, it becomes significantly more likely that both reported family and parental contributions will be less than the expectations levied against these categories by College Scholarship Service.
12. Families with both parents employed report both family and parental contribution figures farther below expectation than do households with a single parent working. In fact, households reporting no parental employment actually indicate contributions exceeding both family and parental input expectations.
13. As adjusted effective income level of the parents increases, households move from over contribution to undercontribution in relation to expectations levied

by College Scholarship Service methodologies.

These findings seem to indicate several trends. Evidently, as home security grows (as evidenced by number of blood parents present, number of parents employed, parental educational level, number of retirement programs, non-multiple student enrollments, net and adjusted effective income levels, suburban living, etc.) families and parents tend to actually become less likely to meet the contribution expectations currently being levied against them. Opposite conditions symptomatic of family economic strain, on the other hand, seem to document actual contribution closer to or in actual excess of the corresponding expectations levied. This trend opposes the basic philosophy of current College Scholarship Service methodology, which presupposes in essence that more financially secure families should be contributing steadily greater percentages of their resources to student educational expenses.

The regularity with which Department of Education's Division of Student Financial Assistance Services budgets were exceeded by reported totals was also noted. Special circumstances, such as student sex, residency plan, and parental adjusted effective income level seemed to have significantly increased impact on this overall deficiency. Few of these parameters are currently taken into consideration in Department budget construction procedures.

Several common stereotypes are also reversed here. For

example, minority families actually tend to contribute in excess of the amounts expected of them, whereas the opposite was true of caucasian families. Suburban parents, not rural parents, tend to be most delinquent in meeting their contribution expectations. Parents with little education tend to exceed contribution expectations, whereas families with actual exposure to post-secondary education prove to contribute less than the expectations levied against them. Parental contributions for students attending 2-year schools were less delinquent than were those for students attending more traditional 4-year institutions. Family and parental contributions for commuter students exceeded expectations, whereas the opposite was true in resident student settings.

Recently, College Scholarship Service and other needs analysis agencies have given much attention to the appropriate levels of expectation for various socio-economic groups. The trend in this regard has been to lighten expectations levied against lower income groups, and raise them in application against higher income groups. The reported results recorded in this study would not seem to support continuation of this trend.

The third major portion of this analysis entailed the incorporation of all sequential family parameters involved in the second segment into regression equations aimed at the prediction of the five various difference scores identified initially in the first section of the analysis. Table 5.19 reiterates the variables incorporated into these formulae.

Table 5.19

Summary of Variable Transition Identifying Family
Parameters From the ANOVA Analysis
Which Are Applicable For Regression Analysis

Family Variables Covered in Section II	Those Considered Categorical and Deleted From Section III	Those Considered* Sequential and Carried Into Re- gression Analysis (Regression Variable No.)	
1. Family Educational Background		X	(#1)
2. Family Residence Area	X		
3. Average Parental Age		X	(#2)
4. Number of Parental Retirement Provisions		X	(#3)
5. Number of Dependents		X	(#4)
6. Number of Dependents in Post-secondary Study		X	(#5)
7. Number of Blood Parents		X	(#6)
8. Number of Step-parents/Guardians		X	(#7)
9. Family Race	X		
10. Student Age		X	(#8)
11. Student Sex	X		
12. School Type	X		
13. Student Residency Plan	X		
14. Net Parental Income		X	(#9)
15. Number of Parents Employed		X	(#10)
16. Parental Adjusted Effective Income		X	(#11)
17. Percentage of Item 16 Coming From Assets		X	(#12)
18. Student's School Class		X	(#13)

*Note - This decision was made in conjunction with staff of the (MSU) College of Education's Office of Research Consultation

Table 5.20 summarizes the relative effectiveness which these equations enjoyed in terms of their predictive abilities.

Table 5.20

Regression Equation Effectiveness

<u>Difference Score Involved</u>	<u>Overall % of Difference Explained</u>	<u>Probability of Significance</u>
A - B	.2965	<u>.0005*</u>
A ₁ - B ₁	.2758	<u>.0005*</u>
A ₂ - B ₂	.0241	.292
A ₃ - B ₃	.0590	<u>.0005*</u>
D - (B+C)	.0356	.046

*significance demonstrated at the .01 level

Several of these equations did demonstrate significance, thus indicating that the technique may well have merit as a predictor of contribution and budget discrepancies. However, in no case was more than 30% of the total difference explained. Thus, further constellations of variables must yet evidently be identified to effectively complete the equations in question. The high degree of interrelationship found in viewing the R² Deletes columns of Tables 4.25 through 4.29 also supports the contention that, at best, these efforts have identified but one of the major parameter syndromes which evidently impact upon these difference scores between expected and reported data.

The final segment of the analysis provides various

categories of average categorical response data, to assist future researchers and practitioners in evaluating their results and methodologies. Tables 5.21 and 5.22 present average response data by questionnaire category.

Table 5.21

Mean Reported Contribution Resources
By Source Category

<u>Category</u>	<u>Overall Mean Amount</u>	
1. Parental Contribution from Income	\$ 617	
2. Parental Contribution from Savings	278	
3. Parental Contribution from Loans	87	
4. Other Parental Contribution	<u>6</u>	
5. Total Parental Contribution		\$ 988
6. Other Relatives Contribution		53
7. Student Savings (Asset) Contribution		123
8. Student 1971 Summer Earnings Contribution		425
9. Student 1971-72 School Year Work Contribution	324	
10. Student Scholarships/Grants	667	
11. Student Loans	220	
12. Student Social Security/ Vocational Rehabilitation/ Veterans Administration Benefits	85	
13. Student Other Sources	<u>15</u>	1,311
14. Total Resources Available		\$2,900

Table 5.22

Mean Reported Expenditures
By Use Category

<u>Category</u>	<u>Overall Mean Amount</u>
1. Tuition and Fee Expenses	\$ 944
2. Room and Board Expenses	1,093
3. Book and Supply Expenses	144
4. Miscellaneous Expenses	<u>698</u>
5. Total	\$2,879

Comparable averages are also provided by race, sex, school type, and parental net income level in Tables 4.33 through 4.40, respectively. Comparable data is provided there as well concerning mean data for non-zero respondents only. These figures can be of assistance in assessing the accuracy of various types of formal budget figures for a variety of comparable types of students. The non-zero respondent figures present an interesting perspective on the various types of students categorized as dependent, who, in fact, effectively report no parental input.

Implications For Future Research

Due to the exploratory nature of this study, two basic directions should be charted for future research. First, basic replication of this design on comparable groups should be made to better assess the study's reliability and validity. Secondly, more sophisticated research would be encouraged, building upon the data and procedural foundation

which has been laid here.

Several specific suggestions would also be made for the researcher tentatively thinking of pursuing this area. First, every effort must be made to precisely define both procedures and population involved, as past studies reviewed tended to be lax in this regard. Interstudy comparison will prove to be treacherous if a clear picture of each study's population and procedures is not made. Secondly, due to the vast differences in various types of student populations, it would be wise to study as homogeneous a group as possible. For example, separate research efforts should be directed toward graduate students, undergraduate students, full-time students, part-time students, vocational school students, evening students, lifelong education returning students, foreign students, etc., as by mixing these students together, important data distinctions may be lost.

Then, too, to help improve both accuracy and response rate, perhaps the year-long ledger approach to expenditure records, as opposed to the year-end reporting techniques used here, should be tried. This approach would, however, be subject to a greater potential Hawthorne Effect, and this potential problem would have to be confronted in the design. Some literature has already been developed around use of this type of reporting technique and it, of course, should be consulted thoroughly in the development of any such approach.

As soon as the overall data base becomes sufficient to permit concentration on a specific segment of the overall

needs analysis syndrome, movement in this direction would also be recommended, as reducing the number of tests to be performed upon each respondent would invariably reduce the Alpha Error phenomenon. Establishing a reputable base of difference score distributions for various populations would also enable the researcher to begin to grapple with the concomitant Beta Error problem.

Every effort should also be made in future research to enhance the sophistication of the design, taking into consideration various interaction effects via multivariate analysis, etc.

In light of the partial success obtained via the regression analysis in this study, a concentrated effort should also be made to identify new and yet uncharted variable parameters in this area as well.

A further point for consideration is that in this design, all aid applicants were included in the population. When this is done, invariably some families with practically unlimited resources are included. Such families when passed through traditional needs analysis procedures, have expected family contributions computed which would exceed any feasible expenditure budget. Such cases may serve to bias difference score discrepancies, and, thus, may be worth removing. One effective approach to this matter would be limiting the study population to actual need based award recipients.

Another argument periodically surfaced concerning the type of design employed here states that families are forced

to approximate the expectations levied because financial aid packages are built around them. However, this argument did not seem to influence this study's results, and would only serve to enhance the significance of the differences found, if it is valid, as it implicitly argues for the null hypothesis.

Another facet of this complex issue which might well warrant unique focus, is some of the special expense items associated with post-secondary study that do not often find their way into present considerations. Automobile ownership and financing is a prime case in point.

In retrospect, this study has broken the ground by clearly demonstrating that significant differences do, indeed, exist between expected and actual reported contribution and budget data. The relative accuracy of this crucial conclusion must be demonstrated for various types of students, and more sophisticated research must be undertaken to both determine how these demonstrated discrepancies can be systematically predicted and what measures should be taken to make needs analysis policies and procedures more accurate and equitable for all types of students. The charge is vast, but the issue is much too important to avoid if the integrity of financial aids administration is to be maintained.

APPENDICES

APPENDIX

A

Questionnaire Cover

Letter

DEPARTMENT OF EDUCATION

Lansing, Michigan 48902



JOHN W. PORTER
Superintendent of
Public Instruction

July 12, 1972

STATE BOARD OF EDUCATION
EDWIN L. NOVAK, O.D.
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GOV. WILLIAM G. MILLIKEN
Ex-Officio

Dear Student and Parents:

In reviewing application materials for the State Competitive Scholarship and Tuition Grant Programs, we have noted that many families express concern over the procedures employed in determining their student's need for financial assistance. As part of the ongoing evaluation of these state-sponsored student financial assistance programs therefore, the Department of Education is attempting to evaluate this concern in a systematic manner. Specifically, this project is designed to compare the "expected" family contributions derived from the Parents' Confidential Statement utilized in the State Scholarship and Tuition Grant Programs, with the amounts families have "actually" been able to contribute towards their student's education for the recently completed 1971-72 school year. This comparison will provide the Department of Education with helpful data concerning the reasonableness of these "expected" family contribution figures.

Your family has been randomly selected from among those submitting applications for the State Scholarship and Tuition Grant Programs, in hopes that you might be willing to help in this evaluative process. To assist us in this endeavor, we are asking that you complete the brief questionnaire which has been enclosed on behalf of the student whose name appears on the top of the form. Please return the completed form in the envelope provided by July 31, 1972, so that we may have the benefit of your input.

We recognize that the data being requested is very personal and that it perhaps would be more easily obtained if the student's name was not found on the form. Yet, if we are to be able to compare the actual contribution data with the expectations derived from the Parents' Confidential Statement at the outset of the school year, we must be able to identify the student involved. Please be assured, however, that your responses will be treated in strictest confidence. Once the initial comparison is made, the remainder of the evaluation and its report will treat each family anonymously.

We hope that you will take this opportunity to help us evaluate this important aspect of our financial aid programs. If you have any questions or concerns as you respond to this questionnaire, please call Mr. Lee Peterson of our staff at (517) 373-3394. Thank you for your cooperation.

Most sincerely,

Ronald J. Jursa, Director
Student Financial Assistance Services

RJJ:jrs
Enclosure

APPENDIX

B

Questionnaire

Instrument

FA-3052
7/72Michigan Department of Education
STUDENT FINANCIAL ASSISTANCE SERVICES
Box 420 Lansing, Michigan 48902**FAMILY QUESTIONNAIRE ON STUDENT RESOURCES****LABEL**- Student Name
- Student Address
- Student Social Security No.

1

(Card 1)

2-10

I. SOURCES OF FUNDS:

In responding to this section, please identify ALL funds used by the student named above during the 1971-72 school year. This period covers the two semesters or three terms of study found approximately between September 1, 1971, and June 1, 1972, as well as the intervening vacation period(s). Care should be taken to insure that the figures provided reflect both the "at home" as well as the "at school" and other "away from home" expenses incurred during this nine month period. In arriving at your total, please be sure that all of the following types of expenditures have been accounted for:

- A. Tuition and fees
- B. Room and board, both at home and away
- C. Books and supplies
- D. Medical/dental expenses and insurance
- E. Clothing and laundry expenses
- F. Travel expenses (include public transportation fees and car operating/insurance/purchase expenses where applicable for student)
- G. Entertainment/incidental spending money

SOURCE OF FUNDS USED BY THE STUDENT	AMOUNT
A. AMOUNT PROVIDED BY PARENTS/GUARDIANS LIVING IN THE HOME	
1. From current income/checking account	14
2. From savings/investments	18
3. From loans in parents'/guardians' name	22
4. From other parent/guardian sources (Identify)	28
5. TOTAL AMOUNT PROVIDED BY PARENTS/GUARDIANS (Sum of 1-4)	82
B. AMOUNT PROVIDED BY OTHER RELATIVES (Identify)	55
C. AMOUNT PROVIDED BY THE STUDENT	
1. From savings available prior to the summer of 1971	38
2. From 1971 summer earnings	40
3. From student earnings during the 1971-72 school year	44
D. AMOUNT PROVIDED THROUGH FINANCIAL AID PROGRAMS	
1. In the form of scholarships or grants	48
2. In the form of loans taken out in the student's name	82
3. In the form of social security/veterans administration/vocational rehabilitation educational benefits	88
E. AMOUNT PROVIDED FROM OTHER SOURCES (Identify)	89
F. TOTAL RESOURCES USED BY THE STUDENT FOR THE 1971-72 SCHOOL YEAR (Sum of A-E)	83

II. SPENDING PATTERN:

Please indicate the amount from the total found in Item I.F. above, which was spent on each of the following categories by the student during the 1971-72 school year.

USE OF FUNDS	AMOUNT
A. ON TUITION AND FEES	89
B. ON ROOM AND BOARD EXPENSES	71
C. ON BOOKS AND SUPPLIES	74
D. ON MISCELLANEOUS EXPENSES	
1. Medical/dental expenses and insurance	
2. Clothing; entertainment; travel; incidental expenses	
3. Other (Identify)	
4. TOTAL MISCELLANEOUS EXPENSES (Sum of 1-3)	78
E. TOTAL EXPENDITURES (Should equal item I.F. above)	

(OVER)

III. IF THE TOTALS FOUND IN ITEMS I.F. AND II.E. ARE NOT EQUAL, PLEASE EXPLAIN THE DIFFERENCE:

IV. FAMILY EDUCATIONAL BACKGROUND

Please check the highest level of formal education attained by each parent/guardian living in the home.

LEVEL	DIPLOMA/DEGREE RECEIVED			
	Father/Stepfather/Male guardian		Mother/Stepmother/Female guardian	
	Yes	No	Yes	No
79 A. 0-8th Grade	☐	☐	☐	☐
B. 9-12th Grade	☐	☐	☐	☐
C. Post high school - B.A. Degree	☐	☐	☐	☐
D. Graduate Study	☐	☐	☐	☐

V. FAMILY RESIDENCE

Please check the most applicable option

- so ☐ A. Rural setting
☐ B. Small community
☐ C. Suburban setting
☐ D. Urban setting

APPENDIX

C

Study Follow-up
Letter

STATE OF MICHIGAN

DEPARTMENT OF EDUCATION

Lansing, Michigan 48902



JOHN W. PORTER
Superintendent of
Public Instruction

STATE BOARD OF EDUCATION

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Ex-Officio

Dear Student and Parents:

Several weeks ago, our office sent to you a questionnaire concerning educational expenses for the recently completed 1971-72 school year. The deadline for return of the original form has now passed and we note that your response has not as yet reached us.

While we have already begun analysis of the forms received, since this study covers such an important aspect of the State Financial Aid Programs, we would like to extend to you an additional opportunity to respond. To this end, a duplicate set of questionnaire materials has been enclosed for your review.

By taking a moment to complete the form in question, your family will be playing a crucial part in the analysis of Michigan's efforts to equitably assist its college students. Please submit the completed form in the return envelope provided by September 11, 1972.

Again, we certainly do much appreciate your cooperation.

Most sincerely,

Ronald J. Jursa, Director
Student Financial Assistance Services

RJJ:jrs
Enclosures

APPENDIX

D

Data Processing Card Structure

Card One - Punched From Questionnaire Itself

- Line 1 = Card 1 Identification
- Lines 2 - 10 = Student Social Security Number
(from identification label on questionnaire)
- Lines 11 - 14 = Parents Contribution From Income
(Line I A1 on questionnaire)
- Lines 15 - 18 = Parents Contribution From Savings
(Line I A2 on questionnaire)
- Lines 19 - 22 = Parents Contribution From Loans
(Line I A3 on questionnaire)
- Lines 23 - 25 = Other Parental Contribution
(Line I A4 on questionnaire)
- Lines 26 - 29 = Total Parents Contribution
(Line I A5 on questionnaire)
- Lines 30 - 33 = Other Relatives Contribution
(Line I B on questionnaire)
- Lines 34 - 36 = Student Savings Contribution
(Line I C1 on questionnaire)
- Lines 37 - 40 = Student 1971 Summer Earnings
Contribution
(Line I C2 on questionnaire)
- Lines 41 - 44 = Students Contribution From Earnings
During the 1971-72 Academic Year
(Line I C3 on questionnaire)
- Lines 45 - 48 = Student's Scholarships/Grants
(Line I D1 on questionnaire)
- Lines 49 - 52 = Student's Loans
(Line I D2 on questionnaire)
- Lines 53 - 56 = Student's SS/VA/VR Benefits
(Line I D3 on questionnaire)
- Lines 57 - 59 = Student's Other Aid
(Line I E on questionnaire)
- Lines 60 - 63 = Total Resources Utilized
(Line I F on questionnaire)

Lines 64 - 67 = Student Tuition and Fee Expenses
(Line II A on questionnaire)

Lines 68 - 71 = Student Room and Board Expenses
(Line II B on questionnaire)

Lines 72 - 74 = Student Book and Supply Expenses
(Line II C on questionnaire)

Lines 75 - 78 = Sum of Miscellaneous Expenses
(Line II D4 on questionnaire)

(Note: individual subcategories here not punched)

Line 79 = Family Education Level Category
Reference Code
(Line IV on questionnaire)

Line 80 = Family Residence Type Category
Reference Code
(Line V on questionnaire)

Card Two - Punched From Student File

Line 1 = Card 2 Identification

Lines 2 - 10 = Student Social Security Number
(from application in file)

Lines 11 - 14 = Expected Family Contribution Total
(from Parents Confidential Statement,
- PCS - Financial Need Analysis Review,
- FNAR - printout in file)

Lines 15 - 18 = Expected Parental Contribution
(from PCS, FNAR in file)

Lines 19 - 21 = Expected Student Summer Earnings
Contribution
(from PCS, FNAR in file)

Lines 22 - 25 = Expected Student Asset Contribution
(from PCS, FNAR in file)

Lines 26 - 29 = Expected School Budget
(from Department of Education
tabulation)

Line 30 = Average Parental Age Notation
(from PCS in file)

Line 31 = Number Parental Retirement Programs
(from PCS in file)

Line 32 = Number Dependent Children Notation
(from PCS in file)

Line 33 = Number Children in College Notation
(from PCS in file)

Line 34 = Number Blood Parents
(from PCS in file)

Line 35 = Number Stepparents/Guardians
(from PCS in file)

Line 36 = Family Race Notation
(from application in file)

Line 37 = Student Age Notation
(from PCS in file)

Line 38 = Student Sex Notation
(from PCS in file)

Line 39 = School Type Attended Notation
(from application in file)

Line 40 = Student Residency Plan Notation
(from application in file)

Line 41 = Net Family Income Notation
(from PCS, FNAR in file)

Line 42 = Number Parents Working Notation
(from PCS in file)

Line 43 = Adjusted Family Income Notation
(from PCS, FNAR in file)

Line 44 = Percentage Adjusted Family Income
From Income Supplement Notation
(computed from PCS, FNAR in file)

Line 45 = Student Year in School
(from application in file)

Line 46 = Notation for Incomplete Card 1

Line 47 = Notation for Incomplete Card 2

Lines 48 - 52 = Computed Difference Score (A - B)

Lines 53 - 57 = Computed Difference Score ($A_1 - B_1$)

Lines 58 - 62 = Computed Difference Score ($A_2 - B_2$)

Lines 63 - 67 = Computed Difference Score ($A_3 - B_3$)

Lines 68 - 72 = Computed Difference Score ($D - \{B+C\}$)

Lines 73 - 80 = Blank

Specific Item Comparisons for Hypotheses 1 - 5

Hypothesis 1: $A = B$

Card 2, lines 11 - 14 verse

Card 1, lines 26 - 40

Hypothesis 2: $A_1 = B_1$

Card 2, lines 15 - 18 verse

Card 1, lines 26 - 29

Hypothesis 3: $A_2 = B_2$

Card 2, lines 19 - 21 verse

Card 1, lines 37 - 40

Hypothesis 4: $A_3 = B_3$

Card 2, lines 22 - 25 verse

Card 1, lines 34 - 36

Hypothesis 5: $D = B+C$

Card 2, lines 26 - 29 verse

Card 1, lines 60 - 63

APPENDIX

E

Financial Need
Analysis Report

*FNAR showing sources of information
upon which computations are made*

COLLEGE SCHOLARSHIP SERVICE

Confidential**FINANCIAL NEED ANALYSIS REPORT**

Academic Year 1971-72

UNUSUAL CONDITIONS NOTED FOR CURRENT YEAR

- A. No income tax reported last year
 B. Income tax reported for last year is less than 80% of standard tax
 C. Income tax reported for last year exceeds standard tax by 70% or more
 D. Estimated income is zero

NAME OF APPLICANT			SEX	DATE OF BIRTH	SOCIAL SECURITY NUMBER	NO. OF PARENTS	NO. OF CHILDREN	CLASSIFICATION	COLLEGE CODE
LAST	FIRST	M.I.							
ITEM 1A			FA	FA	FA	12	38	SEE BELOW	2

UNUSUAL CONDITIONS

YEAR	COMPUTATION OF EFFECTIVE INCOME									
	NET INCOME	FEDERAL INCOME TAX	STATE INCOME TAX	HOUSEKEEPING	MEDICAL EXPENSES	EMERGENCY EXPENSES	INDEBTEDNESS	OTHER DEPENDENTS	TOTAL ALLOWANCES	EFFECTIVE INCOME
1	TOTAL OF ITEMS 7A, 7B, AND 9 MINUS ITEM 9	COMPUTED OR MAY ALSO BE DERIVED FROM TABLES B OR C	COMPUTED OR MAY BE DERIVED FROM TABLE	2% OF FIRST \$2000, PLUS 2% OF BALANCE OF ITEM 7B, TO A MAXIMUM OF \$1500	ITEM 11 IN EXCESS OF 5% OF NET INCOME	ITEM 12	ONE THIRD EXCESS OF DEBT OUTSTANDING OVER TOTAL ASSETS	ITEM 10 NUMBER OF OTHER DEPENDENTS TIMES \$400	TOTAL	NET INCOME LESS TOTAL ALLOWANCES
2										
3										
4										

YEAR	COMPUTATION OF INCOME SUPPLEMENT FROM FAMILY ASSETS									
	RESIDENCE EQUITY	OTHER REAL ESTATE	BUSINESS OR FARM	BANK ACCOUNTS	OTHER INVESTMENTS	APPLICANT'S ASSETS (Items 21, 22, 23)	TOTAL ASSETS	DEBT OUTSTANDING	NET WORTH	INCOME SUPPLEMENT
1	ITEM 14 MARKET VALUE LESS UNPAID MORTGAGE	ITEM 15 MARKET VALUE LESS UNPAID MORTGAGE	*GROSS USE ONLY* BOX (A-B) C A=ASSETS B=DEBT C=X OF OWNERSHIP \$14C \$200 40% \$200C \$600 50% \$600C \$1000 70%	ITEM 16	ITEM 17	ITEM 21 IN EXCESS OF \$2000	TOTAL	ITEM 18	TOTAL ASSETS LESS DEBT OUTSTANDING	TABLE F
2										
3										
4										

YEAR	COMPUTATION OF TOTAL FAMILY CONTRIBUTION							COLLEGE BUDGET		ESTIMATED FINANCIAL NEED		
	ADJUSTED EFFECTIVE INCOME	FOR APPLICANT'S MAINTENANCE	FROM DISCRETIONARY INCOME	NO. OF CHILDREN IN COLLEGE	PARENTS' CONTRIBUTION FOR APPLICANT	APPLICANT'S SUMMER EARNINGS	APPLICANT'S ASSETS	TOTAL FAMILY CONTRIBUTION FOR APPLICANT	RESIDENT	COMMUTER	RESIDENT	COMMUTER
1	EFFECTIVE INCOME PLUS INCOME SUPPLEMENT	TABLE E UP TO A MAXIMUM OF \$900	TABLE B AMOUNT IN EXCESS OF \$900	ITEM 22	MAINTENANCE CONTRIBUTION PLUS DISCRETIONARY CONTRIBUTION DIVIDED BY NUMBER OF CHILDREN IN COLLEGE	STANDARD INPUT SEE MANUAL	ITEM 21 UP TO A MAXIMUM OF \$2000 DIVIDED BY NUMBER OF YEARS REMAINING IN COLLEGE PLUS ONE	TOTAL				
2												
3												
4												

	1	2	3	4
1 College Budget				
2 College adjustment				
3 TOTAL BUDGET				
4 Parents' contribution				
5 Applicant's summer earnings				
6 Applicant's assets				
7 Other resources				
8 TOTAL CONTRIBUTION				
9 FINANCIAL NEED (Line 3 minus 8)				
	FINANCIAL AID AWARD			
SCHOLARSHIP				
LOAN				
JOB				

CLASSIFICATION

- 1 Normal, two-parent family
 2 Separated or divorced, two-parent family
 3 Father sole support
 4 Mother sole support, father deceased
 5 Mother sole support, separated or divorced
 6 Unusual conditions--CSC recommends individual analysis
 7 Married applicant
 8 Business or farm case
 9 Family indebtedness exceeds assets

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