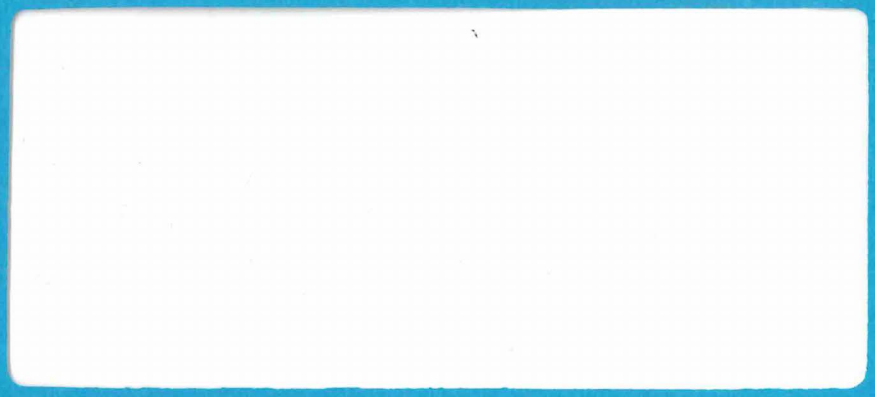
Effects of Implementing an Alternative Design for Shared Responsibility in the Minnesota Student Financial Aid System

STAFF TECHNICAL PAPER

COORDINATION THROUGH PLANNING AND RESEARCH
MHECB

MINNESOTA HIGHER EDUCATION COORDINATING BOARD



MINNESOTA HIGHER EDUCATION COORDINATING BOARD

MEMBERS

CAROL KAMPER, Rochester, First Congressional District
GRETCHEN TAYLOR, Mankato, Second Congressional District
JAMES KRAUSE, Golden Valley, Third Congressional District
ARTHUR GILLEN, North Oaks, Fourth Congressional District
ROBERT HATCH, Minneapolis, Fifth Congressional District
NORMAN TEMPEL, Willmar, Sixth Congressional District
DOUGLAS SILLERS, Moorhead, Seventh Congressional District
ARCHIE CHELSETH, Cloquet, Eighth Congressional District
RICHARD DUNN, Plymouth, At-Large
ROBERT BONINE, Mendota Heights, At-Large
HUGH MADSON, Lake Elmo, At-Large

CLYDE R. INGLE, Executive Director

Effects of Implementing an Alternative Design for Shared Responsibility in the Minnesota Student Financial Aid System

Prepared by the Staff of the
Minnesota Higher Education Coordinating Board

April 1982

CONTENTS

EXECUTIVE SUMMARY AND HIGHLIGHTS i

PART I. INTRODUCTION 1

PART II. THE DESIGN FOR SHARED RESPONSIBILITY 4

PART III. DETERMINATION OF A REASONABLE RANGE OF STUDENT CONTRIBUTIONS . . 7

HOW MUCH CAN STUDENTS CONTRIBUTE FROM WORK? 7
How much do students currently earn? 7
How much should students earn? 8
Comparing what students do earn with what they should be able to earn 8
HOW MUCH COULD STUDENTS CONTRIBUTE BY BORROWING AGAINST FUTURE EARNINGS? 9

PART IV. EFFECTS OF IMPLEMENTING THE DESIGN FOR SHARED RESPONSIBILITY . . . 12

HOW WOULD THE NUMBER OF AWARDS, AVERAGE AWARD, AND TOTAL STATE SPENDING CHANGE UNDER THE VARIOUS OPTIONS FOR IMPLEMENTING THE ALTERNATIVE DESIGN? 12
HOW WOULD THE RANGE OF AWARD SIZES BE AFFECTED BY THE NEW DESIGN? . . . 13
HOW WOULD THE DISTRIBUTION OF SCHOLARSHIP AND GRANT RECIPIENTS, DISTRIBUTION OF TOTAL DOLLARS AND INDIVIDUAL AWARD LEVELS CHANGE FOR STUDENTS FROM FAMILIES OF DIFFERING INCOMES UNDER THE ALTERNATIVE DESIGN? 17
Change in distribution of scholarship and grant awards by income level 17
Change in distribution of total dollars by income level 18
Change in individual award amounts by income level 20
HOW WOULD THE DISTRIBUTION OF TOTAL DOLLARS CHANGE FOR STUDENTS ATTENDING INSTITUTIONS IN THE VARIOUS SYSTEMS OF POST-SECONDARY EDUCATION UNDER THE ALTERNATIVE DESIGN? 21
HOW WOULD STATE SPENDING FOR SCHOLARSHIPS AND GRANTS CHANGE OVER TIME UNDER VARIOUS LEVELS OF STUDENT SELF-HELP IN THE ALTERNATIVE DESIGN? 25
HOW WOULD THE WITHDRAWAL OF FEDERAL PELL GRANT FUNDS AFFECT THE FUNDING REQUIREMENTS FOR THE STATE SCHOLARSHIP AND GRANT PROGRAMS UNDER THE ALTERNATIVE DESIGN? 26

PART V. A METHOD OF RATIONING WITHIN THE ALTERNATIVE DESIGN FOR SHARED RESPONSIBILITY 27

APPENDICES 30

A. SHIFT IN THE DISTRIBUTION OF GRANT RECIPIENTS AND TOTAL DOLLARS BY FAMILY INCOME UNDER VARIOUS SELF-HELP LEVELS IN THE ALTERNATIVE DESIGN FOR SHARED RESPONSIBILITY 31
B. SHIFT IN THE DISTRIBUTION OF GRANT RECIPIENTS BY FAMILY INCOMES IN THE VARIOUS POST-SECONDARY EDUCATION SYSTEMS UNDER THE 50 PERCENT SELF-HELP OPTION IN THE ALTERNATIVE DESIGN FOR SHARED RESPONSIBILITY 39
C. BASIS FOR THE ANALYSIS OF THE EFFECTS OF IMPLEMENTING THE DESIGN FOR SHARED RESPONSIBILITY 45

TABLES AND FIGURES

Table 1: Student Contributions Resulting From Three Values of the Self-Help Expectation (in 1980-81) 5

Table 2: Distribution of Income for 1981-82 Dependent Minnesota Student Aid Applicants Within Parental Income Categories 8

Table 3: Beginning Income and Debt Burden for Post-Secondary Graduates in 1982 Dollars 10

Table 4: Award and Spending Summary for Current State Scholarship and Grant Programs Compared With the Alternative Design at Various Levels of Self-Help Expectation in 1980-81 13

Table 5: Distribution of Award Sizes Under the Current Approach and the Alternative Design at 50 Percent Self-Help in 1980-81 . . . 15

Table 6: Shift in the Distribution of Grant Recipients by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 50 Percent of Cost of Attendance 17

Table 7: Shift in the Distribution of Total Dollars by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance 18

Table 8: Distribution of Award Increases and Decreases by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance 21

Table 9: Distribution of Total Dollars by Post-Secondary System Under the Current Approach and Various Levels of Self-Help Expectation Under the Alternative Design for Shared Responsibility in 1980-81 23

Table 10: Projected Increase in Required Funding for the State Scholarship and Grant Programs Under Various Options, 1980-83 25

Table 11: Increase in the Parental Contribution Resulting from Various Levels of Surcharge 28

Table 12: Award and Spending Summary for the State Scholarship and Grant Programs Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility at Various Levels of Parental Contribution Surcharge in 1980-81--Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance 29

Table A.1: Shift in the Distribution of Grant Recipients by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 40 Percent of the Cost of Attendance 32

Table A.2: Shift in the Distribution of Grant Recipients by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance 33

Table A.3: Shift in the Distribution of Grant Recipients by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 60 Percent of the Cost of Attendance 34

Table A.4: Shift in the Distribution of Total Dollars by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 40 Percent of the Cost of Attendance 35

Table A.5: Shift in the Distribution of Total Dollars by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance 36

Table A.6: Shift in the Distribution of Total Dollars by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 60 Percent of the Cost of Attendance 37

Table B.1: Shift in the Distribution of Grant Recipients by Family Income Level Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Contribution Equal to 50 Percent of the Cost of Attendance--University of Minnesota Students 39

Table B.2: Shift in the Distribution of Grant Recipients by Family Income Levels Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance--State University System Students 40

Table B.3: Shift in the Distribution of Grant Recipients by Family Income Levels Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance--Community College System Students 41

Table B.4: Shift in the Distribution of Grant Recipients by Family Income Levels Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance--Area Vocational-Technical Institute Students 42

Table B.5: Shift in the Distribution of Grant Recipients by Family Income Levels Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance--Private Four-Year College Students 43

Table B.6: Shift in the Distribution of Grant Recipients by Family Income Levels Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance--Private Two-Year Institution Students 44

Figure 1: Distribution of Award Sizes Under the Current Approach and the Alternative Design at 50 Percent Self-Help in 1980-81 16

Figure 2: Shift in the Distribution of Total Dollars by Family Income Which Would Have Resulted From Implementation of the Alternative Design for Shared Responsibility in 1980-81--Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance 19

Figure 3: Distribution of Total Dollars by Post-Secondary System Under the Current Approach and the Alternative Design at 50 Percent Self-Help in 1980-81. 24

EXECUTIVE SUMMARY

The Higher Education Coordinating Board in January 1982 endorsed an alternative design to Minnesota's current system of helping students meet the cost of a post-secondary education. The Board action was based on a review of a staff policy paper. The intent of the alternative design is to allow the state financial aid programs to more effectively enhance equality of educational opportunity through the removal of financial barriers to attendance. Although a number of general implications of the alternative design were identified in the policy paper, the elaboration of the effects of implementing various options that exist within the design was left to the technical paper. In addition to describing effects, this paper establishes some guidelines for determining a reasonable proportion of attendance costs to be assigned as the student's responsibility - the central issue in the alternative design - and outlines a method of rationing limited funds.

The options considered in this paper include a student self-help expectation set at 40, 50 or 60 percent of the cost of attendance. The impact on students, institutions and state spending of each of these options is compared with the actual outcomes in the State Scholarship and Grant Programs in 1980-81 under the current approach to awarding.

The principal findings of this analysis are the following:

- Students should be able to make a significant contribution toward the financing of their education if jobs are available and current borrowing options continue to be available.

- Total state expenditures for scholarship and grants would have ranged from $25 million above to $10 million below the actual available funds of $31.8 million in 1980-81, depending on whether the 40 percent or the 60 percent self-help option were adopted. The 50 percent self-help option would have required $38.6 million.

- The number of recipients of state grants would have ranged from 11,500 more than the actual number of recipients in 1980-81, under the 40 percent self-help option, to 1,000 fewer recipients, under the 60 percent self-help option.

- The 40 percent self-help option would have increased the average award by $550 over the current approach average award in 1980-81, but the 60 percent self-help option would have decreased it by $45. The 8 percent decline in the number of recipients under the 50 percent self-help option would have been offset by a $235 increase in average award to the remaining recipients.

- The range of award sizes would have expanded substantially under the alternative design in 1980-81 when the maximum award was set at $1,250. Under the 50 percent self-help option, for example, 30 percent of the awards would have exceeded $1,250 although only a small percentage of recipients would have received more than $2,000.

- Under any of the options considered, the benefits of the State Scholarship and Grant Programs would have shifted from students from more affluent families to students from lower income families. As the self-help expectation increases the shift intensifies. Under the 50 percent self-help option the shift is quite modest.

- The distribution of individual student gains and losses resulting from implementation of the alternative design in 1980-81 would have ranged from the majority of the students gaining aid under the 40 percent self-help option to the majority of the students losing aid under the 60 percent self-help option. Roughly half of the 1980-81 recipients would have gained, one quarter lost and one quarter experienced no change if the 50 percent self-help option had been implemented.

- The shift in the distribution of total dollars resulting from implementation of the alternative design in 1980-81 would have been smallest under the 40 percent self-help option and most significant under the 60 percent self-help option, where private institution students would have increased their share of total dollars by 7 percent. Under the 50 percent option the shifts would have ranged from a 2.4 percent loss in share of dollars at the University of Minnesota to a 2.7 percent gain in share of dollars in the four-year private institutions.

- The rate of growth in state spending on scholarships and grants would be slower under any of the options considered within the alternative design than it would be under the current approach.

- The alternative design would more effectively compensate for the withdrawal of federal Pell Grant dollars than the current approach assuming a student self-help expectation between 40 and 50 percent. This would be done at substantial cost to the state.

- Significant reduction in program funding requirements could be achieved through the imposition of a surcharge on the expected parental contribution. This method would spare the student from the lowest income family from any reduction in award, while progressively increasing the parental burden as family resources increase.

I. INTRODUCTION

The Higher Education Coordinating Board in January 1982 endorsed an alternative design to Minnesota's current system of helping students pay for their education beyond high school. The Board's action was based on a review of a staff policy paper.[1] The policy paper describes the background of financial assistance available to Minnesota residents, assesses the problems that have developed in the current system, proposes changes in the government's role in promoting equal opportunity for students, and identifies related policy issues to be addressed. The paper concludes the following:

1. Reductions in federal and state financial aid may threaten the equality of opportunity for students from the lowest income families to pursue the education which best meets their needs.

2. The reductions have highlighted inequities in the current system that have developed over the years. Namely, poorer students are expected to contribute more to financing their education than students from more affluent families attending the same institution.

3. There is a need to readdress the relative role of the student, the family, the institution and government to determine how much responsibility each should bear in paying for an education.

In response to these conclusions, the paper outlines an alternative approach that would enable the state to meet its goal of promoting equal education opportunity. This design would correct inequities in the existing approach by more effectively directing state scholarship and grant money to students from the lowest income families.

The alternative design also would allow the state to better cope with reductions in state and federal student assistance. The design would establish the primacy of the state's role in financial aid as the federal role diminishes. Minnesota would continue to make maximal use of available federal aid, but the

---

[1] Minnesota Higher Education Coordinating Board, Student Financial Aid in the 1980s: Roles and Responsibilities (January 1982).

state's efforts would be sufficiently independent so that it could achieve its goals with the least disruption possible from federal policy changes.

Further, the alternative approach recognizes that financial conditions of the 1980s may make it impossible for the state to provide enough aid to cover the full cost of each student's education, even after exhausting all other resources. Thus, the design would allow for an equitable distribution of limited resources if state funds need to be rationed.

This paper summarizes the design for shared responsibility that was introduced in the policy paper and examines the effects of implementing three options analyzed in less detail in the policy paper: one that would expect students to contribute 40 percent of the cost of attendance, one that would expect students to contribute 50 percent, and one that would expect students to contribute 60 percent. Where the effects vary significantly from option to option, each of the three is analyzed. Where the impact of the alternative design is less sensitive to whatever option is examined, the analysis specifically addresses only the impact of the middle-range option. The text, however, suggests how these effects would differ for the other two options, and the full array of data for all three options is provided in the appendices.

In particular the paper addresses the question of how much students could reasonably be expected to contribute toward their education; some benchmarks for assessing a reasonable contribution are suggested. Next, the paper examines funding requirements for the Minnesota Scholarship and Grant Programs under the alternative design and shifts in the distribution of benefits that would occur. A final section discusses a method of rationing that could be used if appropriations are not sufficient to meet the full amount needed by students.

The analysis of total program costs and participation includes projections of the total number of scholarship and grant recipients under each option as well as projections of the amounts for which these students would be eligible. The analysis

of the distribution of benefits by income, however, focuses solely on dependent students--that is, on students who remain financially dependent upon their perents while in post-secondary education. This focus was selected to illuminate the impact of the various options on families with children in college, which represents the majority of all recipients. In 1980-81 about 84 percent of all recipients were classified as dependent students.

Although no specific analysis of the distribution of benefits by income is provided for independent students, this group is clearly recognized as an important component of the recipient population.[2] Where independent students have been included for analysis, such as in the overall cost and participation projections, every effort has been made in adapting the eligibility criteria for the alternative design to maintain independent students' eligibility for financial assistance.

The treatment of independent students--both in terms of who should be defined as independent and how these students' eligibility for assistance should be determined--remains an important financial aid issue. Recognizing this, the Higher Education Coordinating Board has requested its staff to prepare a paper on the general issue of the independent student.

---

[2] Because their education leaves little time for work, most independent students have relatively low incomes. As a result, income distributions for these students do not portray well either these students' past or future economic status.

II. THE DESIGN FOR SHARED RESPONSIBILITY

The alternative design outlines how the responsibility for financing a post-secondary education is to be shared by the student, family, institution and government. The design represents a significant reordering of responsibility from the current approach.

Under the current approach, the parents' contribution to the cost of education, a small fixed contribution from each student, and the amount to be provided by federal and state grants are deducted from the total cost of attending the institution; the student then must accept responsibility for whatever gap in resources remains. The total student expectation varied from 40 to 60 percent of the cost of attendance in 1980-81, depending upon the level of family resources and cost at the institution attended. Most costs borne by the student are not planned as the student's responsibility, but are left to the student when the parental and governmental contributions fail to cover the total cost of education.

The major shift in the new design would occur in the treatment of the student. The student as the primary beneficiary of the education would have an explicit obligation to contribute a significant but manageable amount through work or borrowing before parents or government are expected to act. This contribution would be the same for all students with the same cost of attendance.

After the student's contribution is established, parents, as they do now, would contribute toward the cost of education based on a standard analysis of the family's resources. Finally, the federal and state grant dollars would be used to cover the gap between the student's resources and the cost of his education.

The alternative design would establish the student's contribution as a fixed proportion of the cost of attendance at each institution. Determining the proportion that the student would have to contribute would be the most important decision required in implementing the design. Different proportions would have different

effects in terms of the level of financial burden placed on students and the amount and distribution of governmental grant assistance.

Although all students facing the same educational costs would be expected to contribute the same amount toward their education, those students attending institutions with differing costs would have to contribute different amounts. The objective of the shared responsibility design based on a fixed proportion of cost is to require a reasonably stringent expected contribution from students attending low-cost institutions while ensuring that students attending higher cost institutions can reasonably manage their self-help expectation through a combination of work and borrowing. As illustrated in Table 1, there is a fine balance in selecting the proportion of costs to be borne by the student that requires a realistic amount from students in low-cost schools without expecting an unreasonable amount from students at higher cost schools.

Table 1

Student Contributions Resulting from Three Values of the Self-Help Expectation (in 1980-81)

Self-Help Expectation	Community College	Moderate-Priced Private Institution
40 Percent of Cost	$1,340	$2,820
50 Percent of Cost	$1,675	$3,525
60 Percent of Cost	$2,010	$4,230

Note: The self-help expectation is identical for all students with the same cost of attendance.

Assumes community college student budget of $3,350 and moderately priced private institution budget of $7,050.

Three general effects can be identified in the alternative design. First, the self-help expectation of all students pursuing their education at institutions which charge the same cost to the student would be identical; now, students from the lowest income families are expected to contribute more than their classmates

from more affluent families. Second, the gap in self-help expectation between a student who chooses a high-tuition institution and a student who chooses a low-tuition institution, when the family resources of the two students are identical, would narrow. Third, the amount of governmental grant assistance awarded to students from the lowest income families attending different priced schools would be more proportional to the costs charged than is now the case. Subsequent sections of this paper analyze more specific effects of implementing the alternative design.

III. DETERMINATION OF A REASONABLE RANGE OF STUDENT CONTRIBUTIONS

Under the design for shared responsibility, all students would be expected to contribute a significant but manageable amount toward their education, primarily through work or borrowing. Individual policymakers may differ in their assessments of what students can reasonably contribute toward their educational expenses. To make reasoned judgments, however, it is important to know as much as possible about what limits exist on how much students can earn and borrow.

HOW MUCH CAN STUDENTS CONTRIBUTE FROM WORK?

To deduce what students can reasonably contribute from current employment, including summer employment and/or work while enrolled, it is useful to know both what students currently earn and what they can reasonably earn if employed.

How much do students currently earn?

Minnesota students do not appear to earn large amounts of income. Dependent students applying for Minnesota financial aid for the 1981-82 school year, for example, reported median 1980 earnings of about $700, which equals the amount of the explicit student contribution under the existing state grant program. Adjusting for inflation, the median income for these students would be expected to rise to $800-$850 by the 1982-83 academic year.

Earnings, however, vary greatly from student to student, as indicated in Table 2. Nearly 18 percent of all dependent aid applicants had no income, whereas almost as large a percentage (15 percent) had incomes greater than $3,000 in 1980. Students from lower-income families are the most likely to have no earnings, principally because job opportunities are less readily available in their communities. This has strong implications for the design for shared responsibility, which would expect a significant contribution from both work or borrowing from all students.

Table 2

Distribution of Income for 1981-82 Dependent
Minnesota Student Aid Applicants within Parental Income Categories

Parents' 1980 Income	Students' 1980 Income						
	No Income	$0,001 to 0,999	$1,000 to 1,999	$2,000 to 2,999	$3,000 to 3,999	$4,000 and up	Total
Less than $10,000	21.5%	43.4%	11.4%	8.4%	4.8%	10.8%	100.0%
10,000-19,999	18.6%	35.9%	17.6%	12.0%	6.2%	9.9%	100.0%
20,000-29,999	16.2%	40.7%	17.4%	9.0%	8.1%	8.6%	100.0%
30,000 and up	16.3%	41.0%	20.0%	11.2%	4.7%	6.8	100.0%
All categories	17.6%	40.0%	17.4%	10.3%	6.1%	8.6%	100.0%

Note: Rows may not sum to 100 percent due to rounding.
Source: The American College Testing Program

How much should students earn?

If jobs are available for students, they should be able to earn much more than the existing $700 student contribution. A student working full-time at the federal minimum wage for 10 weeks during the summer, for example, would earn $1,340 ($1,250 after taxes). Working 10 hours per week at the minimum wage for 30 weeks while in school, a student could earn $1,005 ($940 after taxes).

Comparing what students do earn with what they should be able to earn

Most dependent Minnesota student aid applicants currently earn less than they should be able to earn if minimally employed. Many factors contribute to this disparity. Some students who could find work choose not to do so. Others who would work cannot find jobs. And others work on family farms or for family businesses without receiving regular compensation for their labor. It is not clear, however, how much each of these factors contribute to the relatively low earnings profile of Minnesota students. The large number of youth and the state's depressed economy may have contributed to higher levels of youth unemployment than would exist under more normal circumstances. Although the economy may not recover rapidly enough to

enhance youth job opportunities, the number of college-age youth will almost certainly diminish over the next few years, which should increase the likelihood that students will be able to secure employment.

HOW MUCH COULD STUDENTS CONTRIBUTE BY BORROWING AGAINST FUTURE EARNINGS?

How much can students afford to borrow? In the 1981-82 school year, undergraduate borrowers in the Minnesota Student Loan Program, on average, borrowed about $2,100. Does this, however, represent a reasonable level of borrowing for students?

A baccalaureate graduate who borrowed $2,100 each year for four years, thus building up $8,400 in debt, would have to repay about $106 per month over 10 years under the normal terms and conditions of the current Guaranteed Student Loan (GSL) Program.[1] For the average baccalaureate graduate, this would initially amount to about 18 percent of the borrower's discretionary income--that is, about 18 percent of the amount remaining after deducting taxes and minimal living expenses. This figure is derived using the beginning income figures shown in Table 3. This burden would diminish over time as the borrower's income increased.

A baccalaureate graduate who earned less than average would experience greater difficulty in repaying his or her loan(s). For example, repayment of $8,400 for a borrower whose earnings were in the lowest 10 percent for baccalaureate graduates would take 29 percent of his or her discretionary income.

The current maximum that a student can borrow through the GSL program is $2,500 per year, not to exceed a total $12,500. A baccalaureate graduate with average earnings and the maximum $12,500 debt would initially have to pay about 27 percent of his or her discretionary income toward repayment of the debt.

---

[1] GSLs are interest free while the borrower remains in school and for a six-month grace period after the borrower leaves school. The student repayment is provided in equal monthly or quarterly amounts over 10 years. Interest on GSLs during repayment is 9 percent.

Table 3

Beginning Income and Debt Burden for
Post-Secondary Graduates in 1982 Dollars

GRADUATE'S INCOME	Baccalaureate Degree Borrower		Vocational/Technical Program Borrower	
	Median Earnings	Lowest Decile Earnings	Median Earnings	Lowest Decile Earnings
Total Income[1] (in 1982 Dollars)				
Before Taxes	$17,500	$13,000	$11,000	$7,200
After Taxes	12,300	9,600	8,400	5,800
Minimum Living Allowance[2]	5,200	5,200	5,200	5,200
Discretionary Income[3]	7,100	4,400	3,200	600
Debt that a Borrower could repay with each 10 percent of discretionary income.[4]	$4,700	$2,900	$2,100	$ 400

[1] Incomes for baccalaureate degree graduates projected from 1981 National College Placement Council Data. Incomes for vocational/technical program graduates projected from actual earnings reported in Fiscal Year 1981 Statewide Follow-up Report of the Minnesota Vocational Follow-up System.

[2] The Bureau of Labor Statistics (BLS) lower living standard for one person is $5,200 for 1982.

[3] Discretionary income is the amount of after tax income remaining after deducting the minimum living allowance.

[4] To estimate the amount of debt that a borrower could repay with more than 10 percent of discretionary income, multiply the amount that could be repaid with 10 percent by the ratio of the desired percentage to 10 percent. For example, 25 percent of discretionary income for a baccalaureate degree borrower with median income would be sufficient to repay a debt of 2.5 x $4,700 = $11,750.

An average vocational-technical program graduate taking out a single loan for $2,100 would incur a debt burden initially requiring about 10 percent of the borrower's discretionary income under a standard 10-year repayment period, although the $600 minimum annual repayment required in the GSL program would increase this burden to 19 percent of discretionary income and would shorten the length of repayment to about six years.

A vocational-technical graduate earning a salary in the lowest 10 percent for all vocational-technical graduates, however, would have difficulty repaying the loan. The $600 minimum repayment would essentially eliminate all of the borrower's discretionary income.

Burden, however, is a relative concept--what one person perceives to be an unmanageable debt burden may not seem unmanageable to others. No absolute measure exists, therefore, to establish how much indebtedness is too much. Nevertheless, some benchmarks can be useful in guiding policymakers. Indebtedness in excess of 100 percent of a person's discretionary income would create severe hardship. The analysis above shows that such indebtedness would occur infrequently under today's GSL borrowing limits. The Uniform Methodology for need analysis, a nationally recognized formula for determining how much families can reasonably contribute to their children's education, provides another benchmark for estimating how much borrowers can afford in repayments. The Uniform Methodology expects families with relatively limited discretionary income to contribute 22 percent of this income, with more wealthy families expected to contribute up to 47 percent of discretionary income.

IV. EFFECTS OF IMPLEMENTING THE DESIGN FOR SHARED RESPONSIBILITY

Implementation of various options under the design for shared responsibility would result in varying funding requirements for the State Scholarship and Grant Programs and would shift the distribution of benefits from the current approach. This section analyzes the specific effects of implementing the design by answering the following questions:

- How would the number of awards, average award, and total state spending change under the various options for implementing the alternative design?
- How would the range of award sizes be affected by the alternative design?
- How would the distribution of scholarship and grant recipients, distribution of total dollars and individual award levels change for students from families of differing incomes under the alternative design?
- How would the distribution of total dollars change for students attending institutions in the various systems of post-secondary education under the alternative design?
- How would state spending for scholarships and grants change over time under various levels of student self-help in the alternative design?
- How would the withdrawal of federal Pell Grant funds affect the funding requirements for the State Scholarship and Grant Programs under the alternative design?

HOW WOULD THE NUMBER OF AWARDS, AVERAGE AWARD, AND TOTAL STATE SPENDING CHANGE UNDER THE VARIOUS OPTIONS FOR IMPLEMENTING THE ALTERNATIVE DESIGN?

The funding required for the State Scholarship and Grant Programs under the design for shared responsibility would depend on the portion of costs borne by students. Based on the number and characteristics of actual applicants, and educational costs in 1980-81, program funding requirements would range from $21.9 million if students bore 60 percent of costs to $57.6 million if students bore 40 percent. As shown in Table 4 the 1980-81 appropriation of $31.8 million falls about midway between the 50 percent and 60 percent option.

Table 4

Award and Spending Summary for Current State Scholarship and Grant Programs Compared with the Alternative Design at Various Levels of Self-Help Expectation in 1980-81

	Current Approach	Alternative Design 40% Self-Help	50% Self-Help	60% Self-Help
Number of Applications	66,387	66,387	66,387	66,387
Ratio of Awards/Applications	.648	.668	.597	.475
Number of Awards	43,019	44,347	39,633	31,534
Average Award	$740	$1,298	$975	$695
Total Dollars Awarded (in millions)	$31.8	$57.6	$38.6	$21.9

Base: All applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980 -- projected to total applicant population

Source: HECB Financial Aid Division

The number of awards also would differ, depending on the student's self-help expectation. If students were expected to contribute 40 percent of costs, the number of recipients would increase from current policy by slightly more than 1,000, or 3 percent. On the other extreme, expecting 60 percent in self-help would reduce the number of recipients by nearly 11,500, a 27 percent decline.

The average award also would vary with the level of self-help expectation. At the 40 percent level, the average award would increase by about $550 over the actual 1980-81 level. The 50 percent self-help option would result in a gain of $235, and at 60 percent self-help the average award would decline by $45.

HOW WOULD THE RANGE OF AWARD SIZES BE AFFECTED BY THE NEW DESIGN?

The award sizes currently authorized in statute could range from $100 in the lowest need case to $1,400 in the highest need case. The $1,400 maximum, however, has never been achieved; the actual maximum award peaked in 1980-81 at $1,250 and has subsequently been reduced to $1,050 as a means of rationing funds.

The alternative design neither arbitrarily controls the maximum award, nor does it accomplish rationing through the lowering of the maximum limit--an approach to rationing that has contributed to the inequity of the current system of financial aid. Reduced maximum awards affect the highest need student most severely. Under the alternative design, the maximum award would be controlled by the self-help percentage. For example, the highest need student in the community college example presented in Part II (page 5) for 1980-81 could receive a state award of $1,675 if the self-help percentage were set at 50 and the student received no financial aid. This student, however, would most likely receive about $1,000 in Pell Grant assistance, thereby reducing the state award to $675.

The highest need student in the moderately priced private institution from the example presented earlier for 1980-81 could receive a state award of $3,525 if the self-help percentage were set at 50 percent and no federal aid was received. The likely recipt of $1,750 in Pell Grant assistance would reduce the state award to $1,775 -- or $1,100 more than the student's community college counterpart. The difference in attendance cost facing these two students is $3,700.

The net effect of the alternative design, regardless of where the self-help percentage is set, would be to expand the range of awards by allowing a fixed percentage of attendance costs to be filled by state and federal aid; as the cost of attendance rises, so does the effective maximum award for the student who is charged that cost.

Table 5 compares the distribution of award sizes under the alternative approach at 50 percent self-help in 1980-81 with the distribution of actual awards for that year under the current approach. Under the current approach, 100 percent of the actual awards fall into the first four categories, which represent awards under $1,600. The 26 percent of the cases in the fourth category are actually awards between $1,200 and 1,250 which was the maximum limit in 1980-81.

Table 5

Distribution of Award Size Under the Current Approach and the Alternative Design at 50 Percent Self-Help in 1980-81.

Award Size	Current Percent of Total Awards	Alternative Percent of Total Awards
$0,001 - $0,399	19.0	15.6
$0,400 - $0,799	39.0	39.2
$0,800 - $1,199	16.0	13.4
$1,200 - $1,599	26.0	13.2
$1,600 - $1,999	-	10.8
$2,000 - $2,399	-	4.5
$2,400 - $2,799	-	2.1
$2,800 - $3,199	-	0.9
$3,200 and up	-	0.3
Total	100.0	100.0

Base: All applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980

Source: HECB Financial Aid Division

By contrast 81.4 percent of the awards under the alternative approach are found in the first four categories. A closer analysis (not present in the table) shows that 30 percent of the awards would have exceeded the $1,250 maximum limit in effect in 1980-81. However, the number of students receiving awards larger than the actual 1980-81 maximum drops off quickly: 7.8 percent of the recipients would be eligible for $2,000 or more under the new design, 3.3 percent for $2,400 or more, 1.2 percent for $2,800 or more, and a mere fraction of a percent for $3,200 or more.

The comparison of the distribution of award sizes under the current and alternative approaches is presented graphically in Figure 1.

Figure 1

Distribution of Award Size Under the Current Approach and the Alternative Design at 50 Percent Self-Help in 1980-81

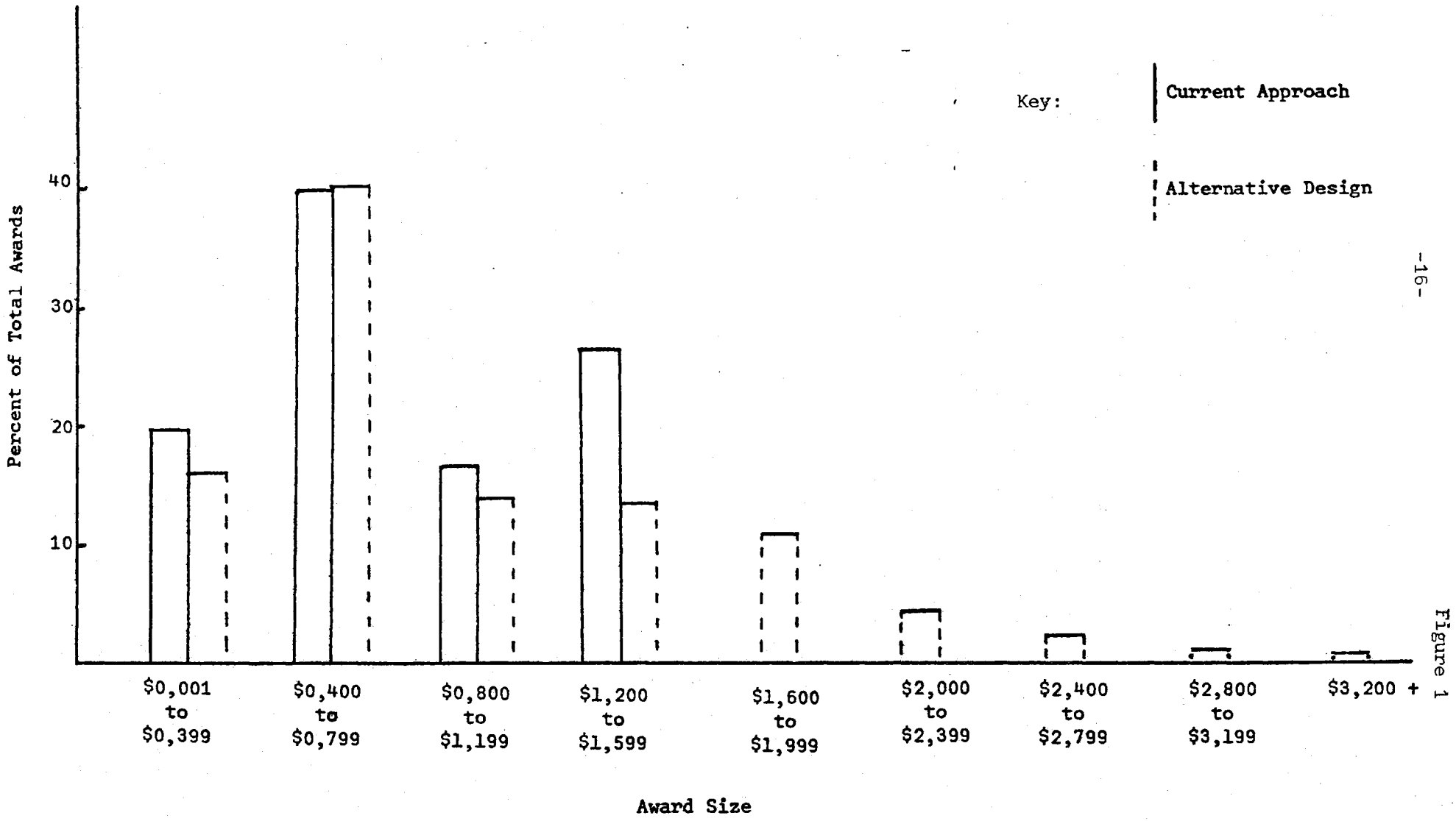


Figure 1

HOW WOULD THE DISTRIBUTION OF SCHOLARSHIP AND GRANT RECIPIENTS, DISTRIBUTION OF TOTAL DOLLARS AND INDIVIDUAL AWARD LEVELS CHANGE FOR STUDENTS FROM FAMILIES OF DIFFERING INCOMES UNDER THE ALTERNATIVE DESIGN?

Change in distribution of scholarship and grant awards by income level

How would distribution of award recipients vary by income? Assuming a 50 percent self-help expectation, more students from families with incomes below about $20,000 would receive awards than do under the current approach, whereas fewer students from families with incomes above $20,000 would receive awards in 1980-81. These changes are shown in Table 6. Overall, about 8 percent of previously eligible students would no longer remain eligible but this would be offset by an increase in eligibility and increase in award sizes for lower-income students. Most students losing eligibility would be students who, under the current system, receive relatively small awards, with the exception of students attending the highest tuition institutions. At these institutions, students with sizeable awards may lose eligibility.

Table 6

Shift in the Distribution of Grant Recipients by Family Income Which Would Have Resulted from Implementation of The Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution Equal to 50 Percent of Cost of Attendance

Family Income	Current Percent of Total Recipients	Alternative Percent of Total Recipients	Shift in Percent of Total Recipients
$00,000-$04,999	6.4	7.2	+0.8
$05,000-$09,999	11.9	13.3	+1.4
$10,000-$14,999	15.1	16.8	+1.7
$15,000-$19,999	17.9	19.4	+1.5
$20,000-$24,999	20.1	20.0	-0.1
$25,000-$29,999	16.2	14.3	-1.9
$30,000-$34,999	8.0	6.3	-1.7
$35,000 and up	4.4	2.7	-1.7
Total	100.0	100.0	0.0

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980

Source: HECB Financial Aid Division

Using a self-help expectation other than 50 percent would alter the distribution of recipients. Increasing the self-help expectation would cause a more severe reduction in number of recipients in the upper income categories; and, conversely, reducing the self-help expectation would result in a less dramatic shift of awards toward students from lower income families. Appendix A shows changes in the distribution of grant recipients by income levels at 40, 50 and 60 percent self-help levels.

Change in distribution of total dollars by income level

Again, assuming a 50 percent self-help contribution, the percentage of funds going to students from families with incomes below $20,000 would increase, whereas the percentage of funds to students from families with incomes above $25,000 would decline. Table 7 and Figure 2 show the changes in the distribution of dollars.

Table 7

Shift in the Distribution of Total Dollars by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution Equal to 50 Percent of Cost of Attendance

	Current Percent of Total Dollars	Alternative Percent of Total Dollars	Shift in Percent of Total Dollars
$00,000-$04,999	5.8	6.1	+0.3
$05,000-$09,999	11.6	12.9	+1.3
$10,000-$14,999	15.8	18.6	+2.8
$15,000-$19,999	18.4	20.6	+2.2
$20,000-$24,999	19.9	19.9	0.0
$25,000-$29,999	16.1	14.0	-2.1
$30,000-$34,999	8.2	5.8	-2.4
$35,000 and up	4.2	2.1	-2.1
Total	100.0	100.0	0.0

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980

Source: HECB Financial Aid Division

Figure 2

Shift in the Distribution of Total Dollars by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution Equal to 50 Percent of Cost of Attendance

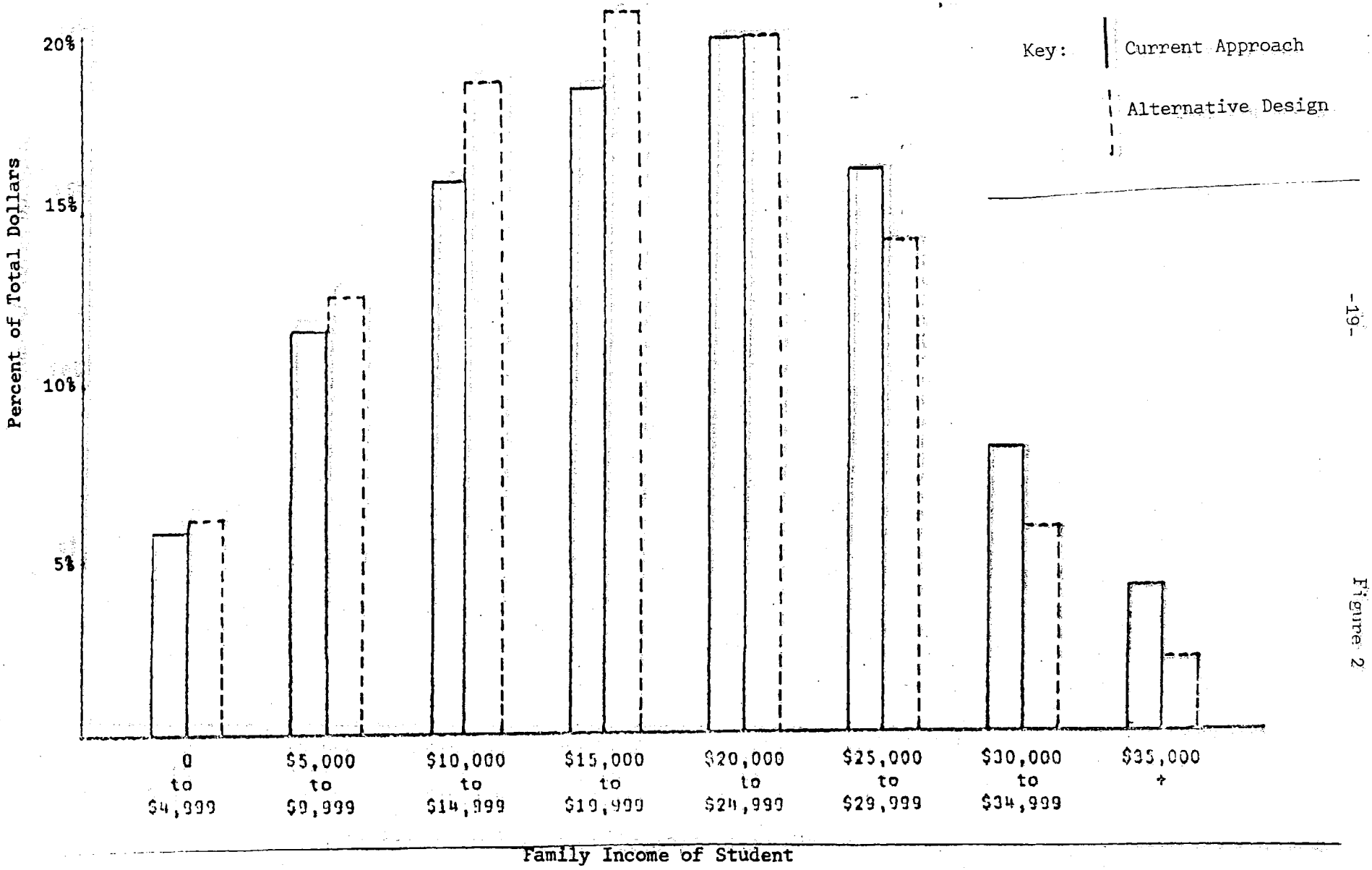


Figure 2

As the self-help expectation increases, the income level at which the share of dollars begins to increase would be gradually lowered. Conversely, as the self-help expectation decreases the income level at which the share of dollars begins to increase would gradually rise. Appendix A contains tables which demonstrate this phenomenon.

Change in individual award amounts by income level

The alternative design would have a significant effect on the award size. Some students would receive substantially larger awards while others would experience a reduction in grant assistance, depending on the level of the self-help expectation and the level of family resources. Table 8 focuses on the gains and losses in 1980-81 which would have occurred if the alternative design (at 50 percent self-help) had replaced the current approach. Nearly half the applicants to the Scholarship and Grant Programs would have experienced award increases averaging $381; two-thirds of the gains would have occurred among students from families with incomes below $20,000, with the largest increases in the $15,000 to $20,000 range. On the other hand, slightly more than a quarter of the applicants would have experienced award decreases averaging $203; three-fourths of these losses would have occurred among students from families with incomes above $20,000, with the largest decreases in the $35,000 or higher range.

Table 8

Distribution of Award Increases and Decreases by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution Equal to 50 Percent of Cost of Attendance

	Students Receiving More Aid		Students Receiving Less Aid	
Family Income	Average Gain	Percent of Applicants	Average Loss	Percent of Applicants
$00,000-$04,999	$245	4.4	$94	0.7
$05,000-$09,999	$304	8.2	$77	1.1
$10,000-$14,999	$413	10.1	$82	1.7
$15,000-$19,999	$424	10.3	$119	3.8
$20,000-$24,999	$423	8.8	$161	6.8
$25,000-$29,999	$410	5.4	$226	7.0
$30,000-$34,999	$364	1.9	$290	4.2
$35,000 and up	$295	0.5	$374	2.8
Total	$381	49.6	$203	28.1

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980

Source: HECB Financial Aid Division

As the self-help expectation rises, the number of students who would experience gains and the size of the award increases would decline; however, the number of students who would experience losses and the size of the award decreases would rise. The converse would occur as the self-help expectation is lowered. At the 60 percent self-help level in 1980-81 only 15 percent of the applicants would have seen award increases, whereas at the 40 percent level 75 percent of the applicants would have experienced increased support.

HOW WOULD THE DISTRIBUTION OF TOTAL DOLLARS CHANGE FOR STUDENTS ATTENDING INSTITUTIONS IN THE VARIOUS SYSTEMS OF POST-SECONDARY EDUCATION UNDER THE ALTERNATIVE DESIGN?

The distribution of total dollars to students in the various post-secondary systems would have varied in 1980-81 if the alternative design had been implemented, depending

on the level of expected self-help. Under the 40 percent self-help option, students in all sectors would receive more in benefits, as shown in Table 9. The portion of total funds going to University of Minnesota students, however, would decline from 18.9 percent to 17.5 percent. The portion going to students in other systems would not change much from current policy, except that the portion going to AVTI students would increase from 9.1 percent to 10.2 percent.

Under an option that would expect student self-help of 50 percent, students in all systems would receive more than under current policy, although some shifts would occur in the distribution of benefits. The share to University of Minnesota students would decline from 18.9 percent to 16.5 percent, and the share to State University System students would decline from 16.4 percent to 15.3 percent. In contrast, the share going to AVTI students would increase from 9.1 percent to 10.1 percent, and the share going to private institution students would increase from 51.0 percent to 53.4 percent. Effects of the 50 percent option are illustrated graphically in Figure 3.

Expecting students to contribute 60 percent of their costs would result in less money to students in all systems. Further, the share going to students in various systems would change more than under either of the other options. The share of funds going to University of Minnesota students would drop from 18.9 percent to 15.5 percent, the share to State University System students would drop from 16.4 percent to 13.2 percent, and the share to Community College System students would drop from 4.7 percent to 4.1 percent. In contrast, the share to AVTI students would increase from 9.1 percent to 9.6 percent and the share to private institution students would have increased from 51.0 percent to 57.5 percent. Appendix B contains further details on the income distribution of award recipients within the various systems.

Table 9

Distribution of Total Dollars by Post-Secondary System under the Current Approach and Various Levels of Self-Help Expectation under the Alternative Design for Shared Responsibility in 1980-81.

System Distribution	Current Approach	Alternative Design 40% Self-Help	Alternative Design 50% Self-Help	Alternative Design 60% Self-Help
University of Minnesota				
Amount	$6.0	$10.1	$6.4	$3.4
Percent -	(18.9%)	(17.5%)	(16.5%)	(15.5%)
State Universities				
Amount	$5.2	$9.5	$5.9	$2.9
Percent	(16.4%)	(16.4%)	(15.3%)	(13.2%)
Community Colleges				
Amount	$1.5	$2.8	$1.8	$0.9
Percent	(4.7%)	(4.9%)	(4.7%)	(4.1%)
AVTIs				
Amount	$2.9	$5.9	$3.9	$2.1
Percent	(9.1%)	(10.2%)	(10.1%)	(9.6%)
Private - Four Year				
Amount	$14.2	$26.0	$18.3	$11.2
Percent	(44.7%)	(45.1%)	(47.4%)	(51.1%)
Private - Two Year				
Amount	$2.0	$3.3	$2.3	$1.4
Percent	(6.3%)	(5.8%)	(6.0%)	(6.4%)
Total Spending	$31.8	$57.6	$38.6	$21.9
Percent	(100%)	(100%)	(100%)	(100%)

Base: All applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980--projected to total applicant population

Source: HECB Financial Aid Division

Note: Dollar amounts are presented in millions.
Columns percents may not sum to 100.0 due to ronding.

Figure 3

Distribution of Total Dollars by Post-Secondary Systems Under the Current Approach and the Alternative Design at 50 Percent Self-Help in 1980-81

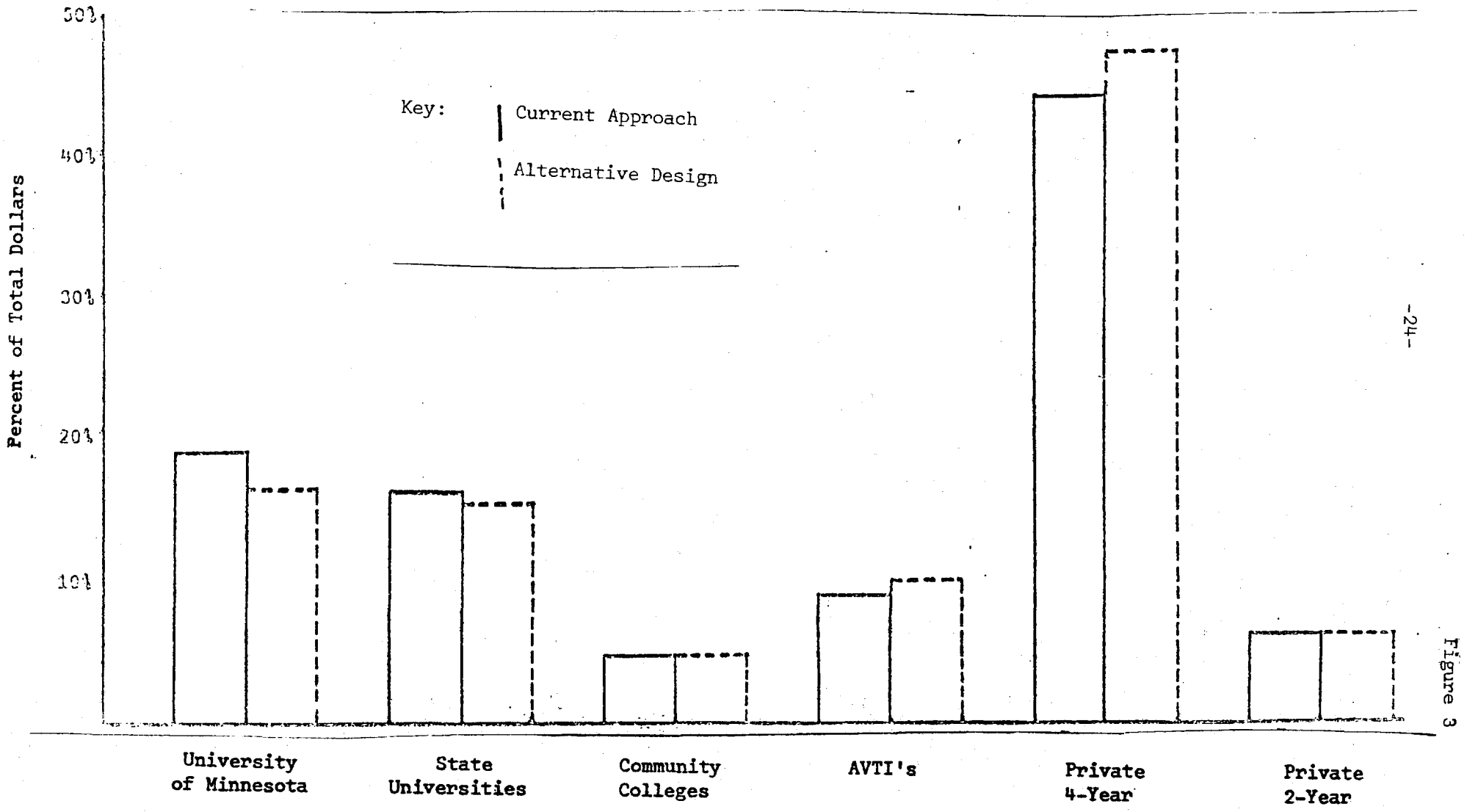


Figure 3

HOW WOULD STATE SPENDING FOR SCHOLARSHIPS AND GRANTS CHANGE OVER TIME UNDER VARIOUS LEVELS OF STUDENT SELF-HELP IN THE ALTERNATIVE DESIGN?

Over time, funding for the design for shared responsibility would increase at a less rapid rate than it would under the current approach. Over a two-year period beginning in 1980-81, funding requirements would increase by 42.6 percent under the proposed design assuming students are expected to contribute 50 percent as seen in Table 10, whereas they would increase by 54.0 percent under current policy, assuming no further increase in applications beyond the 1980-81 rate.

In addition to changes in family resources and college costs, the specific terms of financial aid programs also affect eligibility for student aid. The less rapid growth in benefits under the alternative design would occur because the proposed program would automatically adjust students' expected contributions to account for inflation. Both current policy and the alternative design would increase more rapidly than inflation because of the precipitous increases in tuition costs.

The rate of growth would vary, depending upon what proportion of costs were expected to be borne by students. In all cases, however, the long-term growth rate would be less rapid than under current policy, all else being equal. The assumptions made in these projections are outlined in Appendix C.

Table 10

Projected Increase in Required Funding for the State Scholarship and Grant Programs Under Various Options, 1980-83

Approach	Percent Increase
Current	54.0
40 Percent Self-Help	39.4
50 Percent Self-Help	42.6
60 Percent Self-Help	47.9

Note: Assumes no increase in applications from 1980-81 rate.

Base: All applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980--projected to total applicant population

Source: HECB Financial Aid Division

HOW WOULD THE WITHDRAWAL OF FEDERAL PELL GRANT FUNDS AFFECT THE FUNDING REQUIREMENTS FOR THE STATE SCHOLARSHIP AND GRANT PROGRAMS UNDER THE ALTERNATIVE DESIGN?

Under the alternative design for shared responsibility, as under the current approach, the withdrawal of federal grant assistance would call for higher levels of state expenditure. If the self-help expectation were set between 40 and 50 percent, the state dollars would replace federal dollars on nearly a one-for-one basis. At the 50 percent self-help level, for example, this would have called for an additional state expenditure of $1.7 million in 1980-81 because the Pell Grants were reduced by $50 per recipient. As the self-help level approaches 60 percent, however, the rate at which state dollars replace federal dollars would slow because federal awards are intended to cover half-cost for the very low income student pursuing an education costing $3,600 or less. Pell grants could, therefore, be reduced by 20 percent for these students and still cover the 40 percent of educational costs assigned as the responsibility of state and federal government in the new design.

The current approach is limited in its ability to compensate for a federal withdrawal because of the constraint on state award to 50 percent of need or $1,250 in 1980-81.

V. A METHOD OF RATIONING WITHIN THE ALTERNATIVE DESIGN FOR SHARED RESPONSIBILITY

The policy paper describes as one of the advantages of the alternative design for shared responsibility its flexibility in rationing limited funds. A distinct possibility exists that, once an ideal level of self-help expectation is established, the funding requirements of the program would exceed available resources. When funding shortfalls occurred in recent years, rationing approaches were adopted which were unable to protect students with the greatest financial need from reductions in their awards. By contrast, an approach to rationing that protects students from the lowest income families from any decrease in aid while progressively reducing awards of students from families with higher levels of parental resources would be more consistent with the concern for promoting equality of educational opportunity.

One such approach would modify the expected parental contribution rather than adjusting the educational budget, maximum award or student self-help expectation as has been occurring. The parental contribution is the result of the need analysis, and represents a percentage of the family's discretionary income. Parents of dependent students are expected to contribute a substantial portion of their available resources toward their child's education, however this percentage in no case exceeds 47 percent of discretionary income. Therefore, it would be possible to expect more from parents' discretionary income than is dictated by the need analysis. This would require that parents make further adjustments to their spending priorities.

Table 11 outlines a method of adding a surcharge to the parental contribution that could accomplish a progressively greater expectation of parents as their available resources increase. The fixed percentage surcharge would protect the poorest of families -- those with no discretionary income -- by expecting no additional contribution from them.

Table 11

Increase in the Parental Contribution Resulting from Various Levels of Surcharge.

Original Parental Contribution	Increase in Contribution		
	10 Percent Surcharge	20 Percent Surcharge	30 Percent Surcharge
$ 0	$ 0	$ 0	$ 0
$ 100	$ 10	$ 20	$ 30
$ 500	$ 50	$ 100	$ 150
$1,000	$ 100	$ 200	$ 300
$5,000	$ 500	$1,000	$1,500

Table 12 highlights the award and spending summary which would have resulted from applying various surcharges to the alternative design assuming 50 percent self-help in 1980-81. A 10 percent surcharge on the parental contribution would have reduced the grant program cost from $38.6 million to $36.4 million, a 5.7 percent decline. The rate of decline is less than the surcharge rate because grant levels for the most needy students, whose parents could contribute nothing, would not have been reduced. A 30 percent surcharge would have reduced program costs to $32.7 million in 1980-81, a decrease of 15.3 percent. A surcharge of this size would bring the total program cost of the 50 percent self-help option within $1 million of the total available funds in 1980-81.

Table 12

Award and Spending Summary for the State Scholarship and Grant Programs Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility at Various Levels of Parental Contribution Surcharge in 1980-81

Assuming Expected Student Contribution Equal to 50 Percent of Cost of Attendance

	Current Approach	Alternative Design at 50 Percent Self-Help		
		No Surcharge	10% Surcharge	30% Surcharge
Number of Applications	66,387	66,387	66,387	66,387
Ratio of Awards/Applications	.648	.597	.570	.523
Number of Awards	43,019	39,633	37,841	34,720
Average Award	$740	$975	$962	$943
Total Dollars Awarded (in millions)	$31.8	$38.6	$36.4	$32.7

Base: All applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980 -- projected to total applicant population

Source: HECB Financial Aid Division

APPENDICES

APPENDIX A: SHIFT IN THE DISTRIBUTION OF GRANT RECIPIENTS AND TOTAL DOLLARS BY FAMILY INCOME UNDER VARIOUS SELF-HELP LEVELS IN THE ALTERNATIVE DESIGN FOR SHARED RESPONSIBILITY

The following tables compare the family income distribution of grant recipients and total dollars under the current approach and under the alternative design for shared responsibility. Tables A.1, A.2, and A.3 reflect the distribution of grant recipients under various assumptions about how much students should contribute. Tables A.4, A.5 and A.6 reflect the distribution of total dollars under various assumptions about how much students should contribute.

Table A.1

Shift in the Distribution of Grant Recipients by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution Equal to 40 Percent of the Cost of Attendance

Family Income	Current % of Total Recipients	Alternative % of Total	Shift in % of Total
$00,000-$04,999	6.4	6.5	+0.1
$05,000-$09,999	11.9	12.0	+0.1
$10,000-$14,999	15.1	15.4	+0.3
$15,000-$19,999	17.9	18.4	+0.5
$20,000-$24,999	20.1	20.5	+0.4
$25,000-$29,999	16.2	16.0	-0.2
$30,000-$34,999	8.0	7.6	-0.4
$35,000 and up	4.4	3.6	-0.8
TOTAL	100.0	100.0	-0.0

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980.

Source: MHECB Financial Aid Division

Table A.2

Shift in the Distribution of Grant Recipients by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution
Equal to 50 Percent of the Cost of Attendance

Family Income	Current % of Total Recipients	Alternative % of Total	Shift in % of Total
$00,000-$04,999	6.4	7.2	+0.8
$05,000-$09,999	11.9	13.3	+1.4
$10,000-$14,999	15.1	16.8	+1.7
$15,000-$19,999	17.9	19.4	+1.5
$20,000-$24,999	20.1	20.0	-0.1
$25,000-$29,999	16.2	14.3	-1.9
$30,000-$34,999	8.0	6.3	-1.7
$35,000 and up	4.4	2.7	-1.7
TOTAL	100.0	100.0	0.0

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980.

Source: MHECB Financial Aid Division

Table A.3

Shift in the Distribution of Grant Recipients by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance

Family Income	Current % of Total Recipients	Alternative % of Total	Shift in % of Total
$00,000-$04,999	6.4	8.1	+1.7
$05,000-$09,999	11.9	15.6	+3.7
$10,000-$14,999	15.1	19.2	+4.1
$15,000-$19,999	17.9	19.7	+1.8
$20,000-$24,999	20.1	18.3	-1.8
$25,000-$29,999	16.2	12.3	-3.9
$30,000-$34,999	8.0	5.1	-2.9
$35,000 and up	4.4	1.7	-2.7
TOTAL	100.0	100.0	0.0

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980.

Source: MHECB Financial Aid Division

Table A.4

Shift in the Distribution of Total Dollars by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution
Equal to 40 Percent of the Cost of Attendance

Family Income	Current % of Total Recipients	Alternative % of Total	Shift in % of Total
$00,000-$04,999	5.8	6.1	+0.3
$05,000-$09,999	11.6	12.3	+0.7
$10,000-$14,999	15.8	17.4	+1.6
$15,000-$19,999	18.4	19.7	+1.3
$20,000-$24,999	19.9	20.1	+0.2
$25,000-$29,999	16.1	14.9	-1.2
$30,000-$34,999	8.2	6.7	-1.5
$35,000 and up	4.2	2.8	-1.4
TOTAL	100.0	100.0	0.0

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980.

Source: MHECB Financial Aid Division

Table A.5

Shift in the Distribution of Total Dollars by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution
Equal to 50 Percent of the Cost of Attendance

Family Income	Current % of Total Recipients	Alternative % of Total	Shift in % of Total
$00,000-$04,999	5.8	6.1	+0.3
$05,000-$09,999	11.6	12.4	+1.3
$10,000-$14,999	15.8	18.6	+2.8
$15,000-$19,999	18.4	20.6	+2.2
$20,000-$24,999	19.9	19.9	0.0
$25,000-$29,999	16.1	14.0	-2.1
$30,000-$34,999	8.2	5.8	-2.4
$35,000 and up	4.2	2.1	-2.1
TOTAL	100.0	100.0	0.0

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980.

Source: MHECB Financial Aid Division

Table A.6

Shift in the Distribution of Total Dollars by Family Income Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution
Equal to 60 Percent of the Cost of Attendance

Family Income	Current % of Total Recipients	Alternative % of Total	Shift in % of Total
$00,000-$04,999	5.8	5.9	+0.1
$05,000-$09,999	11.6	13.3	+1.7
$10,000-$14,999	15.8	20.3	+4.5
$15,000-$19,999	18.4	21.6	+3.2
$20,000-$29,999	19.9	19.7	-0.2
$25,000-$29,999	16.1	13.0	-3.1
$30,000-$34,999	8.2	4.9	-3.3
$35,000 and up	4.2	1.3	-2.9
TOTAL	100.0	100.0	0.0

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980.

Source: MHECB Financial Aid Division

APPENDIX B: SHIFT IN THE DISTRIBUTION OF GRANT RECIPIENTS BY FAMILY INCOME IN THE VARIOUS POST-SECONDARY EDUCATION SYSTEMS UNDER THE 50 PERCENT SELF-HELP OPTION IN THE ALTERNATIVE DESIGN FOR SHARED RESPONSIBILITY.

These tables compare the family income distribution of grant recipients in the various post-secondary education systems under the current approach and under the alternative design for shared responsibility.

Table B.1

Shift in the Distribution of Grant Recipients by Family Income Level Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance

University of Minnesota Students

Family Income	**Current % of Total Recipients**	Alternative % of Total	Shift in % of Total
$00,000-$04,999	6.0	7.0	1.0
$05,000-$09,999	10.8	12.5	1.7
$10,000-$14,999	14.0	16.2	2.2
$15,000-$19,999	18.2	20.1	1.9
$20,000-$24,999	20.6	20.5	-.1
$25,000-$29,999	18.1	15.7	-2.4
$30,000-$34,999	8.8	6.1	-2.7
$35,000 and up	3.2	1.5	-1.7
TOTAL	100.0	100.0	0

Note: Columns may not sum to totals due to rounding.

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980.

Source: HECB Financial Aid Division

Table B.2

Shift in the Distribution of Grant Recipients by Family Income Level Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance

State University System Students

Family Income	Current % of Total Recipients	Alternative % of Total	Shift in % of Total
$00,000-$04,999	6.3	7.1	.8
$05,000-$09,999	13.0	14.6	1.6
$10,000-$14,999	17.2	19.2	2.0
$15,000-$19,999	19.4	21.1	1.7
$20,000-$24,999	22.8	22.1	-.7
$25,000-$29,999	14.5	11.6	-2.9
$30,000-$34,999	5.2	3.4	-1.8
$35,000 and up	1.2	.5	-.7
TOTAL	99.6	99.6	0

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980.

Source: HECB Financial Aid Division

Table B.3

Shift in the Distribution of Grant Recipients by Family Income Level Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance

Community College System Students

Family Income	Current % of Total Recipients	Alternative % of Total	Shift in % of Total
$00,000-$04,999	7.8	8.6	.8
$05,000-$09,999	15.5	17.5	2.0
$10,000-$14,999	16.4	18.5	2.1
$15,000-$19,999	20.8	22.0	1.2
$20,000-$24,999	21.4	19.7	-1.7
$25,000-$29,999	13.8	10.8	-3.0
$30,000-$34,999	3.2	2.3	-.9
$35,000 and up	.7	.3	-.4
TOTAL	99.6	99.7	.1

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980.

Source: MHECB Financial Aid Division

Table B.4

Shift in the Distribution of Grant Recipients by Family Income Level Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance

Area Vocational-Technical Institute Students

Family Income	Current % of Total Recipients	Alternative % of Total	Shift in % of Total
$00,000-$04,999	13.2	13.7	.5
$05,000-$09,999	21.7	22.6	.9
$10,000-$14,999	20.9	21.9	1.0
$15,000-$19,999	20.4	20.4	0.0
$20,000-$24,999	16.4	15.3	-1.1
$25,000-$29,999	5.8	4.8	-1.0
$30,000-$34,999	1.1	.8	-.3
$35,000 and up	.1	.1	0.0
TOTAL	99.6	99.6	0

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980.

Source: MHECB Financial Aid Division

Table B.5

Shift in the Distribution of Grant Recipients by Family Income Level Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance

Private Four-Year College Students

Family Income	Current % of Total Recipients	Alternative % of Total	Shift in % of Total
$00,000-$04,999	3.3	3.7	.4
$05,000-$09,999	6.6	7.3	.7
$10,000-$14,999	11.2	12.5	1.3
$15,000-$19,999	14.8	16.4	1.6
$20,000-$24,999	19.1	20.5	1.4
$25,000-$29,999	20.8	20.3	-.5
$30,000-$34,999	13.8	12.2	-1.6
$35,000 and up	10.1	6.8	-3.3
TOTAL	99.7	99.7	0

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980.

Source: MHECB Financial Aid Division

Table B.6

Shift in the Distribution of Grant Recipients by Family Income Level Which Would Have Resulted from Implementation of the Alternative Design for Shared Responsibility in 1980-81

Assuming Expected Student Contribution Equal to 50 Percent of the Cost of Attendance

Private Two-Year College Students

Family Income	Current % of Total Recipients	Alternative % of Total	Shift in % of Total
$00,000-$04,999	6.7	7.3	.6
$05,000-$09,999	12.4	13.4	1.0
$10,000-$14,999	15.6	17.0	1.4
$15,000-$19,999	18.0	19.4	1.4
$20,000-$24,999	19.9	20.3	.4
$25,000-$29,999	17.9	16.1	-1.8
$30,000-$34,999	6.3	4.6	-1.7
$35,000 and up	2.9	1.6	-1.3
TOTAL	99.7	99.7	0

Base: All dependent applicants to the State Scholarship and Grant Programs in 1980-81 as of June 1980.

Source: MHECB Financial Aid Division

APPENDIX C: BASIS FOR THE ANALYSIS OF THE EFFECTS OF IMPLEMENTING THE DESIGN FOR SHARED RESPONSIBILITY

In order to accurately estimate the effects of any change in the awarding of State Scholarship and Grant monies, the capability to parallel the award calculation process must exist. Secondly, a pool of student data must be available which adequately represents the characteristics of the program applicants and the distribution of their institutional choices. Finally, if it is necessary to project the impact of a change into the future, a model must be developed which is sensitive to changes that will affect the award calculation or the nature and size of the applicant population. The following paragraphs will describe how each of these pre-conditions to accurate estimation were addressed in the analysis of the alternative design for shared responsibility.

Simulation of Awards

The simulator which is used to estimate student awards under the alternative design presented in this paper was developed by the Coordinating Board staff in 1980, and was first used to estimate the effects of a revised need formula that was put in place the 1980-81 school year.[1] The simulator combines the results of the Uniform Methodology need analysis with institutional budget information in a formula which calculates the award for each individual student. The computer program on which the simulation is based was submitted for external review by a statistical consultant in November 1980, and was found capable of calculating a state grant, on the average, within $1.25 of the actual award. In better than 99 percent of the student test cases, the difference between estimated and actual award was determined to be due to rounding error. The simulator has been used in all program budget estimates done by the Coordinating Board since 1980.

---

[1] Minnesota Higher Education Coordinating Board, Revision of the Need Formula for the Minnesota State Scholarship and Grant Programs (March 1980).

Student Information Data Base

The data base of student information used in performing the simulation of awards under the alternative design consists of all applicants to the State Scholarship and Grant Programs for 1980-81 who appeared on the program files in June of 1980. These 56,841 student cases represent roughly 85 percent of the total pool of applicants in that year. This is not a random sample, but simply the first 56,841 students to apply. In running the simulations, no sub-sampling was done from this group unless dictated by the analysis (e.g., where the focus was only on dependent students).

Because of the incomplete nature of the data base, some slight bias probably exists in projecting results for the entire pool of applicants in 1980-81. Private institutions are likely over-represented due to the pattern of early application submission which exists among those schools. Independent students are likely under-represented due to the universal verification of their status which adds a step to the processing of their applications. Vocational students are likely under-represented due to the shorter planning time-line required for gaining admission in many cases. These biases are judged to be slight and to have no substantial effect on the conclusions of this paper. In any case, the same students were used in all comparisons of policy options.

Projections Beyond 1980-81

Four factors have traditionally accounted for changes in the award and total spending outcomes from one year to the next. The first factor is the change in the number of applications for aid. Second, tuition and fees charged by institutions are inflated annually. A third factor is change in the income distribution of applicants. Finally, changes in the need analysis or award formula parameters affect spending. Assumptions about each of these factors were made in developing the comparative spending trends for the State Scholarship and Grant Programs

shown in Table 10 on page 25.

The purpose of this analysis was to demonstrate how increases in institutional budgets would interact with available family resources in determining total spending under each option. Therefore, no increase in number of applications was assumed above the actual number of applicants in 1980-81. This is not -- nor is it intended to be -- a representation of actual application trends; number of applications increased by more than 15 percent between 1980-81 and 1981-82 and is expected to increase again in 1982-83. Therefore the percent increase is not to be used to derive a projected spending figure for the program under any of the options for 1982-83

The principal changes which were assumed in this analysis are the following:

1) Actual tuition and fees charges reported to the State Scholarship and Grant Programs for 1981-82 were used in the model for all institutions except the private health and vocational institutes; for these institutions a standard 13.5% inflation rate was projected for that year. Tuition increases in 1982-83 were based on the 1981-82 estimates and consisted of the following inflation factors:

   a) University of Minnesota 15%
   b) State Universities 30%
   c) Community Colleges 20%
   d) AVTIs 28%
   e) All Private Institutions 10%

   These figures were based on the best conservative estimates available at the time the simulations were performed (February 1982).

2) The model projected no increase in the amount of discretionary income with which parents of dependent students could aid their children over the two year period of time.

3) No change in the Uniform Methodology occurred for 1981-82, but the offset applied to a second income in the family was reduced for 1982-83. This change was projected to increase the expected parental contribution, on the average, by $200 between 1981-82 and 1982-83.

4) The standard living allowance in each student's educational budget was increased by 10 percent in 1981-82 and roughly 8 percent in 1982-83. This inflation adjustment did not actually occur in the program due to funding constraints.

5) In the projection for the current approach, the percent of cost recognized in the formula was held at 85, but the maximum award was raised to $1,400 for 1981-82 and $1,550 for 1982-83. In actual fact, each of these values has decreased over time. The adjustment to the maximum award was made to parallel the automatic inflation adjustment which would occur in the alternative design.

All award and spending projections presented in this paper represent awards for which students were eligible, if they attended their first-choice institution for an entire year or however many terms of eligibility remained. Much of this awarding is never translated into actual expended dollars. Students change institutional choice before commencing the school year or decide not to attend at all; many do not attend for the entire year; some refund a portion of their award because of receipt of other types of aid. Over the past four years, the total dollars awarded have typically been reduced by 10 percent or more by the time the books are closed for the year. This total dollar reduction is matched by a reduction in the average award per student and the number of recipients.

The reason for simulating the gross rather than the net figures is that the state, according to statute, cannot commit itself to more money than it has allocated for a program. The Coordinating Board must be able to cover every award it confers.