Higher Education Tuition and State Grants

February 1994

Program Evaluation Division
Office of the Legislative Auditor
State of Minnesota

Program Evaluation Division

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Office of the Legislative Auditor
State of Minnesota

Centennial Office Building, Saint Paul, MN 55155 • 612/296-4708

STATE OF MINNESOTA
OFFICE OF THE LEGISLATIVE AUDITOR
CENTENNIAL BUILDING, ST. PAUL, MN 55155 • 612/296-4708
JAMES R. NOBLES, LEGISLATIVE AUDITOR

February 25, 1994

Members
Legislative Audit Commission

Throughout the 1980s and 1990s, affordability of higher education has been a growing concern among policy makers in Minnesota. Tuition has increased rapidly at all types of institutions, public and private. As a result, more students may need help to meet rising educational costs.

In June 1993, the Legislative Audit Commission directed the Program Evaluation Division to determine why higher education tuition has increased in recent years and to identify what types of students have received help from the state's grant program. This report shows that tuition has risen at public institutions primarily because of a shift in Minnesota's higher education funding policy, resulting in relatively less reliance on state appropriations and more on tuition revenues. At private colleges, the increase has resulted mainly from a rise in instructional spending in excess of inflation.

This report also shows that the state grant program, operating in conjunction with the federal Pell grant program, is generally working as envisioned by the Design for Shared Responsibility and is providing aid primarily to students from families whose incomes are below the state median. However, a full analysis of student financial aid issues is not possible without more complete data on financial aid received by students from all sources.

We received the full cooperation of the four public and two private higher education systems as well as the Higher Education Coordinating Board.

The report was researched and written by Marilyn Jackson-Beeck (project manager), Scott Leitz, Jo Vos, and John Yunker.

Sincerely yours,

James Nobles
Legislative Auditor

Roger Brooks
Deputy Legislative Auditor

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EXECUTIVE SUMMARY

Higher education accounts for 13 percent of Minnesota's budget and involves more than 300,000 students at campuses throughout the state. For every 1,000 residents, Minnesota has more students enrolled in postsecondary schools than in the nation as a whole, and enrollees are much more likely to receive state support in the form of grants.

But in recent years, despite state taxpayers' substantial funding, the cost to attend college has increased so much that many students and their families have difficulty affording higher education. The Legislative Audit Commission directed our office to study tuition and student financial aid, focusing on these questions:

- **How fast has tuition for Minnesota higher education systems grown since the early 1970s, and how do tuition rates and trends for Minnesota institutions compare with national averages?**

- **What are the main reasons for tuition increases in Minnesota? To what extent does expenditure growth explain the increases?**

- **How is state grant money allocated to individuals in coordination with federal Pell grants, and what are the state's goals for the grant program?**

- **Do students face undue barriers in applying for state grants?**

- **How much aid do lower-income students receive from the state grant program? Why do middle- and upper-income students also receive grants?**

The state's six higher education systems include the University of Minnesota, state universities, community colleges, technical colleges, private four-year colleges, and private vocational schools. To address questions regarding tuition, we examined trends for all six systems between 1971 and 1993 and compared tuition increases with changes in the Consumer Price Index and Minnesota's per capita income. We also compared Minnesota's tuition growth with national trends.

Finally, we looked at the factors that have contributed to tuition growth in Minnesota.[1]

To address questions regarding financial aid, we reviewed statutes and formulas that govern the allocation of state grant money, reviewed application forms, and analyzed data on state grant recipients. The Higher Education Coordinating Board provided detailed financial information from application forms completed by nearly 62,000 individual grant recipients for the 1992-93 academic year, which was the most recent available for our study. The board also provided descriptive data about the recipients from its statewide enrollment data base.

In general, our results show that tuition growth for all six systems of higher education has greatly exceeded inflation since 1981, and tuition in Minnesota is somewhat higher than national averages. The main reason for tuition growth for the four public systems has been state policy, which has caused them to rely more on tuition revenue and less on appropriations. Expenditure growth was the most important explanation for tuition growth at private four-year colleges.

At the same time, we found that the maximum size of state grants has steadily increased because it is directly tied to the increased cost of higher education. Although the application process may be difficult, we concluded that it is appropriate to the state's need for detailed financial information. The law does not require that state grants go only to disadvantaged students, but we found that most of the money has gone to students whose families have less than the median income for Minnesota. Other students also qualify mainly because they demonstrate financial need or face special circumstances.

TUITION

Average tuition and fees range from $1,756 to $12,196.

As is the case across the nation, tuition and fees in Minnesota are generally higher at private institutions than at public institutions. In addition, four-year schools typically charge more than two-year schools. For the current 1993-94 academic year, annual tuition and fees for Minnesota's public systems range from $1,756 at the technical colleges to $3,639 for the Morris campus of the University of Minnesota. The average tuition and fee charge for the community colleges is $1,766, while the average for the state universities is $2,534. In contrast, the average for private vocational schools is $4,443, and the average private college charge is $12,196.

Trends

Tuition has grown significantly in Minnesota since the early 1970s. Between fiscal years 1971 and 1993, tuition and required fees grew more than 500 percent at the University of Minnesota, the state universities, and Minnesota's private col-

1 A thorough examination of the private vocational schools was not possible because of lack of data. Also, our analysis of tuition at private four-year colleges was limited to the 16 members of the Minnesota Private College Council.

Tuition and Required Fees, 1971-93

	1971	1981	1993
University of Minnesota	$ 522	$1,132	$3,200
State Universities	379	726	2,276
Community Colleges	353	637	1,687
Technical Colleges[a]	0	373	1,618
Private Colleges	1,671	3,674	11,467
Private Vocational Schools	NA	1,851	4,033

Note: Figures are not adjusted for inflation. NA = Not available.

[a]Tuition only.

leges, while the Consumer Price Index grew only 259 percent. The relationship between tuition increases and inflation, however, was different in the 1970s than in the period since the early 1980s. In particular:

- **From 1971 to 1981, tuition increased at rates which were generally less than or about equal to the inflation rate, but since 1981, tuition increases have greatly exceeded inflation.**

Between 1971 and 1981, tuition growth at the University of Minnesota (117 percent), state universities (92 percent), and community colleges (80 percent) was less than the growth in consumer prices (118 percent). Only tuition increases at private colleges (120 percent) slightly exceeded the inflation rate.

Since 1981, the Consumer Price Index increased only 64 percent while tuition rose 118 to 334 percent.

However, since 1981, tuition growth for all six systems of higher education has greatly exceeded inflation. While consumer prices increased only 64 percent between 1981 and 1993, tuition increased 183 percent at the University of Minnesota, 213 percent at state universities, 165 percent at community colleges, 334 percent at technical colleges, 212 percent at private colleges, and 118 percent at private vocational schools.[2] Tuition increases for all higher education systems except the private vocational schools have exceeded even the growth in medical care prices since 1981.

Compared with trends in Minnesota per capita income:

- **Tuition generally became more affordable during the 1970s, but increasingly less affordable during the 1980s and early 1990s.**

From 1971 to 1981, per capita income grew 155 percent compared with tuition increases ranging from 80 to 120 percent. Between 1981 and 1992, however, per capita income grew 87 percent while tuition increases for Minnesota's higher education systems ranged from 113 to 316 percent. Over the entire period 1971 through 1992, tuition generally became less affordable, except at the community colleges where tuition growth (353 percent) was less than per capita income growth (378 percent).

2 Technical colleges experienced the highest growth rate because, prior to 1979, they did not charge tuition to Minnesota residents under the age of 21.

In general, we found that:

- **Tuition increases for Minnesota's colleges and universities tended to reflect nationwide trends.**

Tuition at the technical colleges, private colleges, and the University of Minnesota increased faster than national averages for those types of institutions. Tuition growth was slower than average at the community colleges and state universities.

Comparisons

Our study showed that:

- **Tuition and required fees for Minnesota's four public systems and Minnesota's private colleges exceed national averages.**

The difference between Minnesota tuition and national averages is particularly noticeable for public two-year colleges. In 1993, tuition rates for Minnesota's community colleges and technical colleges were almost two-thirds higher than the national average for public two-year colleges. Minnesota tuition rates exceeded national averages by 24 percent at the University of Minnesota, 4 percent at the state universities, and 19 percent at private colleges.

Reasons for Tuition Increases

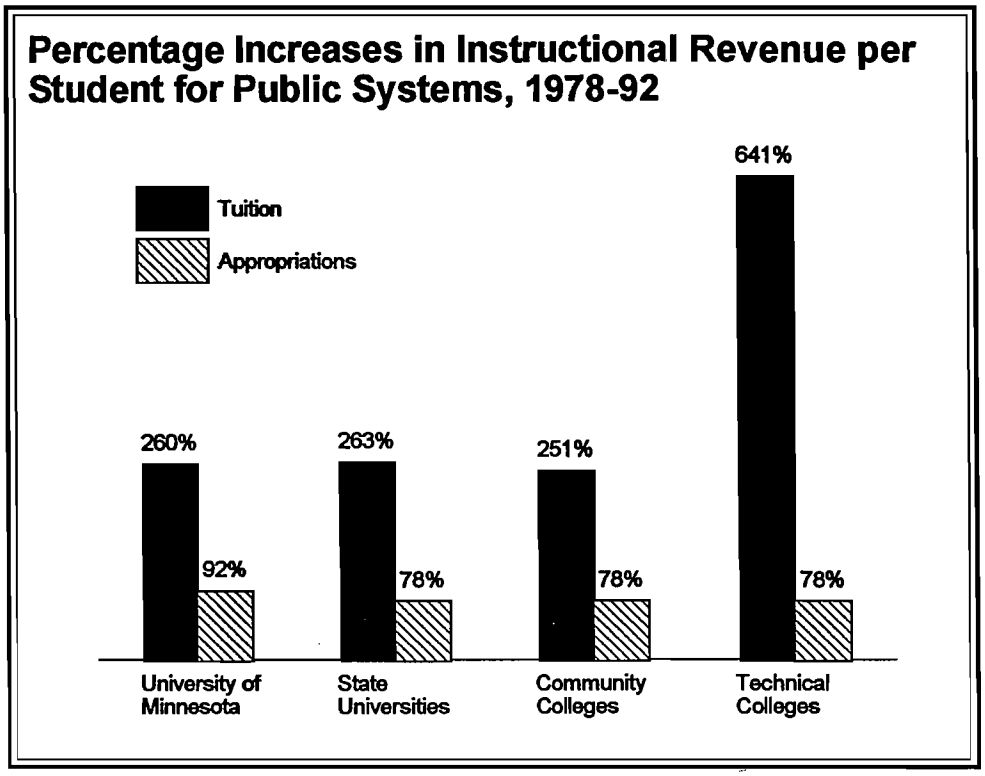
Overall, we found that:

- **The most significant cause of tuition increases at Minnesota's public colleges and universities was increased reliance on tuition (or decreased reliance on state appropriations) to fund instructional spending, but inflation was also an important factor.**

The main reasons for public tuition increases are inflation and a decreased reliance on state funds.

Between 1978 and 1992, Minnesota's public systems of higher education came to rely more on tuition revenue, and less on state appropriations, mainly because of state-level policy decisions. Tuition revenue per student grew 251 to 263 percent at three of the public systems and 641 percent at the technical colleges. In contrast, state appropriations per student increased 92 percent at the University of Minnesota and 78 percent at the other three public systems. As a result, the share of instructional expenditures that was financed by tuition revenue increased from 29 to 42 percent at the University, 23 to 38 percent at the state universities, 24 to 39 percent at the community colleges, and 9 to 29 percent at the technical colleges.

Our research showed that increased tuition reliance explained about half of the tuition growth at the University of Minnesota, state universities, and community colleges, while about 40 percent of the growth was due to inflation. At the technical colleges, 75 percent of the tuition growth was due to increased tuition reliance, and 17 percent was due to inflation. Spending increases in excess of inflation were responsible for 9 to 18 percent of the tuition growth in the four public sys-



tems. In two of the systems (state universities and community colleges), most of the growth in spending beyond inflation was due to significant increases in employees' fringe benefits.

Private college tuition growth is largely due to increased instructional spending and inflation.

In contrast to the reasons for public sector tuition increases, we found that:

- **Instructional spending increases in excess of inflation accounted for almost half of the tuition growth at Minnesota's private colleges, while inflation was responsible for about one-third.**

From 1980 to 1992, instructional and related overhead spending accounted for 47 percent of the tuition increases at Minnesota's private colleges. Inflation accounted for 36 percent of the growth. The remaining 17 percent of the tuition growth resulted from the net effect of other factors such as increased financial aid, increased public service spending, increased non-tuition revenues, and enrollment changes.

These results for Minnesota are similar to the conclusions that researcher Arthur Hauptman reached about national tuition trends from 1970 to the mid-1980s. In his 1990 book, *The College Tuition Spiral: An Examination of Why Charges Are Increasing*, Hauptman found that the relative decline in state appropriations as a funding source for higher education was the main source of public sector tuition increases. For private colleges and universities, he similarly found that spending increases in excess of inflation were most important.

Sources of Tuition Growth, 1978-92

	University of Minnesota	State Universities	Community Colleges	Technical Colleges	Private Four-Year Colleges[a]
Inflation	41%	40%	42%	17%	36%
Tuition Reliance	43	51	48	75	--
Instructional Spending	15	15	18	9	47
Enrollment	1	- 6	- 8	- 1	- 4
Other Factors[b]	--	--	--	--	21
Totals	100%	100%	100%	100%	100%

[a]Explains tuition growth from 1980 to 1992.

[b]Includes non-instructional spending and tuition reliance, which is the percentage of instructional expenditures financed by tuition revenue.

STATE GRANT PROGRAM

According to *Minn. Stat.* §136A.095, the purpose of the state grant program is to encourage the educational development of economically disadvantaged students at institutions of their choice. However, the law puts no specific limit on recipients' income and provides no definition of disadvantaged. Instead:

- **Students who receive state grants must meet the technical definition of "financial need," but they do not necessarily come from low-income families.**

Financially needy students are not necessarily poor.

The state grant program defines financial need as the amount of money a student would need to pay half of the recognized cost to attend a specific Minnesota school after subtracting the family's expected contribution and a federal Pell grant, if any. In other words, the same student could be needy if attending a high-cost school but not a low-cost school.

Allocation of Money

Besides tuition and fees, the cost of higher education includes living and miscellaneous expenses such as books, supplies, and transportation. Although these vary with students' choice of program and living arrangements, the state grant program calculates a "cost of attendance" for each of the 169 participating Minnesota schools. During the 1992-93 academic year, the average cost of attendance was about $5,700 for the community and technical colleges, $6,300 for the state universities, and $7,000 for the University of Minnesota. The average cost of attendance was about $8,000 for private vocational schools and $11,700 for private four-year colleges. In addition, some students at private schools faced additional costs for tuition and fees that exceed limits that are built into the state grant program.

Half of the cost of attendance is students' responsibility and is called the "student share." Every state grant recipient is equally responsible for the student share, re-

gardless of financial status. Students may use savings, earnings, loans, gifts, scholarships, additional grants, and other means to pay their portion of attendance costs. The other half of the cost of attendance, called the "family-government share," may be paid by families and the federal Pell grant program, and if necessary, by the state grant program.

All students, regardless of income, are responsible for at least half their educational costs.

A complex federal formula determines how much students' families are expected to contribute toward the cost of attendance. Generally, as total family income (taxed and untaxed) and net worth increase, the size of the expected family contribution increases. Conversely, as family size, number of children in college, and the age of the older parent increase, the expected family contribution decreases. However, the family is not required to contribute what the formula indicates.

Parents are expected to contribute toward the family-government share of costs if their children are dependent on them for financial support. The situation is different for independent students, defined as those who are at least 24 years old, married, a veteran or a ward of the court, or have dependents of their own. Independent students, and their spouses if applicable, are themselves expected to contribute toward the family-government share and also must take responsibility for the 50 percent student share.

After calculating the expected family contribution, the state grant program subtracts this amount from the family-government share (that is, half of the cost of attendance) along with any federal Pell grant a student may receive, and the state fills any remaining difference. Since the federal program is specifically designed to serve the lowest income students and is awarded first, this means that some very low-income students may not receive state grants. In these cases, the state grant program has determined that the students' financial need as defined by the state grant program will be met by the federal government.

Overall, we estimate that Pell grants supplied as much as $43 million to students who did not receive but might otherwise have been eligible for state grants in fiscal year 1991. The Higher Education Coordinating Board does not maintain data on these students, so their number and characteristics are not known in precise terms, but they are most likely low-income students attending low-cost Minnesota schools.

During the course of our study, we also learned that:

- **From the 1983-84 through 1992-93 academic years, the Higher Education Coordinating Board followed a procedure that, for some students at private schools, resulted in enlarged state grants and increased costs to the program.**

Until the 1993-94 academic year, when the practice stopped, staff routinely subtracted the difference between independent students' actual and capped tuition and fees from their expected family contributions. Depending on the results, this could increase the size of the state grant. We estimate that the practice cost the state grant program about $3 million during the 1992-93 academic year alone.

Application Process

To simplify the process for students, the federal government uses the same application form for almost all of its financial aid programs, and Minnesota has adopted this form as well. For the 1992-93 academic year, the form contained more than a hundred questions regarding family size, income, assets, expenses, and more. Now, although the form is somewhat shorter, the application process remains somewhat similar to filing income taxes. However, we concluded that:

- **The grant application process is necessarily complex because the state grant program must distinguish among families with differing abilities to pay their share of education costs.**

In general, the state and federal government expect families with higher income to pay for most if not all of their students' expenses. Conversely, since grants are not exclusively for lower-income students, the government needs various income and asset data to determine what if anything families can afford to pay.

At the same time, there is reason to be concerned about the application process because some evidence suggests that fewer low-income students applied in 1993 compared with 1983. There are a number of possible reasons for the apparent decline but no conclusive explanation for it. Our suggestion is that application trends should be monitored, and the Higher Education Coordinating Board should continue its recently targeted information campaign for low-income parents of elementary and secondary students.

Recipients

Nearly 62,000 Minnesota students received state grants totaling $82.7 million during the 1992-93 academic year. Adding federal Pell grants, they received a total of $153.4 million. About two-thirds of the recipients were dependent students, and one-third independent. Because dependent state grant recipients differ significantly from independent recipients, we analyzed their grants separately.

About 62,000 students received state grants during the 1992-93 academic year.

During the 1992-93 academic year, dependent students received a total of $62.6 million from state grants and $97.3 million in combined state and Pell grants. The median state grant for dependent students was $1,218, and their median combined grant was $2,504. Independent students received $20.1 million in state grants and $56.1 million in combined grants. The independent students' median state grant was $477, and their median combined grant was $2,501.

To determine the extent to which the state grant program served lower-income students, we first identified those whose family incomes fell below federal poverty guidelines for their family size. Second, we classified state grant recipients according to the income distribution of Minnesota families from the 1990 U.S. Census. Lower-income students were defined as those with family income of $31,235 or less, which put them at or below the 40th percentile for all Minnesota families.

Overall, state grant recipients' median total income was well below the statewide median of $36,916. Dependent grant recipients had median incomes of $27,870; independent grant recipients had median incomes of $11,544. Also:

- **During the 1992-93 academic year, there was a higher proportion of persons in the state grant program whose family income was below the federal poverty line than in the Minnesota population.**

Most recipients' family income was below the statewide median.

According to the census, 7 percent of Minnesota families had incomes below the federal poverty line. By comparison, 16 percent of dependent state grant recipients had total incomes that low. They received 12 percent of the state grant money and 21 percent of combined state and Pell grant dollars. The proportions were even higher for independent students since their incomes were generally lower. Almost one-half (48 percent) had total incomes below the federal poverty guideline for their family size. They received 35 percent of the state grant funds that went to independent students and 53 percent of the combined state and Pell grant money.

Similarly,

- **Most state grant recipients came from families whose total family income put them among the lowest 40 percent of all Minnesota families, and they received most of the grant money.**

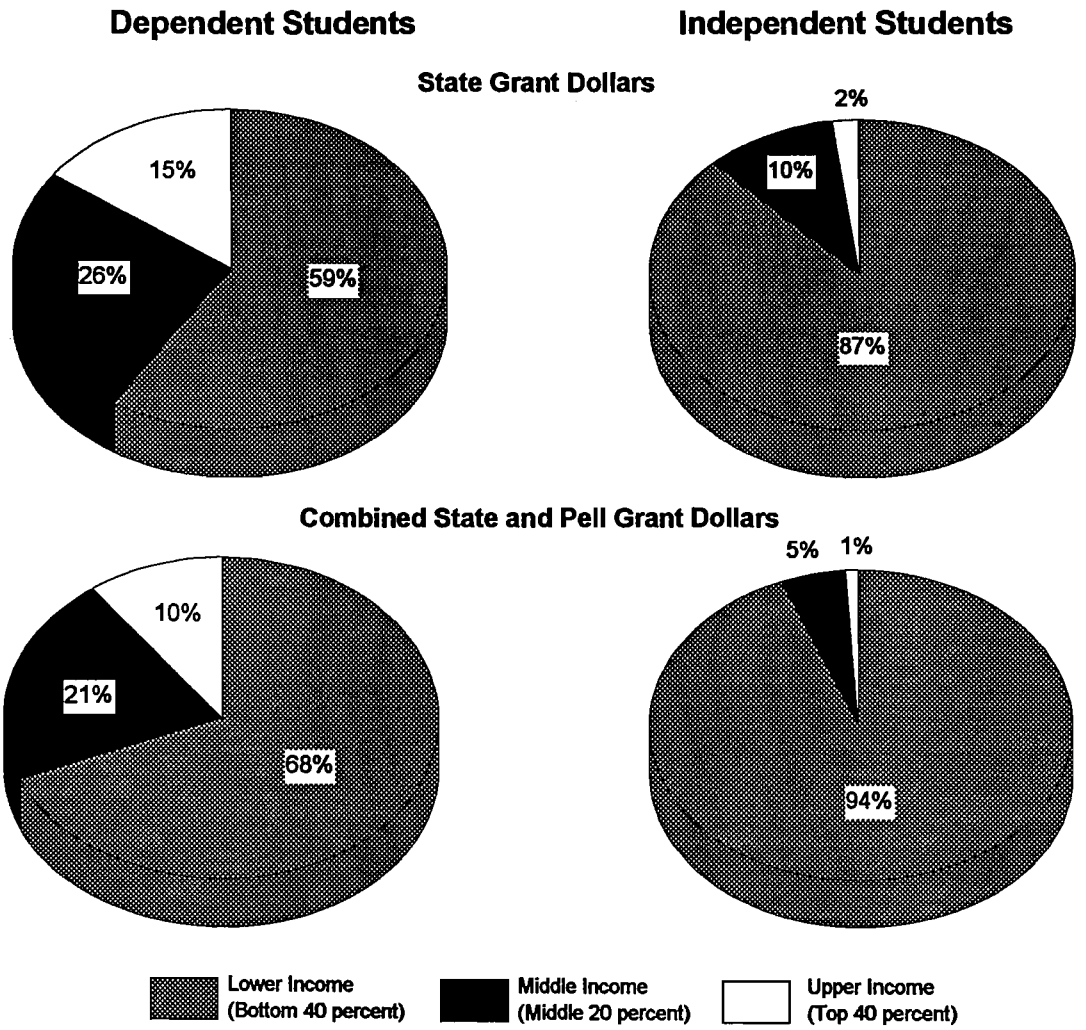
According to the 1990 U.S. Census, 40 percent of Minnesota families had incomes of $31,235 or less. However, during the 1992-93 academic year, 59 percent of the dependent state grant recipients had total incomes below $31,236, and these students received 59 percent of the state grant money. When Pell grant money was also considered, 68 percent of the combined state and federal grant money went to lower-income students. Further, 91 percent of the independent state grant recipients had total family incomes below $31,236, and these students received 87 percent of the state grant money and 94 percent of the combined grant money.

Although state grants went mainly to lower-income students, we also found that:

- **Because federal Pell grants are targeted to the poorest students and awarded first, the state grant program paid less to the lowest income students and more to those in the next higher income bracket.**

The state grant program provided a median grant of only about $800 to dependent students whose family income was $10,000 or less, but Pell grants provided $2,200 more. At income levels from $25,000 to $35,000 (still below the statewide median), the state grant program provided a median grant of $1,444, while the Pell program provided substantially less, $550. Above the $35,000 income level, the state grant program provided more money (a median grant of $1,219) than the Pell program ($0), while the total amount of money continued to decline. The pattern for independent students was similar, except for a small number of upper-income recipients.

State Grants in Relation to Minnesota Family Income

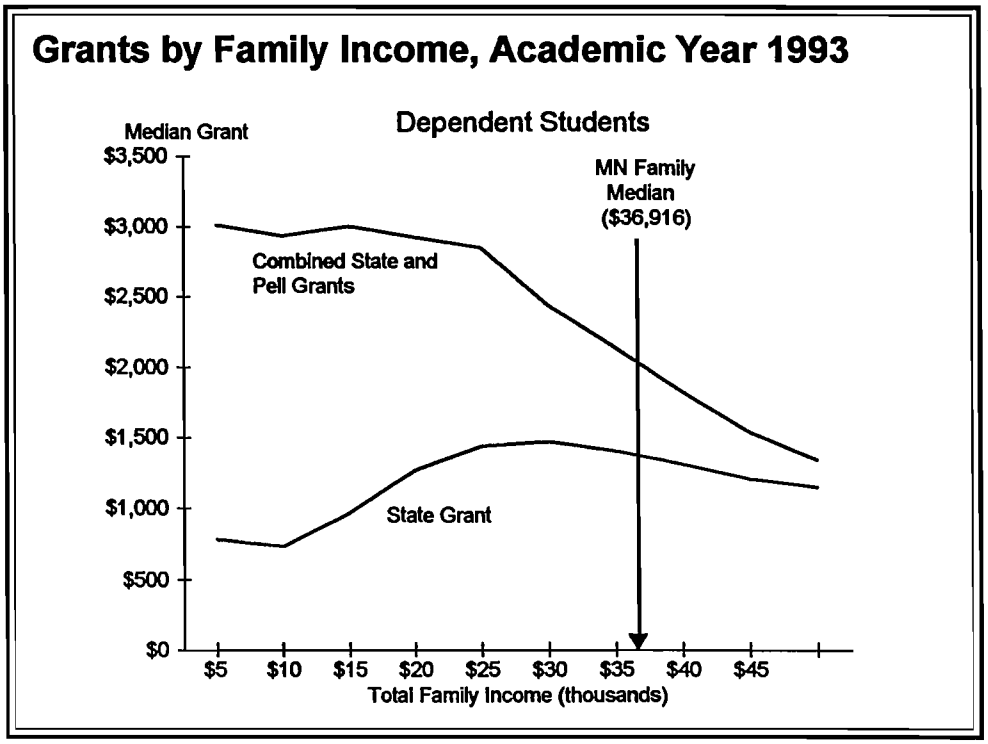


Note: Percentages may not total to 100 due to rounding.

Concerning the upper-income grant recipients, we found that 16 percent of dependent state grant recipients and 2 percent of independent recipients had family incomes over $42,889, which would put them at or above the 61st percentile of all Minnesota families. Together, these students received about 12 percent of state grant funds and 7 percent of combined state and Pell grants, for a total of about $11 million. However:

- **Three main reasons explain why some state grant recipients come from upper-income brackets: (1) they attend high-cost schools, (2) their families are larger than average, and (3) more than one family member attends college.**

Most of the money (about $7 million) went to students attending private four-year colleges where the cost of attendance is high. Also, in all systems of higher educa-



tion, we found that the upper-income grant recipients' families were larger than recipients' in general by an average of about one person, and they were more likely to include not one but two college students.

In addition, we found that some upper-income students received state grants because they experienced high expenses such as medical costs, often in combination with few assets. In such cases, the state grant program offsets the family's total income since it is not readily available for students' education. In other cases, the state grants were based on estimated present income instead of past, actual income. This was because unforeseen events such as loss of employment or a parent's death or divorce had altered a family or student's ability to pay for school. When special conditions like these arise, students file amended applications, and campus financial aid officers redetermine eligibility for state grants. In addition, some upper-income independent students received state grants because the program until this year forgave them and some others from contributing a portion of the money they would otherwise have been expected to pay for attending private schools with tuition that was above the state's limit.

RECOMMENDATIONS

Complete information on financial aid would be helpful to policy makers.

Besides knowing how the state grant program, in combination with the Pell grant program, distributes money, it would be helpful also to know how students pay for their share of the cost of attendance. The student's share is not covered by the state or Pell grant programs, but other state, federal, private, and institutional financial aid programs are available to help.

The Higher Education Coordinating Board conducted a study of state grant recipients' various funding sources or "packages" during the 1986-87 academic year. Thus, we recommend that:

- **The Higher Education Coordinating Board should periodically collect data on financial aid packages, focusing on assistance at varying levels of income and the effect of that assistance on the student share of the cost of attendance, as determined by the state grant program.**

Although another study recently cataloged all sources of funding for Minnesota baccalaureate students, it left out students in community colleges, technical colleges, and private vocational schools, and defined the cost of attendance to include whatever expenses that students or their parents incurred. Also, the study combined all grants and scholarships into one category and did not collect specific information about the state grant program.

Preferably, the Higher Education Coordinating Board could collect data on students' total package of financial aid before policy makers redesign the state grant program. However, a legislative task force is actively discussing proposals that would target more state grant money to lower-income students. In the absence of information about the amount of assistance that these students already receive from all sources, we are concerned that the result could be to displace some private or institutional assistance with state funds.

At the same time, we found numerous problems with the board's existing data concerning state grant recipients. Most notably, data are sometimes missing for large percentages of state grant recipients, and the board maintains data on students who receive a Pell grant only if they also happen to receive a state grant. We recommend that:

HECB's data on state grant recipients should be improved.

- **The Higher Education Coordinating Board should collect and maintain more complete, accurate data on state and Pell grant recipients in the future.**

Data on students who receive a Pell grant but not a state grant could come from the board's periodic studies of student financial aid packages, which we recommended above. To improve the general quality of information on state grant recipients, we suggest that the board require complete data from all schools and maintain a consistent data base for all state grant recipients. Staff at the Higher Education Coordinating Board have already told us that they will review their procedures and, starting in the 1994-95 academic year, collect complete data on all state grant recipients. We think that better data collection and maintenance on the part of the board are critically important for state policy makers.

Introduction

Minnesota has a high rate of participation in its many institutions of higher education. One reason may be that state policy makers have sought to extend the opportunity for higher education, so that all can attend despite financial circumstances. But, the cost to attend college has increased so much that many students and their families still have difficulty affording higher education. Legislators are particularly concerned about the access of lower-income students to higher education.

Last spring, the House Higher Education Finance Division passed a resolution requesting the Legislative Audit Commission to undertake a program evaluation of the state's financial aid programs. In response, the Legislative Audit Commission authorized the Program Evaluation Division to conduct a study of higher education tuition and student financial aid. Our evaluation, which began in July 1993, had two main objectives:

1. Analyze tuition for higher education in Minnesota and identify the main reasons for increases.

2. Determine the extent to which the state grant program serves lower-income students.

We studied tuition and state grants in Minnesota's six higher education systems.

The Legislature created a task force to study financial aid more generally, and it released a report on February 1, 1994.[1] Its charge is to consider whether the state grant program is removing economic barriers to education; whether and how the grant program could be made more progressive; advantages and disadvantages of linking the program to federal programs; and better ways to package and deliver grants, loans, work-study, and other financial aid to students. Its purpose is to evaluate state financial aid policy, examine alternative policies, and recommend changes to the Legislature.

We studied tuition and state grant recipients in each of Minnesota's six systems of higher education: the University of Minnesota, state universities, community colleges, technical colleges, private four-year colleges, and private vocational schools. Students are eligible to receive state grants in any of these systems.

To analyze tuition trends, we asked each system of higher education to provide data on revenues, expenditures, enrollment, tuition, and required fees. We then

1 *Minn. Laws* (1st Spec. Sess. 1993), Chap. 2, Sec. 24.

worked closely with system representatives to make adjustments to compensate for accounting changes that had occurred over time. We also reviewed nationwide tuition trends.

To describe state grant recipients, we obtained financial information from aid application forms completed by individual recipients for the 1992-93 academic year. The Higher Education Coordinating Board provided these data and enrollment information so that we could determine how much grant money went to students in various financial circumstances. We interviewed financial aid administrators in Minnesota and other states, reviewed application forms, visited several campuses, and analyzed relevant survey data.

By law, the state grant program operates in conjunction with the federal Pell grant program, and we studied the relationship between the two programs. In addition, the program is designed to help pay for just half of students' recognized educational costs, with the other half financed by the students themselves. This feature of the program reflects an assumption that it is equitable to require all students, regardless of current household income and assets, to pay half of their college costs from savings, work, loans, scholarships, and other sources. We did not study the impact of this assumption nor analyze alternative ways to design the grant program. This part of our study focused exclusively on how grant money was distributed.

In this report, we explain why tuition has increased and who has received state grants. To do this, we focused mainly on the development and analysis of statistical data that are generally not available. While we are aware of numerous policy issues and proposals that could change tuition and state grants, these were outside the scope of our research.[2] Our study was designed to provide objective data that address technical questions and factual issues that arose during the 1993 legislative session. Such data can be used by decision makers as they consider policy options.

We are also aware that potential students and their families judge the affordability of higher education by looking at costs in relation to all financial aid, but we did not address such linkage in our study. Also, we did not study the situation of students who were not in the state grant program, nor did we examine the total amount of financial aid that Minnesota students receive from all sources, or the array of other financial resources that students and parents use to defray the total cost of higher education.

In general, our results show that tuition has increased and state grants have been distributed in accord with existing state policies. Those policies have shifted some of the tuition burden from state taxpayers onto students and families but have provided for steadily larger grants. We found that most of the grant money has gone to students whose families had less than the median income for Minnesota, but the state grant program meets only a fraction of the total cost of higher education for

2 The Legislature created not only the financial aid task force but also one on postsecondary institutional funding to address policy issues. See *Minn. Laws* (1991), Chap. 356, Art. 2, Sec. 6 and Minnesota Task Force on Post-Secondary Funding, *Final Report to the Legislature and Governor*, 1993.

any student. Numerous other state, federal, institutional, and private forms of financial assistance may help with the rest but may or may not be entirely adequate. Our main recommendation is that the state should routinely collect data on the total package of aid that students receive at various income levels, so that policy makers will have better information to make decisions about financial aid in the future.

Chapter 1 provides background information about each system of higher education, the students who are enrolled, and various sources of financial aid that are available to Minnesota students. Chapter 2 examines the growth in Minnesota tuition rates and the reasons for tuition increases. Chapter 3 discusses the state grant program and determines the extent to which it distributes money to lower-income students.

Background

CHAPTER 1

This chapter is organized into three parts. First, we provide general information about Minnesota's four public and two private systems of higher education. Second, we describe the factors that are generally important in students' decision to pursue higher education and the characteristics of students who attend each system. Third, we explain the various forms of financial aid that are available to help students pay for college and compare Minnesota's grant programs with others.

MINNESOTA'S HIGHER EDUCATION SYSTEMS

Minnesotans are heavily committed to and involved in higher education.

Minnesota is heavily committed to higher education. It has developed an extensive network of public and private institutions that serve more than 300,000 students. For every 1,000 residents, 58 were enrolled in postsecondary schools in Fall 1990, compared with 56 nationally.[1] Moreover, Minnesotans' interest in higher education is longstanding. Both the University of Minnesota and Hamline University were already in existence before statehood. Since then, policy makers have steadily expanded geographical and financial access to an increasingly diverse student population.

In fiscal year 1993, the state provided nearly $900 million to its four publicly funded, state systems of higher education: the University of Minnesota, state universities, community colleges, and technical colleges. Minnesota also has two privately controlled systems of higher education: the private four-year colleges and the private vocational schools.[2] Below, we describe each of these six systems.[3]

University of Minnesota

As shown in Table 1.1, the University of Minnesota had about 54,000 full-year equivalent enrollees and the most graduate students of any Minnesota system of

1 U.S. Department of Education, *Digest of Education Statistics 1993* (Washington, DC, October 1993), 198.

2 In addition, Minnesota has one two-year private college and a few private professional schools. We do not include these in our discussion of the six systems.

3 Further details concerning the public systems are contained in our evaluation report, *Higher Education Programs*, February 1993.

Table 1.1: Enrollment By System, 1991-92 Academic Year

	University of Minnesota	State Universities	Community Colleges	Technical Colleges	Private Four-Year Colleges	Private Vocational Schools
HEADCOUNT, FALL 1991						
Undergraduate	58,211[a]	56,824	56,177	70,383	40,726	7,456
Graduate/Professional	14,906[a]	5,246	--	--	8,478	--
Total	73,117	62,070	56,177	70,383	49,204	7,456
FULL-YEAR EQUIVALENTS, 1991-92						
Undergraduate	39,504	49,960	33,614	38,594	36,608	NA
Graduate/Professional	14,811	3,894	--	--	5,405	--
Total	54,315	53,854	33,614	38,594	43,550[b]	NA

NA = Not available.

Note: Full-year equivalents are calculated by dividing the normal full-time credit hour load per student into the total number of credit hours per system. The private vocational headcount is incomplete, and full-year equivalents cannot be calculated for that system.

Source: Higher Education Coordinating Board (May 1992 and May 1993) and systems.

[a]Estimated headcount including extension students.

[b]Includes 1,537 unclassified students.

higher education during the 1991-92 academic year.[4] It is Minnesota's primary research institution and the state's only public institution that grants doctoral degrees. Governed by a Board of Regents, the University shall:

> offer undergraduate, graduate, and professional instruction through the doctoral degree, and shall be the primary state supported academic agency for research and extension services.[5]

The University is one of the nation's largest.

The University is one of the nation's largest universities and has four campuses: Crookston, Duluth, Morris, and the Twin Cities.[6] However, since 1987, the University purposely reduced undergraduate enrollment by about 10 percent as it implemented a priority-setting agenda known as Commitment to Focus.

Most of the University's undergraduate students are enrolled at the Twin Cities campus. This campus has 18 colleges, of which the largest is Liberal Arts. Others, such as Law and Medicine, provide professional and graduate degrees, and serve few, if any, undergraduates. The Duluth campus, with about 20 percent of the University's undergraduate students, mainly serves the northern Minnesota region and has a variety of baccalaureate and master's degree programs. The Morris

4 The most recent full-year equivalent enrollment data are for 1991-92. Full-year equivalents are calculated by dividing the normal full-time credit hour load per student into the total number of credit hours.

5 *Minn. Stat.* §135A.052, Subd. 1.

6 Appendix A shows the headcount per campus for all systems in Fall 1992. The 1992-93 academic year provided the most recent available information for our study of state grant recipients.

campus serves undergraduates exclusively and emphasizes the liberal arts and sciences. The Crookston campus recently became a baccalaureate institution.

State Universities

Five of the seven state universities were established to train teachers.

Minnesota has seven state universities, in Bemidji, Mankato, Marshall, Moorhead, St. Cloud, the Twin Cities, and Winona. As shown in Table 1.1, the system had similar full-year equivalent enrollment as the University of Minnesota but more undergraduates and fewer graduate students.

Historically, the state universities have focused their student recruiting efforts in particular geographic areas and have served as research and service centers for people and businesses in those regions. According to state law, this system:

> shall offer undergraduate and graduate instruction through the master's degree, including specialist certificates, in the liberal arts and sciences and professional education.[7]

Five of the seven institutions started between 1860 and 1919 as "normal schools" for the explicit purpose of training teachers. In 1917, normal schools started requiring students to have high school diplomas before enrollment, and several years later the Legislature changed their names to "state teacher colleges." After World War II, the Legislature expanded the colleges' mission beyond teacher education and changed their names to "state colleges." In 1963, the colleges began offering master's degrees in fields other than education. The Legislature changed their names to "state universities" in 1975.

The other two state universities (Southwest in Marshall and Metropolitan in the Twin Cities) started enrolling students in 1967 and 1972, respectively. Southwest now is the only state university without graduate programs. In 1990, the system started offering classes at an adjunct campus in Akita, Japan. Overall, undergraduate enrollment in the state university system grew about 30 percent between 1985 and 1992.

Community Colleges

Minnesota has 18 community colleges and three affiliated centers at locations throughout the state (shown in Table A.3). Although their headcount of enrollees exceeded 56,000 in Fall 1991, the community college system had about 34,000 full-year equivalent students. This is because many students attend community colleges on a part-time basis, as we discuss later in this chapter.

State law authorizes the community colleges to:

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7 *Minn. Stat.* §135A.052, Subd. 1.

> offer lower division instruction in academic programs, occupational programs in which all credits earned will be accepted for transfer to a baccalaureate degree in the same field of study, and remedial studies, for students transferring to baccalaureate institutions and for those seeking associate degrees.[8]

The community colleges originally were called "junior colleges." They were established by school boards beginning with Cloquet in 1914. Several other school districts started colleges soon after this, although the Legislature did not formally authorize districts to do so until 1925. The Legislature first authorized state funding for the colleges in 1957. In 1963, the Legislature created a governing board to oversee them and, by 1970, all of the state's present community colleges were in operation.[9]

All of the community college system's students are undergraduates. Students typically enroll in a two-year "associate degree" program in arts, science, or applied science. Their studies include general education courses in liberal arts and sciences, but they may focus on occupational disciplines such as accounting, law enforcement, nursing, and human services. In full-year equivalents, student enrollment at the community colleges has grown faster than any of Minnesota's other public systems--about 45 percent between 1985 and 1992.

Technical Colleges

Table 1.1 indicates that about 70,000 students were enrolled in Minnesota's technical colleges in Fall 1991, but many attended part time. In full-year equivalents, enrollment was about 39,000 during the 1991-92 academic year.

Community and technical colleges both offer occupational training.

The first technical institute opened in 1947, and the system now has 34 campuses at the locations indicated by Table A.4. Until 1984, when the Legislature created a state governing board for what were then called area vocational technical institutes or AVTIs, these institutions were administered by the Minnesota Department of Education through local school districts. They have also been called vocational technical institutes, but the Legislature named them technical colleges in 1990.

Today, the technical colleges are administered by school districts, intermediate school districts, and joint districts formed by local school districts. By law, they "offer vocational training and education to prepare students for skilled occupations that do not require a baccalaureate degree."[10] Like community colleges, the technical colleges offer training that is designed to yield employment in occupational fields, but the community colleges also offer occupational programs in fields that require baccalaureate or associate degrees, as well as general education.

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8 *Minn. Stat.* §135A.052, Subd. 1. "Lower division" instruction generally refers to coursework during the first two years of a four-year degree program.

9 Starting in July 1995, the law requires community colleges, state universities, and technical colleges to be governed by a single board, the Higher Education Board. See *Minn. Laws* (1991), Chap. 356, Art. 9.

10 *Minn. Stat.* §135A.052, Subd. 1.

Technical college students typically are enrolled in one of a wide variety of diploma programs, ranging in length from several months to about two years. These programs previously consisted solely of technical coursework, but now may include courses in writing, speaking, math, critical thinking, problem solving, and the like. Among many other areas of study, students may pursue carpentry, auto body repair, culinary arts, small business management, and graphics.

Enrollment in the technical college system has been relatively stable at about 39,000 full-year equivalents since 1985, but the composition of the student body has changed considerably. One reason is that the colleges have restructured programs to allow students to more easily attend school part time. Also, they have developed customized courses for currently employed workers who do not require extensive training.

Private Four-Year Colleges

State statutes assert that private college education saves tax money.

Higher education began in the United States largely because private charitable institutions took it upon themselves to build and maintain colleges. Often the colleges were created by immigrant or religious groups for the purpose of training teachers and clergy. Subsequently, government took primary responsibility in an effort to extend the opportunity for higher education to all citizens, but the Legislature has found that "the education of Minnesota residents in private colleges, rather than in state institutions of higher education, results in a savings of tax money."[11] Further, state law encourages the private colleges to facilitate the education of significant numbers of Minnesota residents.

In Fall 1991, as shown in Table 1.1, Minnesota's private four-year colleges served about 44,000 full-year equivalent students. They include some highly selective, nationally acclaimed institutions of higher education. (See Table A.5.) Students at these colleges come not only from Minnesota but from many other states and foreign countries.

The colleges (or, in some cases, universities) mainly serve undergraduate students, but they also included the full-time equivalent of about 5,000 graduate students during the 1991-92 academic year. Each operates independently, through its own governing board, and sets various policies regarding admissions, tuition, curriculum, and campus life. They are regulated separately by the Higher Education Coordinating Board and U.S. Department of Education. Compared with many of Minnesota's public institutions of higher education, the private four-year colleges have small campuses.

Most of the private four-year college students attend nonprofit liberal arts schools that belong to the Minnesota Private College Council, a voluntary organization. Members of this group include 16 independent postsecondary institutions that focus on general education. Between 1985 and 1991, full-year equivalent enrollment in the system as a whole increased from about 36,000 to 43,000, or 19 percent.

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11 Minn. Stat. §136A.18.

During the 1970s and early 1980s, the state paid incentive fees to private colleges for enrolling Minnesota residents, particularly state grant recipients.[12] In 1975, the payment was $120 to $150 per Minnesota resident and $400 to $500 per state grant recipient. As a result, the number of lower-income, Minnesota students in private colleges increased, and policy makers gained assurance that the schools were available to the general public. The incentive fees totaled about $5 million in fiscal year 1979, but the program was suspended during the state's fiscal crisis in the early 1980s. In 1983, the Legislature repealed this program.

Private Vocational Schools

As shown in Table A.6, private vocational schools vary widely in enrollment and curriculum. These schools usually specialize in one particular area of career training such as business, technology, cosmetology, or health care. They are typically operated independently, for profit, and sometimes are called "proprietary schools," "career schools," or "private two-year colleges." Several of the schools have fewer than 100 enrollees. The students may study to become secretaries, printers, computer technicians, beauticians, or medical assistants, among many other possibilities.

Private vocational schools vary widely in enrollment and curriculum.

The private vocational schools are subject to specific state regulations. Each must register with the Higher Education Coordinating Board, and most must also be licensed under *Minn. Stat.* §141, the Private Business, Trade, and Correspondence Schools Act. Some that offer associate degrees are further regulated by the Higher Education Coordinating Board. The cosmetology and barber schools are licensed by the Department of Commerce.

At a minimum, the schools must be in sound financial condition, provide satisfactory training facilities, employ sufficient numbers of qualified instructors, and operate under sanitary, safe conditions. The law further specifies the content of school brochures, advertising practices, and refund procedures.

Although some states have experienced significant problems with the private vocational system of higher education, Minnesota has not. Based on a study of the schools in 1989, the Higher Education Coordinating Board concluded that they "generally appear to provide responsive and responsible educational opportunities and a choice to Minnesotans."[13] Policy makers had been concerned about the Minnesota schools in light of national reports of high dropout rates and high default rates on student loans. The study found that student persistence, job placement, starting salaries, and default rates for students who attended private vocational schools were similar to those at state technical and community colleges.

Although the private vocational schools are not one of Minnesota's major systems of higher education, they play an important role by diversifying educational oppor-

12 The payments were made through the Private College Contract Program, which also applied to private vocational schools. See Minnesota Higher Education Coordinating Board, *Biennial Report to the Governor and Legislature* (St. Paul, 1977), 37-38.

13 Minnesota Higher Education Coordinating Board, *Overview of Private Career Institutions Participating in the Minnesota State Scholarship and Grant Program* (St. Paul, May 18, 1989), 3.

tunities in the state. The Higher Education Coordinating Board fully recognizes them and includes private vocational school representatives in planning and policy discussions. However, the schools do not provide enrollment data with the same consistency as Minnesota's other systems of higher education and, as a result, the board has not determined private vocational enrollment in full-year equivalents or tracked enrollment over time. It is important to note that the headcount of enrollees shown in Table 1.1 is undoubtedly low since several of these schools did not respond to the Higher Education Coordinating Board's request for information.

ENROLLMENT

Many factors influence students' choice of higher education systems and particular institutions within those systems. Students must decide which type of program and which institution meets their personal objectives while balancing practical considerations of prior achievement, cost, location, housing, transportation, and scheduling. Students also must weigh their commitment to the pursuit of higher education, balancing short-term sacrifices against long-term benefits.

The decision to pursue some type of higher education commonly occurs in childhood or adolescence and is heavily influenced by the family. However, Minnesota's higher education systems are available to students of all ages and backgrounds. As we show below, not all college students enroll immediately after high school graduation. Some enroll as adults because they have been forced out of jobs, want to improve their quality of life, or have reconsidered their earlier decision not to enroll.

Methods and Data Sources

We analyzed the characteristics of the population of Minnesota undergraduates in each system of higher education through the Higher Education Coordinating Board's student enrollment record data base for Fall 1992. Each year, the board asks the state's public and private postsecondary institutions to provide descriptive data on each enrollee at a given point in the fall. Although some institutions fail to respond, and some students drop out while others enroll later, this is Minnesota's only statewide source of information on students in postsecondary schools.[14]

We also asked each system of higher education to provide additional information about enrollees who might have been eligible to receive state grants. The systems varied in the amount and type of additional information they could provide. To describe students in private four-year colleges, the University of Minnesota system, and state university system, we reviewed the results of a survey of 5,347 families

14 We limited this analysis to a few elements of aggregate data describing students who were likely to meet general eligibility criteria for a state grant, that is, undergraduates who were not extension or secondary students, and who had a Minnesota address when admitted. However, extension students in degree programs may be eligible. Enrollment in Fall 1992 corresponded to the most recent available data on state grant recipients.

of freshmen, sophomores, and juniors at 26 campuses in Fall 1991.[15] Concerning community college students, House Research staff interviewed a sample of 500 students three years after they had enrolled as freshmen in Fall 1988.[16] Technical college students are in the first year of a three-year survey, and we analyzed preliminary results for a sample of 2,450 students and 1,250 parents of students who were enrolled in Winter 1993.[17] Finally, we examined the report of a survey of 4,448 private vocational students attending 24 schools in January and February 1990.[18]

To identify the factors that are most important in the decision to attend any system of higher education, we reviewed scholarly research studies. We also analyzed trends in survey data from high school juniors and seniors who participated in the Higher Education Coordinating Board's postsecondary planning program and the State Board of Technical College's career planning and followup surveys. Finally, we studied national research on the effect of student financial aid on access to higher education.

Enrollment Decisions

Since the 1970s, high school students' postsecondary aspirations have risen. (See Figure 1.1.) In a survey completed by 63 percent of all Minnesota juniors in 1988, 43 percent said they expected to earn a four-year degree, while another 21 percent expected a master's or professional degree.[19] In 1975, 70 percent of all juniors completed the survey. Only 27 percent then anticipated a four-year degree, while 11 percent aspired to a master's degree or more.

Surveys of Minnesota high school seniors before and one year after graduation suggest that most secondary students followed through on their educational plans.[20] General factors affecting the increase in participation of Minnesotans in higher education include the rise of technology, the changing job market, changing

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15 Minnesota Private College Research Foundation, *Ways and Means: How Minnesota Families Pay for College* (St. Paul, November 1992), also known as the Lilly Study, for its sponsor, the Lilly Endowment, Inc.

16 Kerry Kinney Fine and Mary Jane Lehnertz, *Retention of Minnesota College Students, Working Paper 5: What About the Community Colleges?* (Minnesota House of Representatives Research Department, November 1991).

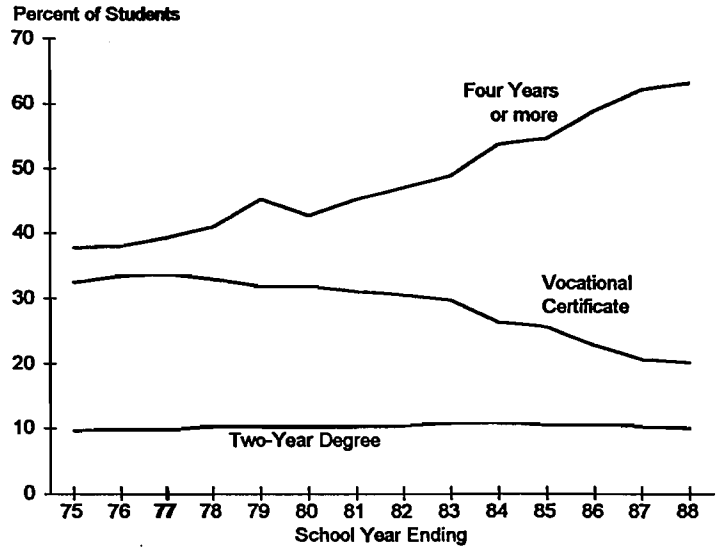
17 Human Capital Research Foundation, *Selected Charts Concerning Minnesota's Technical College Student Population and State Financial Aid Policy, Technical College Economic Baseline Study* (Chicago, November 12, 1993) and supplemental data faxed to the Office of the Legislative Auditor, December 20, 1993.

18 Richard W. Moore and Edward J. Smith, *Gauging Quality: Student Perspectives on Minnesota Private Career Schools* (Santa Monica: Training Research Corporation, August 10, 1990).

19 The survey was discontinued in 1989 and restarted in 1990, but only about 40 percent of the juniors responded at that time. Subsequently, the question about educational expectations was fundamentally changed. As a result, the 1988 data are the most recent, best available information. See Minnesota Higher Education Coordinating Board, *Summary of Responses to the Plans and Background Survey and Aptitude Test Score Trends for Minnesota High School Juniors, 1971-84* (St. Paul, April 18, 1985) and *1979-88* (St. Paul, September 1988).

20 Minnesota State Board of Technical Colleges, *Follow-up: All Students, 1975-91 Trends* (St. Paul, undated) and *Follow-up: Career Plans, 1980-91 Trends* (St. Paul, undated)

Figure 1.1: Minnesota High School Juniors' Expected Level of Postsecondary Education, 1975-88



Source: Higher Education Coordinating Board.

social values, and economic necessity. Likewise, many factors influence individual decisions to pursue higher education.[21]

Many factors affect the decision to pursue higher education.

Overall, family background or socioeconomic status is a critical factor in explaining why particular students aspire to, enroll in, and complete programs of higher education. Variables such as fathers' education and occupation, mothers' education, and family income all have been found to have significant, positive effects on children's choices. At the same time, the family's social status and standard of living affect children's level of expectations and aspirations.

Although family income is an important aspect of socioeconomic status, it alone does not necessarily predict whether a child will pursue higher education. Income is highly correlated with other aspects of family background, as well as students' record of school achievement. However, students from lower-income families are more likely to drop out of high school and, if they do enroll in college, are less likely to finish a degree.[22]

Among other important variables in postsecondary enrollment and completion are students' level of ability, the advice of others, faculty and peer interactions, extracurricular activities, academic performance, race, gender, and parental

21 See James C. Hearn, Hideki Sano, and Susan Urahn's summary of research literature in *Targeted Subsidization of Postsecondary Education Enrollment in Minnesota* (Minneapolis: Center for Urban and Regional Affairs, 1985).

22 Thomas G. Mortenson and Zhijun Wu, *High School Graduation and College Participation of Young Adults by Family Income Background 1970 to 1989* (Iowa City: American College Testing, September 1990).

expectations.[23] In addition, institutional characteristics such as social climate, selectivity, accessibility, and price play a role.

Since so many inter-related variables are involved, it is difficult to determine the extent to which financial aid might help to overcome socioeconomic and other barriers to higher education. Compounding the problem is that few high school students or parents are aware of federal aid programs, and they tend to overestimate the cost of tuition.[24] For example, in one national survey of high school students, about half erroneously said they would be ineligible for aid to attend an expensive private school if their parents could afford a state school. About a third mistakenly said that financial aid is set aside solely for minority students, and almost one-fourth reported that students with average grades would not qualify.

In Minnesota, a statewide survey of 2,448 parents of eighth-graders in 1988 showed that 84 percent were at least somewhat concerned about the cost of higher education, but no more than 27 percent (depending on the system of higher education) had accurately estimated the actual cost.[25] Parents with the lowest income and least education were the most concerned and least knowledgeable. The lowest-income parents also were least likely to discuss high school courses or postsecondary education with their children. However, two-thirds or more of parents at every level of income said they expected their children to continue education after high school. Overall, less than half had heard of the federal government's major grant program (Pell, 45 percent) or the state grant program (36 percent).

Financial aid helps to encourage higher education.

Using complex statistical models to control for family background and other factors, recent national studies nevertheless suggest that financial aid programs play a positive, independent role in encouraging students to enroll in and continue attending college.[26] The research shows that financial aid generally increases the probability that applicants will attend. Further, recent studies show that various forms of financial aid, including loans, are positively associated with students' decision to attend. However, the data have been less consistent about minority and low-income students' response to loans compared with grants. The evidence suggests that not all forms of aid are equally effective in promoting access to higher education for historically disadvantaged students.

National studies also indicate that financial aid helps to offset variations in college costs that might otherwise affect enrollment decisions. For example, Hearn found that socioeconomically disadvantaged students were about as likely to attend higher-cost institutions as more advantaged students with similar talents and

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23 Lee Wilcox, "Evaluating the Impact of Financial Aid on Student Recruitment and Retention," *New Directions for Institutional Research,* 70 (Summer 1991): 47-60.

24 Numerous national studies are summarized in U.S. General Accounting Office, *Higher Education: Gaps in Parents' and Students' Knowledge of School Costs and Federal Aid* (Washington, DC, July 1990).

25 Minnesota Higher Education Coordinating Board, *Report on Survey of Parents of Eighth Graders* (St. Paul, August 8, 1988).

26 See Edward P. St. John, "The Impact of Student Financial Aid: A Review of Recent Research," *Journal of Student Financial Aid,* 21 (Winter 1991): 18-32.

accomplishments.[27] However, socioeconomic status affected students' high school preparation, test scores, and grades.

Student Characteristics

Students have become older and more likely to attend part time.

Over time, students in Minnesota's systems of higher education have become older and more likely to attend part time.[28] Also, as Minnesota's population has become more diverse, the percentage of nonwhite students has increased in each of Minnesota's systems of higher education.[29] Over the period 1979 to 1991, the proportion of nonwhite students rose from 2 to 4 percent in the state universities, from 2 to 6 percent in community colleges, and from 3 to 6 percent in private four-year colleges. In the University of Minnesota and technical college systems, the nonwhite proportion increased from 5 to 8 or 9 percent. Data are not available for private vocational schools over this period.

As shown in Table 1.2, undergraduate students differ considerably across the six systems of higher education. In Fall 1992, those at the community and technical colleges were more likely than those in other systems to be 24 or older and to attend part time. Those at private four-year colleges were most likely to be younger and to attend full time. Most of the undergraduates at the University of Minnesota and state university systems also were in the younger two age groups (23 or under), but they were not so likely to attend full time as those at private four-year colleges. A large majority (85 percent) of private vocational students likewise attended full time, but they were older as a group. The private vocational system included a higher percentage of nonwhite Minnesota students than any of the other five systems, although several institutions did not supply enrollment data.

Four-Year Baccalaureate Students

Minnesota's three baccalaureate degree-granting systems of higher education collaborated on a survey of undergraduates who attended the University of Minnesota, state universities, and private four-year colleges in Fall 1991. The results are generally referred to as the Lilly Study since the project was made possible by a grant from the Lilly Endowment, Inc. The principal researcher was associated with the Minnesota Private College Research Foundation, but the project team included representatives of the University of Minnesota and state universities.[30] The purpose of the study was primarily to describe the families of Minnesota undergraduate students and explain how they pay for higher education.

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27 James C. Hearn, "Attendance at Higher-Cost Colleges: Ascribed, Socioeconomic, and Academic Influences on Student Enrollment Patterns," *Economics of Education Review*, Vol. 7, No. 1 (1988): 65-76. Also see Wilcox, "Evaluating the Impact of Financial Aid" (1991).

28 Biennial reports of the Higher Education Coordinating Board to the Governor and Legislature document these trends.

29 The 1990 Census shows that 6 percent of Minnesotans were nonwhite, compared with 4 percent in 1980.

30 See Private College Research Foundation, *Ways and Means*, November 1992. Our summary of results is limited and refers only to students who were dependent on their parents.

Table 1.2: Characteristics of Minnesota Undergraduates by System, Fall 1992

	University of Minnesota	State University	Community College	Technical College	Private 4-Year	Private Vocational	All
SEX							
Male	51%	45%	39%	50%	39%	38%	44%
Female	49	55	61	49	61	62	55
AGE							
19 and Under	23	18	20	14	28	17	20
20-23	52	48	28	22	48	36	37
24 and Older	25	32	51	52	23	45	40
ETHNICITY							
White	87	88	90	88	90	77	88
Non-white	9	4	6	8	6	12	7
ENROLLMENT STATUS							
Full-time (at least 75%)	69	78	44	52	85	85	63
Part-time (less than 75%)	31	22	56	49	15	16	37
Headcount of Minnesota Undergraduates	28,709	42,714	50,714	42,681	24,507	8,426	197,751

Note: Data represent a headcount of students who were enrolled at some point during the fall term and whose schools responded. Some figures do not total due to rounding and/or missing data. Figures exclude extension, graduate, and secondary students and those who did not have a Minnesota address when admitted.

Source: Higher Education Coordinating Board (September 1993).

Among other things, the Lilly Study showed that families with students in the University of Minnesota system tended to have higher adjusted gross income than those whose children attended private four-year colleges or state universities. Two-thirds of the University of Minnesota families had incomes of $35,000 or more, compared with 61 percent of private four-year college parents and 56 percent of state university parents. Although the families of state university students were the least affluent of the group, the families of students in each of these baccalaureate systems of higher education tended to have higher income than Minnesota families in general. According to the 1990 Census, the median income for all Minnesota families was $36,916.

Overall, 56 percent of the parents said that they did not save or invest for their child's college education. However, the probability of saving or investing increased with income. Among families whose income was below $10,000, no more than 24 percent had saved (depending on the system). Of those with adjusted gross income of $129,000 or more, at least 58 percent of the families saved or invested in advance.

Most (65 percent) of the students' families said they had submitted a Family Financial Statement for the students, which would be necessary to apply for financial aid from the state and federal government. At least 86 percent of those at the low-

est level of income said they submitted the statement, as did 15 percent or more of the families at the highest level of income ($129,000 or more).[31]

However, it is somewhat surprising that not all of the families with income of less than $10,000 said they filed the statement. The data suggest that the type of schools attended may affect participation in financial aid programs, since the percentage who said they filed the statement was 95 percent at the more expensive private four-year colleges, which strongly encourage students to apply, compared with 91 percent at the state universities and 86 percent at the University of Minnesota. Also, some error is associated with survey research questions and answers. In this case, the principal researcher told us that the question about the Family Financial Statement could have been worded more clearly, and some respondents may not have understood that it referred to financial aid.[32]

In the survey, parents reported how much their children's education cost and what sources of funding were used to pay expenses. As family income increased, the results showed that education expenses increased by 5 to 17 percent, partly because the wealthier families gave their children more generous allowances for living and miscellaneous expenses. At the highest level of income ($129,000 or more), parent employment funded at least 70 percent of the children's expenses. Less than five percent of the cost was met by student loans, and grants to these students were equally rare.

Grants were the single largest source of funding for students from low-income families.

In contrast, families with incomes below $10,000 reported that their employment paid for about 12 percent of their children's educational expenses. The single largest source of funding for these students was grants of various kinds. The grants or scholarships covered 29 to 37 percent of the costs, and student loans 21 to 23 percent.

Regardless of family income levels, parental loans helped with no more than 8 percent of the students' expenses, and student savings covered 5 to 12 percent. The parents indicated that relatives paid for as much as 5 percent of their children's costs, especially at the lowest level of family income. Student employment covered 11 to 22 percent, depending on the system and income level. Other sources paid for the remaining 1 to 3 percent of expenses.

Overall, the Lilly Study raised concerns because it indicated that the lowest income Minnesota families contributed the highest percentage of their income to their children's education. Also, compared with other students, the children of the lowest income families financed a greater percentage of their expenses through student loans.

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31 It is important to note that the information from the Family Financial Statement often is required for loans and other forms of assistance that are awarded regardless of need. Also, some colleges encourage filing the statement simply to ensure that students have exhausted all possibility of government aid before using institutional funds that may be available.

32 The question was: "For the 1991-92 academic year, was a Family Financial Statement (FFS) submitted for the student?"

Community College Students

Researchers from the House of Representatives interviewed 500 community college students by telephone three years after they initially enrolled.[33] Thirty-five percent said they had not enrolled in a degree program but rather for particular courses. Most (70 percent) of the nondegree students indicated that they had previous postsecondary education experience, including some with bachelor's degrees. Women were more likely than men to say that they had taken community college courses for recreation or as a hobby, but men and women alike most often gave employment-related reasons for their enrollment in specific courses.

During the interviews, the researchers recognized several different types of nondegree students at the community colleges. The first type included people who were interested in a specific area such as English literature or World War II or had enrolled specifically to maintain job licensure or certification. The second type included students who took classes to upgrade job skills, for example, in management. The third type of student took self-help courses such as public speaking or income tax preparation. Another group consisted of new entering freshmen who were not sure what they wanted to do in life. Finally, some of the students took community college courses as prerequisites for advanced courses or admission to another college, usually to save money.

About two-thirds of community college students enrolled in degree programs.

About two-thirds of the students sought a community college degree. Three years later, the study showed that 25 percent of these students had graduated and transferred to a four-year school, 13 percent had graduated but not transferred, and 30 percent were continuing as community college students. The remaining third of the students had dropped out at the time of their interview.

Those who dropped out reported working longer hours than the other community college students. Some explained that they had dropped out for financial reasons, such as the cost of college, lack of aid, or desire to spend their money in other ways. Personal reasons such as illness and dissatisfaction with the college also were mentioned. But the most common reasons for dropping out were academic or motivational.

Technical College Students

The technical college system recently began a three-year research project that includes a major survey of students who were enrolled in Winter 1993, as well as many of their families. The project is being conducted by the same researcher who was principally responsible for the Lilly Study, but he now heads a consulting firm in Chicago. While the current project has improved upon the Lilly Study by using technical college records as a supplement to survey data concerning financial aid, most of it is about the students' educational experience.[34]

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33 Kerry Kinney Fine and Mary Jane Lehnertz, *Working Paper 5,* 1991.

34 Human Capital Research Corporation, *Selected Charts* (November 12, 1993) and supplemental faxed data December 20, 1993. Our references to these data are limited to results concerning students who were dependent on their parents.

Among the full-time dependent students whose parents' income was under $15,000, 78 percent said they had submitted a Family Financial Statement or formally applied for financial aid. In general, the likelihood of recalling an application declined as income rose. Thus, 44 percent of the full-time students whose parents' income was $45,000 or higher said they applied. In addition, students who enrolled for fewer credits were less likely to recall completing a financial aid application.[35]

Compared with baccalaureate students who were described by the Lilly Study, the data indicate that the families of technical college students are less affluent. Two-thirds of the students came from families whose adjusted gross income was reported to be $40,000 or less in 1992. Using 1991 adjusted gross income figures, this was true of only one-third of dependent students at the University of Minnesota, 39 percent at private four-year colleges, and 43 percent at state universities.

Most families of technical college and baccalaureate students said they had not saved for higher education.

Overall, 71 percent of the technical college students' families said they had not saved money in advance for their children's education. By comparison, 56 percent of the baccalaureate students' families said they had not saved or invested for this purpose. However, this difference between studies is not surprising since both show that the likelihood of saving increases with income.

Results indicate that the state and federal Pell grant programs were a major source of support for technical college students whose families had the lowest income (under $10,000). Together, the two programs provided these students with an average of $1,760. This represented 47 percent of the students' known funding, which increased at higher levels of income as in the Lilly Study. Families at the lowest level of income indicated that they contributed an average of $427, which was 11 percent of the funding that was identified. Loans to the lowest-income students provided $1,105 (30 percent of known funding), on the average. As in the Lilly Study, parents at the highest income level provided most of their children's funding (61 percent), while grants and student loans were minor forms of assistance. However, the study documented only five sources of funding, so it was impossible to completely determine how the students' bills were paid. It included the amount of state grants, Pell grants, student debt, parent debt, and parents' contribution from income and savings. Other sources of funding could include student employment, student savings, contributions from relatives, other grants, scholarships, and more.

Significant additional support for technical college students could come from grants such as the federal Job Training Partnership Act (JTPA), which is targeted to very low-income students, and Minnesota's rehabilitation services grants, American Indian Scholarship program, and non-AFDC child care grants, among other possibilities. Also, the study showed that about five percent of the dependent technical college students were supported by their employers, although the extent of their support was not determined.

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35 However, in 22 percent of the cases studied, students' and parents' recollections did not match the technical colleges' records. There was no evidence of an application for some students who said that they had applied. On the other hand, the colleges had processed financial aid applications from some who failed to mention that they had applied.

Private Vocational Students

The 1987 Legislature established a task force to oversee pilot studies designed to assess the quality of postsecondary education.[36] One such study focused on private vocational students.[37] The students were asked to provide information about their background and objectives and evaluate their schools.

Overall, 76 percent of the private vocational students said they were employed, and they worked for an average of 29 hours a week. Seventy-six percent also reported family incomes below $35,000 annually. Forty percent said they were dissatisfied with their current job and sought additional training. One-fourth of the students said that they just graduated from high school and needed training for their first job. Others wanted to advance in their current job, were unemployed, changing careers, or returning to work. Just over half had previously been enrolled in another system of higher education, most often a four-year institution.

The survey distinguished among students in three types of private vocational schools: business, technical, and cosmetology. Those in cosmetology schools were most likely to be young women with a high school degree or less. The business school students tended to be older women, often with at least some college education (43 percent). Most of the technical school students were men, about 44 percent with some college experience.

Most of the private vocational students indicated that they were satisfied with their choice of school. Eighty-nine percent said they would recommend it to a friend. Large majorities likewise indicated that they were satisfied with the quality of teaching, instructional materials, and pace of coursework.

STUDENT FINANCIAL AID

Besides federal and state grants, many other forms of financial aid are available to Minnesota students. Both levels of government have developed loan programs and work-study opportunities. Also, students may receive grants, loans, and jobs directly from the school they attend, as well as private entities. In addition, they may receive assistance from friends and relatives, in the form of cash, room and board, or gifts. Figure 1.2 lists and briefly describes the major sources of financial aid for Minnesota undergraduates at this time.

Financial aid comes in many forms, from many sources.

Because financial aid comes from so many sources and in limited amounts, it may be hard for students and their parents to see how they will pay for higher education. Another reason for confusion is that the names of some of the major financial aid programs have changed over the years, and the amount and type of aid may vary annually. Also, students make life choices such as marriage, divorce, and parenthood, that may have a profound effect on their eligibility for

36 *Minn. Laws* (1987), Chap. 401, Sec. 33.

37 Richard W. Moore and Edward J. Smith, *Student Perspectives on Minnesota Private Career Schools,* 1990.

Figure 1.2: Major Sources of Undergraduate Financial Aid, 1993-94 Academic Year

GRANTS

FEDERAL

Pell: A maximum of $2,300 annually for undergraduates with demonstrated financial need.

Supplemental Educational Opportunity Grants (SEOG): Up to $4,000 annually for undergraduates with exceptional, demonstrated financial need, with priority given to Pell Grant recipients.

STATE

State Grant (*Minn. Stat.* §136A.121): A maximum of $5,889 annually including Pell grant (if any) for Minnesota undergraduates with demonstrated financial need, who attend eligible postsecondary institutions in Minnesota.

Non-AFDC Child Care (*Minn. Stat.* §136A.125): For undergraduate Minnesota residents with dependent children 12 or under, who are within sliding fee scale income guidelines but not receiving Aid to Families with Dependent Children, to cover a limited amount of child care.

OTHER

Institutional Scholarships and Grants: Awarded by post secondary institutions from their own funds or money received from foundations, alumni, corporations, private organizations, or individuals, under variable terms and conditions.

Private Scholarships and Grants: Awarded by donors independent of the institution, such as civic groups, churches, and businesses, under variable terms and conditions.

LOANS

FEDERAL

Stafford: Loans of up to $5,500 annually for undergraduate students with demonstrated financial need, with deferred interest payments no higher than 9 percent.

Unsubsidized Stafford: Low-interest loans for students without demonstrated financial need, similar to Stafford but interest payments are not deferred.

Parent Loan for Undergraduate Students (PLUS): Loans for parents with good credit histories, without demonstrated financial need, to help finance dependent children's education, with interest rates no higher than 10 percent.

Supplemental Loan for Students (SLS): Loans of up to $5,000 annually for undergraduates who are independent, with or without demonstrated financial need, similar to Parent Loan for Undergraduate Students, but interest rates no higher than 11 percent.

Perkins: Loans of up to $3,000 annually for undergraduates with exceptional financial need, with priority given to Pell Grant recipients and interest rates of 5 percent.

STATE

Student Educational Loan Fund (SELF) (*Minn. Stat.* §136A.1701): Variable-interest loans of up to $4,000 annually for undergraduates at eligible Minnesota postsecondary institutions, without demonstrated financial need, who are ineligible for subsidized federal loans, need to borrow more than other loan programs allow, or who have limited access to other sources of financial aid, with a credit-worthy co-signer.

INSTITUTIONAL

Loans from postsecondary institutional funds with interest rates and other terms set by the institution.

PRIVATE

Loans from private sources, with variable terms and conditions.

WORK

FEDERAL WORK-STUDY

Job awards of about 15 hours a week at or above the federal minimum wage, on campus, at a private non-profit organization in the public interest, or for a public agency, for students with demonstrated financial need.

MINNESOTA WORK-STUDY (*Minn. Stat.* §136A.233)

Similar to federal work-study, for Minnesota students.

INSTITUTIONAL

Employment provided by postsecondary institutions to students, under variable terms and conditions.

Sources: U.S. Department of Education, Higher Education Coordinating Board, and Minnesota Association of Financial Aid Administrators.

financial aid from one year to the next. Finally, it is important to note that some programs are mutually exclusive, but others exist to be complementary.

Most financial aid comes from the federal government. Typically, it restricts eligibility to students who:

- have demonstrated "financial need," which is the difference between the cost to attend a particular school and a formula amount that parents and students are expected to pay;
- have a high school diploma or the equivalent;
- are enrolled in an eligible postsecondary institution where they are seeking a degree or certificate;
- are making satisfactory academic progress toward the degree or certificate; and
- are a U.S. citizen or the equivalent.

To receive government aid, Minnesota students must complete a lengthy, confidential financial statement every year. About a month later, they receive a report that says the statement was processed and data sent to designated schools or the Higher Education Coordinating Board. The school ultimately sends the student an "award letter" that states specifically how much to expect from various sources under various credit loads. Taken together, the various forms of aid are called a "package."

National figures show that federal grants and loans went to students in about the same proportions between the 1983-84 and 1992-93 academic years. Sixty to 64 percent of federal expenditures were for loans, and 33 to 35 percent for grants.[38] However, such reliance on loans represents a reversal of past practice. During the 1975-76 academic year, loans accounted for only 21 percent of the federal government's aid, while 76 percent came from grants.

The federal government provides most of the financial aid to Minnesota students.

Between 1987 and 1991, federal policy continued to change, so that federal loans made up a slightly smaller share of Minnesota applicants' financial aid packages. As shown in Table 1.3, the federal government remained the most important source of financial assistance for Minnesota students over the period, but federal loans accounted for a smaller percentage of all packages in 1991 (34 percent) compared with 1987 (39 percent). As a result, the federal government's total share dropped from 62 to 57 percent. The state's total share remained the same (19 percent), but state loans grew slightly more important compared with grants. Institutions meantime helped to fill the gap by providing more grants and work opportunities.

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38 See Donald A. Gillespie and Nancy Carlson, *Trends in Student Aid: 1963 to 1983* (New York: The College Board, 1983) and *1983 to 1993* (September 1993). The remaining 3 to 5 percent of federal aid came from work-study.

Table 1.3: Types of Financial Aid for Minnesota Students by Source, 1987 and 1991

	FY 1987		FY 1991	
	Dollars	Percent	Dollars	Percent
FEDERAL				
Grants	$91,692,544	20%	$125,137,023	20%
Loans	179,196,756	39	219,683,961	34
Work-Study	15,349,283	3	18,060,759	3
Subtotal	284,392,573	62	362,881,743	57
STATE				
Grants	74,032,479	16	85,585,477	13
Loans	10,552,728	2	33,823,235	5
Work-Study	6,032,998	1	7,091,986	1
Subtotal	90,618,205	19	126,500,698	19
INSTITUTIONAL				
Grants	48,269,810	10	75,964,323	12
Loans	1,204,300	<1	1,511,958	<1
Work	25,302,118	5	55,692,035	9
Subtotal	74,776,228	16	133,168,316	21
PRIVATE/OTHER				
Grants	12,864,569	3	14,487,607	2
Loans	402,905	<1	995,223	<1
Subtotal	15,113,484	3	15,482,830	2
TOTAL	$464,900,490	100%	$638,033,587	100%

Note: Tuition waivers are counted as institutional grants. Some figures do not total due to rounding.

Source: Higher Education Coordinating Board (January 1993).

Most of the state's resources have gone into grant programs, which typically require students to demonstrate financial need. However,

- **Being "financially needy" is not the same as coming from a family whose income is low by comparison with others.**

The term "financial need" reflects whatever difference there may be in the recognized cost to attend a given school and the amount that government expects families to pay. Thus, the same student could qualify as financially needy by choosing an expensive private school but not an inexpensive public one. We discuss the implications of this distinction at length in Chapter 3.

As shown in Table 1.4, Minnesota's state grant program accounts for most (83 percent) of its grant expenditures, but several smaller grant programs also encourage higher education for students with particular needs and educational interests.[39]

39 Table 1.4 provides the most recent available data on all of the state's grant expenditures (1991). Since 1991, some minor programs have been created.

Table 1.4: Expenditures for Minnesota Higher Education Grant Programs, FY 1991

	Total Dollars	Percent of Dollars	Number of Students
State grant program	$71,274,966	83%	59,077
State and local agencies	10,061,895	12	N/A
Non-AFDC child care	1,950,006	2	1,166
Part-time[a]	1,941,940	2	5,740
Dislocated rural workers	227,067	<1	367
Rural nursing	111,562	<1	268
State safety officer survivors	18,041	<1	9
	$85,585,477	100%	

Source: Higher Education Coordinating Board (January 1993).

[a]Subsequently merged into the state grant program.

Also, state and local agencies provide assorted other grants, mainly of three types: the Job Training Partnership Act (JTPA), rehabilitation services grants, and the American Indian Scholarship program. In 1991, the latter two programs provided $4.5 and $1.6 million respectively. The rehabilitation services grants helped with tuition, fees, books, specialized support services, and other expenses for persons with disabilities. The American Indian Scholarship program is specifically for low-income Minnesota residents of one-fourth or more Native American ancestry. The JTPA grants come from the federal government through the Department of Jobs and Training and may go to low-income working-age or elderly adults, veterans, dislocated workers, disabled students, and others.[40]

Other states also have multiple grant programs of various types. This makes it difficult to explain specific differences from state to state but, when compared with others, data show that:

- **Minnesota's need-based grant programs have served more students and provided a higher level of assistance than most other states.**

As shown in Table 1.5, nearly half of all full-time undergraduates in Minnesota received a need-based state grant of some kind during the 1992-93 academic year.[41] The national average was 21 percent, and only Vermont and New York ranked higher. Half the states provided need-based grants to 12 percent or less of their full-time undergraduates. However, it should be noted that some states provided significant, additional grant money based on factors other than financial need, most notably academic achievement.

40 Staff at the Higher Education Coordinating Board told us that JTPA provides substantial funding, but total expenditures are unknown.

41 See Pennsylvania Higher Education Assistance Agency, *National Association of State Scholarship and Grant Programs 24th Annual Survey Report, 1992-93 Academic Year* (Harrisburg, March 1993). For purposes of the survey, Minnesota's need-based grant programs included the state grant program, part-time, rural nursing, dislocated rural workers, and non-AFDC child care programs.

Table 1.5: States Ranked by Percentage of Full-Time Undergraduates Receiving Need-Based State Grants, 1992-93 Academic Year

Rank			Rank		
1.	Vermont	56.2%	26.	North Dakota	12.3
2.	New York	52.6	27.	California	11.4
3.	**Minnesota**	**48.7**	28.	Nebraska	11.3
4.	New Jersey	46.0	29.	West Virginia	9.6
5.	Pennsylvania	36.5	30.	South Dakota	6.9
6.	Illinois	36.4	31.	Georgia	6.8
7	Indiana	33.5	32.	Delaware	6.2
8.	Ohio	32.0	33.	South Carolina	6.2
9.	Rhode Island	30.0	34.	Missouri	5.7
10.	Wisconsin	29.5	35.	Kansas	5.4
11.	Kentucky	28.0	36.	Idaho	5.1
12.	Maine	26.0	37.	Virginia	4.9
13.	Connecticut	24.9	38.	Texas	4.7
14.	Michigan	23.3	39.	New Hampshire	4.6
	U.S.	20.7	40.	Louisiana	4.1
15.	New Mexico	20.6	41.	Alabama	3.9
16.	Arkansas	19.8	42.	Wyoming	3.5
17.	Massachusetts	19.6	43.	Alaska	3.2
18	Maryland	19.6	44.	Arizona	3.2
19.	Iowa	19.3	45.	Nevada	3.2
20.	Oregon	18.6	46.	District of Columbia	3.1
21.	Oklahoma	18.4	47.	Utah	2.9
22.	Colorado	16.4	48.	Hawaii	2.5
23.	Washington	14.7	49.	Montana	2.5
24.	Florida	14.2	50.	Mississippi	2.3
25.	Tennessee	14.2	51.	North Carolina	1.5

Source: Pennsylvania Higher Education Assistance Agency (March 1993).

Minnesota spends more on its need-based grant programs than most other states.

Overall, Minnesota spent more money (about $83 million) on its need-based grant programs than all but five states during the 1992-93 academic year. All of the higher-ranked states are far more populous: New York, Illinois, Pennsylvania, California, and New Jersey. Thus, Table 1.6 shows that Minnesota's expenditures for need-based grant programs were more than twice the national average per resident. Similarly, Minnesota spent far more than the U.S. average per college-age resident and per full-time undergraduate.

Table 1.6: Need-Based State Grants to Undergraduates in Minnesota and Nationwide, 1992-93 Academic Year

	Average Amount	
	Minnesota	U.S.
Per Resident	$ 19	$ 8
Per College-Age Resident	192	73
Per Full-Time Undergraduate	590	277

Source: Pennsylvania Higher Education Assistance Agency (March 1993).

One reason why Minnesota ranks high in its expenditures for need-based grants may be that the state's major program, the state grant program, provided as much as $5,848 to some students during the 1992-93 academic year. As shown by Table 1.7, only 29 of the nation's 188 state grant programs had maximum grants of at least $5,000 per recipient. Most of those were for graduate education in health professions. The majority (55 percent) of need-based programs provided maximum grants of less than $2,500.

Table 1.7: Maximum Annual State Grant Awards Nationwide, 1992-93 Academic Year

	Number of Programs	Percent
Less than $500	9	5%
$500 to $999	17	9
$1,000 to $1,499	30	16
$1,500 to $1,999	23	12
$2,000 to $2,499	25	13
$2,500 to $2,999	21	11
$3,000 to $3,999	19	10
$4,000 to $4,999	15	8
$5,000 to $5,999[a]	10	5
$6,000 to $6,999	4	2
$7,000 to $7,999	3	2
$8,000 to $8,999	1	1
$9,000 to $9,999	0	0
$10,000 or More[b]	11	6
All State Programs	188	100%

Source: Pennsylvania Higher Education Assistance Agency (March 1993).

[a]Minnesota's maximum was $5,848.

[b]The largest maximum awards were for graduate students in other states.

SUMMARY

Minnesotans are greatly involved in and highly supportive of higher education. The state has six systems of higher education with campuses throughout the state: the University of Minnesota, state universities, community colleges, technical colleges, private four-year colleges, and private vocational schools. In recent years, the Legislature has appropriated nearly $900 million annually to support its public systems of higher education and, in addition, over $80 million annually for grants to public and private students.

Each system has a separate identity and distinctive student body. Students at the community and technical colleges tend to be older and attend part time. Students at the four-year baccalaureate institutions tend to be younger and attend full time.

The private vocational students typically attend full time, are older, and are more often nonwhite.

The decision to pursue higher education is complex, but the most important predictor is family background. The family provides income and social status and shapes students' expectations for the future. Generally, students from families with higher socioeconomic status do better in elementary and secondary school, and they are more likely to complete a program of higher education. However, studies show that financial aid of any kind tends to be a positive, independent influence on enrollment.

Students and their parents are often confused about the availability and applicability of financial aid programs because: (1) there are many different programs, each with its own criteria and limits, (2) the programs change from year to year, and (3) financial aid varies with students' choice of school, level of enrollment, and life status (e.g., single versus married). In general, Minnesota's need-based state grant programs serve more students, more generously, than in most other states. However, as we show in Chapter 2, tuition is somewhat higher in Minnesota compared with other states, and financial need varies with the cost to attend particular schools, as we discuss in Chapter 3.

Tuition

CHAPTER 2

Policy makers across the nation have become increasingly concerned about the affordability of a college education. Since the early 1980s, tuition has grown faster than general inflation and even faster than inflation in the health care sector of the economy. This chapter examines the growth of undergraduate tuition rates in Minnesota and the factors that have caused Minnesota colleges and universities to increase tuition rates. We also compared current tuition rates and past increases in Minnesota with national data and trends. In particular, this chapter addresses the following questions:

- **How fast has tuition for Minnesota higher education systems grown since the early 1970s? How do the rates of increase for the various systems compare with the inflation rate and the rate of growth in Minnesota's per capita income?**

- **How do tuition rates for Minnesota institutions compare with national averages? Have Minnesota institutions experienced rates of increase similar to national trends?**

- **What are the main factors that have contributed to tuition increases in Minnesota, and how does their relative impact vary by higher education system?**

- **To what extent does expenditure growth explain tuition growth in Minnesota? What types of expenditures have contributed the most to tuition increases?**

Six higher education systems--four public and two private--are examined in this chapter. They are the: 1) University of Minnesota, 2) state universities, 3) community colleges, 4) technical colleges, 5) four-year private colleges, and 6) private vocational schools. We were able to calculate tuition increases for private vocational schools, but the lack of adequate data prevented us from comparing their tuition rates with national averages or identifying the sources of their tuition growth.

Overall, we found that, unlike the 1970s, Minnesota tuition increases since 1981 have significantly exceeded inflation. Rates of increase for Minnesota colleges and universities have generally followed national trends. In addition, the underlying reasons for tuition increases in Minnesota are similar to those for colleges and universities across the nation. Increased reliance on tuition (or decreased reliance

on state appropriations) to fund instructional spending is the primary source of tuition growth for Minnesota's public colleges and universities. Spending increases in excess of inflation are the largest source of tuition growth for Minnesota's private colleges. The effect of inflation on spending is also a significant factor in tuition growth for both public and private institutions.

MINNESOTA TUITION RATES

Methods

In this section, we examine the growth in Minnesota tuition since 1971 and compare that growth with inflation rates and with increases in Minnesota's per capita income. The tuition rates we used for our analysis are those charged to undergraduates who are Minnesota residents. In addition, we included the required fees typically paid by undergraduates.[1] Room and board charges were not included.

We focused on resident undergraduate tuition rates.

Generally, we were able to analyze the growth in tuition from fiscal years 1971 to 1993.[2] However, it is not possible to calculate a rate of growth for the technical colleges prior to 1979 since the technical colleges did not charge tuition to Minnesota residents under the age of 21 until that year. Also, while private vocational schools have always charged tuition, data on their tuition rates were not available for years prior to 1977.

For three of the four public systems and the private four-year colleges, we used tuition data compiled by the Higher Education Coordinating Board (HECB). The data for the state universities, community colleges, and technical colleges are based on reports made by system office personnel to HECB over the years. Generally, system-reported fees do not include fees which are unique to a particular campus or are charged for particular courses. Tuition and fees for private colleges are averages of the tuition and fees of the 16 members of the Minnesota Private College Research Council. These 16 colleges have about 90 percent of the private college enrollment in Minnesota. The data reported for the University of Minnesota contained some errors, so we obtained tuition and fee data directly from the University. We calculated tuition and fees for private vocational schools from data gathered by HECB for financial aid purposes.[3]

The University of Minnesota has different tuition and fee charges for each of its campuses. In addition, tuition charges are different for lower division students (freshmen and sophomores) and upper division students (juniors and seniors). Also, upper division tuition at the Twin Cities and Duluth campuses varies by col-

1 Required fees are not included for the technical colleges since historical fee data were not available.

2 Fiscal year 1971 is the same as the 1970-71 academic year, and fiscal year 1993 represents the 1992-93 academic year.

3 The tuition and fees that we report for private vocational schools are averages for all schools participating in the state grant program except for a number of hospital-based x-ray technology programs which charged very low tuition rates and were not typical of most private schools.

lege. A College of Liberal Arts major pays a different tuition charge than an Institute of Technology student. For analyzing tuition trends, we used the tuition and fee charges for College of Liberal Arts students on the Twin Cities campus because they are the largest single group of undergraduates in the University of Minnesota system.[4] Lower and upper division charges were averaged since a student would generally pay the lower division rate for the first half of the student's studies and the upper division rate for the other half. Tuition and fee trends for other colleges on the Twin Cities campus and for the University's other campuses are presented in Appendix B.

Analysis

As is the case across the nation, tuition and fees in Minnesota are generally higher at private institutions than at public institutions. In addition, four-year schools typically charge more than two-year schools. For the current 1993-94 academic year, tuition and fees for Minnesota's public systems range from $1,756 at the technical colleges to $3,639 for the Morris campus of the University of Minnesota. The average tuition and fee charge for the community colleges is $1,766, while the average for the state universities is $2,534. In contrast, the average charge for private vocational schools is $4,443, and the average private college charge is $12,196.

Tuition and fees have grown significantly in Minnesota since the early 1970s. Between 1971 and 1993, tuition grew 513 percent at the University of Minnesota, 500 percent at the state universities, 378 percent at the community colleges, and 586 percent at Minnesota's private colleges. By comparison, the national Consumer Price Index grew 259 percent over that period. The greatest growth in tuition from 1981 to 1993 occurred at the technical colleges; however, a rate of increase cannot be calculated over the entire period (1971-93) since no tuition was charged to Minnesota residents under the age of 21 until 1979. Table 2.1 presents information on the changes in annual tuition and fees and the Consumer Price Index since 1971.[5]

Tuition increases generally did not exceed inflation during the 1970s.

The relationship between tuition increases and inflation, however, was different in the 1970s than in the period since the early 1980s. In particular:

- **From 1971 to 1981, tuition increased at rates which were generally less than or equal to the inflation rate.**
- **From 1981 to 1993, the rate of increase in tuition accelerated somewhat, while the inflation rate dropped to half of its 1970s level.**

From 1971 to 1981, tuition increased 117 percent at the University of Minnesota, 92 percent at state universities, 80 percent at community colleges, and 120 percent at Minnesota's private colleges. Only the increase at the private colleges

4 In 1992, upper division enrollment in the College of Liberal Arts was 39 percent of the University's total upper division enrollment.

5 Monthly values of the Consumer Price Index-Urban Consumers (CPI-U) were used to calculate fiscal year averages for the consumer price index.

Table 2.1: Undergraduate Resident Tuition and Required Fees in Current Dollars by System, 1971-93

Fiscal Year	University of Minnesota[a]	State Universities	Community Colleges	Technical Colleges[b]	Private Four-Year Colleges[c]	Private Vocational Schools	Consumer Price Index[d]
1971	$522	$379	$353	$ 0	$1,671	NA	39.7
1972	600	416	386	0	1,795	NA	41.2
1973	641	416	386	0	1,933	NA	42.8
1974	683	453	420	0	2,029	NA	46.6
1975	714	479	420	0	2,203	NA	51.8
1976	772	519	461	0	2,382	NA	55.5
1977	818	545	495	0	2,576	1,074	58.7
1978	927	590	518	0	2,882	1,303	62.6
1979	991	608	540	350	2,999	1,392	68.5
1980	1,060	675	574	373	3,284	1,563	77.6
1981	1,132	726	637	373	3,674	1,851	86.6
1982	1,264	802	697	438	4,193	2,197	94.1
1983	1,521	989	833	560	4,799	2,394	98.2
1984	1,672	1,246	1,013	777	5,295	2,640	101.8
1985	1,833	1,433	1,103	980	5,841	3,088	105.8
1986	1,943	1,543	1,170	1,070	6,385	3,097	108.8
1987	2,020	1,623	1,193	1,166	6,922	3,227	111.2
1988	2,106	1,650	1,238	1,271	7,453	3,282	115.8
1989	2,208	1,695	1,305	1,305	8,189	3,316	121.2
1990	2,379	1,892	1,373	1,395	9,230	3,393	127.0
1991	2,630	1,997	1,474	1,496	10,044	3,560	133.9
1992	2,864	2,207	1,598	1,550	10,774	3,942	138.2
1993	3,200	2,276	1,687	1,618	11,467	4,033	142.5
1971-81							
% Change	116.9%	91.6%	80.5%	NA	119.9%	NA	118.1%
Annual Rate of Change	8.0	6.7	6.1	NA	8.2	NA	8.1
1981-93							
% Change	182.7	213.5	164.8	333.8%	212.1	117.9%	64.5
Annual Rate of Change	9.0	10.0	8.5	13.0	9.9	6.7	4.2
1971-93							
% Change	513.0	500.5	377.9	NA	586.2	NA	258.9
Annual Rate of Change	8.6	8.5	7.4	NA	9.1	NA	6.0

Note: NA = Not Available.

Sources: Higher Education Coordinating Board, University of Minnesota, and Technical College System.

[a]College of Liberal Arts on the Twin Cities campus only.

[b]Tuition only. Required fees not included.

[c]Includes Minnesota Private College Council members only.

[d]Monthly values of the CPI-U were used to calculate fiscal year averages of the consumer price index.

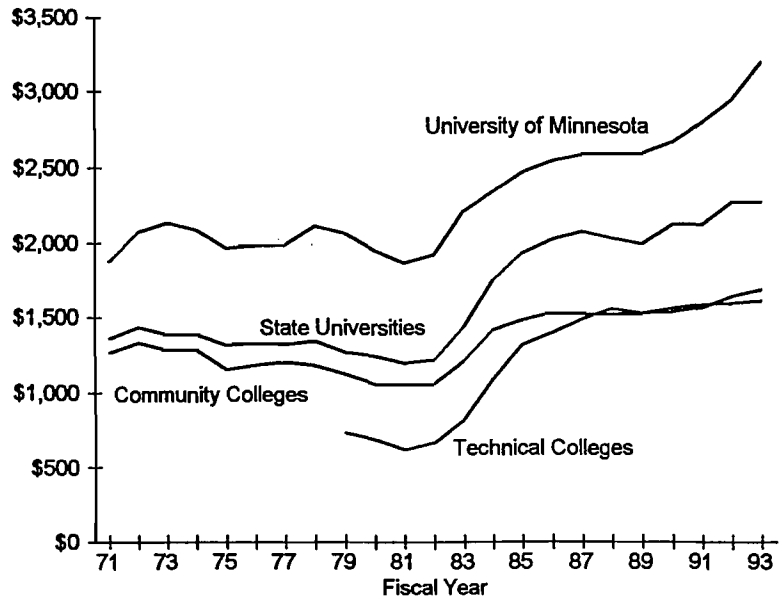
exceeded the 118 percent growth in consumer prices. Average annual rates of increase in tuition ranged from 6.1 percent at community colleges to 8.2 percent at private colleges, while the inflation rate averaged 8.1 percent.

From 1981 to 1993, tuition increased 183 percent at the University of Minnesota, 213 percent at state universities, 165 percent at community colleges, 334 percent at technical colleges, 212 percent at private colleges, and 118 percent at private vocational schools.[6] Each of these increases substantially exceeded the 64 percent increase in consumer prices experienced over the period. Average annual rates of increase in tuition ranged from 6.7 percent at private vocational schools to 13.0 percent at technical colleges. The inflation rate averaged just 4.2 percent.

Tuition increases since 1981 have greatly exceeded inflation.

Both Figure 2.1 and Table 2.2 measure tuition and fees in constant 1993 dollars. These exhibits further illustrate that tuition at the University of Minnesota, the state universities, and the community colleges began to increase faster than inflation around 1982. Figure 2.2 shows a similar pattern for private colleges. The pattern for private vocational schools was different. Private vocational tuition increased in constant dollars from 1977 to 1985 but has decreased slightly since 1985. Even after adjusting for inflation, tuition grew 72 percent at the University of Minnesota, 90 percent at state universities, 61 percent at community colleges, 164 percent at technical colleges, 90 percent at private colleges, and 32 percent at private vocational schools between 1981 and 1993.

Figure 2.1: Tuition and Fees for Public Systems in Constant 1993 Dollars, 1971-93



6 Technical colleges experienced the greatest rate of increase during the 1980s, because tuition had not been charged to Minnesota residents under the age of 21 during most of the 1970s.

Table 2.2: Undergraduate Resident Tuition and Required Fees in Constant 1993 Dollars by System, 1971-93

Fiscal Year	University of Minnesota[a]	State Universities	Community Colleges	Technical Colleges[b]	Private Four-Year Colleges[c]	Private Vocational Schools
1971	$1,874	$1,360	$1,267	$ 0	$5,998	NA
1972	2,075	1,439	1,335	0	6,208	NA
1973	2,134	1,385	1,285	0	6,436	NA
1974	2,089	1,385	1,284	0	6,205	NA
1975	1,964	1,318	1,155	0	6,060	NA
1976	1,982	1,333	1,184	0	6,116	NA
1977	1,986	1,323	1,202	0	6,253	$2,607
1978	2,110	1,343	1,179	0	6,560	2,966
1979	2,062	1,265	1,123	728	6,239	2,896
1980	1,947	1,240	1,054	685	6,031	2,870
1981	1,863	1,195	1,048	614	6,046	3,046
1982	1,914	1,215	1,055	663	6,350	3,327
1983	2,207	1,435	1,209	813	6,964	3,474
1984	2,340	1,744	1,418	1,088	7,412	3,695
1985	2,469	1,930	1,486	1,320	7,867	4,159
1986	2,545	2,021	1,532	1,401	8,363	4,056
1987	2,589	2,080	1,529	1,494	8,870	4,135
1988	2,592	2,030	1,523	1,564	9,171	4,039
1989	2,596	1,993	1,534	1,534	9,628	3,899
1990	2,669	2,123	1,541	1,565	10,356	3,807
1991	2,799	2,125	1,569	1,592	10,689	3,789
1992	2,953	2,276	1,648	1,598	11,109	4,065
1993	3,200	2,276	1,687	1,618	11,467	4,033
1971-81						
% Change	-0.6%	-12.1%	-17.3%	NA	0.8%	NA
Annual Rate of Change	-0.1	-1.3	-1.9	NA	0.1	NA
1981-93						
% Change	71.8	90.5	60.9	163.6%	89.7	32.4%
Annual Rate of Change	4.6	5.5	4.0	8.4	5.5	2.4
1971-93						
% Change	70.8	67.3	33.1	NA	91.2	NA
Annual Rate of Change	2.5	2.4	1.3	NA	3.0	NA

Note: NA = Not Available.

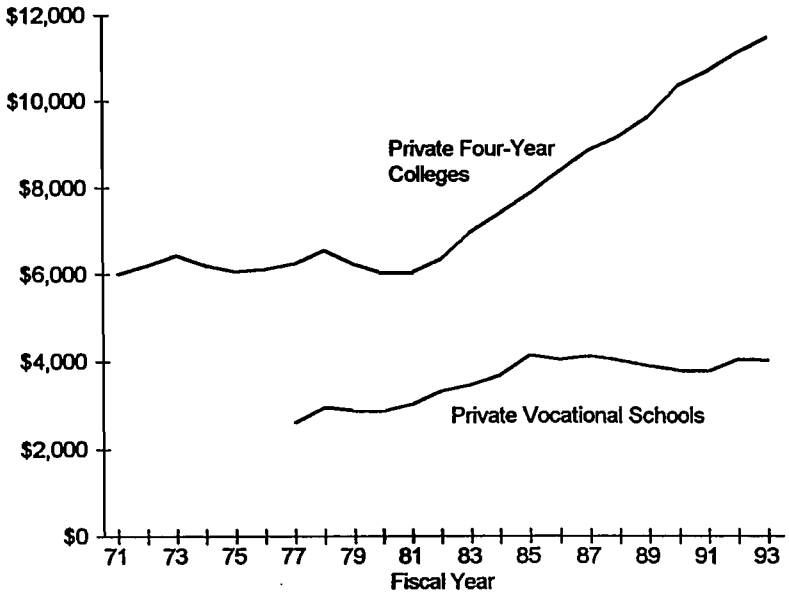
Sources: Higher Education Coordinating Board, University of Minnesota, Technical College System, and United States Department of Commerce.

[a]College of Liberal Arts on the Twin Cities campus only.

[b]Tuition only. Required fees not included.

[c]Includes Minnesota Private College Council members only.

Figure 2.2: Tuition and Fees for Private Systems in Constant 1993 Dollars, 1971-93



In fact:

- **Tuition increases for all systems except the private vocational schools exceeded inflation in all major components of the Consumer Price Index, including medical services, between 1981 and 1992.**

Tuition increases have even exceeded inflation in health care since 1981.

Since the early 1980s, medical care costs have increased faster than any other major component of the national Consumer Price Index, causing some to declare a crisis in the health care industry. Health care prices increased 133 percent between 1981 and 1992. However, as Table 2.3 demonstrates, tuition increases in Minnesota's public and private colleges and universities were higher, ranging from 151 percent at community colleges to 316 percent at technical colleges. Only private vocational schools, with an increase of 113 percent, experienced a lower rate of increase.

However, one should not conclude that public higher education spending per student has necessarily increased faster than medical care costs. In fact, expenditures per student in public systems of higher education have generally risen slower than medical care costs. For example, instructional expenditures per student rose 103 percent at the University of Minnesota between 1981 and 1992, while tuition and fees rose 153 percent. Much of the difference is due to the relative decline of state appropriations as a funding source for the University's instructional activities. Between 1981 and 1992, instructional appropriations per student increased only 70 percent.

Table 2.3: Tuition and Fee Increases Compared With Components of the Consumer Price Index, 1971-92

	Percentage Increase		
	1971-81	1981-92	1971-92
TUITION AND FEES			
University of Minnesota[a]	117%	153%	449%
State Universities	92	204	482
Community Colleges	80	151	353
Technical Colleges	NA	316	NA
Private Colleges	120	193	545
Private Vocational Schools	NA	113	NA
CONSUMER PRICE INDEX[b]			
Food	127%	52%	244%
Other Commodities	102	37	177
Energy	253	12	295
Medical Care Services	135	133	449
Other Services	128	75	299
All Items	119	60	249

Note: NA = Not Available.

Sources: U.S. Department of Commerce and Higher Education Coordinating Board.

[a]College of Liberal Arts on the Twin Cities campus.

[b]Fiscal year values for CPI-U components were obtained by averaging adjacent calendar years.

We also compared tuition trends with changes in Minnesota's per capita income. Such a comparison can provide some indication of how the affordability of a college education has changed over time.[7] Overall, the comparison in Table 2.4 shows that:

Tuition became less affordable during the 1980s, reversing the trend of the 1970s.

- **Since 1971, per capita income has increased faster than inflation, but tuition has increased faster than per capita income except at the community colleges and private vocational schools.**

However, the pattern during the 1970s was substantially different from that during the 1980s and early 1990s. Per capita income increased faster than tuition in four of the six systems between 1971 and 1981. After 1981, tuition grew significantly faster than per capita income in all six systems. Table 2.4 shows that tuition as a percentage of per capita income was higher in 1992 than 1971 in four of the six systems. Only in the community colleges was the percentage lower in 1992 than in 1971.[8]

7 It would be preferable to use median family income, or perhaps median household income, instead of per capita income. However, family income data for Minnesota are available from the U.S. Census only once every ten years. The State Demographer's Office advised us not to use annual household income data for Minnesota due to large potential errors in the data.

8 Tuition data were not available for the sixth system--the private vocational schools--from 1971 through 1976.

Table 2.4: Tuition and Fees as a Percentage of Per Capita Income by System, 1971-92

Fiscal Year	Minnesota Per Capita Income	University of Minnesota[a]	State Universities	Community Colleges	Technical Colleges	Private Four-Year Colleges	Private Vocational Schools
1971	$4,099	12.7%	9.2%	8.6%	0.0%	40.8%	NA
1972	4,322	13.9	9.6	8.9	0.0	41.5	NA
1973	4,918	13.0	8.5	7.8	0.0	39.3	NA
1974	5,634	12.1	8.0	7.5	0.0	36.0	NA
1975	5,842	12.2	8.2	7.2	0.0	37.7	NA
1976	6,363	12.1	8.2	7.2	0.0	37.4	NA
1977	7,021	11.7	7.8	7.1	0.0	36.7	15.3%
1978	7,771	11.9	7.6	6.7	0.0	37.1	16.8
1979	8,673	11.4	7.0	6.2	4.0	34.6	16.0
1980	9,551	11.1	7.1	6.0	3.9	34.4	16.4
1981	10,459	10.8	6.9	6.1	3.6	35.1	17.7
1982	11,246	11.2	7.1	6.2	3.9	37.3	19.5
1983	11,809	12.9	8.4	7.1	4.7	40.6	20.3
1984	12,837	13.0	9.7	7.9	6.1	41.2	20.6
1985	13,976	13.1	10.3	7.9	7.0	41.8	22.1
1986	14,730	13.2	10.5	7.9	7.3	43.3	21.0
1987	15,538	13.0	10.4	7.7	7.5	44.5	20.8
1988	16,250	13.0	10.2	7.6	7.8	45.9	20.2
1989	17,189	12.8	9.9	7.6	7.6	47.6	19.3
1990	18,262	13.0	10.4	7.5	7.6	50.5	18.6
1991	18,910	13.9	10.6	7.8	7.9	53.1	18.8
1992	19,590	14.6	11.3	8.2	7.9	55.0	20.1
1971-81							
% Change	155.2%						
Annual Rate of Change	9.8						
1981-92							
% Change	87.3						
Annual Rate of Change	5.4						
1971-92							
% Change	377.9						
Annual rate of Change	7.4						

Sources: U.S. Department of Commerce and Higher Education Coordinating Board.

[a]College of Liberal Arts on the Twin Cities campus.

NATIONAL COMPARISONS

In this section, we examine how tuition and fees at Minnesota colleges and universities compare with those at colleges and universities across the United States.[9] We also examine whether tuition in Minnesota has grown faster or slower than elsewhere. Finally, we look at some national comparisons of "net tuition"--tuition and fees after subtracting certain categories of financial aid grants.

Methods

In general, we used three types of comparisons to contrast Minnesota resident undergraduate tuition with tuition charged elsewhere. First, we used national data published annually by the National Center for Education Statistics in the United States Department of Education.[10] This source provides national averages of tuition and fees for resident undergraduates attending public research universities, other public four-year colleges and universities, all public two-year institutions, private research universities, and other private four-year colleges. National averages for public research universities can be compared with the University of Minnesota tuition, while averages for other public four-year institutions can be compared with tuition at Minnesota's state universities. Tuition at the community colleges and the technical colleges can be compared with the national average for public two-year colleges, and tuition at Minnesota's private colleges can be compared with the national average for other private four-year colleges.[11] The national averages from the U.S. Department of Education are enrollment-weighted so that they provide a valid indication of the average tuition and fees per full-time equivalent student.

The second type of data we used came from annual surveys of public institutions by the Higher Education Coordinating Board in the State of Washington.[12] This source includes state-by-state averages of tuition and fees for research universities such as the University of Minnesota, other four-year state colleges and universities such as Minnesota's state universities, and two-year community colleges. The state-by-state averages are useful for comparing one state with another but do not provide a valid measure of the national average of tuition and fees per full-time student.[13]

Finally, we used more selective peer groups of institutions at the request of two systems, the University of Minnesota and the technical colleges. The University

9 We provide tuition comparisons for five of Minnesota's six systems. There is no adequate source of national data on tuition for private vocational schools.

10 U.S. Department of Education, *Digest of Education Statistics, 1993* (Washington, DC, October 1993), 308-309.

11 Minnesota does not have any private research universities.

12 The most recent comparison is contained in Washington State Higher Education Coordinating Board, *1992-93 Tuition and Fees: A National Comparison* (Olympia, WA, January 1993).

13 This source computes a national average by averaging the 50 state averages. The subsequent national average counts tuition in Idaho as much as tuition in California even though California schools have considerably more enrollment.

participates in the American Association of Universities Data Exchange (AAUDE), which regularly compiles and shares information on tuition and other aspects of higher education for a nationwide group of universities. For purposes of tuition comparisons, AAUDE has information on 31 public universities, including all public members of the Big Ten and Big Eight Conferences and 14 other universities from across the United States.

The representatives of the technical college system suggested that we use a more selective peer group for their system because the public two-year institutions in most states combine the functions of Minnesota's community college and technical college systems and are more heavily weighted toward providing less expensive community college courses. As a result, they suggested we use nine states with separate technical colleges which they have found to be comparable to our technical college system. For those nine states, we used tuition and fee data from the National Center for Education Statistics for 1992.[14]

University of Minnesota

National comparisons of university tuition generally involve only the main research campus of each university. Unlike many universities, however, the University of Minnesota has multiple tuition rates on its main campus. Consequently, for comparisons involving the University of Minnesota, it is necessary to select a tuition rate which is representative of the various rates on campus. AAUDE and University of Minnesota officials have generally used the upper division rates for College of Liberal Arts students when making comparisons. We used this same procedure in our comparisons since upper division tuition rates for College of Liberal Arts students are a reasonable approximation of the average tuition paid by undergraduates on the University's Twin Cities campus.

Since 1971, tuition at the University of Minnesota has grown faster than national and peer group averages.

Tables 2.5, 2.6, and 2.7 show how tuition and fees at the University of Minnesota's Twin Cities campus compare with tuition and fees at all public research universities, a 50-state average of public research universities, and AAUDE members.[15] Table 2.7 also shows Minnesota's rank among public members of the Big Ten Conference. In general, these tables show that:

- **University of Minnesota tuition is higher than the national average for public research universities.**
- **Between 1971 and 1993, University of Minnesota tuition increased faster than tuition at public universities nationwide primarily due to faster tuition growth during the 1970s.**

Data in Tables 2.5 and 2.6 suggest that in 1993 University of Minnesota tuition was about 23 to 24 percent higher than tuition at other public research universities. In addition, the tables suggest that the University's tuition has increased faster

14 The nine states are Georgia, Idaho, Kentucky, Maine, New Hampshire, Oklahoma, South Carolina, Texas, and Wisconsin.

15 The University tuition and fee charges in these tables differ from those in Table 2.1, since Table 2.1 averages upper and lower division tuition and fee charges for the College of Liberal Arts.

Table 2.5: University of Minnesota Tuition and Fees Compared With All Public Universities, 1971-93

Fiscal Year	University of Minnesota[a]	National Average	UM Variation From Average
1971	$522	$478	9%
1981	1,132	915	24
1993	3,242	2,610	24
1971-81			
% Change	116.9%	91.4%	
Annual Rate	8.0	6.7	
1981-93			
% Change	186.4	185.2	
Average Rate	9.2	9.1	
1971-93			
% Change	521.1	446.0	
Annual Rate	8.7	8.0	

Sources: University of Minnesota and U.S. Department of Education.

[a]College of Liberal Arts upper division tuition and fees at the Twin Cities campus.

Table 2.6: University of Minnesota Tuition and Fees Compared With 50-State National Average, 1973-93

Fiscal Year	University of Minnesota[a]	50-State Average	UM Variation From Average	UM Rank
1973	$641	$549	17%	13 of 50
1983	1,526	1,136	34	6 of 50
1993	3,242	2,627	23	12 of 50
1973-83				
% Change	138.1%	106.9%		
Annual Rate	9.1	7.5		
1983-93				
% Change	112.5	131.3		
Annual Rate	7.8	8.7		
1973-93				
% Change	405.8	378.5		
Annual Rate	8.4	8.1		

Sources: University of Minnesota and State of Washington Higher Education Coordinating Board.

[a]College of Liberal Arts upper division tuition and fees at the Twin Cities campus.

Table 2.7: University of Minnesota Tuition and Fees Compared With National Peer Groups, 1974-93

Fiscal Year	University of Minnesota[a]	AAUDE Group Average	AAUDE Group UM Variation From Average	AAUDE Group Median	AAUDE Group UM Rank	Big 10 Universities[b] Average	Big 10 Universities[b] UM Variation From Average	Big 10 Universities[b] Median	Big 10 Universities[b] UM Rank
1974	$683	$659	4%	$622	9 of 27	$699	-2%	$683	5 of 9
1983	1,526	1,306	17	1,176	7 of 31	1,465	4	1,388	3 of 9
1993	3,242	2,882	12	2,721	10 of 31	3,112	4	2,799	4 of 9
1974-83									
% Change	123.4%	98.2%		89.1%		109.6%		103.2%	
Annual Rate	9.3	7.9		7.3		8.6		8.2	
1983-93									
% Change	112.5	120.7		131.4		112.4		101.7	
Annual Rate	7.8	8.2		8.8		7.8		7.3	
1974-93									
% Change	374.7	337.3		337.5		345.2		309.8	
Annual Rate	8.5	8.1		8.1		8.2		7.7	

Source: University of Minnesota.

[a]College of Liberal Arts upper division tuition and fees at the Twin Cities campus.

[b]Includes the nine public universities in the Big Ten conference.

than that at other universities from the early 1970s through 1993. From 1971 to 1993, tuition rates at the University of Minnesota grew 521 percent, or an annual average of 8.7 percent, compared with 446 percent nationally, or 8.0 percent annually. The difference in rates of growth was primarily due to a faster tuition growth rate at the University of Minnesota in the 1970s than at other universities.

Table 2.7 shows that University of Minnesota tuition was higher than the AAUDE and Big Ten averages in 1993, but closer to these averages than to the national average for all public research universities. University of Minnesota tuition was 12 percent above the AAUDE average and 4 percent above the Big Ten average. From 1974 to 1993, University of Minnesota tuition grew 375 percent compared with 337 percent for AAUDE members and 345 percent for Big Ten Conference members. The average annual rates of increase over this period were 8.5 percent for the University of Minnesota, 8.1 percent for AAUDE members, and 8.2 percent for Big Ten members. Again, this difference in growth rates was primarily due to faster tuition growth at the University of Minnesota from 1974 to 1983. Tuition growth in Minnesota was roughly the same as the Big Ten average from 1983 to 1993, and was lower than the AAUDE average in the last 10 years. Table 2.8 shows how the University's 1993 tuition compared with Big Ten and other AAUDE member institutions.[16]

16 For these comparisons, the Big Ten Conference includes only nine members because Northwestern University, a private university, is excluded. Also, Penn State University was not a member of the Big Ten Conference in 1993, but will be a member beginning in 1994.

Table 2.8: Tuition and Required Fees for Public Universities in AAUDE, 1993

University	Tuition and Fees	University	Tuition and Fees
BIG TEN CONFERENCE		OTHERS	
Illinois	$3,458	Arizona	$1,528
Indiana	2,794	California-Berkeley	3,249
Iowa	2,228	Cornell	7,056
Michigan	4,584	Florida	1,649
Michigan State	4,041	Maryland	2,778
Minnesota	3,242	North Carolina	1,284
Ohio State	2,799	Oregon	2,721
Purdue	2,520	Penn State	4,618
Wisconsin	2,346	Pittsburgh	4,922
		Rutgers	4,040
BIG EIGHT CONFERENCE		SUNY-Buffalo	3,033
Colorado	$2,540	Texas	1,372
Iowa State	2,228	Virginia	3,890
Kansas	1,798	Washington	2,253
Kansas State	1,841		
Missouri	2,812	AAUDE Average	$2,882
Nebraska	2,187		
Oklahoma	1,750		
Oklahoma State	1,767		

Source: University of Missouri.

State Universities

Overall, we found that:

- **Tuition for students in Minnesota's state university system was a little above the national average in 1993.**

- **Tuition at Minnesota's state universities has grown slower than the national average since 1971.**

According to Table 2.9, tuition in Minnesota was about 4 percent higher than the national average for four-year public colleges and universities in 1993. Tuition in Minnesota grew slower than the national average from 1971 to 1981, but faster than the national average from 1981 to 1993. For the entire period (1971-93), tuition grew 500 percent for Minnesota's state universities while the national average grew 560 percent. Average annual rates of growth were 8.5 percent for Minnesota and 9.0 for the nation.

The data in Table 2.10 from the State of Washington Higher Education Coordinating Board also show that Minnesota tuition was a little higher (7 percent) than the average for the 46 states with public four-year colleges and universities in 1993. The tuition growth rate for Minnesota was, however, higher from 1973 to 1993

Tuition at Minnesota's state universities is slightly higher than the national average.

Table 2.9: State University System Tuition and Fees Compared With All Public Four-Year Institutions, 1971-93

Fiscal Year	State Universities	National Average[a]	Minnesota Variation From Average
1971	$379	$332	14%
1981	726	722	1
1993	2,276	2,190	4
1971-81			
% Change	91.6%	117.5%	
Annual Rate	6.7	8.1	
1981-93			
% Change	213.5	203.3	
Annual Rate	10.0	9.7	
1971-93			
% Change	500.5	559.6	
Annual Rate	8.5	9.0	

Sources: Higher Education Coordinating Board and U.S. Department of Education.

[a]Includes all public four-year institutions except research universities.

Table 2.10: State University System Tuition and Fees Compared With a 46-State National Average, 1973-93

Fiscal Year	State Universities	46-State National Average[a]	Minnesota Variation From Average	Minnesota Rank
1973	$416	$465	-11%	27 of 46
1983	989	941	5	18 of 46
1993	2,276	2,123	7	18 of 46
1973-83				
% Change	137.7%	102.4%		
Annual Rate	9.0	7.3		
1983-93				
% Change	130.1	125.6		
Annual Rate	8.7	8.5		
1973-93				
% Change	447.1	356.6		
Annual Rate	8.9	7.9		

Source: State of Washington Higher Education Coordinating Board.

[a]Excludes Alaska, Delaware, Hawaii, and Wyoming.

than the growth in the 46-state average. This difference between Tables 2.9 and 2.10 is primarily due to the difference in the years covered by each table. The national data used in Table 2.9 would show a similar result to that in Table 2.10 if 1973 had been used as a starting point. This suggests that the comparison of state university tuition growth rates to national trends is sensitive to the selection of a starting point.

Community Colleges

Tables 2.11 and 2.12 present data comparing tuition at Minnesota's community colleges with the national average for two-year public colleges and an average of states with community colleges. Data on the national average are shown for the period 1971-93, while data on the state-by-state average only go back to 1979. The tables show that:

- **Since 1971, tuition at Minnesota's community colleges has been substantially above the national average.**
- **Tuition in Minnesota grew slower than the national average from 1971 to 1993, primarily because of slower than average growth during the 1970s.**

Table 2.11: Community College System Tuition and Fees Compared With All Public Two-Year Colleges, 1971-93

Fiscal Year	Community Colleges	National Average	Minnesota Variation From Average
1971	$353	$187	89%
1981	637	391	63
1993	1,687	1,018	66
1971-81			
% Change	80.5%	109.1%	
Annual Rate	6.1	7.7	
1981-93			
% Change	164.8	160.4	
Annual Rate	8.5	8.3	
1971-93			
% Change	377.9	444.4	
Annual Rate	7.4	8.0	

Sources: Higher Education Coordinating Board and United States Department of Education.

Table 2.12: Community College System Tuition and Fees Compared With a National Average of States, 1979-93

Fiscal Year	Community Colleges	National Average of States	Minnesota Variation From Average	Minnesota Rank
1979	$540	$371	46%	6 of 47
1993	1,687	1,152	46	6 of 48
1979-93				
% Change	212.4%	210.5%		
Annual Rate	8.5	8.4		

Source: State of Washington Higher Education Coordinating Board.

Community and technical college tuition rates greatly exceed the national average.

In 1971, Minnesota community college tuition was 89 percent above the national average and in 1993 was 66 percent above average. The data on states show that Minnesota had the sixth highest tuition of 48 states in 1993--a rank which was unchanged from 1979. Minnesota's 1993 tuition was 46 percent above the 48-state average.[17]

Tuition grew 378 percent in Minnesota from 1971 to 1993, while the national average grew 444 percent. The average annual rate of growth was 7.4 percent for Minnesota and 8.0 percent for the nation. The difference in growth rates was primarily due to slower growth in Minnesota during the 1970s than elsewhere. Both tables suggest that community college tuition growth in Minnesota was a little greater than elsewhere during the 1980s and early 1990s.

Technical Colleges

Minnesota's technical college tuition and fees of $1,665 in 1993 can also be compared with the national average of $1,018 in Table 2.11 for two-year public colleges. The national average of $187 in 1971 compares with a charge of $0 for Minnesota since resident tuition for those under the age of 21 was not charged at Minnesota technical colleges prior to 1979. As a result, we conclude that:

- **In 1993, tuition at Minnesota's technical colleges was substantially above that charged at public two-year institutions across the nation.**

- **Minnesota's technical college tuition rates have grown faster than the national average since the early 1970s, since Minnesota did not charge tuition to residents under the age of 21 until 1979.**

As noted earlier, however, it could be argued that the national average for public two-year colleges is more representative of community colleges than technical col-

17 Two states do not have community colleges.

leges. As a result, we also compared Minnesota's technical colleges with nine states that have separate technical colleges.[18] Table 2.13 shows that this comparison narrows the existing difference between Minnesota technical college tuition and averages for other states, but Minnesota tuition was still substantially above the peer group average. For 1992, Minnesota tuition was 73 percent above the national average for all public two-year institutions, while it was 54 percent above the average for all 99 technical colleges in the 9-state peer group and 37 percent above the average we obtained from averaging each of the nine states' averages.

Table 2.13: Minnesota Technical College System Tuition and Fees Compared With Other Public Two-Year Institutions, 1992

	FY 1992 Tuition and Fees	Minnesota Variation From Average
Minnesota Technical College System	$1,625	
National Average for Public 2-Year Institutions	937	73%
Selected Peer Group		
Average of 9 States	$1,182	37%
Average of 99 Schools	1,057	54

Source: U.S. Department of Education.

Private Four-Year Colleges

Tuition at Minnesota's private colleges is above the U.S. average.

Table 2.14 compares average tuition and fees for the 16 members of the Minnesota Private College Council with the national average for four-year private colleges, excluding research universities. The table shows that:

- **Tuition at Minnesota's private colleges was 19 percent higher than the national average in 1993 and has grown slightly faster than average since 1971.**

Ideally, Minnesota data would include all Minnesota private four-year colleges and be weighted by enrollment like the national average. However, these data were not readily available for the time period used in Table 2.14. Consequently, we calculated a weighted average for all private colleges in Minnesota for 1991 and compared it with the national average. Adding those colleges which are not Council members, and weighting by enrollment would reduce the Minnesota average to $9,579 from $10,044 in 1991, but the revised average is still 14 percent above the national average of $8,389. Including the other colleges would lower the Minnesota average somewhat because they have substantially lower average tuition ($4,999) than Council members ($10,044). The reduction in the average is

18 In many states, technical education is offered at comprehensive two-year colleges which predominantly offer a community college curriculum.

Table 2.14: Minnesota Private College Tuition and Fees Compared With All Four-Year Private Colleges, 1971-93

Fiscal Year	Private Colleges[a]	National Average[b]	Minnesota Variation From Average
1971	$1,671	$1,603	4%
1981	3,674	3,390	8
1993	11,467	9,636	19
1971-81			
% Change	119.9%	111.5%	
Annual Rate	8.2	7.8	
1981-93			
% Change	212.1	184.2	
Annual Rate	9.9	9.1	
1971-93			
% Change	586.2	501.1	
Annual Rate	9.1	8.5	

Sources: Higher Education Coordinating Board and U.S. Department of Education.

[a]Includes the 16 members of the Minnesota Private College Research Council.

[b]Includes all four-year private colleges except private research universities.

not very significant, however, since these other colleges had only about 10 percent of Minnesota's private college enrollment in 1991.

Net Tuition

We have seen that undergraduate tuition for Minnesota residents who attend a Minnesota college or university is generally higher than in other states. As we saw in Chapter 1, however, Minnesota has a more generous program of need-based state grants than most other states. In addition, some Minnesota students receive Pell and other grants from the federal government, and some Minnesota institutions use institutional funds to further defray tuition costs. All types of grants (state, federal, private, and institutional) serve to reduce a student's net tuition bill. Consequently, it would be interesting to know how Minnesota's tuition compares with the national average after student grants are subtracted from gross tuition.

At least two limited attempts have been made to rank states according to the net tuition charged by higher education institutions in each state. One of these is a comparison which is part of Kent Halstead's extensive research on public higher education.[19] Halstead's index of net tuition subtracts state-appropriated student aid per full-time equivalent student from tuition revenues per student. The index

19 Research Associates of Washington, *State Profiles: Financing Public Higher Education, 1978 to 1992* (Washington, DC, October 1992), 52, 140.

combines data from all of each state's public higher education institutions for the purpose of having a single net tuition measure for each state. Halstead's results suggest that net tuition in Minnesota was seven percent below the national average in both 1973 and 1978, but rose to eight percent above the national average in 1992.

Another analysis of net tuition can be done using data from the Lilly Study.[20] This study compared tuition revenues and financial grants-in-aid at the University of Minnesota and Minnesota's state universities with public baccalaureate degree-granting institutions in other states. For each state, researchers calculated total tuition revenues as a percentage of fully allocated instructional costs and total grants-in-aid expenditures as a percentage of fully allocated instructional costs.[21] Grant expenditures included state, federal, and institutional grants to students. The study showed that in 1990 the portion of expenditures which were paid by tuition was higher in Minnesota (33.2 percent) than for the 49-state median (30.9 percent).[22] Also, grants as a percentage of expenditures were 13.7 percent in Minnesota compared with a 12.6 percent national median.

We combined these two measures to calculate a measure of net tuition for Minnesota's public universities. Minnesota's tuition revenues net of student grants as a percentage of fully allocated instructional expenditures was 19.5 percent in 1990 compared with a 49-state median of 16.6 percent. In other words, students at the University of Minnesota and Minnesota's state universities paid a higher share of their schools' expenditures than in the median state even after adjusting for differences in grants. Alternatively, a smaller share of expenditures was financed by non-student sources (state and federal appropriations and other sources) in Minnesota (80.5 percent) than in the median state (83.4 percent).

The Halstead and Lilly data both suggest that net tuition in Minnesota's public colleges and universities is probably higher than national averages. However, there are several reasons why this general conclusion may not be definitive. First, the analyses include all tuition revenue including non-resident tuition. As a result, they measure a state's attraction of non-residents to its institutions, as well as the relative tuition rates charged to residents. Second, the measures combine different types of institutions which have significantly different tuition rates. For example, the Halstead measure includes both four-year and two-year institutions. A state could have lower net tuition than the Halstead measure indicates if the state relies more on four-year institutions than the average state.[23] Third, the Halstead measure, unlike the Lilly Study, includes only state-appropriated grants. Fourth, care should be used in interpreting the measure we derived from the Lilly data because, unlike the Halstead measure, it relies on comparison to a median for states. Min-

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20 Minnesota Private College Research Foundation, *Ways and Means: How Minnesota Families Pay for College* (Saint Paul, November 1992), 146-48.

21 Fully allocated instructional costs include not only direct instructional costs but also a pro-rated share of overhead and administrative costs.

22 Data were not available for the state of Oregon.

23 A state with a greater than average proportion of four-year college students could have above average net tuition using the Halstead measure, even though it has below average net tuition for both its four-year and two-year colleges when compared with their national peers.

nesota's net tuition could easily be above the national median and still be below the national average which is calculated by weighting each state's net tuition by its higher education enrollment. Finally, it should be noted that neither of these measures includes private colleges and private vocational schools, and the Lilly data did not include public two-year colleges.

SOURCES OF TUITION GROWTH

In this section, we address the following questions:

- **What are the main factors that have contributed to tuition increases in Minnesota's institutions of higher education?**

- **To the extent that higher education spending growth has caused tuition increases, what types of expenditures have contributed most to the tuition increases?**

Methods

Our analysis of these questions focused on the time period beginning with fiscal year 1978 and ending with fiscal year 1992. This time period was selected for two reasons. First, data on the instructional expenditures of three of the public higher education systems are not available before 1978. Also, higher education spending in the public systems generally declined in constant dollars during state budget crises in the early 1980s. By using 1978 as a starting point, the analysis avoids using an initial year which may have had abnormally low spending.

While the earlier sections of this chapter focused on the growth in resident undergraduate tuition, the analysis in this section examines the overall growth in tuition revenue. Data limitations prohibit us from attempting to explain tuition increases separately for resident undergraduates, non-resident undergraduates, and graduate students. However, because tuition rates for non-residents and graduate students have increased along with rates for resident undergraduates, it is reasonable to view the analysis in this section as roughly accurate for resident undergraduate tuition rates.

Our analysis excludes the private vocational schools since data do not exist on their expenditures and tuition revenues. For the other five systems, we had sufficient data to quantify the major factors which have contributed to tuition growth. In some cases, however, detailed analysis of expenditure growth for the four public systems and Minnesota's private colleges was subject to data limitations. For example, for private colleges, we obtained data on expenditure growth by type of expenditure but were not able to obtain data on changes in staffing and average salaries. Detailed analysis for the public systems, particularly the University of Minnesota, was also subject to some limitations. In general, expenditure, staffing, and salary data for the public systems are aggregated for all system activities and staff. In explaining tuition growth, however, it would be best to isolate only those

staff and salaries which represent direct or indirect instructional expenditures and are funded by tuition or state appropriations. The lack of such data is a major problem for analysis of the University of Minnesota since only about 25 percent of the University's expenditures are state-supported instructional expenditures. This is much less of a problem for the other three systems. However, an analysis of any of the other three systems would show that instructional expenditures grew at a different rate over time than the system's total expenditures, which include non-instructional spending and spending supported by funds other than state appropriations or tuition.

Finally, in our analysis, we used three different price indices to estimate the effect of inflation and to measure the impact of spending on tuition. The primary index we used was the Public Goods and Services Index for State and Local Governments (PGSL), which is the national price deflator for state and local government spending in the gross domestic product. This index reflects changes in prices paid by state and local governments (including public institutions of higher education) for goods and services. The other indices we used were the Consumer Price Index-Urban Consumers (CPI-U) and the Higher Education Price Index (HEPI). The CPI-U is the national consumer price index for urban consumers and measures price changes paid by consumers for goods and services. The HEPI, developed by Kent Halstead of Research Associates of Washington, measures changes in prices paid by colleges and universities for goods and services.

The PGSL has several advantages which led us to use it as our primary index of price changes. The principal advantage of the PGSL is that it provides an external measure of changes facing government institutions and does not simply reflect the changes in average salaries which have occurred in higher education. The PGSL also has the advantage of being calculated at a federal level and being updated periodically to reflect changes in the types of goods purchased by government agencies over time. In addition, the Minnesota Department of Finance uses the PGSL to evaluate cost trends for higher education and state agencies. The HEPI has the advantage of measuring only price changes specific to higher education. However, the HEPI is dominated by salary and fringe benefit changes. To the extent that higher education salaries and benefits are determined by higher education systems or collective bargaining, and not external market pressures, the HEPI may not be an accurate measure of inflation. The CPI-U is the appropriate measure for assessing tuition increases from a consumer's viewpoint, but is not the best measure for assessing the role that expenditure growth played in tuition growth. The CPI-U measures changes in prices a typical consumer faces, not the changes in prices faced by government institutions.

From 1978 to 1992, these three indices increased at different rates. The PGSL increased 106 percent, the CPI-U increased 121 percent, and the HEPI increased 133 percent. Consequently, some of our results are dependent on the choice of an index. While the PGSL is the primary index used in our analysis, the results for the other two indices are usually also displayed so that the reader can see the extent to which the choice of an index is important.

Public Systems

State appropriations help to fund both the instructional and non-instructional expenditures of Minnesota's public systems of higher education, while tuition revenue is used to fund only instructional expenditures. Instructional expenditures include not only the direct costs of instruction, but also a pro-rated share of indirect costs such as physical plant operations, academic support, student services, and institutional support. Non-instructional expenditures include the direct costs of activities such as research and public service as well as a share of indirect costs.

Tuition at Minnesota's public colleges and universities finances instructional and related overhead spending.

In addition, tuition revenue is loosely tied to instructional expenditures through the state's average cost funding policy.[24] The policy ties state appropriations to a system's estimated average instructional costs per full-year equivalent student. By law, state appropriations for the University of Minnesota, the state universities, and the community colleges should equal 67 percent of the estimated average costs for the coming two-year budget period. For the technical colleges, appropriations for the current biennial budget were set at 73 percent of estimated average instructional costs.[25]

In practice, however, appropriations have been lower than these amounts and tuition revenue collected per student has exceeded 33 percent of average instructional costs for the University of Minnesota, state universities, and community colleges, and 27 percent for the technical colleges. This has occurred in part because the average cost funding policy provides lower levels of state funding for certain types of enrollment. Before fiscal year 1990, the systems received no state funds to support enrollment growth occurring during a biennial funding period. Since then, the Legislature has used marginal cost funding, which has provided the two fastest growing systems (community colleges and state universities) with 32 percent state funding for such enrollment increases. In addition, beginning with fiscal year 1992, the systems began receiving reduced state funding for non-resident students from non-reciprocity states, certain off-campus enrollment, and secondary students utilizing the post-secondary enrollment options program. The state now provides no funds for non-resident students from non-reciprocity states and 32 percent funding for off-campus and post-secondary options enrollment.[26] Another reason why tuition revenues may fund a larger share of instructional expenditures than specified in the average cost funding policy is that the four systems are permitted to set tuition at any percentage of instructional costs.

Nevertheless, because tuition revenue is used only to fund instructional spending, the sources of tuition increases can be studied by examining the relationship between tuition revenue and instructional spending. In particular, we identified four

24 Minn. Stat. §135A.03.

25 By law, technical college appropriations should be at least 67 percent of average instructional costs.

26 Minnesota has tuition reciprocity agreements with the neighboring states of Wisconsin, Iowa, South Dakota, and North Dakota, and the Canadian province of Manitoba. These agreements permit residents of these states (and province) to attend Minnesota colleges and universities at tuition rates substantially below non-resident rates. Similarly, Minnesota residents may attend colleges and universities in these states (and province) at tuition rates significantly below their non-resident rates.

main factors which together explain all changes in tuition revenue per student. These factors are:

- Inflationary changes in instructional spending per student,
- Changes in instructional spending in excess of inflation,
- Changes in tuition reliance--that is, the share of instructional spending financed by tuition revenue, and
- Changes in enrollment which, through economies of scale, affect average instructional costs.

Tuition revenue per student is affected by inflation because inflation increases average instructional costs. If the share of instructional spending paid by tuition is constant, then inflation of 5 percent would tend to increase tuition revenue per student by 5 percent. If spending per student increases faster than inflation--8 percent for example--then tuition is likely to increase by 8 percent. In this case, a 5 percent tuition increase would be due to inflation and a 3 percent increase would result from the portion of the spending increase which exceeds inflation.

Tuition per student can also increase if the degree of tuition reliance is changed by state or system policy makers. For example, if the share of instructional spending financed by tuition revenue increased from 20 percent to 40 percent, then tuition per student would tend to increase 100 percent. The doubling of tuition would reflect the doubling of tuition's share of the costs.

In addition, enrollment can indirectly affect tuition revenue per student by affecting average instructional costs. For example, as enrollment increases, one would expect average costs to decline since the marginal (that is, additional) cost of instructing a new student is generally lower than the average instructional costs for existing students. The marginal cost is generally lower than average costs because fixed costs do not increase, room is available for students in some existing classrooms, and newly hired instructors are generally added at the lower end of the pay scale. Eventually, if enrollment rises enough, fixed costs also increase. Classrooms must be added and new buildings must be constructed. However, researchers have generally found that average costs decline even for very large enrollment increases.[27]

Conversely, if enrollment declines, one would expect average instructional costs to increase for the same reasons. The marginal cost saved by having one less student is less than the existing average cost per student. Consequently, as enrollment declines, the percentage reduction in costs is smaller than the percentage decline in enrollment.

It should be noted that, to some extent, the estimated impact of each of these four factors on tuition depends on the order in which one estimates their impact. We

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27 For example, see Paul T. Brinkman and Larry L. Leslie, "Economics of Scale in Higher Education: Sixty Years of Research," *Review of Higher Education* 10 (1986): 1-28.

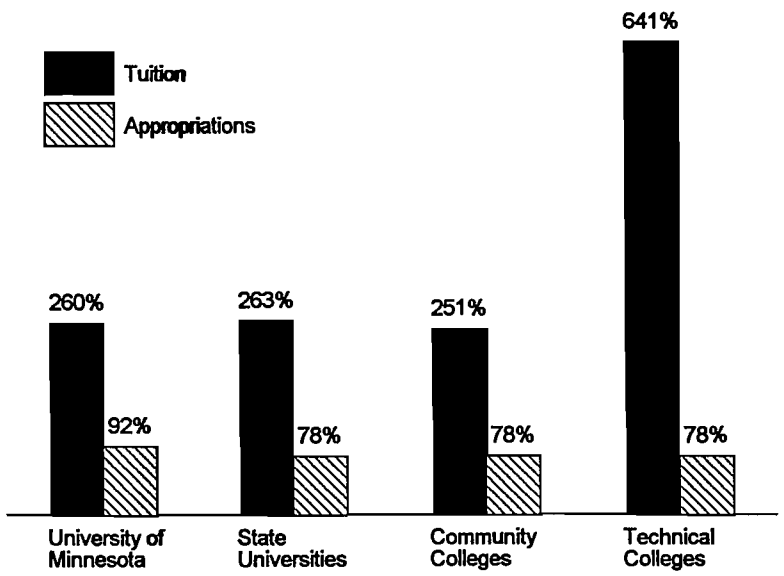
used the following procedure in analyzing the sources of tuition growth. We first estimated the effect of inflation on tuition. Next, we estimated the effect of enrollment on tuition through its impact on average costs. Finally, we averaged the results of two methods we used to calculate the effect of the remaining two factors--tuition reliance and spending increases in excess of inflation.[28]

General Results

Figure 2.3 shows the percentage increases in tuition revenue per student experienced by the public systems between 1978 and 1992. The University of Minnesota, the state universities, and the community colleges all experienced similar growth rates of about 250 to 265 percent. In contrast, tuition revenue per student for the technical colleges increased much faster--641 percent.

Tuition revenue increased much faster than state appropriations for instruction.

Figure 2.3: Percentage Increases in Instructional Revenue per Student for Public Systems, 1978-92



Figures 2.3 and 2.4 both illustrate the significant change in tuition reliance which has occurred in each of the four public systems. Figure 2.3 shows that the percentage increases in state appropriations supporting instructional spending have been significantly less than the percentage increases in tuition. Instructional appropriations per student increased 92 percent for the University of Minnesota and 78 percent for each of the other public systems between 1978 and 1992. The percentage increase in tuition per student was almost three times higher at the University of

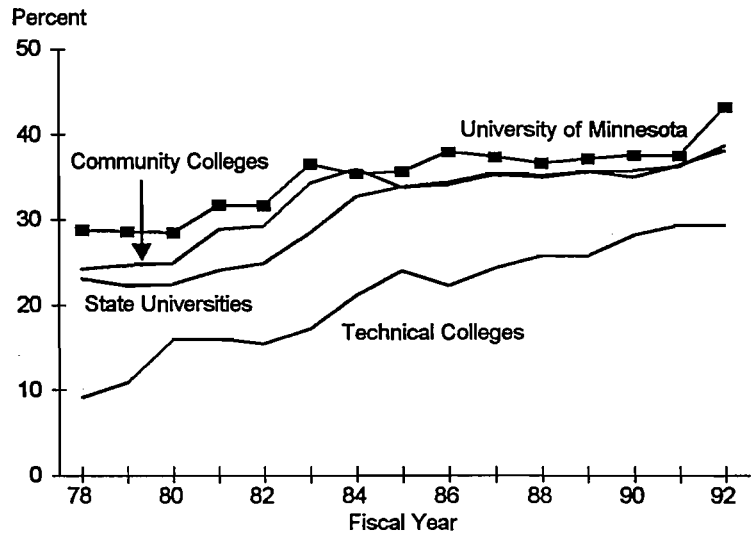
28 In one method, we first calculated the effect of increased tuition reliance on tuition, assuming an inflationary increase in spending. We then estimated the effect of spending increases in excess of inflation, assuming that tuition reliance had already increased. For the second method, we reversed the order of these last two calculations. We first estimated the impact of spending increases in excess of inflation, assuming no change in tuition reliance. Then, we estimated the impact of tuition reliance, assuming that spending had already increased to its 1992 level.

Minnesota and more than three times higher at the state universities and community colleges. The percentage increase in tuition per student was eight times higher than the percentage increase in state appropriations per student at the technical colleges.

Figure 2.4 charts the increase in tuition reliance over time for the four public systems. Between 1978 and 1992, the share of instructional expenditures financed by tuition revenue increased from 29 to 42 percent at the University of Minnesota, 23 to 38 percent at the state universities, and 24 to 39 percent at the community colleges. The most dramatic increase was at the technical colleges, where tuition reliance increased from 9 to 29 percent. For the technical colleges, the increase was largely due to state policy which sought to increase tuition reliance in the technical colleges to levels approaching those in the other three systems. For the other three systems, the increases in tuition reliance during the early 1980s were mostly due to state budget problems, which caused the Legislature to reduce state appropriations. In addition, tuition reliance continued to increase in these three systems as a result of the tuition policy implemented along with average cost funding in 1984.

Reliance on tuition to fund instructional spending increased significantly in all four public systems.

Figure 2.4: Tuition Revenue as a Percentage of Instructional Expenditures for Public Systems, 1978-92



The impact of inflation on tuition is relatively easy to estimate. From 1978 to 1992, the PGSL increased 106 percent while the CPI-U and the HEPI rose 121 and 133 percent respectively. These increases can be compared with tuition increases of 641 percent for the technical colleges and 250 to 265 percent for the other three systems. One can see that the inflation rates are roughly 40 to 50 percent of the tuition increases for the three systems but only about 15 to 20 percent of the tuition increase for the technical colleges. Consequently, inflation explains

40 to 50 percent of the tuition increases for the three systems but less than 20 percent of the technical college increase.

Between 1978 and 1992, increases in instructional expenditures per student ranged from 120 to 140 percent. As noted earlier, however, average instructional costs are affected by enrollment changes. Between 1978 and 1992, substantial enrollment changes occurred at the community colleges and state universities. Full-year equivalent enrollment increased 66 percent at the community colleges and 40 percent at the state universities. Minor changes occurred at the technical colleges where enrollment grew 9 percent and at the University of Minnesota where enrollment declined 6 percent.

To adjust for enrollment changes, we assumed that the marginal cost of instructing additional students was 75 percent of the original average cost. Based on this assumption, the adjusted average instructional cost as a percentage of the original average cost was 102 percent for the University of Minnesota, 93 percent for the state universities, 90 percent for the community colleges, and 98 percent for the technical colleges. These results appear reasonable, if not a little conservative, in light of what others have written about long run economies of scale in higher education. For a group of California colleges experiencing enrollment increases, Kent Halstead found that the new average costs were 60 to 80 percent of the original average costs.[29] In addition, our assumption is somewhat conservative compared with the 65 percent marginal cost funding assumption that the Legislature has used in recent years to fund enrollment increases in the community colleges and state universities.[30]

Figure 2.5: Percentage Changes in Adjusted Instructional Expenditures per Student for Public Systems, 1978-92

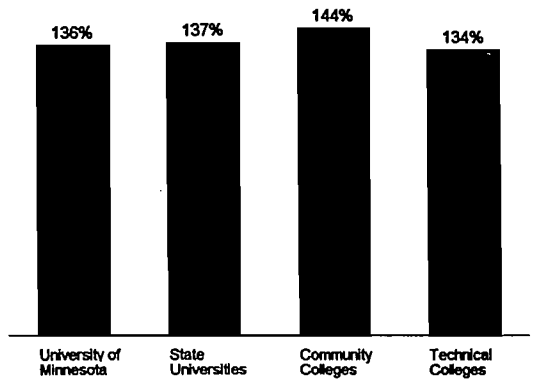


Figure 2.5 shows the percentage increases in average instructional spending after we adjusted for the effect of enrollment on average costs. The percentage increase ranges from 134 percent for the technical colleges to 144 percent for the community colleges. In contrast to unadjusted increases in average instructional spending, the adjusted increases are larger for those systems in which enrollment increased and smaller for the system in which enrollment declined. In addition, the adjusted percentage increases are greater than the increases in all three inflation indices but only a little higher than the increase in the HEPI.

29 Research Associates of Washington, *Higher Education Revenues & Expenditures: A Study of Institutional Costs* (Washington, DC, 1991).

30 The 65 percent marginal funding results from 32 percent state funds and 33 percent tuition revenues.

Figure 2.6: Percentage Changes in Adjusted Constant Dollar Instructional Expenditures per Student for Public Systems, 1978-92

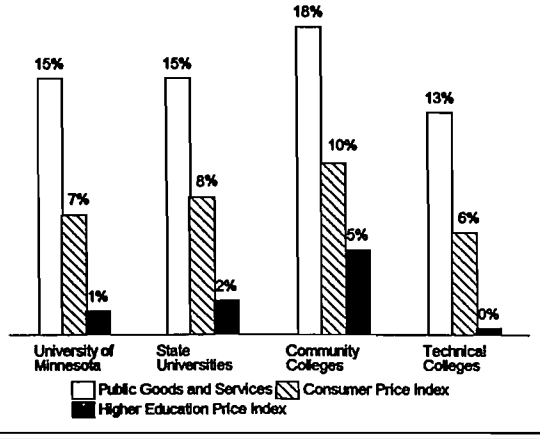


Figure 2.6 shows the percentage increase in adjusted instructional expenditures per student after correcting for inflation. The figure shows that constant dollar spending increases depend significantly on the choice of an inflation index. At the University of Minnesota, constant dollar spending increased between 1 and 15 percent, depending on the index. Use of the PGSL results in a 15 percent increase in spending per student in constant dollars, while use of the HEPI results in a 1 percent increase. Similarly, the percent increase in constant dollar spending per student ranges from 2 to 15 percent at the state universities, 5 to 18 percent at the community colleges, and 0 to 13 percent at the technical colleges.[31]

Inflation and decreased reliance on state funds explain about 80 to 90 percent of public tuition growth.

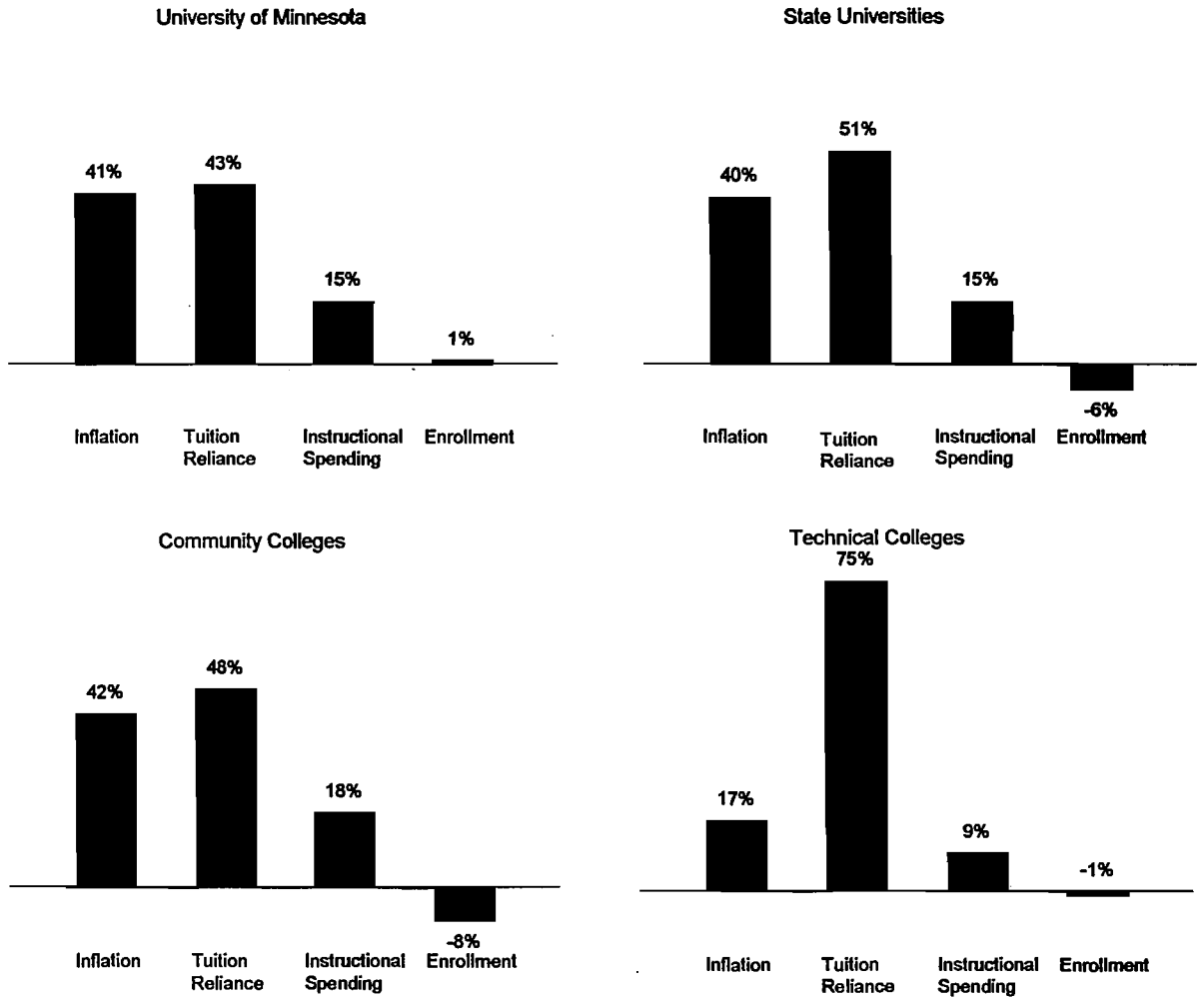
Using the PGSL, Figure 2.7 shows that:

- **Increased reliance on tuition (and decreased reliance on state appropriations) was the most important factor in explaining tuition growth for the four public systems.**
- **Inflation was also a significant factor.**
- **Larger than inflationary increases in average instructional spending explained no more than 9 to 18 percent of the tuition growth.**

For the University of Minnesota, our analysis shows that increased reliance on tuition revenue, and decreased reliance on state appropriations, accounted for 43 percent of the tuition growth between 1978 and 1992. Inflation explained 41 percent of the tuition increase, while spending increases in excess of inflation explained 15 percent. Enrollment declines were responsible for only one percent of the tuition growth. Use of the CPI-U changes the distribution to 45 percent tuition reliance, 46 percent inflation, 8 percent spending growth, and 1 percent enrollment declines. Use of the HEPI shifts even more of the explanation to inflation and tuition reliance and less to spending growth. Shares of tuition growth explained by the various factors are: 46 percent by tuition reliance, 51 percent by inflation, 2 percent by spending, and 2 percent by enrollment.

31 Our analysis does not attempt to estimate the impact of changes in instructional program mix or student composition on average instructional expenditures. Such changes are very difficult to estimate and, depending on the system, may have either increased or decreased average expenditures. Any impact from such changes is included in the factor that measures the change in instructional spending in excess of inflation.

Figure 2.7: Sources of Tuition Growth for Public Systems, 1978-92



For the state universities, we found that changes in tuition reliance explained 51 to 54 percent of the tuition growth, and inflation explained 40 to 50 percent. Spending growth explained 15 percent using the PGSL, 8 percent using the CPI-U, and only 2 percent using the HEPI. We estimate that enrollment growth caused a 6 percent decline in tuition.

Increased tuition reliance explained 48 to 51 percent of the tuition growth for the community colleges, while inflation explained 42 to 51 percent. Spending growth accounted for 18 percent of the tuition growth using the PGSL, 11 percent using the CPI-U, and 5 percent using the HEPI. Enrollment increases caused an estimated 8 to 9 percent decline in tuition revenue per student.

Increased tuition reliance explained the majority (75 to 80 percent) of the tuition increase for the technical colleges, while inflation explained 17 to 21 percent. Faster than inflationary increases in spending explained 9 percent of the tuition

growth using the PGSL, 4 percent using the CPI-U, and none of the tuition growth using the HEPI. Enrollment increases caused a 1 percent decline in tuition.

Spending growth beyond inflation explains about 10 to 20 percent of public tuition growth.

An alternative way of explaining these results is to estimate the percentage reduction in tuition per student which would have been possible in 1992 if tuition reliance had remained the same since 1978. For example, if the share of instructional spending financed by tuition revenue had stayed at 29 percent at the University of Minnesota instead of increasing to 42 percent, then tuition per student might have been 33 percent lower in 1992 than it actually was. Similarly, without changes in tuition reliance, 1992 tuition per student might have been 37 percent lower at the community colleges, 39 percent lower at the state universities, and 69 percent lower at the technical colleges.

Similarly, we estimated the potential reduction in 1992 tuition per student if adjusted instructional spending per student had not increased faster than inflation. Using the PGSL, tuition in the four systems might have been 12 to 16 percent lower if spending grew no faster than inflation. Tuition reductions of 6 to 10 percent might have been possible, using the CPI-U as the price index. Using the HEPI, we estimate tuition reductions of between 0 and 5 percent.

Sources of Spending Growth

Overall, spending growth that was faster than inflation accounted for a relatively small share (9 to 18 percent using the PGSL) of the tuition growth for Minnesota's four public systems of higher education. However, spending growth in excess of inflation is of significant interest to policy makers. Consequently, in this section, we examine in greater detail the expenditure growth in the Minnesota's four public systems.[32]

University of Minnesota

Table 2.15 shows that state-funded expenditures per full-year equivalent student at the University of Minnesota grew 160 percent between 1978 and 1992.[33] Growth was greater for non-instructional areas than for instructional spending. Instructional expenditures per student grew 140 percent while non-instructional expenditures per student grew 205 percent. The largest dollar growth in the non-instructional area occurred in research, which more than tripled from $38 million in 1978 to $121 million in 1992. State-funded research expenditures per student grew 235 percent over this time period.

Table 2.15 also shows that spending on direct instruction grew faster than the overhead costs which are allocated to both instructional and non-instructional activity. Direct instructional costs per student rose 156 percent while overhead costs per student increased 138 percent. Administrative expenditures per student rose faster

32 While the data in this section are somewhat useful in understanding each system's expenditure trends, the expenditure data should not be compared across systems. The systems use different definitions for some expenditure categories, which limit the comparability of particular expenditure categories, as well as total expenditures.

33 Spending figures in this section are for the entire University of Minnesota system.

Table 2.15: State-Funded Expenditures at the University of Minnesota, 1978 and 1992[a]

Type of Expenditure	Expenditures Per Student FY 1978	FY 1992	Dollar Increase	Percentage Increase
DIRECT EXPENDITURES				
Direct Instruction	$1,972	$5,049	$3,077	156%
Direct Non-Instruction				
Research	$ 404	$1,297	$ 893	221%
Financial Aid	43	465	422	991
Continuing Education (non-credit) and Extension	110	353	243	221
Public Service and Other	140	365	225	161
University Hospital	163	173	10	6
Support Services	11	7	- 4	- 34
Subtotal: Non-Instruction	$ 871	$2,661	$1,790	206%
Direct Overhead				
Physical Plant	$ 596	$1,291	$ 695	117%
Administration and General	378	1,073	695	184
Academic Support	105	262	157	150
Student Services	177	410	233	132
Libraries	177	376	199	113
Subtotal: Overhead	$1,431	$3,411	$1,980	138%
Totals	$4,274	$11,121	$6,847	160%
FULLY ALLOCATED EXPENDITURES[b]				
Direct Instruction	$1,972	$5,049	$3,077	156%
Indirect Instruction	982	2,046	1,064	108
Subtotal: Instruction	$2,954	$7,095	$4,141	140%
Non-Instruction				
Research	$ 664	$2,225	$1,562	235%
Financial Aid	43	465	422	991
Continuing Education (non-credit) and Extension	120	420	300	250
Public Service and Other	301	530	229	76
University Hospital	182	317	135	74
Support Services	11	68	57	544
Subtotal: Non-Instruction	$1,320	$4,026	$2,706	205%
Totals[c]	$4,274	$11,121	$6,847	160%

Source: University of Minnesota.

[a]State-funded instructional expenditures are supported by state appropriations and tuition revenue. State-funded non-instructional expenditures are supported by appropriations.

[b]Fully allocated expenditures for an activity include a share of indirect or overhead costs, as well as the direct costs of the activity.

[c]Totals and subtotals may not add due to rounding.

than direct instructional costs per student, but slower growth occurred in all other overhead categories, particularly libraries and physical plant.

It is difficult to identify the components of instructional spending which caused it to increase faster than inflation. The difficulty arises because the available data on University salaries and staffing levels are kept on a University-wide basis and are not specific to state-funded instructional spending. This is a major problem for more detailed analysis of the University's expenditure growth since the University receives a significant amount of funding from sources other than state appropriations and tuition.[34] If University-wide data were examined, it would be difficult to know whether the University-wide salary or staffing trends were applicable to state-funded instructional activity, which in 1992 accounted for about 25 percent of all University spending.

However, data from the University suggest that salary growth for ranked faculty is probably not the primary reason that instructional spending per student grew faster than any of the three price indices. Overall, faculty salaries per student grew 120 percent from 1978 to 1992 compared with a 140 percent increase in fully allocated instructional costs per student and a 156 percent increase in direct instructional costs per student. This 120 percent increase results from a 4 percent decline in the number of faculty per 1,000 students and a 130 percent increase in salaries per faculty member. The 130 percent increase resulted from a 120 percent increase in average salaries and a substantial decline in the number of faculty at lower ranks and pay.

There has been significant growth in state appropriations for non-instructional activities at the University of Minnesota.

Table 2.16 suggests that:

- **An indirect cause of tuition increases at the University of Minnesota may be the significant growth in state appropriations for non-instructional activities.**

Between 1978 and 1992, state appropriations for instruction grew 79 percent from $122 million to $219 million. State appropriations for non-instructional activities grew 185 percent from $76 million to $218 million. State appropriations for non-instructional spending grew from 39 to 50 percent of all state appropriations to the University of Minnesota. From 1978 to 1992, appropriations to the University grew 110 percent from $208 million to $437 million, and 59 percent of that growth financed increases in non-instructional spending. To the extent that non-instructional growth constrained the amount of money the Legislature could appropriate for instructional purposes, it may have indirectly contributed to a greater reliance on tuition to fund instructional activities.

34 While state-funded spending grew from $248 million in 1978 to $603 million in 1992, other sources of funds supported an additional $235 million of spending in 1978 and an additional $914 million in 1992.

Table 2.16: State Appropriations and Tuition Revenue for the University of Minnesota, 1978 and 1992

Type of Revenue	FY 1978	FY 1992	Dollar Increase	Percentage Increase
Tuition Revenue	$49,300,000	$166,000,000	$116,700,000	237%
State Appropriations for Instruction	121,900,000	218,700,000	96,800,000	79
Subtotal for Instruction[a]	$171,100,000	$384,700,000	$213,500,000	125%
State Appropriations for Non-Instruction	76,500,000	218,300,000	141,800,000	185
Totals	$247,600,000	$603,000,000	$355,300,000	143%

Source: University of Minnesota.

[a]Subtotals may not add due to rounding.

State Universities

Overall, we found that:

- **Most of the greater than inflationary growth in state university expenditures per student can be attributed to fringe benefit growth for faculty and other staff.**

Table 2.17 shows that the fastest growth in spending per full-year equivalent student occurred in the areas of student services and institutional support, which grew 182 and 153 percent respectively. Direct instructional spending per student grew 113 percent, but that was higher than the system average.[35]

Table 2.18 shows that fringe benefit growth has been particularly strong. Fringe benefit expenditures per student grew 238 percent from 1978 to 1992 while salary expenditures per student rose 93 percent. Non-personnel expenditures per student were up only 69 percent over that time period. Using the PGSL, we found that fringe benefit expenditures per student grew 64 percent in constant 1992 dollars. In contrast, salary and non-personnel expenditures per student decreased in constant dollars by 6 and 18 percent respectively. Much of this growth in fringe benefits is probably attributable to federal social security taxes and state retirement and insurance packages, which are not immediately under the control of the state university system.

35 The percentage increases in Table 2.17 are different from the estimated 121 percent increase in fully allocated instructional spending per student because data in Table 2.17 include non-instructional spending and include expenditures not funded by state appropriations or tuition.

Table 2.17: State University System Expenditures by Type, 1978 and 1992

Type of Expenditure	Expenditures Per Student FY 1978	Expenditures Per Student FY 1992	Dollar Increase	Percentage Increase
Instruction and Department Research	$1,298	$2,761	$1,463	113%
Project Research	9	16	7	78
Public Service	22	25	3	15
Academic Support	283	526	243	86
Student Services	132	373	241	182
Institutional Support	350	885	535	153
Physical Plant	335	364	29	9
Totals[a]	$2,429	$4,950	$2,521	104%

Source: State University System.

[a]Totals may not add due to rounding.

Fringe benefit growth accounts for all of the real spending increases at the state universities.

Table 2.18: State University System Expenditures by Object of Expenditure, 1978 and 1992

Object of Expenditure	Expenditures Per Student FY 1978	Expenditures Per Student FY 1992	Dollar Increase	Percentage Increase
Salaries	$1,649	$3,185	$1,536	93%
Fringe Benefits	265	896	631	238
Non-Personnel	515	869	354	69
Totals	$2,429	$4,950	$2,521	104%

Source: State University System.

Table 2.19 shows that the number of staff per 1,000 students dropped an estimated 18 percent from 1978 to 1992. Full-time equivalent staff grew an estimated 14 percent but did not keep up with the 40 percent increase in enrollment. Salaries per staff person grew an estimated 137 percent while fringe benefits per staff person rose an estimated 315 percent. The reduction in staffing levels relative to enrollment kept salary expenditures per student from growing faster than inflation.

Table 2.19: State University System Expenditures Per Staff Person and Staffing Ratios, 1978 and 1992

	FY 1978	FY 1992	Percentage Increase
Salary per FTE Staff	$15,729	$37,269	137%
Fringes per FTE Staff	2,526	10,488	315
Non-Personnel Expenditures per FTE Staff	4,910	10,171	107
Staff per 1,000 Students	104.9	85.5	- 18

Source: State University System.

Community Colleges

Available data also suggest that:

- **Fringe benefit growth for faculty and other staff has been a significant factor in spending growth for the community college system.**

Table 2.20 shows that, while the largest dollar increase in spending per full-year equivalent student was for direct instruction, the fastest growing areas have been institutional support and academic support. Student support and physical plant operations experienced the slowest rates of growth.

Table 2.21 shows that fringe benefit expenditures per student in the community colleges grew faster than salary or non-personnel spending between 1978 and 1992. Fringe benefit costs per student grew 189 percent while salary costs per student rose 111 percent and non-personnel costs were up 96 percent per student. Using the PGSL, we estimate that about 95 percent of the constant-dollar growth in spending per student was due to fringe benefit growth. Fringe benefit expendi-

Table 2.20: Community College System Expenditures by Type, 1978 and 1992

	Expenditures Per Student			
Type of Expenditure	FY 1978	FY 1992	Dollar Increase	Percentage Increase
Instruction	$ 974	$2,020	$1,046	107%
Community Education	60	137	77	128
Academic Support	230	535	305	133
Student Support	376	616	240	64
Institutional Support[a]	258	874	616	239
Plant Operations	242	456	214	88
Totals	$2,140	$4,638	$2,498	117%

Source: Community College System.

[a]FY 1992 expenditures include about $70 per student in early retirement incentives and severance pay and $21 per student in unemployment compensation and workers' compensation, which should be distributed across all affected types of expenditures.

Growth in fringe benefit costs was also significant at the community colleges.

Table 2.21: Community College System Expenditures by Object of Expenditure, 1978 and 1992

Object of Expenditure	Expenditures Per Student FY 1978	FY 1992	Dollar Increase	Percentage Increase
Salaries	$1,382	$2,913	$1,531	111%
Fringe Benefits	258	746	488	189
Non-Personnel	500	979	479	96
Totals	$2,140	$4,638	$2,498	117%

Source: Community College System.

tures per student increased 40 percent in constant dollars, while salary expenditures per student grew only 2 percent and non-personnel expenditures per student decreased 5 percent. As was the case for the state university system, much of the fringe benefit growth is probably due to factors not immediately under the control of the community college system.

Table 2.22 indicates that salary and fringe benefit expenditures per staff person grew 129 and 215 percent respectively between 1978 and 1992. During the same period, the number of full-time equivalent staff at the community colleges grew 53 percent but did not keep up with the 66 percent growth in enrollment. As a result, the overall staffing ratio fell 8 percent, from 87 staff per 1,000 students to 80 staff per 1,000 students. This reduction in the overall staffing ratio moderated the increases in salary and fringe benefit expenditures from 129 and 215 percent per staff member to 111 and 189 percent per student.

Finally, Table 2.23 provides additional details on staffing increases from 1978 to 1992. The number of staff increased in all areas, but the staffing ratios declined in all but one area. The number of staff per 1,000 students increased 37 percent in institutional support while declining 13 percent in instruction. Table 2.23 also shows that staffing ratios declined for faculty, support staff, and administrators. The only increase in staffing ratios occurred in the professional and supervisory category, which grew 478 percent.

Table 2.22: Community College System Expenditures Per Staff Person and Staffing Ratios, 1978 and 1992

	FY 1978	FY 1992	Percentage Change
Salary per FTE Staff	$15,918	$36,468	129%
Fringes per FTE Staff	2,969	9,338	215
Non-Personnel Expenditures per FTE Staff	5,759	12,263	113
Staff per 1,000 Students	86.8	79.8	- 8

Source: Community College System.

Table 2.23: Community College System Staffing Levels and Ratios, 1978 and 1992

	Full-Time Equivalent Staff			Staff Per 1,000 Students		
	FY 1978	FY 1992	Percentage Change	FY 1978	FY 1992	Percentage Change
Instruction	939	1,347	43%	46.3	40.1	- 13%
Community Education	23	38	68	1.1	1.1	1
Academic Support	204	336	64	10.1	10.0	- 1
Student Support	266	367	38	13.1	10.9	- 17
Institutional Suport	164	374	128	8.1	11.1	37
Plant Operations	164	223	36	8.1	6.6	- 18
Totals[a]	1,760	2,685	53%	86.8	79.9	- 8%
Faculty[b]	1,124	1,599	42%	55.5	47.6	- 14%
Support Staff	523	820	57	25.8	24.4	- 5
Professional and Supervisory	11	108	858	0.6	3.2	478
Administrators	101	157	55	5.0	4.7	- 7
Totals[a]	1,760	2,685	53%	86.8	79.9	- 8%

Source: Community College System.

[a]Totals may not add due to rounding.

[b]Includes counselors, librarians, and others.

Technical Colleges

We were not able to examine technical college spending over the same period (1978-92) for which we examined spending in the other three public systems. Detailed spending data for the years 1978-83 are not comparable to more recent data because of the change in system administration from the Minnesota Department of Education to a new state board. Instead, we reviewed detailed spending data from 1985 to 1992. This period was selected not only because detailed data was available but also because total instructional spending per student at the technical colleges grew at approximately the same rate as the PGSL between 1978 and 1985. To the extent that technical college instructional spending grew faster than the PGSL between 1978 and 1992, that faster growth occurred between 1985 and 1992--a period for which some detailed expenditure data exist.

Table 2.24 shows that spending growth per full-year equivalent student was fastest in various overhead categories, which grew 53 percent between 1985 and 1992. Overall, expenditures for various types of instruction rose 33 percent. These increases both exceed the 28 percent increase in the PGSL over this period. Certain types of instruction experienced faster growth. Management program spending grew 198 percent, and extension instruction rose 113 percent. However, these categories represent a small portion of all instructional costs. As a result, the overall growth for various instructional categories was 33 percent, compared with 24 percent growth for continuous instructional programs.

Table 2.24: Technical College System Expenditures by Type, 1985 and 1992

Type of Expenditure	Net Expenditures Per Student FY 1985	FY 1992	Dollar Increase	Percentage Increase
Continuous Instruction	$2,277	$2,820	$543	24%
Extension Instruction	178	378	200	113
Management Programs	60	180	120	198
Media/Library	67	104	37	56
Farm-Based Management Programs	48	69	21	43
Research and Other	37	5	- 32	- 89
Subtotal for Instruction	$2,667	$3,555	$888	33%
Student Support	$421	$661	$240	57%
Institutional Support	591	966	375	63
Fixed Costs	47	132	85	182
Plant Operations and Repairs	526	663	137	26
Subtotal for Non-Instruction	$1,584	$2,423	$839	53%
Totals[a]	$4,251	$5,978	$1,727	41%

Source: Technical College System.

[a]Totals and subtotals may not add due to rounding.

Table 2.25 shows that growth in salary expenditures explains $1,038 of the $1,727 growth in spending per student between 1985 and 1992. Salary expenditures per student grew 40 percent, which was faster than the growth in the PGSL (28 percent), the CPI-U (31 percent), and the HEPI (39 percent). However, all other types of expenditures except supplies grew faster. Using the PGSL, we estimate that salaries accounted for 59 percent of the constant-dollar growth in overall expenditures per student between 1985 and 1992. Fringe benefits accounted for 29 percent of the growth.

Between 1985 and 1992, technical college enrollment decreased by less than one percent while the number of full-time equivalent staff increased five percent. As a result, the overall staffing ratio increased about five percent from 108 staff to 114 staff per 1,000 students. As Table 2.26 shows, the staffing ratio increased 21 percent for non-licensed staff and decreased one percent for licensed staff including faculty.

Among various objects of expenditure, fringe benefit costs per staff member grew the fastest, rising 49 percent between 1985 and 1992. Salaries per staff member grew 33 percent--the same as the overall rate of increase for all expenditures per staff member.

Staffing and equipment expenditures grew faster than inflation at the technical colleges.

Table 2.25: Technical College System Expenditures by Object of Expenditure, 1985 and 1992

Object of Expenditure	Expenditures Per Student FY 1985	FY 1992	Dollar Increase	Percentage Increase
Salaries	$2,576	$3,614	$1,038	40%
Fringe Benefits	514	813	299	58
Travel	46	84	38	82
Purchased Services	468	756	288	61
Other Expenses	41	86	45	108
Less: Other Revenue	(110)	(303)	(193)	175
Subtotal: Net Staff Budget	$3,535	$5,050	$1,515	43%
Net Supplies Budget	$ 355	$ 414	$ 59	16%
Net Equipment Budget	$ 360	$ 514	$ 154	43%
Totals[a]	$4,251	$5,978	$1,727	41%

Source: Technical College System.

[a]Totals and subtotals may not add due to rounding.

Table 2.26: Technical College System Expenditures Per Staff Person and Staffing Ratios, 1985 and 1992

	FY 1985	FY 1992	Percentage Change
EXPENDITURES PER FTE STAFF			
Salaries	$23,943	$31,732	33%
Fringe Benefits	4,782	7,140	49
Other Staff Costs	4,139	5,466	32
Supplies	3,305	3,631	10
Equipment	3,348	4,513	35
Totals Per FTE Staff	$39,518	$52,481	33%
STAFF PER 1,000 STUDENTS			
Licensed	73.6	72.8	- 1%
Non-Licensed	34.0	41.1	21
Totals	107.6	113.9	5%

Source: Technical College System.

Private Colleges

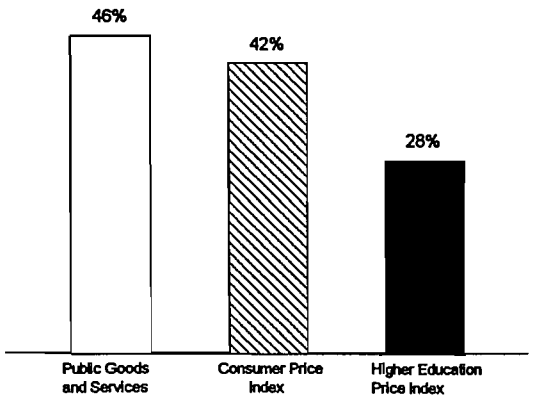
Our analysis of private college tuition growth includes the 16 members of the Minnesota Private College Council, which represent about 90 percent of the private four-year college enrollment in Minnesota.[36] The analysis covers a different time period, 1980 to 1992, than we examined for the public systems.

Our analysis is subject to several limitations. First, the results are valid for the 16 private colleges as a group but are not generalizable to each of the 16 colleges. The sources of tuition growth may vary from college to college. Second, the data permit us to identify the types of expenditures financed by tuition increases and to isolate the effects of inflation, but the data may not reveal a college's ultimate objectives or motivations in raising tuition.

Between 1980 and 1992, tuition revenues per student rose from $3,335 to $10,077--an increase of 202 percent--at these 16 private colleges. As Table 2.27 shows, expenditures per student rose 200 percent. The increase in fully allocated instructional spending accounts for almost two-thirds of the spending increase per student, but instructional spending grew slower than non-instructional spending.[37] Instructional spending per full-year equivalent student grew 150 percent while research (265 percent), public service (1,272 percent), restricted financial aid (409 percent), and unrestricted financial aid (463 percent) all grew faster.[38]

This expenditure growth was well in excess of the inflation experienced between 1980 and 1992. During this period, the PGSL grew 73 percent, while the CPI-U and the HEPI grew 78 and 98 percent respectively. Figure 2.8 shows that constant dollar instructional expenditures per student, adjusted for enrollment changes, grew 46 per-

Figure 2.8: Percentage Changes in Adjusted Constant Dollar Instructional Expenditures per Student for Private Colleges, 1980-92



36 See Table A.5 in Appendix A for a list of the private colleges participating in Minnesota's state grant program.

37 We calculated fully allocated instructional expenditures for private colleges using the method employed in the Lilly study. Because this method is not identical to the methods used by Minnesota's public systems to calculate their fully allocated instructional spending, comparisons of private college instructional spending with public college spending should not be made using data from this report.

38 Restricted financial aid includes state grants, federal Pell grants, and private grants restricted to certain individuals or uses. Unrestricted financial aid primarily consists of the institutional financial aid that private colleges provide out of tuition revenues or other unrestricted funds. It may also include aid provided out of unrestricted private gifts.

Table 2.27: Private College Expenditures, 1980 and 1992

Type of Expenditure	Expenditures Per Student FY 1980	FY 1992	Dollar Increase	Percentage Increase
DIRECT EXPENDITURES				
Direct Instruction	$1,919	$4,737	$2,818	147%
Research	22	79	57	259
Public Service	39	541	502	1,287
Academic Support	340	1,022	682	201
Student Services	499	1,264	765	153
Institutional Support	668	2,019	1,351	202
Physical Plant	481	1,049	568	118
Mandatory Transfers	116	271	155	134
Restricted Financial Aid	286	1,457	1,171	409
Unrestricted Financial Aid	252	1,418	1,166	463
Totals[a]	$4,623	$13,857	$9,234	200%
FULLY ALLOCATED EXPENDITURES				
Instruction	$3,980	$9,958	$5,978	150%
Research	40	146	106	265
Public Service	64	878	814	1,272
Restricted Financial Aid	286	1,457	1,171	409
Unrestricted Financial Aid	252	1,418	1,166	463
Totals[a]	$4,623	$13,857	$9,234	200%

Source: Minnesota Private College Council.

[a]Totals may not add due to rounding.

cent using the PGSL, 42 percent using the CPI-U, and 28 percent using the HEPI.[39]

Increased instructional spending accounts for half of the tuition growth at private colleges.

Table 2.28 shows that tuition revenue per student grew faster than the average growth in all revenues. Tuition revenue per student increased 202 percent compared with 181 percent for all revenue sources. Only endowment income (259 percent) grew faster, but endowment income accounted for only seven percent of all revenue. The data suggest that tuition revenue has become a larger source of revenues for private colleges than in the past, but that this increased tuition reliance is not as significant as in the public sector. Tuition grew from 70 percent of all revenues in 1980 to 76 percent of revenues in 1992.

Overall, the data show that:

- **Increases in instructional spending in excess of inflation accounted for almost half of the tuition growth at Minnesota's private colleges.**

39 As was done with the public systems, we adjusted instructional spending per student to reflect the economies of scale possible with increased enrollment. From 1980 to 1992, private college enrollment grew 25 percent. Based on the assumed economies of scale, the adjusted average instructional cost for 1980 was 95 percent of the actual average cost adjusted for inflation.

Table 2.28: Private College Revenues, 1980 and 1992

Type of Revenue	Revenues Per Student FY 1980	Revenues Per Student FY 1992	Dollar Increase	Percentage Increase
Tuition	$3,335	$10,077	$6,742	202%
Government	590	1,309	719	122
Private Gifts	555	984	429	77
Endowment Income	262	941	679	259
Totals[a]	$4,742	$13,310	$8,568	181%

Source: Minnesota Private College Council.

[a]Totals may not add due to rounding.

- **Inflation accounted for a little more than one-third of the tuition growth, while all other factors accounted for about one-sixth of the tuition growth.**

Inflation and increased financial aid were also important factors in tuition growth at private colleges.

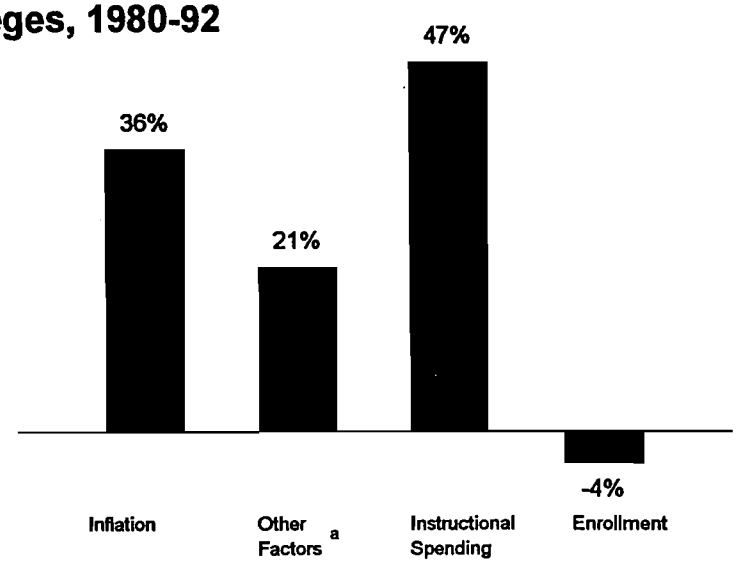
Instructional spending increases in excess of inflation, as measured by the PGSL, accounted for 47 percent of the tuition growth.[40] (See Figure 2.9.) Inflation accounted for 36 percent of the growth, while tuition reliance and other spending and revenue factors accounted for 21 percent. We estimate that enrollment increases, through the impact of economies of scale, reduced tuition per student by 4 percent.

The portion of tuition growth caused by increases in instructional spending would be 44 percent using the CPI-U and 34 percent using the HEPI. Inflation would be responsible for 39 percent of the tuition growth using the CPI-U and 48 percent using the HEPI. Tuition reliance and other factors would be responsible for 22 percent using either of these two price indices. Finally, enrollment would have lowered tuition by 4 percent using the CPI-U and 5 percent using the HEPI.

Table 2.29 provides some additional details on the effect of some types of expenditures and revenues on tuition growth. The table shows that, while instructional spending increases in constant dollars accounted for 47 percent of the overall tuition growth, increased spending for financial aid accounted for 31 percent of all tuition growth. Other spending increases account for about 14 percent of all tuition growth. However, non-tuition revenue increases and a change in the net revenue position of private colleges caused a lowering of tuition per student by 24 percent. When the financial aid, other spending, non-tuition revenue, and net revenue changes are combined, they were responsible for the 21 percent share of tuition growth which is attributed in Figure 2.9 to the "other factors" category.

40 As was the case for the four public systems, it was not possible to estimate the impact of changing program mix and student composition on average instructional expenditures. Consequently, the effect of these factors, if any, is included in the increase in instructional spending in excess of inflation.

Figure 2.9: Sources of Tuition Growth for Private Colleges, 1980-92



[a]Includes various factors such as non-tuition revenue and non-instructional spending.

Table 2.29: Sources of Private College Tuition Growth in Excess of Inflation, 1980-92

	Change in Constant Dollars Per Student[b]	Percentage of Constant Dollar Tuition Increase	Share of Overall Tuition Growth
EXPENDITURES			
Instruction[a]	$3,079	71%	47%
Unrestricted Financial Aid	982	23	16
Restricted Financial Aid	963	22	15
Public Service[a]	767	18	12
Research[a]	76	2	1
Subtotal[c]	$5,867	136%	92%
REVENUES			
Tuition	$4,312	NA	NA
Endowment Income	489	(11)	(8)%
Government	290	(7)	(5)
Private Gifts	24	(1)	0
Subtotal[c]	$5,114	(19)%	(13)%
Excess of Revenues Over Expenditures	($753)	(17)%	(12)%
Inflation	NA	NA	36
Enrollment	NA	NA	(4)
Totals[c]		100%	100%

[a]Fully allocated expenditures.

[b]In 1992 dollars using the PGSL Index.

[c]Totals and subtotals may not add due to rounding.

Discussion

In general, we found that:

- **Most of the tuition growth for Minnesota's public colleges and universities was the result of inflation and an increased reliance on tuition, rather than state appropriations, to fund instructional spending.**

- **In contrast, almost half of the tuition growth in Minnesota's private colleges was the result of faster than inflationary growth in instructional spending. Another one-third of the tuition growth was due to inflation.**

The results for public colleges and universities should not be surprising. State budget problems in the early 1980s and subsequent state policy on tuition have caused Minnesota's public systems of higher education to rely less on state appropriations, and more on tuition revenues, to fund instructional activities.

Our findings are similar to a major national study.

Also, our findings for both the public and private sectors are remarkably consistent with some national results. In his book, *The College Tuition Spiral*, Arthur Hauptman examined the sources of tuition growth nationwide from 1970 through the mid-1980s.[41] Hauptman found that the most important factor causing growth in public sector tuition has been the relative decline in state appropriations as a funding source for higher education. In the private sector, Hauptman found that spending increases in excess of inflation had been the principal cause of tuition increases. These spending increases had been incurred for improved facilities and services, faculty salaries, and institutionally-funded financial aid. For both sectors, Hauptman also noted that inflation in the goods and services purchased by colleges, including salaries and fringe benefits of their employees, explained part of the tuition increases.

Other less significant factors which Hauptman identified were increased real spending at public colleges and universities and the growth in campus-based research. Hauptman recommended that special attention be given to the growth in administrative costs because of their faster than average growth rates. $FFor private sector institutions, Hauptman recommended that special attention be paid to expenditures on administration, financial aid, student services, and public service activities. He suggested that growth in research spending may have caused tuition growth because the costs of doing research appeared to have increased faster than the growth in federal support for research. He suggested that, with each additional research grant received, universities were losing money which was then made up by using tuition revenues to subsidize research.

Hauptman concluded that two factors suggested by others had not been a significant factor affecting tuition. He found that private college tuition had not grown

41 Arthur Hauptman, *The College Tuition Spiral: An Examination of Why Charges Are Increasing* (New York: Macmillan, 1990).

in response to declining income from endowments and private gifts. During the period he examined, a slight decline in private gifts was matched by a similar increase in endowment income. In addition, Hauptman concluded that increases in federal student aid were not a significant factor except for schools charging little or no tuition and perhaps for-profit schools.

Both our research and that of Hauptman agree that tuition reliance and inflation are the two main factors explaining tuition increases in the public sector. Similarly, we both agree that real spending increases and inflation explain much of the tuition growth in the private sector. We similarly suggest that growth in research and other non-instructional spending at the University of Minnesota may be indirectly affecting tuition.[42]

One slight difference between Hauptman's findings and ours is that he highlights the growth in administrative expenditures as an area deserving of special attention. While it merits and has received attention in Minnesota, our analysis of expenditure data suggests that the growth in employee fringe benefits across all categories of spending has played a greater role in tuition increases for a number of Minnesota's public systems of higher education.[43] Our finding regarding fringe benefits is consistent, however, with Hauptman's observation that the fastest growing component of higher education spending in the 1980s was fringe benefits. From 1980 to 1987, fringe benefits more than doubled nationally.[44]

A second difference is that Hauptman attributes some of the private sector tuition growth to spending on improved facilities. For Minnesota's private colleges, however, the available data suggest that increased facilities expenditures was not a significant factor in tuition growth. Operating expenditures for physical plant grew the slowest of any major expenditure category.[45]

SUMMARY

Tuition rates in Minnesota have grown significantly since the early 1970s. During the 1970s, tuition increases generally did not exceed inflation. Unlike the 1970s, tuition increases since 1981 have significantly exceeded inflation as inflation rates decreased. Also, the rate of growth in tuition exceeded the growth rate for per capita income in Minnesota since the early 1980s, reversing the trend of the 1970s.

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42 In Minnesota, however, tuition revenue cannot directly subsidize research. Tuition can be indirectly affected to the extent that state appropriations for instructional expenditures are constrained in response to the perceived need to increase state appropriations for research and other non-instructional activities.

43 Our office previously conducted a study of administrative spending in three of Minnesota's public systems. See Office of the Legislative Auditor, *Higher Education Administrative and Student Services Spending: Technical Colleges, Community Colleges, and State Universities* (Saint Paul, March 1992).

44 Hauptman, 27-28.

45 If capital expenditures on facilities grew significantly, they were most likely financed by private donations not accounted for in the operating expenditures and revenues which we examined.

Tuition and required fees for Minnesota's four public systems of higher education and Minnesota's private colleges all exceed national averages. Tuition at Minnesota's community colleges and technical colleges greatly exceed the national average for two-year public colleges. The rates of increase for Minnesota's colleges and universities have tended to mirror the rates of increase nationwide. Faster than average growth has occurred at Minnesota's technical colleges, private colleges, and the University of Minnesota. Slower than average growth has occurred at community colleges and state universities.

Tuition growth at Minnesota's public institutions has largely been the result of the relative decline in the use of state appropriations to fund instructional spending. Increased reliance on tuition revenue, as well as the effects of inflation on spending, accounted for more than 80 percent of the tuition growth in each of Minnesota's four public systems. Increases in spending in excess of inflation explained only 9 to 18 percent of the tuition growth. At the state universities and community colleges, much of the spending growth in excess of inflation was due to substantial growth in employee fringe benefits, which grew largely in response to factors beyond the immediate control of the two systems. At the University of Minnesota, increased state appropriations for non-instructional expenditures such as research may have been indirectly responsible for tuition increases.

At Minnesota's private colleges, we found that instructional and overhead spending increases in excess of inflation accounted for almost half of the tuition growth from 1980 to 1992. In addition, inflation explained more than a third of the tuition growth. Increased spending on financial aid and public service activities explained smaller portions of tuition growth at the private colleges.

Although tuition has grown significantly in Minnesota and exceeds national averages, this report does not take a position on whether tuition in Minnesota's public colleges and universities is too high or too low. We do not address this issue because the issue was beyond the scope of our study and is, to some extent, a philosophical one. Some would argue for lower tuition because of the societal benefits of college attendance, and would suggest that the best way to promote college attendance is to keep the sticker price down. Others would suggest that public college tuition should be increased to more fully reflect the costs of education and that the burden on taxpayers to support public higher education should be reduced. Proponents of the latter approach usually recommend increasing both tuition and financial aid and targeting the financial aid to lower-income students. The purpose of this report was not to resolve this issue but to help answer a number of factual questions regarding Minnesota tuition growth and to place tuition policy discussions into historical context.

State Grants

CHAPTER 3

As shown in Chapter 2, tuition and fees at Minnesota's higher education institutions have risen dramatically since the early 1980s, generally outstripping both inflation and growth in personal income. Consequently, students and their families are finding it increasingly difficult to afford higher education, regardless of financial status. Of particular concern is the ability of lower-income students to afford higher education.

Concern over the affordability of higher education was especially evident during the 1993 legislative session. As discussed in Chapter 1, the Minnesota Private College Research Foundation released a report that highlighted how difficult it was for low-income families to afford college.[1] The foundation also released data that showed an apparent drop in the number of lower-income students applying for financial aid. At the same time, legislators were concerned that the state grant program was serving upper-income students while they had little information that described how it was serving lower-income students. Also, they questioned the methods that the Higher Education Coordinating Board (HECB) used to calculate state grants for students attending private schools. Finally, the Governor and the Higher Education Coordinating Board recommended increasing both student financial aid and public school tuition and fees, while decreasing direct state appropriations to public higher education systems.

In response to these concerns, the 1993 Legislature created a financial aid task force to examine, among other things, how schools package financial aid and to develop alternative financial aid policies.[2] In addition, the Legislative Audit Commission directed our office to conduct a study of higher education tuition and student financial aid. We conferred with individual legislators and staff and subsequently focused our evaluation on the state grant program, the policies that govern it, its relationship with the federal Pell program, and how it distributes grants to students by income level. Specifically, our research focused on the following questions:

- **What are the state's goals in providing grants to undergraduates? How is state money allocated to individuals in coordination with federal Pell grants?**

1 Minnesota Private College Research Foundation, *Ways and Means: How Minnesota Families Pay for College* (St. Paul, November, 1992).

2 *Minn. Laws* (1st Spec. Sess. 1993), Chap. 2, Sec. 24. Two years earlier, it had created a higher education funding task force to examine how the public systems are funded and make appropriate recommendations, and its report was released in February 1994.

- **How do students apply for state grants? Do they face undue barriers?**
- **How much aid do lower-income students receive from the state grant program compared with middle- and upper-income students? To what extent is the aid directed to lower-income students?**

To answer these questions, we interviewed staff from the Higher Education Coordinating Board, the Legislature, higher education system offices, and various institutions, and we met with student representatives. We examined data collected by HECB on state grant recipients and expenditures, and data from the American College Testing (ACT) program on financial aid applicants and ACT test takers. We also looked at HECB data on the postsecondary plans of Minnesota's high school juniors. Finally, we reviewed numerous research articles regarding student financial aid, and we talked with several higher education researchers.

Our analysis focused on the state grant program.

Because our analysis is limited to the state grant program and does not include other financial aid programs or sources of aid that families may use to help pay for higher education, we cannot make specific recommendations about financial aid or financial aid policies that could provide relief to certain types of students or parents. It should be noted that the term "financial aid" includes grants, loans, and work programs. As we explained in Chapter 1, state grants made up only 13 percent of the financial aid expenditures that helped undergraduates attend college in fiscal year 1991.[3] We recognize that it may be difficult for families, especially lower-income ones, to pay for college without using other sources of financial aid beyond state grants, and the problem merits study. However, the extent to which families have used loans, private or institutional grants and scholarships, or any other source of funds to help pay for college is beyond the scope of this study. Also, we have generally defined higher education attendance costs to include only those costs that the state grant program recognizes, which are not necessarily the actual costs that students may face. Finally, we did not examine how well the Higher Education Coordinating Board administers the state grant program. However, we do point out some administrative problems with the board's data that severely limit the amount of useful information available to policy makers.

In this chapter, we do not present extensive data on the distribution of state grants to students at the various systems of higher education because the Legislature has designed the state grant program to follow students, not systems. How much state grant money students in each system ultimately receive depends on their decision to attend one institution and not another, full time or part time. However, we present some data by system in Appendix C.

This chapter is divided into three sections. First, we discuss how the state grant program generally operates and how much it has cost over time. Second, we look at the percentage of Minnesota high school students who said in surveys that they needed financial aid and examine how many Minnesota residents have actually

3 This included a variety of grant programs besides the state grant program that were administered at the state level during fiscal year 1991, such as part-time state grants, dislocated worker grants, non-AFDC child care grants, nursing grants, and safety officer survivor grants.

applied for it. Third, we analyze in detail the financial status of all students who received a state grant during the 1992-93 academic year.

We found that the distribution of state grant money depends heavily on students' "financial need," which the state grant program defines as the difference between one-half of the cost to attend a particular school and a combination of federal Pell grants, if any, and a formula amount that families are expected to pay. Being "financially needy" according to the state grant program does not necessarily mean that students come from families whose income is low compared with others. Instead, students' financial need varies with their choice of postsecondary school and, consequently, the same student could be considered financially needy by attending a high-cost school, but not a low-cost one.

The state grant program applies at most to one-half of a student's educational costs.

Our results show that lower-income students have received most of the state grants and most of the state grant money, but some upper-income students also have received state grants, mainly because they attended higher-cost schools, came from larger families, and had more than one family member in college. Also, some students who had high incomes when they applied for a state grant were no longer in that category because unforeseen circumstances, such as a parent's death or divorce, had changed their overall financial situation.

It is important to note that the state grant program is designed to help pay for only half of students' educational costs as defined by the grant program, irrespective of students' financial status, and does not help students finance the other half. Because these other costs may be substantial, especially for lower-income students attending private schools, we think that policy makers should focus their attention not only on the state grant program, but the entire array of financial aid programs available to students. In the final analysis, the success of the state grant program rests on the ability of students, especially lower-income ones, to obtain enough financial aid to help them attend the school of their choice.

THE STATE GRANT PROGRAM

In 1967, the Minnesota Legislature created the State Scholarship Program which awarded need-based grants to students graduating in the upper fifth of their high school class to help them attend the institution of their choice.[4] Two years later, it authorized the State Grants-in-Aid Program which provided the same type of assistance to students, but solely on the basis of financial need.[5] Together, these two programs, along with the federal Basic Educational Opportunity Grant program (now known as the Pell grant program), became the foundation of Minnesota's undergraduate financial aid program.

As shown in Figure 3.1, the state grant program is limited to Minnesota residents attending Minnesota schools. The program provides aid for the first four academic years of school, during which recipients must make satisfactory academic

4 *Minn. Laws* (1967), Chap. 871.

5 *Minn. Laws* (1969), Chap. 1144.

Figure 3.1: State Grant Eligibility Requirements, 1993-94 Academic Year

Applicants must be Minnesota residents, defined as follows:

- Graduated from a Minnesota high school while living in a state other than Wisconsin, Iowa, North Dakota, or South Dakota; or
- Received a General Education Diploma in Minnesota after living in Minnesota for 12 months; or
- Are eligible for resident tuition rates other than through a reciprocity agreement; or
- Are dependent and their parents lived in Minnesota on the date the financial aid application was completed; or
- Are independent and lived in Minnesota for 12 consecutive months immediately before enrolling at least half time at an eligible Minnesota school.

Applicants must also:

- Have demonstrated financial need, defined as the difference between the cost to attend a particular school and (a) a formula amount that families are expected to pay and (b) federal Pell grants, if any;
- Have a high school diploma or its equivalent if under 17 years of age;
- Be enrolled in a degree, diploma, or certificate program at an approved institution in Minnesota;
- Have not completed the equivalent of four full-time academic years of postsecondary education or received a baccalaureate degree;
- Not owe for a previous state grant overpaypment;
- Not be in default on a student loan; and
- Not be more than 30 days in child support arrears.

Source: Higher Education Coordinating Board.

progress according to institutional standards. State residents who have already earned a baccalaureate degree or have attended postsecondary school for the equivalent of four academic years are not eligible for state grants.

Institutions must also meet certain criteria to participate. They must: (a) be located in Minnesota, (b) offer at least one academic or vocational program that is at least eight weeks long and involves at least 12 credits or 300 clock hours, and (c) be accredited, licensed, or approved by the appropriate government agency or association. During the 1992-93 academic year, 169 schools were eligible to participate in the state grant program, and 172 schools were eligible to participate in the Pell program, which has slightly different eligibility requirements. Participating schools included all those in the state's four public systems and most of the state's private colleges and vocational schools.

From 1967 through 1983, HECB administered its grant programs much like the federal government administered the Basic Educational Opportunity Grant program. Like federal grants, state grants were capped at a certain maximum amount, and federal and state awards together could not exceed a fixed percentage of students' financial need, which was defined as the amount remaining after parent and

student contributions were deducted from the total educational cost recognized by the program. Those costs included tuition and fees and a living and miscellaneous expense allowance. Minnesota also required all state grant recipients, regardless of financial need, to contribute at least a minimum amount toward their education. For example, during the 1982-83 academic year, the Legislature set the maximum size of state grants at $1,050, and limited the amount that could be covered by state and federal grants to 75 percent of educational costs. All students had to contribute at least $700 toward their education, and the maximum federal grant was $1,800.

Over time, legislators and program administrators grew concerned that maximum grant awards and other rationing techniques, which they adopted because of inadequate funding, were causing lower-income students to pay a larger share of their educational costs than upper-income students attending the same institutions. Thus, the 1983 Legislature, at the urging of HECB, approved a comprehensive package of higher education policies which included a major redesign of the State Scholarship and Grants-in-Aid Programs.[6]

All students are responsible for at least half of their educational costs.

The cornerstone of the new design, which is still in effect, is commonly referred to as the "Design for Shared Responsibility." This state policy divides the overall responsibility for paying for undergraduate education among students, their families, and, if necessary, state and federal government. It requires that all students, regardless of income, assume responsibility for at least 50 percent of the cost recognized by the state grant program by using savings, earnings, loans, campus-based aid, or any other source. This is referred to as the "student share." The remaining 50 percent, called the "family-government share," is to be covered by the family to the extent possible, plus government grants when families lack the necessary financial resources.

Who pays the family portion of the family-government share depends upon whether a student is classified as dependent or independent. Generally, the state grant program considers all students dependent on their parents for financial support unless they are 24 years or older, a veteran, or meet one of the other criteria shown in Figure 3.2. Parents of dependent children are expected to contribute toward the family-government share of the cost of education if they have sufficient income and assets. Similarly, independent students, and their spouses if they are married, are expected to contribute toward the family-government share if they can afford it, but their parents are not expected to pay. In addition, independent students must assume responsibility for the 50 percent student share just like dependent students.

To implement the shared responsibility concept, HECB calculates a "cost of attendance" for each school participating in the state grant program. Minnesota statutes define the cost of attendance as tuition and fees plus a living and miscellaneous expense allowance. For private institutions, tuition and fees are "capped" at the lesser of the actual tuition and fees or the instructional costs per full-time student in comparable public institutions.

6 *Minn. Laws* (1983), Chap. 258, Secs. 41-42.

Figure 3.2: Definition of an Independent Student, 1993-94 Academic Year

A student is automatically considered independent for both state and federal grant programs if she or he meets any one of the following criteria:

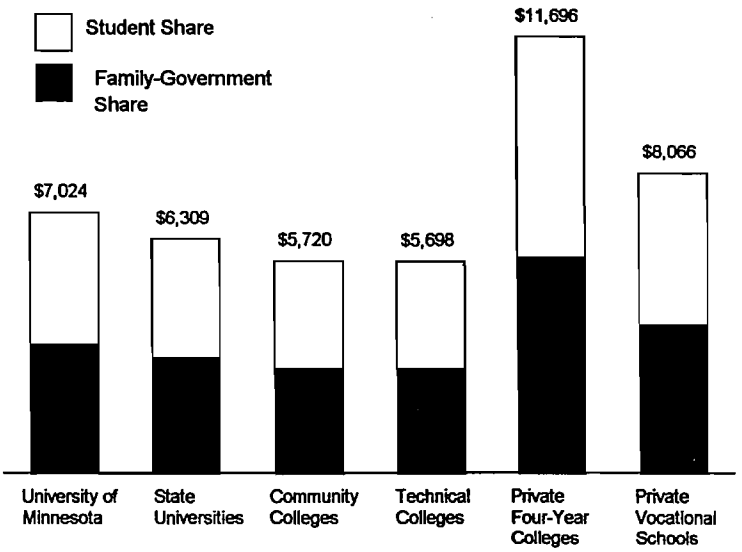
- Is at least 24 years of age by December 31, 1993;
- Is a veteran of the U.S. Armed Forces;
- Is a ward of the court or both parents are dead;
- Has legal dependents other than a spouse; or
- Is married.

Source: U.S. Department of Education, *The EFC Formula, 1993-94* (Washington DC, undated), 4.

Figure 3.3 shows the average cost of attendance as defined by the state grant program for each higher education system during the 1992-93 academic year.[7] As shown, the average cost of attendance for the purposes of the state grant program varied considerably among systems. We found that system averages ranged from $5,698 in technical colleges to $11,696 in private four-year colleges. Under the Design for Shared Responsibility, a combination of state and federal Pell grants and expected family contributions would have paid for one-half this amount, which would have been as low as $2,849 for technical college students and as

The cost of attendance varies by higher education system.

Figure 3.3: Average Cost of Attendance Recognized by the State Grant Program by System, 1992-93 Academic Year



Source: Higher Education Coordinating Board.

7 We calculated an average cost of attendance for the University of Minnesota and private vocational schools using the tuition rates that participating schools reported for the purposes of the state grant program. For the remaining four systems, we used the average tuition rates reported by the Higher Education Coordinating Board in its *Report to the Governor and 1993 Legislature, Technical Report.*

high as $5,848 for private four-year college students. Thus, the maximum state grant that some students could have received was $5,848 during the 1992-93 academic year.

Students are responsible for the remaining half of the cost of attendance, as defined by the state grant program. In addition, private school students must pay any tuition and fees that exceed the private school caps. For the private four-year colleges, tuition and fees were, on the average, $1,098 higher than the private four-year college cap of $7,663 during the 1992-93 academic year.[8] We found that total student costs in private four-year colleges (that is, the student share defined by the state grant program plus any tuition and fees beyond the private college cap) would have averaged $7,423, compared with a maximum student share of $5,848 used by the state grant program. However, there was considerable variation among private institutions of the same type. For example, the total student costs would have ranged from $3,809 to $15,545 in private four-year colleges and from $2,166 to $7,649 in private vocational schools during the 1992-93 academic year.

For purposes of the state grant program, being financially needy does not mean that students are poor.

Minnesota statutes do not specifically delineate the goals of the state grant program nor who should receive state grants beyond the general eligibility requirements shown earlier. According to *Minn. Stat.* §136A.095, the state grant program should encourage economically disadvantaged students to attend the institution of their choice. Yet, there is no definition of who is disadvantaged and no upper limit on recipients' income. Instead:

- **Students who receive state grants must meet the technical definition of "financial need," but not necessarily come from poor families.**

Moreover, all students, regardless of income or financial need, must pay at least half of the recognized cost of attendance.

To determine how much families are expected to contribute toward the family-government share of costs, the state grant program uses a slightly modified version of a federal formula, which is described in Figure 3.4.[9] Hereafter, we refer to "expected family contributions." This term refers to the amount of money the state has determined families should be able to pay for education, but is not necessarily what they actually pay. There is no guarantee that families will actually contribute any amount, regardless of their income. As indicated earlier, parents are expected to pay the family contribution for their dependent children. Independent students and their spouses, if married, are expected to pay the family contribution themselves. Generally, as total family income (taxed and untaxed) and net worth increase, the size of the expected family contribution increases. At the same time, as family size, number of students in college, and the age of the older parent increase, the expected family contribution decreases.

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8 Average private four-year college tuition is based on tuition and fees for the 32 private four-year colleges that participated in the state grant program during the 1992-93 academic year. Private four-year college tuition and fees shown in Chapter 2 are only for the 16 members of the Minnesota Private College Research Council.

9 Expected family contributions were calculated somewhat differently during the 1992-93 academic year.

Figure 3.4: Major Steps in Computing Expected Family Contribution, 1993-94 Academic Year

I. Determine available income:
   A. Calculate total income, taxed and untaxed;
   B. Subtract income allowances:
      1. federal income tax paid,
      2. state tax allowance,
      3. social security allowance,
      4. income protection allowance, based on the number of family members and the number in college, and
      5. employment expense allowance, up to a maximum of $2,500.

II. Determine available assets:
   A. Add total cash from savings and checking accounts, and the net worth of real estate, investments, and business;
   B. Subtract an asset protection allowance, based on the age of the older parent; and
   D. Multiply by 12%.

III. Add available income and available assets.

IV. Compute total family contribution, using a table.

V. Divide the total family contribution by the number of children in college.

Source: U.S. Department of Education, *The EFC Formula, 1993-94* (Washington, DC, undated).

Students' credit load and choice of school are important factors in the size of state grants.

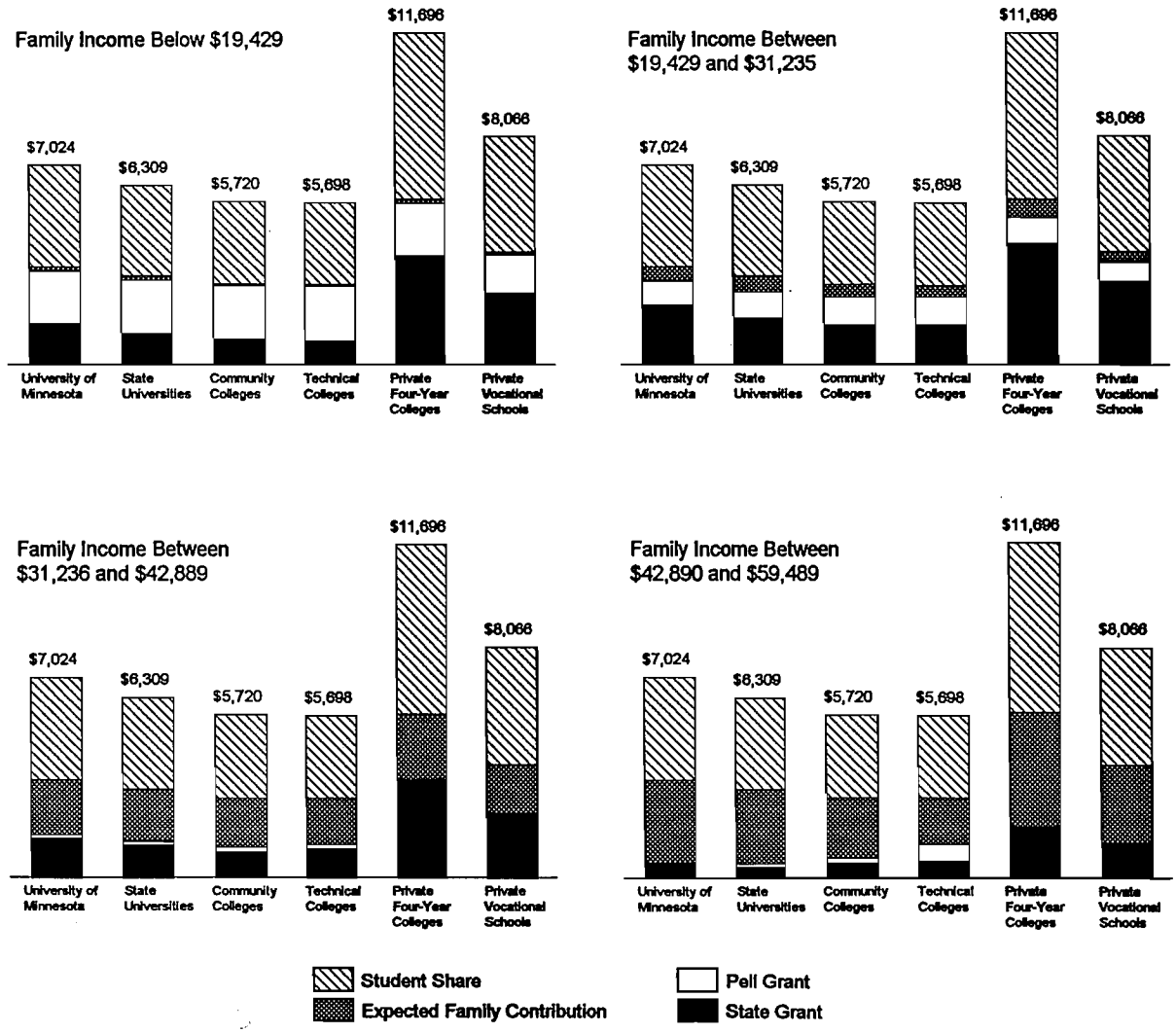
In general, the cost of attending a particular school and whether the student attends full or part time are irrelevant when the state calculates an expected family contribution. For example, if the formula determines that a family can afford to contribute $1,000, the methodology assumes it can do so regardless of the student's school choice or enrollment status. However, these factors are important when determining the size of a student's state grant, and the state grant varies accordingly. The grant formula first subtracts the expected family contribution from the family-government share of the cost of attendance for a full-time student, along with any Pell grant a student may receive. For full-time students (those enrolled for a minimum of 15 credits), the state grant program fills in the remaining amount, if any. The higher the remaining cost of attendance, the larger the state grant. Conversely, a state grant may not be necessary if families and the federal government can completely cover the cost.

Since the 1992-93 academic year, students who have enrolled less than full time have received grants that vary with the number of credits for which they are enrolled. Students must enroll for at least three credits in order to receive a state grant.[10]

10 Minn. Laws (1992), Chap. 513, Art. 1, Sec. 13 directs HECB to prorate the cost of attendance for students attending less than full time (15 credits) to the actual number of credits for which they are enrolled. Prior to this, the board defined full time as 12 to 15 credits. Also, beginning with the 1993-94 academic year, the state grant program has served students who attend less than half time. Previously, the state had a separate part-time state grant program.

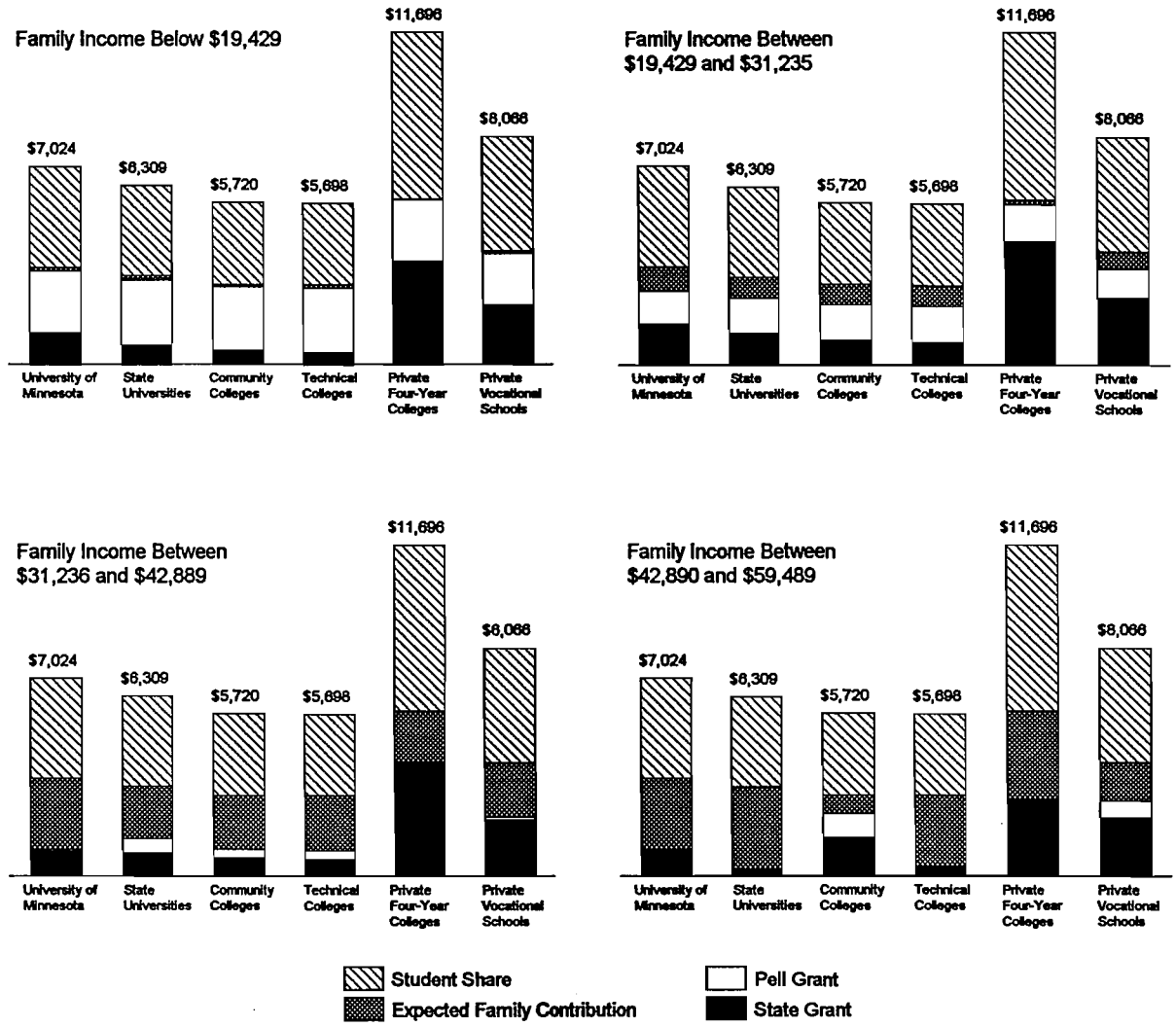
Figures 3.5 and 3.6 illustrate how the state grant program would have worked for dependent and independent students at various income levels attending different types of schools during the 1992-93 academic year. Using average family income data for state grant recipients at different income levels, we estimated the average size of the state grant, Pell grant, and expected family contribution for full-time dependent students who had an average family size (4) and an average number of family members in college (1). For independent students, we used a family size of 3 and 1 family member in college, which were the overall averages for independent state grant recipients.

Figure 3.5: Assignment of Responsibility for Dependent Students' Cost of Attendance at Various Income Levels, 1992-93 Academic Year



Note: Students and their families also would be responsible for an average of $1,098 in additional costs to attend private four-year colleges. These additional costs reflect tuition and fees above the amount recognized by the state grant program. Also, some upper-income students received grants for reasons discussed later in this chapter.

Figure 3.6: Assignment of Responsibility for Independent Students' Cost of Attendance at Various Income Levels, 1992-93 Academic Year



Note: Students and their families also would be responsible for an average of $1,098 in additional costs to attend private four-year colleges. These additional costs reflect tuition and fees above the amount recognized by the state grant program. Also, some upper-income students received grants for reasons discussed later in this chapter.

As shown, the size of the state grant increased as students' cost of attendance increased, while the expected family contribution increased with income. Also, Pell grants comprised most of the government's share for low-cost schools, such as technical and community colleges, especially for lower-income students, and state grants contributed less.

Although the state grant program is closely tied to the federal Pell program, the two programs have somewhat different student eligibility requirements and deter-

mine financial need differently, as shown in Figure 3.7.[11] For example, the federal government sets one maximum grant size, but the state has different maximum grants depending on the cost of attendance (up to a point for private schools). As we discuss later, the state grant program has used a higher living and miscellaneous expense allowance than the Pell program. Also, the two programs calculate different expected family contributions.

We found that:

- **The state grant program is not specifically targeted to serve lower-income residents, mainly because it is designed to work in conjunction with the federal Pell grant program.**

Figure 3.7: Major Differences in the State Grant and Federal Pell Programs, 1993-94 Academic Year

STATE GRANT	PELL GRANT
Student Eligibility	
• Must enroll in a program at least 8 weeks long.	• Must enroll in a program at least 15 weeks long.
• May receive grants for 4 academic years (or the equivalent).	• May receive grants through the first baccalaureate degree.
• Cannot be in child support arrears.	• Can be in child support arrears.
Determining Financial Need	
• One standard living and miscellaneous expense allowance of $4,115.	• Schools determine living and miscellaneous expense allowances based on students' living arrangements, whether they have dependents, and whether they have child care or handicap-related expenses.
• Maximum grant varies by school, up to $5,889.	• Maximum grant of $2,300.
• For dependent students, expected family contribution does not include a student contribution from income and, only in rare cases, a student contribution from assets.	• For dependent students, family contribution includes income and asset contributions from parents and students.
• State, federal, and expected family contributions equal 50 percent of the recognized cost of attendance.	• Pell grant equals the maximum grant minus the expected family contribution or the recognized cost of attendance minus the expected family contribution, whichever is less.

11 The Pell program determined student eligibilty and financial need differently during the 1992-93 academic year. There were no major changes in the state grant program between the 1992-93 and the 1993-94 academic years.

Because the federal government bases Pell grants on its own lower calculation of the cost of attendance and sets one maximum grant size, the Pell program is quite specifically targeted to lower-income students. Because of this, students' financial need may be completely filled by the Pell grant alone, especially at lower-cost institutions. Since students' financial needs are first addressed by families and then federal Pell grants, some low-income students may not receive a state grant at all.

Some low-income students do not receive state grants because their need is already met by the federal Pell program.

The state grant program is very sensitive to federal changes in the Pell program. As we will see in the following sections, when the federal government has increased the size of Pell grants or expanded student eligibility, financial need, as defined by the state grant program, has decreased, and consequently the state has awarded fewer or smaller state grants. In this way, the state program has made maximum use of federal dollars. Conversely, when the federal government has failed to fully fund the Pell program, the state has picked up the difference.

Trends in State Grant Expenditures and Recipients

Using data from HECB, we examined overall trends in the total amount of state and Pell grant money spent since the 1983-84 academic year, the number of state grant recipients, and the average size of their grants. However, changes in these data over time may give misleading impressions. There are three main problems. First, since the state grant and Pell programs are directly linked, a change in one affects the other. Second, there are no data on the number of students who did not receive state grants because Pell grants and expected family contributions met their financial need. This data limitation makes it impossible to fully determine how well the state grant program serves lower-income students. Third, it can be misleading to examine how the average grant amounts and total expenditures have changed over time since students have increasingly enrolled part time, and this would generally reduce the size of grants.

Nevertheless, the data show that:

- **Since 1985, the overall volume of state and federal grant aid has kept pace with the general rate of inflation.**

As shown in Table 3.1, state grant awards in fiscal year 1991 amounted to $71.3 million. After adjusting for inflation, this amount was 27 percent higher in 1991 than in 1985.[12] In 1991, federal Pell aid totaled $109.1 million, 26 percent higher than in 1985, after adjusting for inflation. In total, state and Pell grant aid totaled $180.4 million in fiscal year 1991, up 25 percent in constant dollars from 1985.

About $65.8 million of the $109.1 million in Pell grants in fiscal year 1991 went to students who also received state grants. Using a combination of federal and state reports, we estimate that students in Minnesota schools received approxi-

12 We used monthly values of the CPI-U to calculate fiscal year averages of the U.S. consumer price index.

Table 3.1: State and Pell Grant Spending, Fiscal Years 1985-91

	1985	1987	1989	1991	Percent Change 1985-91
CURRENT DOLLARS					
State Grants	$44,356,131	$63,334,287	$55,487,310	$71,274,966	61%
Pell Grants	68,235,672	78,315,191	103,977,393	109,138,797	60
Total	$112,591,803	$141,649,478	$159,464,703	$180,413,763	60%
CONSTANT DOLLARS					
State Grants	$56,147,001	$76,306,370	$61,311,945	$71,274,966	27%
Pell Grants	86,374,268	94,355,652	114,892,147	109,138,797	26
Total	$142,521,269	$170,662,022	$176,204,092	$180,413,763	26%

Source: Higher Education Coordinating Board and U.S. Department of Education.

mately $43.3 million in Pell grants in the absence of state grants.[13] Most of the $43.3 million probably went to low-income students attending lower-cost schools who were ineligible for state grants because their financial need was met entirely by the Pell grant and expected family contribution.

We looked at how the total number of state grant recipients has changed since the Legislature adopted the Design for Shared Responsibility and found that:

- **Since the 1983-84 academic year, there has been a significant increase in the number of independent students receiving state grants, while the number of dependent recipients has remained about the same.**

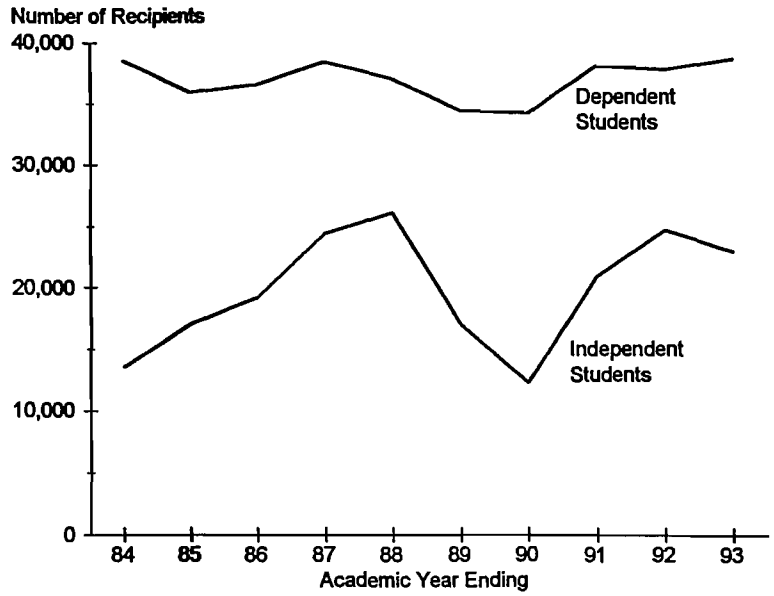
Increasing numbers of independent students receive state grants.

The number of independent students served by the state grant program increased 69 percent, from 13,584 in 1983-84 to 23,026 in 1992-93. At the same time, the number of dependent recipients changed very little, from 38,545 to 38,793. (See Figure 3.8.) Except for the University of Minnesota, all higher education systems experienced an increase in the number of independent students receiving state grants. The overall number of students who received state grants at the University of Minnesota declined mostly because the University has decreased its undergraduate population.

The figure indicates that the number of independent state grant recipients dropped temporarily during the 1988-89 and 1989-90 academic years. To some extent, this can be attributed to changes in the Pell program which (a) made more independent students eligible for Pell grants, and (b) increased the size of Pell grants. Such changes decreased the number of students who qualified for a state grant since the state program is tied directly to the federal one. Because financial need under the state grant program is addressed by Pell grants before state grants, fewer students, especially those in lower-cost schools, would have been served by the state pro-

13 The estimate may be high because some of the Pell grants may not have gone to Minnesota residents or to students eligible for the state grant program. The Financial Aid Task Force has collected some descriptive data on students who received only Pell grants during the 1992-93 academic year.

Figure 3.8: State Grant Recipients, Academic Years Ending 1984-93



gram. Others would have had more of their need addressed by the federal government, and would therefore have received smaller state grants.

Since the Design for Shared Responsibility was implemented, the maximum state grant that some students could have received has increased each year, going from $3,174 during the 1983-84 academic year to $5,848 during the 1992-93 academic year. This represents an 84 percent increase in current dollars and a 32 percent increase in constant dollars.

The maximum state grant was $5,848 in 1993.

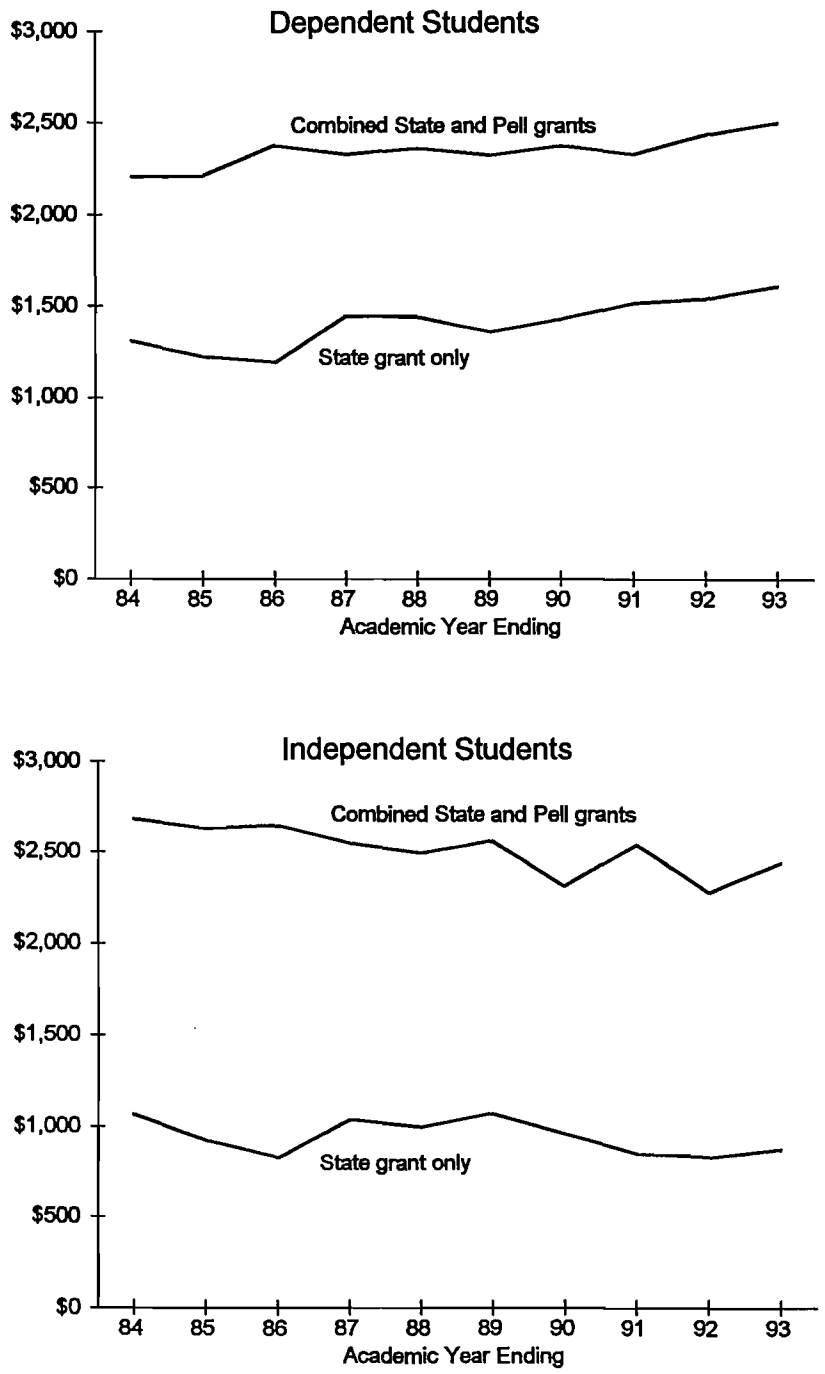
We also looked at how the average size of the state grant and the combined state and Pell grant have changed over time. These data are shown in Figure 3.9. We found that:

- **Since 1984, the average amount of state grants and combined state and Pell grants has increased in constant dollars for dependent students, but decreased for independent students.**

The average state grant for dependent students increased 24 percent in constant dollars between the 1983-84 and the 1992-93 academic years, and the average combined state and Pell grant increased 14 percent. In comparison, the average state grant for independent students decreased 18 percent in constant dollars, and the average combined grant decreased 7 percent. We think that these decreases can be explained largely by the increasing trend toward part-time attendance and changes in the federal Pell program which affect state grant eligibility. Also, the decrease in average grant size for independent students may be related to changes in students' life status. To the extent that marital status and number of dependents

The average combined grant has increased somewhat for dependent students while declining slightly for independent students.

Figure 3.9: Average Size of Grants in Constant 1993 Dollars, Academic Years Ending 1984-93



Source: Higher Education Coordinating Board.

have changed over time, the size of their expected family contribution and ultimately their state grant size would also change.

The downward trend in state grant size for independent students was consistent across all systems except for private four-year colleges, where the average state grant for independent students grew 24 percent in constant dollars, and the average combined state and Pell grant was unchanged. The average combined grant for private college students may have kept pace with inflation because most private four-year students attend full time. Also, as we discuss in the following section, the cost of attendance that the state grant program has recognized for students at private four-year colleges has increased faster than inflation and faster than the cost of attendance for public institutions. In addition, until the 1993-94 academic year, HECB followed a procedure when calculating state grants that resulted in grants for some independent private school students that were larger than they otherwise would have been.

Cost of Attendance Used to Calculate State Grants

As indicated earlier, financial need is defined as the difference between half of the recognized cost to attend a particular school and the expected family contribution and the Pell grant, if any. In the state grant program, the cost of attendance consists of tuition and fees and a standard living and miscellaneous expense (LME) allowance. We examine these factors in the following two sections, beginning with the living and miscellaneous expense allowance.

Living and Miscellaneous Expense Allowance

The cost of attendance includes a living allowance of more than $4,000.

Tuition and fees are only a part of the cost of an education. Both state and federal grant programs include an additional amount to help defray some costs related to attending school. According to Minnesota statutes, this amount, referred to as the living and miscellaneous expense allowance, should help to pay for room and board and miscellaneous expenses.[14] Such expenses can include items such as books, lab fees, and transportation.

The Higher Education Coordinating Board has based the living and miscellaneous expense allowance on the living expenses reported by state grant applicants in a 1985 survey, which it has adjusted for inflation.[15] At that time, 20 percent of students reported spending $2,750 or less on living and miscellaneous expenses. Since then, the Legislature has funded the LME at a level somewhere between the 16th and 20th percentile of student spending, after adjusting for inflation. Although HECB has advocated using the 25th percentile of reported expenses as the

14 Minn. Stat. §136A.121, Subd. 6.

15 Minnesota Higher Education Coordinating Board, *The Cost of Attendance in the State Scholarship and Grant Program with Coordinating Board Recommendations* (St. Paul, 1985) and *Proceedings of the Fourth Annual NASSGP/NCHELP Research Conference on Student Financial Aid Research* (Albany, NY: New York State Higher Education Services Corporation, 1987).

appropriate definition of a frugal student, the Legislature has never funded the LME at that level.

Table 3.2 shows how the living and miscellaneous allowance has changed over time. As indicated, the living and miscellaneous expense allowance for the state grant program was $4,033 during the 1992-93 academic year, which represents a five percent increase in constant dollars since the Legislature implemented the Design for Shared Responsibility in 1984. However, changes in the living allowance did not keep pace with inflation until the 1991-92 academic year. In 1993, the Legislature provided funds to increase the living and miscellaneous expense allowance to $4,115 for the 1993-94 academic year.

Table 3.2: Living and Miscellaneous Expense Allowance, Academic Years Ending 1984-93

Academic Year Ending	Current Dollars	Constant Dollars
1984	$2,750	$3,852
1985	2,750	3,706
1986	2,850	3,730
1987	2,960	3,790
1988	2,985	3,672
1989	2,995	3,524
1990	3,170	3,558
1991	3,465	3,686
1992	3,750	3,866
1993	4,033	4,033
Percent Change 1984-93	47%	5%

Source: Higher Education Coordinating Board.

Most of the recognized attendance cost in public schools is for living and miscellaneous expenses, not tuition.

The living and miscellaneous expense allowance accounts for the majority of recognized attendance costs for public schools. During the 1992-93 academic year, the living allowance made up 57 percent of the average cost of attendance at the University of Minnesota, 64 percent at state universities, 70 percent at community colleges, and 71 percent at technical colleges. In contrast, it accounted for only 34 percent of the cost of attendance that the state grant program recognized at private four-year colleges and 50 percent at private vocational schools.

Although the living allowance has been funded only at the 16th to 20th percentile of student spending, we found that:

- **The living and miscellaneous expense allowance for the state grant program during the 1992-93 academic year was significantly higher than the allowances in the federal Pell grant program, but lower than those used by most campuses when they award financial aid.**

During the 1992-93 academic year, the Pell program used two living allowances that depended upon students' living arrangements and whether they had any dependents. The allowance for students who lived at home and had no dependents was $1,800, and it was $2,400 for all others. This was $1,633 to $2,233 lower than what the state grant program used at that time.

However, Minnesota schools typically use higher living allowances than the state grant program when they allocate campus-based financial aid. During the 1986-87 academic year (the most recent year for which data are available), the average campus allowance for the typical student statewide (single dependent student with no dependents) was $4,135, while the state grant allowance was $2,960.[16]

Also, when campuses calculate living allowances, the amount may vary depending upon students' marital and dependency status, number of dependents, and living arrangements. On average, the school allowance for married students in the 1986-87 academic year was $1,851 higher than for unmarried students, and each dependent increased the allowance an average of $1,322. Also, students living off campus usually had an allowance $321 higher than students living on campus, and students living at home had an allowance that was $491 less than students living on campus.

In contrast, the Higher Education Coordinating Board uses one standard allowance for all students regardless of marital status and household size when calculating state grants. This is because the living allowance is intended to cover students' expenses only, not costs associated with having dependents. When the board examined the Design for Shared Responsibility in 1990, it looked at whether the allowance should vary with living arrangements and concluded that it would be too troublesome for the amount of money involved. Because two-thirds of all students move during the year, the board was concerned about having to recalculate grants. The board estimated that state grants which varied with living arrangements would differ by only $160 to $245, and it argued that differential allowances would provide incentives for students to choose arrangements that generate the most money.

Although we think that the state grant living allowance may not be equitable for all students in light of various living arrangements, it does not seem extravagant. For example, we found that, after subtracting on-campus room and board fees at the University of Minnesota and private colleges from the LME, only about $500 remained for books, department fees, and other related expenses.

Tuition and Fees

When the Legislature adopted the Design for Shared Responsibility, it limited the amount of tuition and fees which the state grant program uses to measure the financial need of students attending private schools. The Legislature capped the amount that would be recognized at the lesser of (1) the actual tuition and fees charged by the private institution, or (2) the instructional cost per full-time equiva-

16 Minnesota Higher Education Coordinating Board, *An Examination of the Design for Shared Responsibility and the State Grant Program* (St. Paul, 1990).

lent student in comparable public institutions.[17] The unrecognized portion of a private school's tuition and fees (the amount above the private school cap) are costs borne by students and their families, outside the state grant program. Depending upon the private school chosen, these unrecognized costs can be substantial. As we discussed earlier, the total student costs (the student share as defined by the state grant program plus any tuition and fees beyond the private school cap) for some private college students would have been as high as $15,545 during the 1992-93 academic year.

The Higher Education Coordinating Board was first required to establish separate tuition and fee caps (or limits) for private four-year colleges and private vocational schools in 1983. We found that:

- **Since the 1983-84 academic year, the private school caps have increased much faster than inflation and faster than average tuition and fees at public institutions.**

Private school tuition and fee caps increased faster than inflation since 1984.

As shown in Table 3.3, the private four-year cap increased 52 percent in constant dollars between the 1983-84 and the 1992-93 academic years, and the cap for private vocational schools increased 18 percent. At the same time, average tuition and fees for private four-year colleges have increased 55 percent, while average tuition and fees for private vocational schools have grown by 9 percent in constant dollars. In comparison, public school tuition and fees increased at a slower rate,

Table 3.3: Private School Tuition and Fee Caps, Academic Years Ending 1984-93

	Private Four-Year Colleges		Private Vocational Schools	
Academic Year Ending	Current Dollars	Constant Dollars	Current Dollars	Constant Dollars
1984	$3,598	$5,039	$3,573	$5,004
1985	4,063	5,476	3,752	5,057
1986	4,973	6,509	3,940	5,157
1987	5,271	6,749	4,215	5,184
1988	5,875	7,226	4,568	5,619
1989	6,024	7,087	4,684	5,511
1990	7,195	8,075	4,903	5,503
1991	7,663	8,152	5,146	5,474
1992	7,663	7,900	5,898	6,084
1993	7,663	7,663	5,898	5,898
Percent Change 1984-93	113%	52%	65%	18%

Source: Higher Education Coordinating Board.

17 *Minn. Stat.* §136A.121, Subd. 6 (2).

from 19 percent in community colleges to 30 percent in state universities, after adjusting for inflation.[18]

The data in Table 3.4 show how the average cost of attendance recognized by the state grant program for each of the higher education systems has changed over time in constant dollars. As shown, the recognized cost of attendance has increased more rapidly in private four-year schools (32 percent in constant dollars) than in public universities (13 to 14 percent).

We also found that more private four-year colleges are affected by the tuition and fee limits than private vocational schools. We learned that:

- **For the 1992-93 academic year, most private four-year colleges charged tuition and fees substantially above the private four-year cap, but most private vocational schools charged substantially less than their cap.**

Table 3.4: Cost of Attendance Recognized by the State Grant Program by System, Academic Years Ending 1984-93

Academic Year	University of Minnesota	State University System	Community College System	Technical College System	Private Four-Year	Private Vocational
1984	$6,165	$5,597	$5,270	$4,940	$8,891	$7,549
1985	6,144	5,637	5,193	5,027	9,182	7,868
1986	6,224	5,750	5,262	5,131	10,240	7,525
1987	6,461	5,868	5,318	5,283	10,539	7,922
1988	6,376	5,701	5,194	5,235	10,898	7,708
1989	6,200	5,518	5,059	5,059	10,611	7,425
1990	6,248	5,681	5,099	5,123	11,633	7,423
1991	6,506	5,811	5,254	5,278	11,838	7,535
1992	6,735	6,141	5,513	5,541	11,766	7,998
1993	7,024	6,309	5,720	5,698	11,696	8,066
Percent Change 1984-93	14%	13%	9%	15%	32%	7%

Note: Figures are in constant 1993 dollars.

Source: Higher Education Coordinating Board.

We found that actual tuition and fees in private four-year colleges ranged from $4,078 below the cap to $9,697 above during the 1992-93 academic year. However, 20 of the 32 private colleges that participated in the state grant program charged more in tuition and fees during the 1992-93 academic year than the four-

18 Average tuition and fees for the University of Minnesota and private vocational schools are based on undergraduate tuition rates that participating schools reported for the purposes of the state grant program. For the remaining four systems, average tuition rates are those reported by the Higher Education Coordinating Board in its *Report to the Governor and 1993 Legislature, Technical Report.* As such, private four-year college tuition rates are for Minnesota Private College Research Council members only. As discussed in Chapter 2, the large increase in technical college tuition and fees (49 percent) occurred largely because the technical colleges did not begin to charge tuition for Minnesota residents under the age of 21 until 1979.

year cap of $7,663. Average tuition and fees for these colleges were $3,283 higher than the four-year cap. Actual tuition and fees in private vocational schools ranged from $5,598 below the cap to $2,684 above it. However, 46 of the 59 private vocational schools that participated in the state grant program charged less than their cap of $5,898. Average tuition and fees for these schools were $2,595 less than the cap.

It should be noted that HECB has used various methods to set the private school caps, partly because it has been difficult to identify comparable public institutions and determine their instructional costs. Since 1984, the state grant program's caps on private school tuition and fees have been calculated in three different ways. From fiscal years 1984 through 1987, the board used instructional expenditure data submitted by the University of Minnesota for the Morris and Duluth campuses to set the four-year cap, and instructional expenditure data for the technical college system for the private vocational cap.

The private school caps have been calculated in various ways.

From fiscal years 1988 through 1993, HECB set the cap based on the simple average of instructional costs for all upper-division programs within the University of Minnesota and the State University System and for middle and high cost lower-division programs. It employed a similar method using the community and technical college systems for the private vocational caps. However, it gave technical college costs twice the weight of community college costs.

During the 1993 legislative session, the board's methodology was severely criticized. Partly because the Department of Finance had implemented new reporting requirements that changed how systems reported instructional costs, the Legislature adopted a new method that required the Department of Finance to determine instructional expenditures, project inflationary increases, and recommend the appropriate cap to the Legislature, using the University of Minnesota-Morris and Southwest State University as comparable institutions. Legislation adopted in 1993 indicates that the private four-year cap will decrease to $6,814 for the 1994-95 academic year. The private vocational cap will remain at its current level for the 1994-95 academic year (after being adjusted for inflation) while HECB studies whether a new methodology is needed.

Also, we found that:

- **From the 1983-84 through the 1992-93 academic year, the Higher Education Coordinating Board followed a procedure that, for some students at private schools, resulted in enlarged state grants and increased costs to the program.**

During the course of our research, we found that HECB had routinely subtracted the difference between independent students' actual and capped tuition and fees from their expected family contribution. Depending on the results, this could have increased the size of their state grant. We talked with HECB staff to determine the origins of this policy, and learned that this has been the practice since the Design for Shared Responsibility was implemented. According to staff, it was intended to provide additional help to those students who had to pay both the student share

and the family portion of the family-government share as well as any tuition beyond the private school cap. This practice was discontinued beginning with the 1993-94 academic year, but we estimate that this practice affected about 2,600 private four-year college students and about 1,500 private vocational students during the 1992-93 academic year, and increased the size of their state grants by an average of about $1,160 and $160, respectively. We estimate that this practice cost the state grant program about $3 million during the 1992-93 academic year alone.

The Higher Education Coordinating Board also followed a similar procedure under certain circumstances when it calculated state grants for dependent students, but this only had a minimal effect. The state grant program disregards dependent student income altogether when calculating the expected family contribution, and includes dependent student assets only rarely (that is, when 35 percent of dependent student assets is greater than one-half the cost of attendance). We estimate that this practice cost only about $50,000 in additional state grant expenditures for dependent students during the 1992-93 academic year.

APPLYING FOR FINANCIAL AID

This section examines how students apply for financial aid in general and whether they face undue barriers when doing so. First, we discuss the application process itself -- its cost, deadlines, and form. Second, we examine data from Minnesota high school students regarding their perceived need for financial aid to go on to further schooling. Third, we look at trends in the number and type of students actually applying for financial aid of any type.

Application Process

Students use a federal application form to apply for state grants.

As we showed in Chapter 1, there are many different student financial aid programs, including grants, loans, and work-study. To make it easy for students to apply, the federal government uses the same application form for almost all types of federal aid, and the state has adopted this application form for its programs. Thus, students fill out one major form, called the Family Financial Statement for the 1992-93 academic year and the Free Application for Federal Student Aid for the 1993-94 academic year, for most types of state and federal aid.[19]

The financial aid application form for the 1992-93 academic year contained 130 questions, some with multiple parts, regarding income, assets, and family situation. Instructions told applicants to assemble income tax returns, bank statements, mortgage information, medical and dental expense records, elementary and secondary tuition statements, and business, farm, and investment records.

To receive financial aid during the 1992-93 academic year, most Minnesota applicants submitted their financial aid application to the American College Testing (ACT) program in Iowa which processed the data to produce a Student Aid Re-

19 Until the 1994-95 academic year, the state supplemented the federal form by adding a few extra questions about state residency.

port. This report contained a Pell Grant index that indicated whether students were eligible for Pell grants. Schools in turn used this index to determine the exact size of the Pell grant.

If students were applying for a state grant, ACT forwarded individual financial aid application data directly to either HECB or the school of the student's choice if HECB had authorized it to calculate state grants and notify students of their awards directly.[20]

To receive a state grant for the 1992-93 academic year, applications had to be submitted by May 31, 1993. However, students were encouraged to apply as soon as possible to be sure that funds were available. The deadline for Pell grants was May 3, 1993, but, as in the state grant program, students were encouraged to apply much earlier. While the federal government does not charge students to apply for a Pell grant, there is a fee to have ACT send specific financial aid information related to the state grant program to HECB and individual schools.[21] For the 1992-93 academic year, students had to pay $6.75 for their first transmission of financial aid data and $4.00 for each additional one. For 1993-94, the fee is simply $6.90, and it will be eliminated altogether for the next year.

We examined the financial aid application form and found that it was long and complicated. However, we think that:

- **Because state grants are designed to vary in relation to income and assets, the grant application process is, by necessity, somewhat complex.**

In our opinion, it is difficult to maintain simplicity and still obtain all of the information that the state needs to distinguish among students' ability to pay. Because the state grant program is not specifically targeted to serve only lower-income students, it seems appropriate for the state to collect various income and asset data. This allows the program to distinguish among families' various abilities to pay their share of education costs. Also, as we discussed earlier, the state grant program uses the federal financial aid application to generally determine eligibility for state grants, and this keeps students from having to complete multiple financial aid applications.

The federal government has simplified the financial aid application form.

Nevertheless, the federal government has made substantial changes over the last five years to simplify its application form, especially at lower levels of income. For example, during the 1992-93 academic year, certain applicants earning $15,000 or less did not have to submit asset information. Also, the process was simplified for dislocated workers and displaced homemakers. Beginning with the 1993-94 academic year, certain applicants with incomes below $50,000 do not

20 The Higher Education Coordinating Board has encouraged schools to assume grant processing responsibilities. During the 1992-93 academic year, HECB permitted 46 schools to calculate their own state grants, and HECB calculated them for the remaining schools. As we discuss later, we found data-related problems with this arrangement.

21 Some students who attend schools that calculate their own state grants may not have to pay a fee if the school collects the necessary data.

have to submit asset information. In addition, many items have been eliminated from this year's form altogether.

Perceived Need For Financial Aid

Using survey data collected from high school students, we looked at how families' financial situations have affected high school students' plans for higher education.[22] We found that:

- **Since the mid-1970s, the proportion of Minnesota high school juniors who reported needing financial assistance to continue their education has increased substantially, as did the proportion who reported that they were not continuing their education for financial reasons.**

Every year from the early 1970s through 1988, HECB surveyed the majority of Minnesota public high school juniors regarding their plans after graduation. We examined these data and found that the percentage of students who said that they would need financial assistance for higher education rose steadily.[23] In 1988, 68 percent of students surveyed said that they would need at least some financial assistance, compared with 46 percent in 1975. Over the same period, of those who were not planning higher education, an increasing percentage (13 to 25 percent) said that this was due primarily to financial reasons.

We also looked at survey results from Minnesota high school students who took the ACT college admission test in 1993.[24] We asked ACT to tell us how the students answered certain questions by income level, as estimated by the students. We found that:

- **Minnesota high school students at all income levels were more likely than their national counterparts to say that they were expecting to apply for financial aid to help meet college expenses.**

Overall, 85 percent of Minnesota ACT test takers indicated that they expected to apply for financial aid, compared with 79 percent nationally. As Figure 3.10 shows, 67 percent of Minnesota test takers with estimated incomes of $60,000 or more reported that they expected to apply for financial assistance, compared with 62 percent nationally. Interestingly, the students who reported that their family income was under $6,000 were less likely to say that they expected to apply for financial assistance, both in Minnesota (92 percent) and across the nation (93 percent), than students who had higher incomes, up to $42,000.

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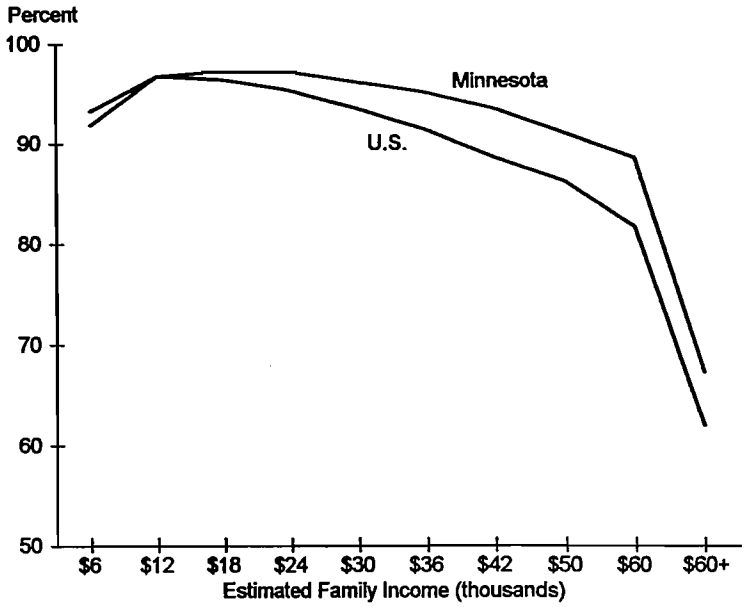
22 However, as we mentioned in Chapter 1, some error is associated with survey questions and answers in general.

23 Minnesota Higher Education Coordinating Board, *Summary of Responses on the Plans and Background Survey and Aptitude Test Score Trends for Minnesota High School Juniors* (St. Paul, 1985 and 1988).

24 Sixty-one percent of Minnesota high school students took the test. American College Testing, *ACT Student Profile Section* (Iowa City, 1993).

Figure 3.10: ACT Test Takers' Plans to Apply for Financial Aid by Estimated Income, 1993 School Year



HECB now targets financial aid information to low-income parents of elementary and secondary students.

We also asked what the Higher Education Coordinating Board has done to respond to students' and parents' need for information about postsecondary education. Since 1985, the board has distributed financial aid information to eighth grade students through their schools. Also, responding to its own research which showed that parents, especially minority or low-income parents, were most concerned and least informed about the cost of higher education, HECB initiated *Get Ready*, a booklet of financial and academic information.[25] During the 1992-93 school year, the board distributed about 75,000 copies to elementary and middle schools for the parents of fifth-graders and another 25,000 through special events, such as the State Fair and annual Parent-Teacher Convention. Through a special outreach plan, the board disseminated 75,000 more copies to communities of color, low-income families, and families with special needs. Staff told us that they hope to distribute 190,000 copies of *Get Ready* during the 1993-94 school year.

Financial Aid Applicants

The American College Testing (ACT) program has published annual summaries of the overall characteristics of applicants for financial aid, using data that applicants submit on the Family Financial Statements. We examined these aggregate, summary data for Minnesota residents applying for financial aid for the 1982-83 and the 1992-93 academic years.[26] These data should be interpreted carefully for

25 Minnesota Higher Education Coordinating Board, *Report on Survey of Parents of Eighth Graders* (St. Paul, 1988).

26 American College Testing Program, *Profile of Financial Aid Applicants* (Iowa City, 1982 and 1992).

several reasons. First, data include applicants for a wide variety of financial aid programs, not just the state grant program. For example, they include students who are applying for non-need based loans. Second, data include Minnesota residents who attend out-of-state schools. Finally, it is necessary to adjust for inflation when comparing results over time, and this requires some assumptions about how individual data are distributed within income categories.

With these caveats in mind, we examined the income levels of Minnesota applicants for financial aid. The American College Testing program defines total income for dependent students as the sum of the parents' and the student's total income and, for independent students, as the student's total family income.[27] We compared the distribution of applicants' total incomes for the academic years ending 1983 and 1993 with U.S. Census data for Minnesota for 1980 and 1990, which we adjusted for inflation.[28]

We found that, although Minnesota high school students have indicated a growing need for financial assistance:

- **Evidence suggests that there was a decline in the percentage of financial aid applications from very low-income students between 1983 and 1993.**

We defined very low-income applicants as those who reported family incomes below the federal poverty line for a family of four for dependent applicants and for a family of two for independent applicants.[29] According to the U.S. Census, approximately 7 percent of all Minnesota families had incomes below the federal poverty level in both 1979 and 1989.

Since 1983, the number of financial aid applications from very low-income students may have dropped.

Overall, the number of applications for financial aid from dependent students dropped 12 percent from the 1982-83 academic year to the 1992-93 academic year. However, we estimate that the number of applications from very low-income dependent students declined by 45 percent. As shown in Table 3.5, about 13 percent of dependent applicants for financial aid (9,425) in 1983 had incomes below the federal poverty line for a family of four, compared with 8 percent (5,233) in 1993. While total applications from independent students increased 26 percent, applications from independent students with incomes below the federal poverty line for a family of two decreased about 15 percent, declining from 76 percent (22,021) of the total applications from independent students during the 1982-83 academic year to 48 percent (18,789) during 1992-93.

We also compared the overall distribution of 1983 and 1993 dependent applicants' reported incomes with 1980 and 1990 U.S. Census data for Minnesota families,

27 In contrast, the state grant program defines total income for dependent students as parents' income only.

28 We adjusted census data for inflation because they were two years older than applicant data on total income.

29 Overall, the average family size of dependent applicants was 4.7 during the 1982-83 academic year and 4.2 during 1992-93. Independent applicants reported an average family size of 1.9 during 1982-83 and 2.1 in 1992-93.

Table 3.5: Financial Aid Applicants in Relation to Poverty Status, Academic Years 1982-83 and 1992-93

	1982-83		1992-93	
	Number	Percent	Number	Percent
DEPENDENT APPLICANTS				
Below Poverty Line	9,425	13%	5,233	8%
At or Above Poverty Line	60,199	87	56,251	91
Total	69,624	100%	61,484	99%
INDEPENDENT APPLICANTS				
Below Poverty Line	22,021	76	18,789	48
At or Above Poverty Line	7,112	24	20,601	52
Total	29,133	100%	39,390	100%

Note: Percents may not total 100 due to rounding.

which we adjusted for inflation. We regrouped applicant income data into five income brackets that were based on the population distribution of Minnesota family income according to U.S. Census data for 1980 and 1990. Each bracket reflected the income of 20 percent of Minnesota families. We defined lower income as the bottom two brackets, that is, the lowest 40 percent.[30]

As shown in Table 3.6, although fewer dependent applicants applied for aid in 1993 (61,484) than in 1983 (69,624), most of the drop was in the lowest two income brackets. We estimate that a greater number and a higher percentage of lower-income dependent students applied for financial aid in 1983 than in 1993. Of dependent students, about 46 percent of applicants reported incomes in the

Table 3.6: Dependent Financial Aid Applicants in Relation to Minnesota Family Income Quintiles Adjusted for Inflation, 1982-83 and 1992-93 Academic Years

	1982-83		1992-93	
	Number	Percent	Number	Percent
DEPENDENT STUDENTS				
Lowest 20 Percent	16,363	24%	10,965	18%
21st - 40th Percentile	15,509	22	14,017	23
41st - 60th Percentile	16,137	23	14,615	24
61st - 80th Percentile	15,123	22	21,887[a]	36
Highest 20 Percent	6,492	9	--	--
Total	69,624	100%	61,484	100%

Note: Percents may not total 100 due to rounding. Family income quintiles are based on the 1980 and 1990 U.S. Censuses for Minnesota and are adjusted for inflation. Dependent applicants' total income is based on both the parents' and students' total income; independent students' total income is for the student and/or spouse.

[a]61st percentile and above. After we adjusted the income quintiles for inflation, we could not break out applicant income data beyond the 61st percentile because of the way that ACT aggregated data.

30 We could not do this analysis for independent applicants because of the way ACT aggregated the income data.

lowest two income brackets in 1983, compared with about 41 percent in 1993. In sheer numbers, there were 6,890 fewer applicants in the lowest two income brackets in 1993 compared with 1983, a drop of 22 percent.

Although these data and estimates are not definitive, they tend to support work done by the Minnesota Private College Council. It looked at financial aid applications from dependent students from 1986 through 1993 and found a 27 percent decrease in applications from dependent students whose families reported adjusted gross incomes of less than $30,000, after adjusting for inflation.[31] The council suggested that the decline could be related, in part, to the government's failure to properly fund need-based financial aid programs, as well as to other nonfinancial reasons.

In our opinion, there are probably no simple, clear-cut answers. Higher Education Coordinating Board staff reviewed the council's work and also examined a number of possible explanations, including changes in the number of high school graduates, career aspirations, and general economic conditions, but could find nothing definitive to explain the decrease. The decrease in the number of low-income students applying for financial aid could also be partially explained by a combination of social and economic factors. As we discussed in Chapter 1, low-income parents generally have a low level of knowledge about financial aid programs, their information about costs is often inaccurate, and they are least likely to discuss postsecondary education with their children. At the same time, the substantial increases in tuition that we showed in Chapter 2 may have been especially discouraging to students from low-income families. Further, the composition of families in the lowest two income brackets may have changed since 1983 to include fewer families with college age students in the first place.

It should be noted that the Legislature has always fully funded the state grant program so that no financially needy student has ever been turned down. In fact, as designed, the state program generally has compensated for failures on the part of Congress to fully fund the federal Pell program. Also, we did not find the financial aid application process so onerous that it would discourage any group of students from applying for aid. According to the Higher Education Coordinating Board, about 85 percent of the student pool has applied annually for state grant funds since the 1984-85 academic year.[32] Although this is a large percentage, we encourage continued monitoring of financial aid application trends, particularly by level of income.

STATE GRANT RECIPIENTS

To examine how state grants were distributed, the Higher Education Coordinating Board provided us with financial and descriptive data on 61,819 students who re-

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31 Letter from David B. Laird, Jr., Minnesota Private College Council, to Representative Peter Rodosovich, House Education Finance Division (March 2, 1993).

32 Minnesota Higher Education Coordinating Board, *Report to the Governor and 1993 Legislature* (St. Paul, 1993) and *Report to the Governor and the 1989 Legislature* (St. Paul, 1989).

About 62,000 students received state grants in 1993.

ceived a Minnesota state grant and who were enrolled at one of 157 participating schools during the 1992-93 academic year.[33] During the 1992-93 academic year, state grants totaled $82.7 million, but, when combined with Pell grants, amounted to $153.4 million. About two-thirds of the recipients were dependent students (38,793), and about one-third were independent students (23,026). Dependent students received $62.6 million in state grants and $97.3 million in combined state and Pell grants. Independent students received $20.1 million in state grants and $56.1 million from the two types of grants in combination. The median state grant for dependent recipients was $1,218, and the median combined state and Pell grant was $2,504. For independent recipients, these amounts were $477 and $2,501, respectively.

As shown in Table 3.7, dependent state grant recipients differed significantly from independent recipients. Independent recipients were more likely to attend school part time. Whereas only 6 percent of dependent state grant recipients enrolled part time during the 1992-93 academic year, 19 percent of independent recipients did.[34] Also, given the definition of an independent student shown earlier, independent students were older, more likely to be married, and usually lived off campus. Slightly more than half of them attended either community colleges (20 percent) or technical colleges (35 percent). Slightly less than one-half of the dependent state grant recipients attended state universities (26 percent) or private four-year colleges (19 percent).

Four percent of dependent state grant recipients and 28 percent of independent recipients were receiving Aid to Families with Dependent Children benefits. Also, HECB recorded 8 percent of dependent recipients and 12 percent of independent recipients as nonwhite. Further, independent state grant recipients were more likely to be displaced homemakers (13 percent) or dislocated workers (7 percent). In comparison, 4 percent of dependent state grant recipients' parents were displaced homemakers, and 3 percent were dislocated workers.

We examined the 1991 total income of dependent and independent state grant recipients during the 1992-93 academic year.[35] For purposes of the state grant program, total income was defined as the sum of all taxed and untaxed income during 1991. Untaxed income includes social security and AFDC benefits, child support, and unexpected untaxed income or benefits. For dislocated workers, total income was an estimate of expected 1992 income. Because independent students generally have different enrollment patterns which affect the size of state grants and, as we will show in the following sections, lower family incomes than dependent students, we present data on the two types of state grant recipients separately.

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33 Although 169 schools were eligible to participate in the state grant program in academic year 1992-93, 12 schools had no state grant recipients. The data were estimated to be 95 percent complete when we acquired them in September 1993.

34 As indicated earlier, there was a separate part-time state grant program until the 1993-94 academic year, when it was combined with the state grant program.

35 Unlike the Higher Education Coordinating Board, we used total income rather than adjusted gross income as the measure of a family's resources. Total income is preferable because it includes all sources of income, both taxed and untaxed, and is the usual basis for awarding state grants.

Table 3.7: Characteristics of State Grant Recipients, 1992-93 Academic Year

	Dependent Students	Independent Students	All Recipients
SEX			
Male	46%	29%	40%
Female	54	72	60
AGE			
19 and Under	18	1	12
20 - 23	79	21	57
24 and Older	3	78	31
ETHNICITY			
White	92	87	90
Nonwhite	8	12	9
ENROLLMENT STATUS			
Full-time (at least 75%)	94	81	90
Part-time (less than 75%)	6	19	10
MARITAL STATUS			
Unmarried	95	63	83
Married	5	37	17
HOUSING			
On Campus	17	2	11
Off Campus	52	83	64
With Parents or Relatives	22	3	15
Unknown	9	12	10
RECEIVING AFDC BENEFITS			
Yes	4	28	13
No	96	72	87
SYSTEM ATTENDED			
University of Minnesota	16	5	11
State University	26	12	20
Community College	17	20	18
Technical College	17	35	25
Private Four-Year	19	13	16
Private Vocational	6	15	10
TOTAL NUMBER OF RECIPIENTS	38,793	23,026	61,819

Note: Data on sex, ethnicity, and enrollment status are limited to students who were enrolled on the tenth day of the fall term. Some figures do not total due to rounding.

We defined low income in two ways.[36] First, to determine whether the state grant program was serving what we would call the very poor, we identified recipients whose total income was below the 1991 federal poverty guideline for their family size. For example, the guideline was $13,924 for a family of four and $8,865 for a family of two. We compared this percent with the percent of all Minnesota fami-

36 In addition, we present state grant recipients' total family income in $5,000 and $2,500 increments in Appendix C.

lies with incomes below the federal poverty guideline because students from these families would generally be financially eligible for state grant assistance if they applied. However, we recognize that not all Minnesota families with incomes below the federal poverty guideline have college-age children. In these instances, the parents themselves could be eligible for the state grant program.

Second, we grouped state grant recipients into five income brackets. The five brackets were based on the population distribution of Minnesota family income according to the 1990 U.S. Census. Each of these brackets reflected the income of 20 percent of all Minnesota families. We then defined lower-income students as those who reported total family income in the lowest two income brackets (less than $19,429 and $19,429 through $31,235) which put them clearly below the state median family income of $36,916. Middle-income students were defined as those whose family income placed them in the third bracket or quintile ($31,236 through $42,889) which was around the state median, and upper-income students were those with incomes in the top two income brackets ($42,890 through $59,490 and more than $59,490), clearly above the state median. We compared state grant recipients' total income with the distribution of family income for the population as a whole for three main reasons. First, students come from the general population which is made up of families of different ages and types. Second, because state policy is to make higher education accessible to all citizens, it seems appropriate to compare state grant recipients' family income with Minnesota family income in general. Third, no data are available to contrast state grant recipients' income with the income of college students in general.

We found that:

- **During the 1992-93 academic year, there was a higher proportion of persons in the state grant program whose family income was below the federal poverty line than in the Minnesota population.**

According to the 1990 U.S. Census for Minnesota, 7 percent of Minnesota families had incomes below the federal poverty line. As shown in Table 3.8, 16 percent of dependent state grant recipients had total incomes below the federal poverty guideline. These students received 12 percent of the state grant funds and 21 percent of combined state and Pell grants. The proportions were even higher for independent students, although this may not be surprising in light of their family situations. Almost one-half (48 percent) had total incomes below the federal poverty guideline for their family size. They received 35 percent of the state grant funds for independent students and 53 percent of the combined state and Pell grant money.

Using our other, broader definition of low income, we found that:

- **Most state grant recipients came from families whose total income put them among the lowest 40 percent of all Minnesota families, and they received most of the grant money.**

Table 3.8: State Grants in Relation to Poverty Status, 1992-93 Academic Year

	State Grant Recipients		State Grant Amount				Combined State and Pell Grant Amount			
	Number	Percent	Dollars (millions)	Percent	Median Dollars	Mean Dollars	Dollars (millions)	Percent	Median Dollars	Mean Dollars
DEPENDENT STUDENTS										
Below Poverty Line	6,346	16%	$7.4	12%	$796	$1,173	$20.3	21%	$3,004	$3,198
At or Above Poverty Line	32,447	84	55.2	88	1,330	1,701	77.0	79	2,281	2,374
Total	38,793	100%	$62.6	100%	$1,218	$1,615	$97.3	100%	$2,504	$2,509
INDEPENDENT STUDENTS										
Below Poverty Line	10,982	48%	$7.1	35%	319	647	29.5	53%	2,625	2,689
At or Above Poverty Line	12,044	52	13.0	65	678	1,082	26.6	47	2,168	2,208
Total	23,026	100%	$20.1	100%	$477	$875	$56.1	100%	$2,501	$2,437

Note: Poverty status was determined on the basis of total income in 1991 for parents of dependent students or, in the case of independent students, the student or spouse. For dislocated workers, income was based on an estimate for 1992. Some figures do not total due to rounding.

Lower-income students received most of the grants and most of the grant money.

As shown in Table 3.9, dependent students whose family incomes were less than $19,429 (the lowest income quintile) made up 29 percent of state grant recipients, and they received 25 percent of state grant funds and 36 percent of combined state and Pell grant funds during the 1992-93 academic year. Students in the next lowest income quintile whose families earned between $19,429 and $31,235 made up 30 percent of state grant recipients, and they received 34 percent of state grant funds and 32 percent of combined state and Pell grant funds. Together, 59 percent of the dependent state grant recipients reported total family incomes below $31,236, and these students received 59 percent of the state grant money and 68 percent of the combined state and Pell grant dollars, as shown in Figure 3.11.

Similarly, independent students in the lowest income quintile comprised 71 percent of independent state grant recipients, and they received 64 percent of state grant funds and 78 percent of combined state and Pell funds. Independent students in the next lowest income quintile (21st through 40th percentiles) made up 20 percent of independent recipients, and they received 23 percent of state grant funds and 16 percent of combined awards. Overall, 91 percent of the independent state grant recipients reported total family incomes below $31,236, and these students received 87 percent of state grant money and 94 percent of the combined grants, as shown in Figure 3.11.

Figure 3.12 shows the distribution of state grant recipients' total family incomes. As indicated, state grant recipients tended to have lower incomes than most Minnesota families. Over 68 percent of dependent and more than 94 percent of independent recipients had total incomes below the state median. The data show that the median family income was $27,870 for dependent state grant recipients and

Table 3.9: State Grants in Relation to Minnesota Family Income Quintiles, 1992-93 Academic Year

	State Grant Recipients		State Grant Amount				Combined State and Pell Grant Amount			
	Number	Percent	Dollars (millions)	Percent	Median Dollars	Average Dollars	Dollars (millions)	Percent	Median Dollars	Average Dollars
DEPENDENT STUDENTS										
Lowest 20 Percent (less than $19,429)	11,256	29%	$15.8	25%	$904	$1,407	$35.3	36%	$2,965	$3,136
21st-40th Percentile ($19,429-31,235)	11,484	30	21.0	34	1,454	1,831	31.5	32	2,641	2,741
41st-60th Percentile ($31,236-42,889)	9,759	25	16.4	26	1,322	1,683	20.3	21	1,862	2,077
61st-80th Percentile ($42,890-59,490)	5,465	14	8.3	13	1,171	1,515	9.2	9	1,388	1,681
Highest 20 Percent (more than $59,490)	829	2	1.1	2	1,074	1,290	1.1	1	1,151	1,341
Total	38,793	100%	$62.6	100%	$1,218	$1,615	$97.3	100%	$2,504	$2,509
INDEPENDENT STUDENTS										
Lowest 20 Percent (less than $19,429)	16,399	71%	$12.9	64%	$379	$784	$43.5	78%	$2,612	$2,654
21st-40th Percentile ($19,429-31,235)	4,493	20	4.7	23	734	1,053	9.2	16	1,970	2,047
41st-60th Percentile ($31,236-42,889)	1,770	8	2.0	10	702	1,141	2.8	5	1,252	1,584
61st-80th Percentile ($42,890-59,490)	330	1	0.5	2	844	1,408	0.5	1	1,181	1,618
Highest 20 Percent (more than $59,490)	34	<1	0.1	<1	1,537	1,698	0.1	<1	1,779	1,853
Total	23,026	100%	$20.1	100%	$477	$875	$56.1	100%	$2,501	$2,437

Note: Family income quintiles are based on the 1990 U.S. Census for Minnesota. State grant recipients' total income is based on adjusted gross income and untaxed income for 1991 or estimated 1992 income for dislocated workers. For dependent students, the income is for parents. For independent students, the income is for the student or spouse. Some figures do not total due to rounding.

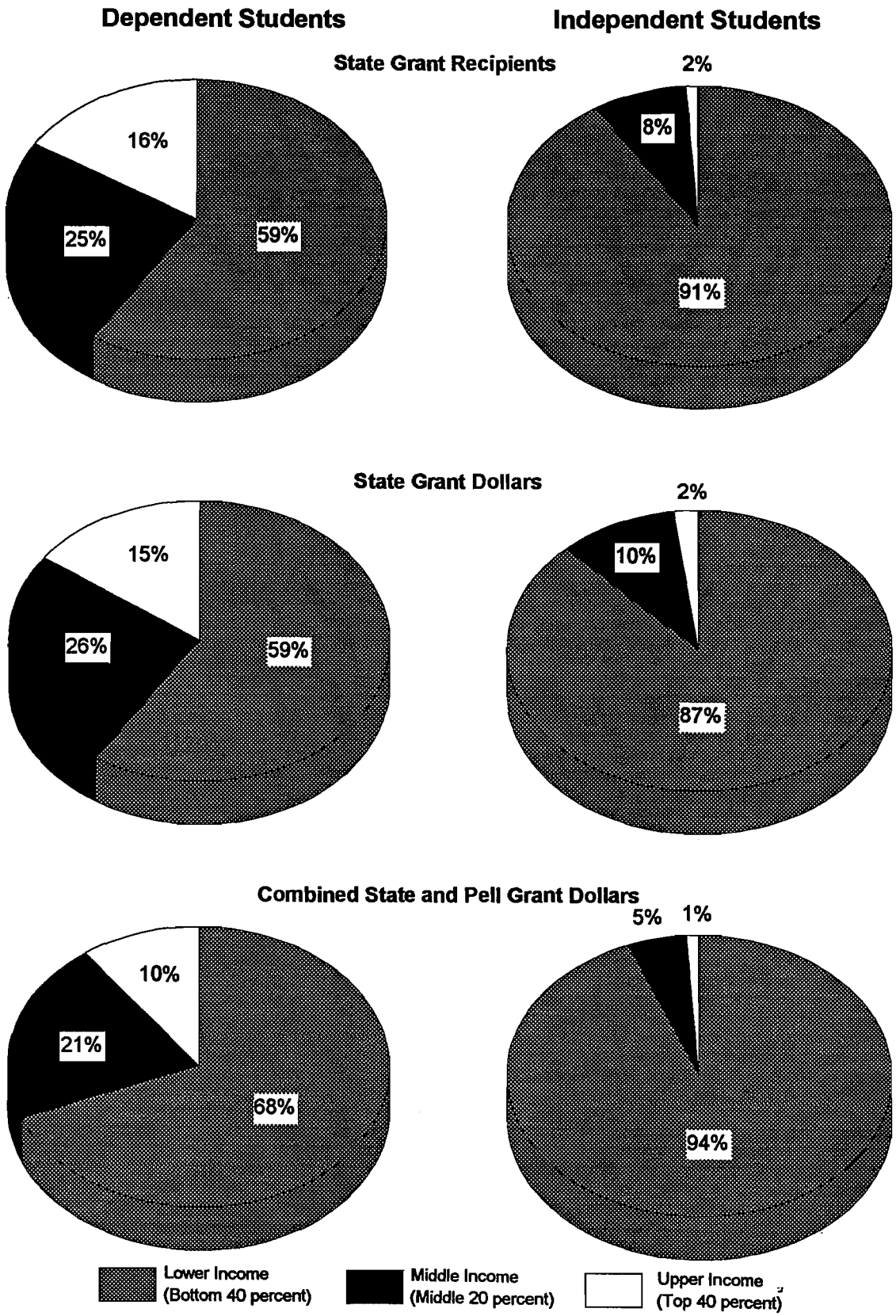
$11,544 for independent recipients in 1991. According to the 1990 U.S. Census, the median family income for Minnesota was $36,916.

We also found that:

- **Because federal Pell grants are targeted to the poorest students and awarded first, the state grant program paid less to the lowest income students and more to students in the next higher income bracket who received less in Pell grants.**

As previously discussed, the state grant program is designed to work in conjunction with the federal Pell program and to make maximum use of federal dollars.

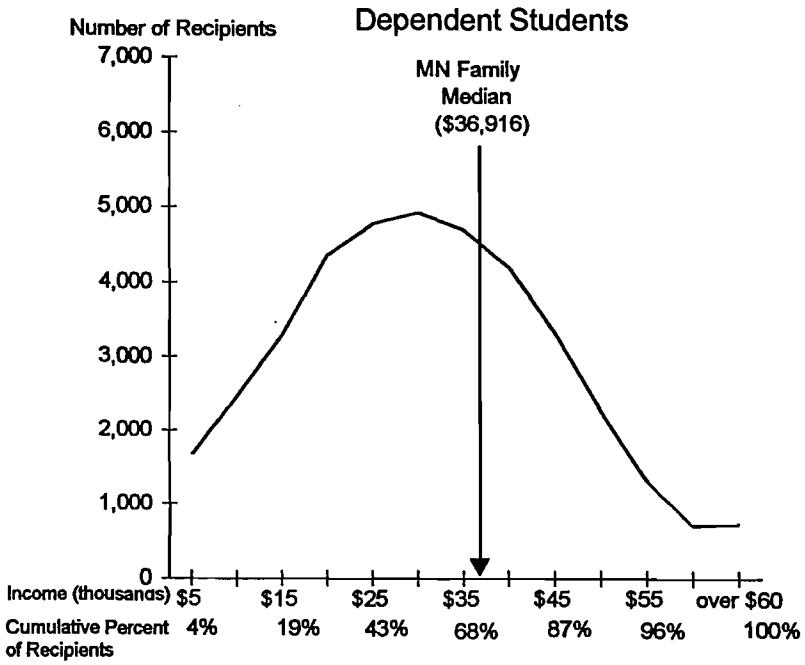
Figure 3.11: State Grants in Relation to Minnesota Family Income

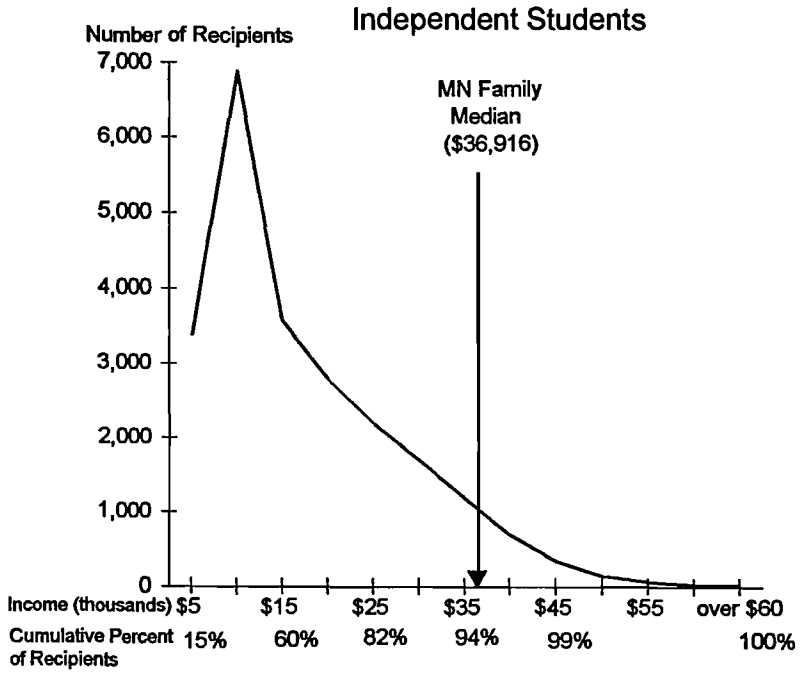


Note: Percentages may not total to 100 due to rounding.

Most recipients' family incomes were below the statewide median.

Figure 3.12: Distribution of State Grant Recipients' Income, 1992-93 Academic Year

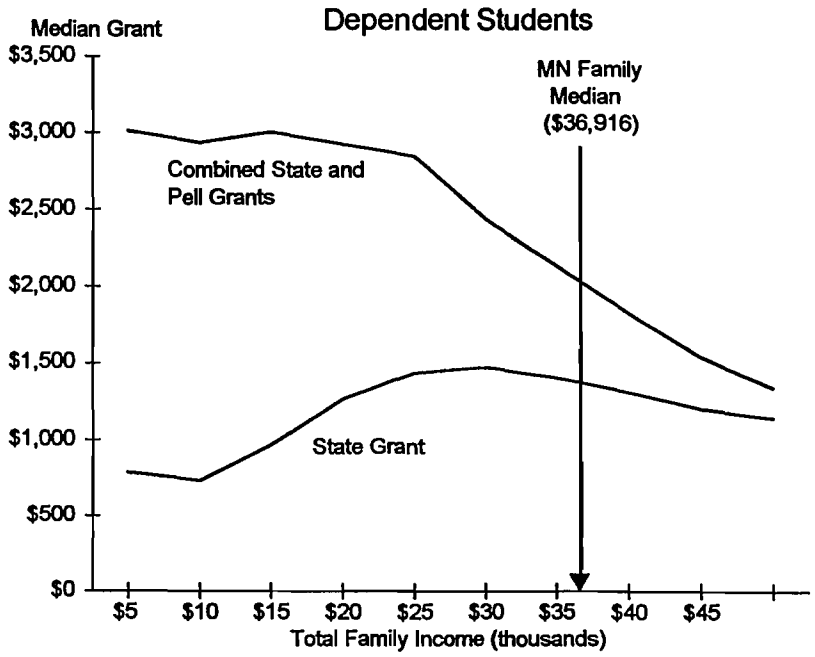


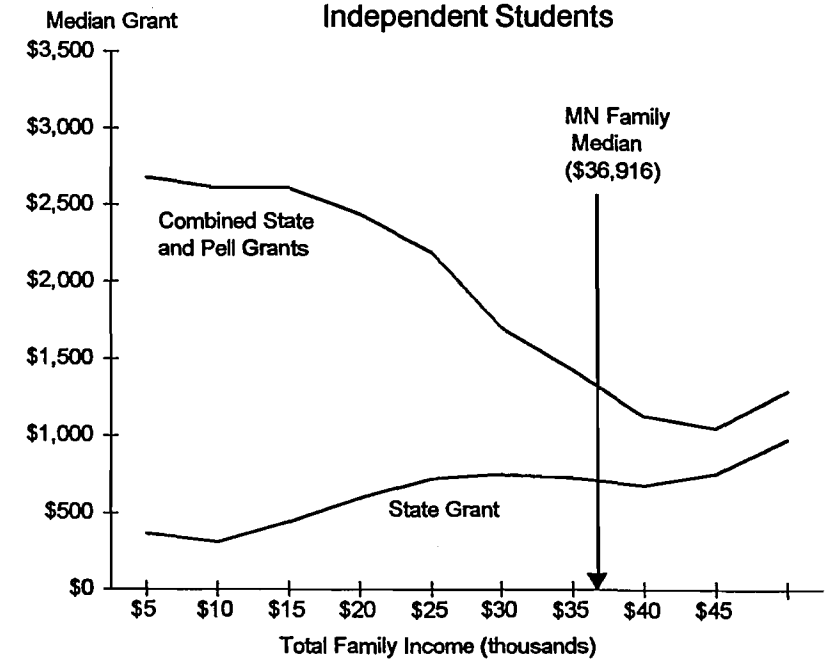


As shown in Figure 3.13, the state grant program provided a median grant of only about $800 to students whose family income was $10,000 or less, but Pell grants provided about $2,200 more. At income levels from $25,000 to $35,000, which is still below the statewide median for families, the state grant program provided a median grant of $1,444, while the Pell program provided substantially less, $550.

The state grant program provides smaller state grants to very low-income students because Pell grants take precedence.

Figure 3.13: Grant Awards by Family Income, 1992-93 Academic Year





After the $35,000 income level, the state grant program provided larger grants (a median grant of $1,219) than the Pell program ($0), but the amount of money continued to decline. Figure 3.13 shows the same general trend for independent students with family income less than $45,000. The state grant program provided a median grant of $474 to these students, while the Pell program provided $1,800. However, median state grants and combined state and Pell grants increased for independent students who had incomes above $45,000 for the same reasons that some upper-income students in general receive state grants. In addition, some upper-income independent students received state grants because HECB routinely subtracted the difference between their actual and capped tuition and fees from the expected family contribution when calculating grants. We discuss grants to upper-income students in detail later in this chapter.

Tables 3.10 and 3.11 show the average total income and grant for (a) state grant recipients who received only a state grant and not a Pell grant, (b) recipients who received both a state and a Pell grant, and (c) all state grant recipients. Qualifying for a Pell grant is one indicator of low family income. These data show that:

- **The state grant program also served some middle- and higher-income students, but they received smaller total grants than lower-income students.**

Table 3.10: Statistics on State Grant Recipients' Total Income, 1992-93 Academic Year

	Dependent Students	Independent Students
RECEIVED STATE GRANT ONLY		
25th Percentile	$28,891	$18,486
50th Percentile (median)	37,568	25,809
75th Percentile	45,693	35,454
Average	37,556	27,072
Number of Students	15,177	3,051
RECEIVED BOTH STATE AND PELL GRANTS		
25th Percentile	$13,424	$5,808
50th Percentile (median)	21,902	9,859
75th Percentile	30,629	18,051
Average	22,500	12,772
Number of Students	23,616	19,975
ALL STATE GRANT RECIPIENTS		
25th Percentile	17,805	6,204
50th Percentile (median)	27,870	11,544
75th Percentile	38,340	21,269
Average	28,390	14,667
Number of Students	38,793	23,026

Note: State grant recipients' total income is based on adjusted gross income and untaxed income for 1991 or estimated 1992 income for dislocated workers. For dependent students, the income is for parents. For independent students, the income is for the student or spouse.

Table 3.11: Statistics on State Grants, 1992-93 Academic Year

	Dependent Students	Independent Students	All Recipients
STATE GRANTS ALONE			
25th Percentile	$ 743	$ 488	$ 696
50th Percentile (median)	1,527	1,127	1,455
75th Percentile	2,640	2,213	2,575
Average	$1,801	$1,531	$1,756
Total Dollars	$27,336,052	$4,670,285	$32,006,337
BOTH STATE AND PELL GRANTS			
25th Percentile	$1,443	$1,686	$1,532
50th Percentile (median)	2,504	2,501	2,501
75th Percentile	3,218	2,894	3,127
Average	$2,509	$2,437	$2,482
Total Dollars	$97,340,789	$56,124,758	$153,465,547
ALL STATE GRANTS			
25th Percentile	$ 654	$ 208	$ 400
50th Percentile (median)	1,218	477	915
75th Percentile	2,299	1,119	1,901
Average	$1,615	$875	$1,339
Total Dollars	$62,643,740	$20,138,709	$82,782,449

During the 1992-93 academic year, 39 percent of dependent state grant recipients and 13 percent of independent recipients received only a state grant. Together, these students received 39 percent of state grant funds and 21 percent of combined state and Pell grant money.

As would be expected given the design of the state and Pell grant programs, the total income of state grant recipients who received only a state grant was significantly higher than those who also received a Pell grant. As Table 3.10 shows, the median total income of dependent state grant recipients who received only a state grant was $37,568, compared with $21,902 for those who received both a state and Pell grant. Independent state grant recipients who received only a state grant had a median total income of $25,809, while the median total income of those receiving both grants was $9,859.

Because state grant recipients who received only a state grant had higher incomes, they also tended to receive smaller grants. As shown in Table 3.11, dependent state grant recipients who did not receive a Pell grant had a median grant of $1,527, compared with $2,504 for students receiving both. Likewise, independent state grant recipients who received only a state grant had a median state grant of $1,127, compared with $2,501 for those receiving both. We also found that state grant recipients who also received Pell grants were more likely to be nonwhite and receiving Aid to Families with Dependent Children benefits than recipients of state grants only.

Next we asked why some upper-income students have received state grants. As we saw earlier in Table 3.9, 16 percent of dependent state grant recipients and 2 percent of independent recipients reported incomes over $42,889, which is the 60th percentile of Minnesota family income. Together, they received about 12 percent of state grant funds and 7 percent of combined state and Pell grants, for a total of nearly $11 million during the 1992-93 academic year. In fact, 247 students reported total family incomes of $70,000 or more, and they received a total of $281,657 in state grant money.

We further analyzed the data to learn why upper-income students sometimes received state grants. The results showed that:

- **There were three main reasons why some state grant recipients came from upper-income brackets: (1) they attended higher-cost schools, (2) they came from larger-than-average families, and (3) they had more than one of their family members in college.**

As shown in Table 3.12, most of the upper-income students attended private schools, particularly four-year colleges, where the cost of attendance is generally much higher than for public schools. This accounted for most of the state grant money ($7 million of $11 million) that went to upper-income students. At this income level, Pell grants added little additional assistance.

Upper-income students received state grants because they demonstrated financial need or suffered financial reverses after applying.

In all six systems of higher education, we also found that the upper-income grant recipients' families tended to be larger than average. Overall, dependent state grant recipients had an average family size of 4.2, compared with 5.0 for upper-income dependent recipients. Independent state grant recipients' average family size was 3.0, compared with 4.5 for upper-income independent recipients. Likewise, the upper-income students' families were more likely to include multiple college students. Overall, the average number of college students for dependent students was 1.5, but among the upper-income group, it was 1.9. Independent students as a whole had 1.2 family members in college, but the upper-income group had 1.6.

To further identify why some upper-income students received state grants, we selected a sample of dependent state grant recipients from each system with the highest total income, after controlling for family size and number in college. We asked HECB to investigate why these students received a state grant. We found that:

- **State grants were sometimes based on estimated current income instead of past, actual total income.**

When special conditions significantly affect students' financial condition after they have applied for financial aid, campus financial aid officers can recalculate state grant awards if students amend their financial aid application. During the 1992-93 academic year, special conditions were: loss of employment, disability or natural disaster which affects income, loss of untaxed income or benefits, separation or divorce, death, and active duty in Desert Storm or Desert Shield.

Table 3.12: Upper-Income State Grant Recipients by System, 1992-93 Academic Year

	State Grant Recipients		State Grant Amount				Combined State and Pell Grant Amount			
	Number	Percent	Dollars	Percent	Median Dollars	Average Dollars	Dollars	Percent	Median Dollars	Average Dollars
DEPENDENT STUDENTS										
University of Minnesota	995	16%	$944,593	10%	$876	$949	$1,119,251	11%	$1,009	$1,125
State University	1,212	19	956,346	10	722	789	1,240,700	12	894	1,024
Community College	412	7	246,323	3	493	598	357,781	3	803	868
Technical College	305	5	213,139	2	633	699	294,456	3	872	965
Private Four-Year	3,029	48	6,565,152	71	2,122	2,167	6,818,342	67	2,150	2,251
Private Vocational	305	5	355,887	4	971	1,167	392,770	4	1,079	1,288
Total	6,258	100%	$9,281,440	100%	$1,158	$1,485	$10,223,300	100%	$1,354	$1,636
INDEPENDENT STUDENTS										
University of Minnesota	16	4%	$5,698	1%	$240	$356	$8,281	1%	$334	$518
State University	25	7	10,806	2	243	432	26,956	5	1,106	1,078
Community College	27	7	11,785	2	314	436	21,535	4	762	798
Technical College	54	15	23,936	5	373	443	44,507	7	677	824
Private Four-Year	198	54	419,565	80	1,825	2,119	439,453	74	1,879	2,219
Private Vocational	44	12	50,569	10	846	1,149	56,065	9	1,122	1,274
Total	364	100%	$522,359	100%	$899	$1,435	$596,797	100%	$1,227	$1,640

Note: Upper-income students, their spouses, or parents were in the top two quintiles of Minnesota family income, based on the 1990 U.S. Census. Their total taxed and untaxed income exceeded $42,889 in 1991. Some figures do not total due to rounding. Data on system attended were missing for 36 dependent students.

Special conditions like these explained half of the cases that we asked HECB to investigate. For example, in one case, a student's parents reported 1991 total income in excess of $80,000. However, the parents subsequently divorced and the custodial parent's estimated 1992 income was only $18,000. This permitted the student to receive a state grant. In another example, the student's father died, and total income dropped from almost $62,000 in 1991 to an estimated $25,000 in 1992. The surviving parent's estimated, lower income was used to calculate the state grant. In most of the remaining cases, students or their families had extremely high medical expenses or taxes, often in combination with few assets, which offset their total income for the purpose of calculating state grants.

We also selected a small sample of independent students with the highest total income and asked staff from the Higher Education Coordinating Board to investigate why these students received state grants. We found that these upper-income independent students, in addition to attending higher-cost schools, coming from larger-than-average families, and having more than one family member in college, had some of their expected family contribution forgiven when their state grants were calculated. As discussed earlier, HECB routinely subtracted the difference between independent students' actual and capped tuition and fees from their expected family contribution, which resulted in an enlarged state grant and a smaller family contribution for some students. The Higher Education Coordinating Board discontinued this practice beginning with the 1993-94 academic year.

SUMMARY AND DISCUSSION

According to Minnesota statutes, the state grant program should encourage economically disadvantaged students to attend the institution of their choice.[37] However, there is no specific limit on recipients' income and no definition of disadvantaged. Moreover, the state grant program requires that all students assume responsibility for one-half of the recognized cost to attend an institution of higher education. In this respect, the state grant program does not consider how poor or wealthy students may be.

When necessary, the state and federal government help Minnesota families pay the other half of the cost of higher education, up to a certain limit for private schools. To determine the amount of government assistance that may be needed, Minnesota uses a detailed financial aid application form and then makes numerous allowances to offset various circumstances that would limit how much money is available for students' education. It awards state grants if there is a difference between the amount that families are expected to provide and what the federal government will pay, and half of the recognized cost to attend a particular school. That difference is called "financial need."

In other words, the state grant program operates mainly on the basis of a cost-related definition of financial need. Consequently, the state grant program could call a student financially needy if he or she attended a costly private school, but not if the student chose a public one. Students who are financially needy by this definition might not be financially needy relative to the general population or to other need-based programs that the state and federal government operate. Also, the federal government's major grant program goes first to the lowest income students, so their financial need may be completely filled by the Pell grant alone, so far as the state is concerned. As a result, some of the poorest students, if they choose to attend a low-cost school, may not receive a state grant of any amount.

We looked at how the state grant program allocated money to students during the 1992-93 academic year. We found that lower-income students made up the majority of state grant recipients, and they received most of the state grant money. The

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37 Minn. Stat. §136A.095.

data show that 59 percent of the dependent recipients and 91 percent of the independent recipients had total incomes below $31,236, compared with 40 percent of all Minnesota families. Furthermore, the program served a larger percentage of students whose total income fell below the federal poverty line, compared with the percentage of all Minnesota families.

Although some upper-income students also received state grants, we found that these students generally attended higher-cost schools, came from larger-than-average families, and had more than one family member in college. Also, some upper-income students' financial circumstances changed dramatically after they applied for the state grant program and, as a result, financial aid officers used an estimate of their present income instead of their previous income to calculate an award. In other cases, the families had high expenses and often low assets, which offset the income that would otherwise be available for education. Also, some upper-income independent students received state grants because HECB routinely subtracted the difference between students' actual and capped tuition and fees from their expected family contribution when calculating state grants.[38]

More information on student financial aid packages is needed.

It would be helpful also to examine how students are paying for their share of the recognized cost of higher education, particularly since tuition has increased so much, but this was beyond the scope of our study. In this chapter, we showed that the students' share of attendance costs can be substantial, especially if they attend private colleges. However, the state grant program provided only 12 to 27 percent of students' cost of attendance during the 1992-93 academic year. Unfortunately, there is a general lack of statewide information about financial aid by student income levels. Consequently, it is not possible to determine conclusively the net impact of financial aid on student costs or the extent to which financial aid has improved access to higher education for lower-income students in Minnesota.

As discussed in Chapter 1, the Minnesota Private College Research Foundation surveyed about 5,500 Minnesota baccalaureate students and their families to learn how they were paying for college in general during the 1991-92 academic year. It found that low-income families were spending a larger portion of their income for college than other families. Also, students from low-income families were using loans to a greater extent than other students. Currently, a few aspects of this study are being replicated for technical college students, but neither study specifically addresses the student share of the cost of attendance as defined by the state grant program.

The Higher Education Coordinating Board conducted a limited study of financial aid packages for a sample of state grant recipients during the 1986-87 academic year.[39] It found that state grants made up from 13 to 24 percent of state grant recipients' cost of attendance and Pell grants another 5 to 24 percent, depending on the higher education system that they attended. Family contributions accounted for 9 to 11 percent of costs, while loans made up 18 to 35 percent. We think that

38 The Higher Education Coordinating Board discontinued this practice beginning with the 1993-94 academic year.

39 Minnesota Higher Education Coordinating Board, *An Overview of the Design for Shared Responsibility in the State Grant Program* (St. Paul, 1990).

this type of study should be expanded to examine state grant recipients' financial aid packages by income level, and then regularly updated.

To address the question of students' financial aid packages this year, a legislative task force was created last session, but it was unable to devote sustained attention to this issue. Thus, we recommend that:

- **The Higher Education Coordinating Board should periodically collect data on financial aid packages, focusing on assistance at varying levels of income and the effect of that assistance on the student share of the cost of attendance, as determined by the state grant program.**

It would be preferable to have such information about state grant recipients' total packages of financial aid before significantly changing the state grant program. However, the legislative task force, as well as the Minnesota Association of Financial Aid Administrators and others, have discussed a number of options, including the idea of targeting more state grant money to lower-income students. The Minnesota Association of Financial Aid Administrators would do this by reducing the student's share of the cost of education for some and increasing it for others. The legislative task force's proposal would decrease the student share for all students while increasing the family-government share. While these proposals would funnel more state grant money to lower-income students and less to middle- and upper-income students, such changes could displace some private or institutional assistance with state funds because students may use other financial aid sources to help cover their share of costs.

Other states with large grant programs limit eligibility based on income.

There are also other options that the Legislature could consider if it wishes to target more state grant funds to lower-income students and less to middle-and upper-income students. One option would be to put a limit on state grant recipients' income, so that no one above that limit would be eligible. We interviewed financial aid administrators and researchers from a number of states and found that other states with large state grant programs have adopted this policy. For example, in California and Pennsylvania, state grant recipients cannot have family income above $50,000 or $65,000. New York has an income limit of $42,500 for dependent students, but only $10,000 for independent students. In Ohio and Washington, the limit is less than $30,000.

However, we have some concerns about using income limits for two major reasons. First, in the absence of other changes to the state grant program, income limits would not guarantee that more money would be distributed to lower-income students. Instead, they would mean that less would be spent in total because those above a predetermined point would not receive assistance. Second, income limits do not consider families' ability at various income levels to pay for college, which depends on a number of other factors, including family size and number in college.

Another option is to create another program that is specifically targeted to disadvantaged students. For example, in addition to its major state grant program, California has a $70 million program to help high-potential students from minority

and low-income families attend college. Eligibility is based on family background, number of parents, parental education level, grade point average, and other factors besides income and family size. New York has several smaller programs to encourage minority and low-income students to enter into the health care and professional fields, as well as programs to assist Native Americans and people with disabilities. Wisconsin administers several small programs that are targeted to serve AFDC recipients, Native Americans, minority students, and people with disabilities, among others.

To some extent, Minnesota has already gone this route since it has some grant programs specifically targeted toward certain populations. In 1991, the American Indian Scholarship program, operated through the Department of Education, provided about $1.6 million in scholarships to low-income students of Native American ancestry. Rehabilitation Services grants provided about $4.5 million to students with vocationally-handicapping disabilities. The federal Job Training Partnership Act, administered by the Department of Jobs and Training, provided education grants to low-income working age adults, dislocated workers, and disabled, Vietnam-era, or recently retired veterans, among others. Also, Minnesota provided over $100,000 in 1991 for grants to nursing students who agreed to practice in designated rural areas and nearly $2 million to provide child care assistance to low-income students who did not receive Aid to Families with Dependent Children. Furthermore, the 1993 Legislature provided $150,000 for need-based grants to minority nursing students for the 1994 and 1995 academic years.

While the state grant program as well as the state's numerous smaller grant programs are designed to help provide economic access to higher education, the question of academic access is also important. Some evidence suggests that there has been a drop in the number of very low-income students who have applied for financial aid, and this could be related to a number of factors, including rising admission standards combined with increasing high school dropout rates. According to the Minnesota Department of Education, 19 percent of all students were projected to drop out over the course of four years of high school during the 1991-92 school year, compared with 14 percent in 1984-85. Worse, one-half or more of the Hispanic, American Indian, and Black students were projected to drop out, and these groups are a growing part of the public school system.[40]

During the course of our study we learned that the Higher Education Coordinating Board recently has developed an information campaign targeted at lower-income communities of color. Through a widely distributed booklet, the board is attempting to help these parents prepare their children, both academically and financially, for college. We encourage this effort and hope that it will be helpful.

However, it would be difficult or impossible to determine the effectiveness of Minnesota's efforts to increase access to higher education because of data limitations. Although the Higher Education Coordinating Board has a data base on state grant recipients, it is limited and inconsistent. Most notably, the board does not have

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40 For its projections, the Minnesota Department of Education added the annual student dropout rates in each of the four years of high school. See faxed data from Carol Hokenson, Minnesota Department of Education, to the Office of the Legislative Auditor (September 17, 1993).

data on students who receive only Pell grants because they did not need or qualify for state grants. We can only estimate that these students received as much as $43 million in 1991, but it is likely that they had very low incomes and attended low-cost schools. Thus, they would be of considerable interest and concern to policy makers.

Also, we found that HECB does not maintain complete, uniform data for all state grant recipients. Important information is missing for large percentages of students. The problem is that the board authorized some schools to award state grants themselves, but did not require them to provide the same basic data as it maintains in calculating state grants. Thus, we recommend that:

- **The Higher Education Coordinating Board should collect and maintain more complete, accurate data on state and Pell grant recipients in the future.**

Data on students who receive only a Pell grant could come from the board's periodic studies of student financial aid packages, which we recommended above. To improve the general quality of information on state grant recipients, we suggest that the board require complete data from all schools and maintain a complete data set for all state grant recipients. In light of the problems we and others have encountered, staff at the Higher Education Coordinating Board have already told us that they will review their procedures and, starting in the 1994-95 academic year, collect complete data on all state grant recipients. We think that better data collection and maintenance on the part of the board are critically important for state policy makers.

Headcount by System of Higher Education, Fall 1992

APPENDIX A

Table A.1: University of Minnesota Headcount Enrollment, Fall 1992

Crookston	1,352
Duluth	10,023
Twin Cities	55,903
Morris	2,055

Note: Figures are estimated to include extension students.

Source: Higher Education Coordinating Board (May 1993) and University of Minnesota.

Table A.2: State University Headcount Enrollment, Fall 1992

Bemidji	5,188
Mankato	15,082
Metropolitan (Twin Cities)	5,390
Moorhead	8,050
St. Cloud	15,507
Southwest (Marshall)	2,853
Winona	7,311

Source: Higher Education Coordinating Board (May 1993).

Table A.3: Community College Headcount Enrollment, Fall 1992

Anoka-Ramsey (Coon Rapids)	6,224
Austin	1,357
Brainerd	1,856
Fergus Falls	1,345
Hibbing	2,328
Inver Hills (Inver Grove Heights)	5,317
Itasca (Grand Rapids)	1,169
Lakewood (White Bear Lake)	6,413
Mesabi (Virginia)	1,635
Minneapolis	4,310
Normandale (Bloomington)	9,221
North Hennepin (Brooklyn Park)	6,178
Northland (Thief River Falls)	929
Rainy River (International Falls)	788
Rochester	4,001
Vermilion (Ely)	881
Willmar	1,383
Worthington	906

Note: Figures include enrollment at affiliated centers, where applicable, in Cambridge, Duluth, and Cloquet.

Source: Higher Education Coordinating Board (May 1993).

Table A.4: Technical College Headcount Enrollment, Fall 1992

Albert Lea/Mankato	5,081
Alexandria	1,977
Anoka	7,387
Austin	682
Bemidji	1,058
Brainerd/Staples	2,212
Canby	1,337
Dakota County	2,506
Detroit Lakes	1,313
Duluth	2,064
East Grand Forks	804
Eveleth	461
Faribault	1,273
Granite Falls	1,392
Hennepin North/South	7,501
Hibbing	1,280
Hutchinson/Willmar	4,800
Jackson	673
Minneapolis	3,401
Moorhead	2,107
Northeast Metro	2,645
Pine City	772
Pipestone	803
Red Wing/Winona	2,819
Rochester	1,281
St. Cloud	2,151
St. Paul	5,023
Thief River Falls	1,589
Wadena	1,155

Note: Figures include enrollment at both locations, where applicable.

Source: Higher Education Coordinating Board (May 1993).

Table A.5: Private Four-Year College Headcount Enrollment, Fall 1992

Augsburg[a]	2838
Bethel[a]	1,963
Cardinal Strich	NA
Carleton[a]	1,839
College of Associated Arts	166
College of St. Benedict[a]	1,788
College of St. Catherine[a]	3,652
College of St. Scholastica[a]	1,988
Concordia-Moorhead[a]	2,942
Concordia-St. Paul[a]	1,264
Crown	501
Dr. Martin Luther	568
Gustavus Adolphus[a]	2,292
Hamline University[a]	2,455
Macalester[a]	1,838
Minneapolis College of Art and Design[a]	585
Minnesota Bible	120
NAES (Native American Educational Systems)	17
National College-St. Paul/Minneapolis	NA
North Central Bible	1,042
Northwestern	1,240
Oak Hills Bible	144
Pillsbury Baptist	342
St. John's University[a]	1,900
St. Mary's of Minnesota[a]	6,253
St. Olaf[a]	3,019
University of St. Thomas[a]	10,423

Note: Figures include enrollment at multiple locations, where applicable. Listing includes schools whose students could be eligible for state grants, except for one first professional school. Where figures are missing, schools did not provide enrollment data.

Source: Higher Education Coordinating Board (May 1993).

[a]Member of the Minnesota Private College Council.

Table A.6: Private Vocational Schools Partial Headcount Enrollment, Fall 1992

Academy Education Center	NA	Minnesota School of Barbering	NA
Academy of Accountancy, Inc.	108	Minnesota Cosmetology Education Center, Inc.	22
American Indian Opportunity Industrialization Center	98	Minnesota School of Business	649
Avante School of Cosmetology	NA	Model College of Hair Design	96
Becker Driver Training Facility	4	Moler Barber School of Hairstyling	18
Bemidji Beauty Academy	32	Music Tech	293
Cole's Cosmetology Center	NA	NEC-Brown Institute	1,306
Concorde Career Institute, Inc.	127	NEI College of Technology	395
Cosmetology Careers UnLTD	NA	Northwest Technical Institute, Inc.	NA
Cosmetology Training Centers	203	Oliver Thein School of Beauty	28
Duluth Business University, Inc.	247	Ramsey County Opportunity Industrialization Center	51
Dunwoody Institute	975	Rasmussen Business Colleges	1,090
Globe College of Business, Inc.	437	Regency Beauty Academies	53
Hairdressers Educational Center	NA	Rita's Moorhead Beauty School	NA
Hastings Beauty School, Inc.	NA	Ritter St. Paul Beauty College	NA
Hazelden Chemical Dependency Training Institute	27	St. Cloud Business College	441
Horst Education Center	296	School of Communication Arts	99
Lakeland Medical-Dental Academy	284	Scot Lewis Schools of Hair Design	155
Lowthian College	138	Stewart School of Hairstyling	NA
McConnell School, Inc.	202	Twin Cities Opportunity Industrialization Center	NA
Medical Institute of Minnesota	664	Twin City School of Pet Grooming	3
Minneapolis Drafting School	217		
Minneapolis Business College	NA		

Note: Figures include enrollment at multiple locations, where applicable. Listing includes schools eligible for the state grant program, except for hospital-related training schools. Where figures are missing, schools did not provide enrollment data.

Source: Higher Education Coordinating Board (May 1993).

University of Minnesota Undergraduate Resident Tuition and Fees, 1971-93

APPENDIX B

Table B.1: Undergraduate Resident Tuition and Required Fees at the University of Minnesota in Current Dollars, 1971-93

Fiscal Year	Twin Cities Campus: College of Liberal Arts	Twin Cities Campus: Institute of Technology	Twin Cities Campus: College of Natural Resources	Duluth Campus[a]	Morris Campus	Crookston Campus	Consumer Price Index[b]
1971	522	546	522	489	513	489	39.7
1972	600	621	609	588	588	489	41.2
1973	641	668	656	606	633	489	42.8
1974	683	752	719	648	675	555	46.6
1975	714	807	762	679	696	585	51.8
1976	772	874	826	748	768	660	55.5
1977	818	920	872	783	807	695	58.7
1978	927	1,044	990	893	927	794	62.6
1979	991	1,132	1,069	950	978	851	68.5
1980	1,060	1,219	1,150	1,082	1,065	908	77.6
1981	1,132	1,300	1,243	1,147	1,122	985	86.6
1982	1,264	1,465	1,402	1,285	1,248	1,160	94.1
1983	1,521	1,622	1,632	1,503	1,506	1,308	98.2
1984	1,672	1,806	1,888	1,677	1,694	1,555	101.8
1985	1,833	2,001	2,112	1,804	1,869	1,699	105.8
1986	1,943	2,120	2,235	1,919	1,961	1,793	108.8
1987	2,020	2,211	2,376	2,039	2,052	1,861	111.2
1988	2,106	2,304	2,524	2,161	2,142	1,944	115.8
1989	2,208	2,430	2,694	2,298	2,243	2,042	121.2
1990	2,379	2,635	2,772	2,445	2,418	2,265	127.0
1991	2,630	2,861	2,918	2,601	2,582	2,436	133.9
1992	2,864	3,056	3,116	2,851	2,882	2,671	138.2
1993	3,200	3,368	3,368	3,128	3,351	2,678	142.5
1971-81							
% Change	116.9%	138.1%	138.1%	134.6%	118.7%	101.4%	118.1%
Annual Rate of Change	8.0	9.1	9.1	8.9	8.1	7.3	8.1
1981-93							
% Change	182.7	159.1	171.0	172.7	198.7	171.9	64.5
Annual Rate of Change	9.0	8.3	8.7	8.7	9.5	8.7	4.2
1971-93							
% Change	513.0	516.8	545.2	539.7	553.2	447.6	258.9
Annual Rate of Change	8.6	8.6	8.8	8.8	8.9	8.0	6.0

Source: University of Minnesota and the U.S. Department of Commerce.

[a]College of Liberal Arts only. Tuition rates for other colleges display very similar trends.

[b]Monthly values of the CPI-U were used to calculate fiscal year averages of the consumer price index.

Table B.2: Undergraduate Resident Tuition and Required Fees at the University of Minnesota in Constant 1993 Dollars, 1971-93

	Twin Cities Campus					
Fiscal Year Year	College of Liberal Arts	Institute of Technology	College of Natural Resources	Duluth Campus[a]	Morris Campus	Crookston Campus
1971	$1,874	$1,960	$1,874	$1,755	$1,841	$1,755
1972	2,075	2,148	2,106	2,034	2,034	1,691
1973	2,134	2,224	2,184	2,018	2,108	1,628
1974	2,089	2,300	2,199	1,982	2,064	1,697
1975	1,964	2,220	2,096	1,868	1,915	1,609
1976	1,982	2,244	2,121	1,921	1,972	1,695
1977	1,986	2,233	2,117	1,901	1,959	1,687
1978	2,110	2,377	2,254	2,033	2,110	1,807
1979	2,062	2,355	2,224	1,976	2,035	1,770
1980	1,947	2,238	2,112	1,987	1,956	1,667
1981	1,863	2,139	2,045	1,887	1,846	1,621
1982	1,914	2,219	2,123	1,946	1,890	1,757
1983	2,207	2,354	2,368	2,181	2,185	1,898
1984	2,340	2,528	2,643	2,347	2,371	2,177
1985	2,469	2,695	2,845	2,430	2,517	2,288
1986	2,545	2,777	2,927	2,513	2,568	2,348
1987	2,589	2,833	3,045	2,613	2,630	2,385
1988	2,592	2,835	3,106	2,659	2,636	2,392
1989	2,596	2,857	3,167	2,702	2,637	2,401
1990	2,669	2,957	3,110	2,743	2,713	2,541
1991	2,799	3,045	3,105	2,768	2,748	2,592
1992	2,953	3,151	3,213	2,940	2,972	2,754
1993	3,200	3,368	3,368	3,128	3,351	2,678
1971-81						
% Change	-0.6%	9.1%	9.2%	7.5%	0.3%	-7.7%
Annual Rate of Change	-0.1	0.9	0.9	0.7	0.0	-0.8
1981-93						
% Change	71.8	57.4	64.7	65.7	81.5	65.2
Annual Rate of Change	4.6	3.9	4.2	4.3	5.1	4.3
1971-93						
% Change	70.8	71.9	79.8	78.2	82.0	52.6
Annual Rate of Change	2.5	2.5	2.7	2.7	2.8	1.9

Source: University of Minnesota and the United States Department of Commerce.

[a]College of Liberal Arts only. Tuition rates for other colleges on the Duluth campus display very similar trends.

Detail on State Grants and Recipients Overall and by System, 1992-93 Academic Year

APPENDIX C

Table C.1: State Grants in Relation to Total Income, 1992-93 Academic Year

	State Grant Recipients		State Grant Amount				Combined State and Pell Grant Amount			
	Number	Percent	Dollars (millions)	Percent	Median Dollars	Average Dollars	Dollars (millions)	Percent	Median Dollars	Average Dollars
DEPENDENT STUDENTS										
$5,000 or less	1,696	4%	$2.0	3%	$783	$1,152	$5.4	6%	$3,012	$3,210
5,001 - 10,000	2,481	6	2.7	4	732	1,074	7.7	8	2,933	3,101
10,001 - 15,000	3,284	8	4.8	8	967	1,456	10.4	11	3,003	3,171
15,001 - 20,000	4,375	11	7.5	12	1,268	1,712	13.5	14	2,924	3,086
20,001 - 25,000	4,773	12	8.8	14	1,437	1,843	13.9	14	2,849	2,920
25,001 - 30,000	4,922	13	9.0	14	1,473	1,838	12.8	13	2,438	2,609
30,001 - 35,000	4,703	12	8.3	13	1,405	1,768	10.9	11	2,138	2,325
35,001 - 40,000	4,209	11	7.0	11	1,309	1,671	8.5	9	1,826	2,025
40,001 - 45,000	3,316	9	5.1	8	1,206	1,543	5.9	6	1,537	1,793
45,001 - 50,000	2,254	6	3.5	6	1,190	1,572	4.0	4	1,435	1,758
Over $50,000	2,780	7	3.9	6	1,122	1,404	4.1	4	1,245	1,491
Total	38,793	100%	$62.6	100%	$1,218	$1,615	$97.3	100%	$2,504	$2,509
INDEPENDENT STUDENTS										
$2,500 or less	1,434	6%	$1.1	5%	$363	$766	$4.0	7%	$2,642	$2,784
2,501 - 5,000	1,976	9	1.7	8	368	854	5.8	10	2,694	2,914
5,001 - 7,500	4,470	19	2.8	14	304	637	12.0	21	2,612	2,674
7,501 - 10,000	2,407	10	1.7	8	336	693	6.5	12	2,639	2,689
10,001 - 12,500	1,895	8	1.5	7	393	789	5.0	9	2,615	2,621
12,501 - 15,000	1,684	7	1.5	7	503	903	4.3	8	2,613	2,541
15,001 - 17,500	1,526	7	1.5	7	557	959	3.7	7	2,488	2,435
17,501 - 20,000	1,267	6	1.3	6	641	1,037	3.0	5	2,369	2,332
20,001 - 22,500	1,187	5	1.3	6	712	1,088	2.7	5	2,255	2,289
22,501 - 25,000	1,004	4	1.1	5	739	1,106	2.2	4	2,140	2,163
25,001 - 27,500	921	4	0.9	4	722	1,020	1.8	3	1,773	1,911
27,501 - 30,000	773	3	0.8	4	802	1,043	1.4	2	1,614	1,813
30,001 - 32,500	670	3	0.7	3	747	1,075	1.1	2	1,496	1,710
32,501 - 35,000	518	2	0.6	3	682	1,093	0.8	1	1,335	1,638
Over $35,000	1,294	6	1.6	8	744	1,245	2.0	4	1,149	1,538
Totals	23,026	100%	$20.1	100%	$477	$875	$56.1	100%	$2,501	$2,437

Note: State grant recipients' total income is based on adjusted gross income and untaxed income for 1991 or estimated 1992 income for dislocated workers. For dependent students, the income is for parents. For independent students, the income is for the student or spouse. Some figures do not total due to rounding.

Table C.2: Characteristics of State Grant Recipients by System of Higher Education, 1992-93 Academic Year

	University of Minnesota	State University	Community College	Technical College	Private 4-Year	Private Vocational	All Recipients
DEPENDENCY STATUS							
Dependent	84%	77%	55%	42%	75%	40%	63%
Independent	16	23	45	59	25	60	37
SEX							
Male	46	39	35	46	39	31	40
Female	54	61	65	54	61	69	60
AGE							
19 and Under	14	12	13	10	13	9	12
20-23	73	69	49	42	66	45	57
24 and Older	13	19	38	49	20	46	31
ETHNICITY							
White	83	95	91	89	92	86	90
Nonwhite	17	5	9	9	8	14	9
ENROLLMENT STATUS							
Full-time (at least 75%)	82	96	80	87	97	89	90
Part-time (less than 75%)	18	4	20	13	3	11	10
MARITAL STATUS							
Unmarried	89	86	81	74	89	80	83
Married	11	14	19	26	11	20	17
HOUSING							
On campus	10	15	3	1	32	1	11
Off campus	70	74	58	71	49	58	64
With parents or relatives	15	7	29	16	7	22	15
Unknown	5	4	10	13	13	19	10
RECEIVING AFDC BENEFITS							
Yes	7	8	18	24	5	18	13
No	93	92	82	76	95	82	87

Table C.3: State Grants in Relation to Total Income, University of Minnesota System, 1992-93 Academic Year

	State Grant Recipients		State Grant Amount				Combined State and Pell Grant Amount			
	Number	Percent	Dollars	Percent	Median Dollars	Average Dollars	Dollars	Percent	Median Dollars	Average Dollars
DEPENDENT STUDENTS										
$5,000 or less	343	6%	$355,215	4%	$1,039	$1,036	$1,069,190	7%	$3,332	$3,117
5,001 - 10,000	410	7	427,057	5	1,050	1,042	1,288,761	9	3,396	3,143
10,001 - 15,000	505	8	695,234	8	1,210	1,377	1,563,134	11	3,358	3,095
15,001 - 20,000	646	10	1,038,198	12	1,437	1,607	1,977,436	14	3,357	3,061
20,001 - 25,000	734	12	1,279,922	15	1,641	1,744	2,080,893	15	3,120	2,835
25,001 - 30,000	800	13	1,328,770	16	1,586	1,661	1,941,741	14	2,541	2,427
30,001 - 35,000	762	12	1,173,600	14	1,490	1,540	1,599,171	11	2,174	2,099
35,001 - 40,000	691	11	914,427	11	1,277	1,323	1,165,973	8	1,729	1,687
40,001 - 45,000	563	9	638,752	7	1,093	1,135	794,769	6	1,333	1,412
45,001 - 50,000	384	6	395,785	5	1,015	1,031	473,468	3	1,197	1,233
Over $50,000	390	6	305,598	4	651	784	348,231	2	724	893
Total	6,228	100%	$8,552,558	100%	$1,287	$1,373	$14,302,766	100%	$2,487	$2,297
INDEPENDENT STUDENTS										
$2,500 or less	99	9%	$57,973	6%	$530	$586	$263,581	10%	$2,790	$2,662
2,501 - 5,000	105	9	65,427	7	641	623	286,427	10	2,997	2,728
5,001 - 7,500	202	18	131,102	13	636	649	571,102	21	3,006	2,827
7,501 - 10,000	113	10	71,344	7	606	631	300,144	11	2,835	2,656
10,001 - 12,500	92	8	70,357	7	742	765	244,199	9	2,887	2,654
12,501 - 15,000	80	7	88,409	9	929	1,105	213,330	8	2,952	2,667
15,001 - 17,500	72	6	92,982	9	980	1,291	191,936	7	2,888	2,666
17,501 - 20,000	57	5	69,975	7	1,020	1,228	137,525	5	2,558	2,413
20,001 - 22,500	63	5	85,540	9	1,257	1,358	148,998	5	2,480	2,365
22,501 - 25,000	62	5	69,842	7	877	1,126	116,600	4	2,068	1,881
25,001 - 27,500	41	4	44,353	5	976	1,082	73,495	3	1,917	1,793
27,501 - 30,000	48	4	45,615	5	849	950	76,223	3	1,529	1,588
30,001 - 32,500	34	3	32,282	3	946	949	45,070	2	1,244	1,326
32,501 - 35,000	27	2	21,940	2	680	813	36,165	1	1,507	1,339
Over $35,000	54	5	32,187	3	380	596	42,470	2	578	786
Total	1,149	100%	$979,328	100%	$726	$852	$2,747,266	100%	$2,664	$2,391

Note: State grant recipients' total income is based on adjusted gross income and untaxed income for 1991 or estimated 1992 income for dislocated workers. For dependent students, the income is for parents. For independent students, the income is for the student or spouse. Some figures do not total due to rounding.

Table C.4: State Grants in Relation to Total Income, State University System, 1992-93 Academic Year

	State Grant Recipients		State Grant Amount				Combined State and Pell Grant Amount			
	Number	Percent	Dollars	Percent	Median Dollars	Average Dollars	Dollars	Percent	Median Dollars	Average Dollars
DEPENDENT STUDENTS										
$5,000 or less	375	4%	$275,516	3%	$818	$735	$1,081,795	6%	$3,146	$2,885
5,001 - 10,000	522	6	383,917	4	799	735	1,495,217	8	3,076	2,864
10,001 - 15,000	809	9	858,781	8	868	1,062	2,334,894	12	3,218	2,886
15,001 - 20,000	1,119	12	1,421,944	14	1,068	1,271	3,060,827	16	3,004	2,735
20,001 - 25,000	1,164	13	1,605,514	15	1,253	1,379	2,989,331	15	2,789	2,568
25,001 - 30,000	1,297	14	1,792,155	17	1,298	1,382	2,813,234	14	2,236	2,169
30,001 - 35,000	1,184	13	1,466,329	14	1,142	1,238	2,174,512	11	1,920	1,837
35,001 - 40,000	1,061	11	1,165,029	11	1,000	1,098	1,617,367	8	1,498	1,524
40,001 - 45,000	844	9	816,576	8	903	968	1,056,564	5	1,247	1,252
45,001 - 50,000	478	5	405,539	4	785	848	524,897	3	1,023	1,098
Over $50,000	419	5	273,550	3	541	653	363,250	2	686	867
Total	9,272	100%	$10,464,850	100%	$968	$1,129	$19,511,888	100%	$2,274	$2,104
INDEPENDENT STUDENTS										
$2,500 or less	132	5%	$51,814	3%	$332	$393	$321,314	5%	$2,573	$2,434
2,501 - 5,000	177	6	70,359	4	386	398	434,709	7	2,628	2,456
5,001 - 7,500	397	14	154,936	9	350	390	998,886	16	2,663	2,516
7,501 - 10,000	320	12	125,722	7	367	393	789,930	13	2,619	2,469
10,001 - 12,500	237	9	108,947	6	418	460	590,930	10	2,640	2,493
12,501 - 15,000	232	8	161,218	9	524	695	563,639	9	2,591	2,429
15,001 - 17,500	235	9	212,094	12	662	903	556,423	9	2,507	2,368
17,501 - 20,000	198	7	192,838	11	723	974	452,638	7	2,445	2,286
20,001 - 22,500	163	6	150,956	9	815	926	344,973	6	2,284	2,116
22,501 - 25,000	153	6	124,323	7	684	813	302,040	5	2,005	1,974
25,001 - 27,500	125	5	106,947	6	762	856	224,705	4	1,761	1,798
27,501 - 30,000	108	4	87,280	5	787	808	171,455	3	1,511	1,588
30,001 - 32,500	91	3	67,725	4	648	744	128,825	2	1,378	1,416
32,501 - 35,000	63	2	38,195	2	468	606	87,245	1	1,383	1,385
Over $35,000	126	5	70,638	4	422	561	139,667	2	1,072	1,108
Total	2,757	100%	$1,723,992	100%	$480	$625	$6,107,380	100%	$2,434	$2,215

Note: State grant recipients' total income is based on adjusted gross income and untaxed income for 1991 or estimated 1992 income for dislocated workers. For dependent students, the income is for parents. For independent students, the income is for the student or spouse. Some figures do not total due to rounding.

Table C.5: State Grants in Relation to Total Income, Community College System, 1992-93 Academic Year

	State Grant Recipients		State Grant Amount				Combined State and Pell Grant Amount			
	Number	Percent	Dollars	Percent	Median Dollars	Average Dollars	Dollars	Percent	Median Dollars	Average Dollars
DEPENDENT STUDENTS										
$5,000 or less	286	5%	$110,405	3%	$343	$386	$682,863	7%	$2,615	$2,388
5,001 - 10,000	494	9	205,218	5	338	415	1,143,964	11	2,562	2,316
10,001 - 15,000	562	10	407,233	9	517	725	1,341,346	13	2,612	2,387
15,001 - 20,000	757	13	700,052	16	747	925	1,669,527	17	2,464	2,205
20,001 - 25,000	816	15	770,567	17	813	944	1,596,242	16	2,050	1,956
25,001 - 30,000	770	14	703,957	16	780	914	1,305,861	13	1,697	1,696
30,001 - 35,000	704	13	619,672	14	732	880	1,020,768	10	1,445	1,450
35,001 - 40,000	577	10	475,433	11	731	824	705,746	7	1,167	1,223
40,001 - 45,000	358	6	245,827	6	548	687	363,369	4	945	1,015
45,001 - 50,000	184	3	117,516	3	546	639	165,354	2	873	899
Over $50,000	110	2	55,384	1	417	503	82,872	<1	598	753
Total	5,618	100%	$4,411,264	100%	$618	$785	$10,077,910	100%	$1,856	$1,794
INDEPENDENT STUDENTS										
$2,500 or less	232	5%	$45,562	3%	$144	$196	$498,620	6%	$2,455	$2,149
2,501 - 5,000	305	7	56,740	4	139	186	668,157	8	2,486	2,191
5,001 - 7,500	878	19	146,326	9	121	167	1,853,726	22	2,443	2,111
7,501 - 10,000	488	11	97,345	6	157	199	1,034,708	12	2,443	2,120
10,001 - 12,500	346	8	80,069	5	172	231	729,415	9	2,448	2,108
12,501 - 15,000	341	8	133,532	9	278	392	680,199	8	2,215	1,995
15,001 - 17,500	355	8	159,862	10	300	450	652,725	8	1,979	1,839
17,501 - 20,000	302	7	167,948	11	373	556	554,344	7	1,910	1,836
20,001 - 22,500	262	6	128,018	8	348	489	419,493	5	1,604	1,601
22,501 - 25,000	212	5	129,791	8	490	612	330,874	4	1,600	1,561
25,001 - 27,500	215	5	120,912	8	467	562	284,583	3	1,268	1,324
27,501 - 30,000	150	3	85,268	6	507	568	203,581	2	1,300	1,357
30,001 - 32,500	137	3	65,912	4	375	481	145,404	2	974	1,061
32,501 - 35,000	102	2	42,931	3	356	421	105,856	1	891	1,038
Over $35,000	196	4	88,708	6	377	453	156,687	2	690	799
Total	4,521	100%	$1,548,924	100%	$216	$343	$8,318,370	100%	$2,037	$1,840

Note: State grant recipients' total income is based on adjusted gross income and untaxed income for 1991 or estimated 1992 income for dislocated workers. For dependent students, the income is for parents. For independent students, the income is for the student or spouse. Some figures do not total due to rounding.

Table C.6: State Grants in Relation to Total Income, Technical College System, 1992-93 Academic Year

	State Grant Recipients		State Grant Amount				Combined State and Pell Grant Amount			
	Number	Percent	Dollars	Percent	Median Dollars	Average Dollars	Dollars	Percent	Median Dollars	Average Dollars
DEPENDENT STUDENTS										
$5,000 or less	314	6%	$153,086	3%	$502	$488	$790,507	7%	$2,830	$2,518
5,001 - 10,000	493	9	256,110	5	497	519	1,268,443	12	2,828	2,573
10,001 - 15,000	616	11	470,599	10	566	764	1,526,820	14	2,743	2,479
15,001 - 20,000	775	14	773,911	16	769	999	1,850,903	17	2,715	2,388
20,001 - 25,000	803	15	889,038	18	964	1,107	1,750,142	16	2,335	2,180
25,001 - 30,000	744	14	808,522	17	960	1,087	1,424,543	13	2,020	1,915
30,001 - 35,000	710	13	718,337	15	905	1,012	1,114,108	10	1,640	1,569
35,001 - 40,000	519	9	463,504	9	779	893	633,787	6	1,181	1,221
40,001 - 45,000	299	5	218,903	4	611	732	306,332	3	949	1,025
45,001 - 50,000	133	2	100,805	2	718	758	137,388	1	955	1,033
Over $50,000	62	1	31,168	<1	402	503	40,860	<1	529	659
Total	5,468	100%	$4,883,983	100%	$724	$893	$10,843,833	100%	$2,146	$1,983
INDEPENDENT STUDENTS										
$2,500 or less	431	6%	$106,675	3%	$215	$248	$989,108	6%	$2,571	$2,295
2,501 - 5,000	578	8	129,608	4	205	224	1,329,700	8	2,565	2,301
5,001 - 7,500	1,682	22	370,027	12	202	220	3,847,877	24	2,537	2,288
7,501 - 10,000	853	11	213,368	7	230	250	2,002,006	12	2,597	2,347
10,001 - 12,500	661	9	202,031	6	258	306	1,542,802	10	2,583	2,334
12,501 - 15,000	591	8	281,130	9	350	476	1,351,134	8	2,589	2,286
15,001 - 17,500	519	7	303,205	10	430	584	1,142,109	7	2,502	2,201
17,501 - 20,000	412	5	287,362	9	499	697	858,920	5	2,307	2,085
20,001 - 22,500	391	5	271,066	8	577	693	785,079	5	2,178	2,008
22,501 - 25,000	332	4	232,818	7	583	701	630,539	4	2,046	1,899
25,001 - 27,500	326	4	217,319	7	583	667	543,773	3	1,697	1,668
27,501 - 30,000	264	3	172,997	5	591	655	399,405	2	1,460	1,513
30,001 - 32,500	218	3	148,489	5	651	681	310,010	2	1,331	1,422
32,501 - 35,000	150	2	90,563	3	575	604	171,826	1	1,076	1,146
Over $35,000	289	4	164,366	5	475	569	287,366	2	846	994
Total	7,697	100%	$3,191,024	100%	$303	$415	$16,191,653	100%	$2,436	$2,104

Note: State grant recipients' total income is based on adjusted gross income and untaxed income for 1991 or estimated 1992 income for dislocated workers. For dependent students, the income is for parents. For independent students, the income is for the student or spouse. Some figures do not total due to rounding.

Table C.7: State Grants in Relation to Total Income, Private Four-Year College System, 1992-93 Academic Year

	State Grant Recipients		State Grant Amount				Combined State and Pell Grant Amount			
	Number	Percent	Dollars	Percent	Median Dollars	Average Dollars	Dollars	Percent	Median Dollars	Average Dollars
DEPENDENT STUDENTS										
$5,000 or less	276	3%	$890,634	3%	$3,448	$3,227	$1,450,447	4%	$5,459	$5,255
5,001 - 10,000	353	4	1,088,341	4	3,448	3,083	1,802,345	5	5,444	5,106
10,001 - 15,000	542	6	1,847,570	6	3,498	3,409	2,787,516	8	5,459	5,143
15,001 - 20,000	776	8	2,897,559	10	3,703	3,734	3,951,894	11	5,411	5,093
20,001 - 25,000	929	10	3,568,471	12	3,904	3,841	4,552,002	13	5,263	4,900
25,001 - 30,000	990	10	3,740,317	13	3,898	3,778	4,483,765	12	4,789	4,529
30,001 - 35,000	1,059	11	3,778,946	13	3,747	3,568	4,345,079	12	4,332	4,103
35,001 - 40,000	1,080	11	3,514,258	12	3,481	3,254	3,833,556	11	3,699	3,550
40,001 - 45,000	1,032	11	2,871,506	10	2,938	2,782	3,066,162	9	3,016	2,971
45,001 - 50,000	951	10	2,367,295	8	2,647	2,489	2,486,187	7	2,686	2,614
Over $50,000	1,673	17	3,093,023	10	1,724	1,849	3,155,008	9	1,736	1,886
Total	9,661	100%	$29,657,920	100%	$3,448	$3,070	$35,913,962	100%	$3,970	$3,717
INDEPENDENT STUDENTS										
$2,500 or less	235	7%	$553,739	7%	$2,409	$2,356	$1,043,914	8%	$4,699	$4,442
2,501 - 5,000	345	11	909,883	11	3,252	2,637	1,660,196	13	5,248	4,812
5,001 - 7,500	510	16	1,193,834	15	2,299	2,341	2,273,917	18	4,671	4,459
7,501 - 10,000	324	10	795,720	10	2,502	2,456	1,386,262	11	4,400	4,279
10,001 - 12,500	273	8	696,410	9	2,449	2,551	1,026,248	8	3,919	3,759
12,501 - 15,000	190	6	490,047	6	2,557	2,579	697,066	6	3,600	3,669
15,001 - 17,500	155	5	394,230	5	2,328	2,543	597,828	5	3,849	3,857
17,501 - 20,000	130	4	319,446	4	2,172	2,457	482,542	4	3,806	3,712
20,001 - 22,500	140	4	367,215	5	2,288	2,623	543,930	4	3,847	3,885
22,501 - 25,000	108	3	297,994	4	2,417	2,759	416,911	3	3,765	3,860
25,001 - 27,500	90	3	251,220	3	2,460	2,791	334,933	3	3,377	3,721
27,501 - 30,000	99	3	259,447	3	2,422	2,621	330,395	3	3,005	3,337
30,001 - 32,500	95	3	251,508	3	2,339	2,647	314,487	3	3,082	3,310
32,501 - 35,000	94	3	253,766	3	2,287	2,700	301,704	2	2,860	3,210
Over $35,000	429	13	990,325	12	1,964	2,308	1,064,592	9	2,137	2,482
Total	3,217	100%	$8,024,784	100%	$2,399	$2,494	$12,474,922	100%	$4,002	$3,878

Note: State grant recipients' total income is based on adjusted gross income and untaxed income for 1991 or estimated 1992 income for dislocated workers. For dependent students, the income is for parents. For independent students, the income is for the student or spouse. Some figures do not total due to rounding.

Table C.8: State Grants in Relation to Total Income, Private Vocational School System, 1992-93 Academic Year

	State Grant Recipients		State Grant Amount				Combined State and Pell Grant Amount			
	Number	Percent	Dollars	Percent	Median Dollars	Average Dollars	Dollars	Percent	Median Dollars	Average Dollars
DEPENDENT STUDENTS										
$5,000 or less	95	4%	$155,782	4%	$1,710	$1,640	$345,923	6%	$3,760	$3,641
5,001 - 10,000	201	8	285,951	7	1,370	1,423	664,660	11	3,255	3,307
10,001 - 15,000	245	10	491,504	11	1,922	2,006	841,857	14	3,605	3,436
15,001 - 20,000	291	12	632,202	15	2,093	2,173	948,290	15	3,305	3,259
20,001 - 25,000	309	13	640,058	15	2,010	2,071	906,033	15	3,006	2,932
25,001 - 30,000	304	13	622,716	14	1,921	2,048	813,008	13	2,698	2,674
30,001 - 35,000	264	11	497,479	12	1,887	1,884	606,204	10	2,243	2,296
35,001 - 40,000	259	11	443,374	10	1,600	1,712	501,453	8	1,803	1,936
40,001 - 45,000	200	8	274,318	6	1,196	1,372	302,001	5	1,369	1,510
45,001 - 50,000	112	5	138,532	3	1,093	1,237	154,540	2	1,226	1,380
Over $50,000	110	5	116,978	3	820	1,063	124,828	2	837	1,135
Total	2,390	100%	$4,298,894	100%	$1,655	$1,799	$6,208,797	100%	$2,584	$2,598
INDEPENDENT STUDENTS										
$2,500 or less	298	8%	$272,051	6%	$759	$913	$852,634	9%	$2,845	$2,861
2,501 - 5,000	456	13	445,175	10	842	976	1,350,584	14	2,924	2,962
5,001 - 7,500	789	22	834,413	19	865	1,058	2,372,980	24	2,977	3,008
7,501 - 10,000	304	8	358,809	8	1,048	1,180	944,466	9	3,190	3,107
10,001 - 12,500	273	8	324,251	7	1,098	1,188	805,204	8	3,028	2,949
12,501 - 15,000	241	7	353,624	8	1,286	1,467	745,174	7	3,095	3,092
15,001 - 17,500	178	5	280,352	6	1,486	1,575	540,494	5	3,001	3,036
17,501 - 20,000	161	4	264,521	6	1,457	1,643	447,263	4	2,826	2,778
20,001 - 22,500	165	5	279,184	6	1,493	1,692	465,484	5	2,784	2,821
22,501 - 25,000	131	4	243,303	5	1,600	1,857	356,911	4	2,749	2,725
25,001 - 27,500	117	3	185,935	4	1,480	1,589	282,585	3	2,406	2,415
27,501 - 30,000	103	3	152,768	3	1,191	1,483	218,122	2	1,904	2,118
30,001 - 32,500	91	3	146,647	3	1,502	1,612	192,447	2	2,090	2,115
32,501 - 35,000	81	2	118,130	3	1,193	1,458	144,080	1	1,616	1,779
Over $35,000	194	5	250,689	6	1,139	1,292	284,131	3	1,246	1,465
Total	3,582	100%	$4,509,852	100%	$1,066	$1,259	$10,002,557	100%	$2,814	$2,792

Note: State grant recipients' total income is based on adjusted gross income and untaxed income for 1991 or estimated 1992 income for dislocated workers. For dependent students, the income is for parents. For independent students, the income is for the student or spouse. Some figures do not total due to rounding.

THE MINNESOTA STATE UNIVERSITIES
BEMIDJI • MANKATO • METROPOLITAN • MOORHEAD • ST. CLOUD
SOUTHWEST • WINONA • AKITA CAMPUS, JAPAN

February 11, 1994

Roger Brooks
Deputy Legislative Auditor
Office of the Legislative Auditor
Centennial Building
St. Paul, MN 55155

Dear Mr. Brooks:

Thank you for providing a copy of the final version of the report on Higher Education Tuition and State Grants so that we might prepare a formal reaction. We in the Minnesota State Universities were pleased to have been consulted during the data collection phase of your study and believe that this has been a very worthwhile endeavor.

My overall impression of the report is that it gives an objective, balanced, and fair assessment of the current situation in Minnesota with regard to the operation of the State Grant Program and the reasons underlying recent tuition increases in public institutions. I am particularly pleased that the findings of the study support many of the assertions about the State Grant Program that I and members of my staff have made in our testimony before the Legislature. I am sure that your efforts will be of great help to policy makers as they deliberate ways to improve the functioning of the state's financial aid programs in the future.

I specifically endorse your finding noted in Chapter 3 that being "financially needy" and therefore qualifying for a State Grant, does not mean that a student is from a low-income family. The fact that the same student could be considered needy if s/he attended a high-cost school, but not needy if s/he chose to attend a low-cost school is something that continues to trouble us. You correctly conclude that the State Grant program "operates on a cost-related definition of financial need" This, along with the definition of the Student Share, we believe is what is most responsible for your finding that the State Grant Program is not specifically targeted to serve lower-income students. My staff and I have been trying to communicate these aspects of the State Grant Program to the Legislature for several years. With your report in hand, perhaps we will be more successful in the upcoming session.

555 PARK STREET, SUITE 230 • ST. PAUL, MINNESOTA 55103 • 612-296-2844 • FAX 612-296-3214 • TDD 612-297-1992

One thing that might be missing from the narrative is an explanation of the relationship between changes in the Federal Methodology and the expanded eligibility of middle- and upper-income students for State Grants. We must bear in mind that the determination of need for a State Grant is done using the Expected Family Contribution calculated under the Federal Methodology. It is my understanding that the cumulative effect of a number of changes over the years has been to lower the average EFC at any given income level. For example, the elimination of home equity from the need analysis calculation would have lowered the EFC of an average middle- to upper-income family by a certain amount. The lower EFC would not have made the student eligible for a Pell Grant, but depending on the EFC and the student's cost of attendance, that change could have made the student eligible for a State Grant. I believe that a full understanding of this relationship will lead to the realization that decisions made in Washington are having a direct, and possibly unintended, effect on State Grant expenditures in Minnesota.

As public institutions, the State Universities are criticized for occasional increases in tuition. Your analysis of recent tuition increases at the State Universities lends support to our position that these increases are made necessary primarily by decreases in legislative appropriations and by inflationary forces. Failure to act responsibly by raising tuition in the face of declining public support would result in a decrease in educational quality at our universities, to the detriment of our students. I think it is noteworthy that, despite recent increases, our tuition charges are still not significantly higher than the national average.

In summary, I congratulate you and your staff on what I believe is a fair and objective characterization of the current status of Minnesota's State Grant Program. I believe that this report should have a significant effect on the Legislature's future deliberations regarding the State Grant Program.

Sincerely,

Terrence J. MacTaggart
Chancellor

Minnesota
Community Colleges

Office of the Chancellor
203 Capitol Square Building
550 Cedar Street
St. Paul, Minnesota 55101-4798
(612) 296-3990

February 14, 1994

Roger Brooks, Deputy Legislative Auditor
Office of the Legislative Auditor
Centennial Building, First Floor
St. Paul, MN 55155

Dear Mr. Brooks:

We would like to commend you and your staff for the thoughtful and objective report on "Higher Education Tuition and State Grants". You have done a fine job of identifying and analyzing the causes of public sector tuition increases since 1978. The report contributes to a broader understanding of tuition and financial aid trends in higher education and brings clarity to the complex issues underlying those trends.

We are disappointed, however, that private vocational institutions were excluded from most of the tuition analysis. Students at these institutions receive substantial amounts of state financial aid. Inclusion of the private vocational institutions would have resulted in a more complete treatment of this topic.

We thank you for the opportunity to have input during the course of the study and to review the draft. The issues that we raised during the review have been addressed in the final report.

Sincerely,

Geraldine A. Evans
Chancellor

UNIVERSITY OF MINNESOTA

Office of the President

202 Morrill Hall
100 Church Street S.E.
Minneapolis, MN 55455-0110
612-626-1616
Fax: 612-625-3875

February 14, 1994

James R. Nobles
Legislative Auditor
Office of the Legislative Auditor
Centennial Building
St. Paul, Minnesota 55155-4708

Attention Roger Brooks

Dear Mr. Brooks:

We have carefully reviewed the final report on Higher Education Tuition and State Grants. We find the substance of the results in agreement with the internal investigations and analyses conducted at the University of Minnesota.

Thank you for the opportunity to respond. Please let us know if there are any questions in this matter.

Cordially,

Nils Hasselmo
President

NH:jml

MINNESOTA
PRIVATE
COLLEGE
COUNCIL

401 Galtier Plaza, Box 40
175 Fifth Street East
St. Paul, MN 55101-2901
(612) 228-9061
Fax (612) 228-0379

February 15, 1994

Mr. Roger Brooks
Deputy Legislative Auditor
Office of the Legislative Auditor
658 Cedar Street
St. Paul, MN 55155

Dear Mr. Brooks:

Thank you for the opportunity to comment on Higher Education Tuition and State Grants. We think the report is generally sound and highlights the importance of the State Grant Program as a necessary and critical component for expanding educational opportunity to those with the least ability-to-pay. We also appreciated the opportunity to work with your staff.

While the report reflects a substantial review of data from a variety of sources, we would urge readers to consider the following points:

- Reasons for tuition and spending increases are complex and vary considerably from institution to institution. Summarized aggregate data compiled from independently governed institutions provides limited opportunities to make conclusive judgements about either causes or effects. Unfortunately, national observations by Arthur Hauptman and others are often so highly summarized or aggregated that they provide little assistance in judging experiences in Minnesota. They also often lack solid empirical foundations from which to make conclusive assessments.

  The conclusion that spending increases made tuition increases necessary is doubtless true. However, the conclusion fails to answer the central question of the analysis: what are the main reasons for tuition increases? Aggregate data simply do not provide insights into the purposes for which expenditure or revenue changes were made. More importantly, we cannot judge either tuition or expenditure changes without also studying access, retention, and qualitative performance measures -- that is, the intended outcomes or objectives. Program mix, student composition, institutional objectives, and staff mix, to name only a few, independently and together influence changes in both spending and tuition.

- While the analysis clearly demonstrates that state grants reach the students for whom the program was designed, the comparative assessments, as well as the assessment of changes in funding against inflation, are provided without clear reference to the State Grant Program's intended objectives or outcomes. For an investment that has historically totalled less than 9 percent of the total annual state appropriation for higher education, the State Grant Program has expanded educational access and opportunities for more than 25 percent of all Minnesota undergraduates. We think that additional research is needed to measure the impact of state grants on the educational goals of recipients and to track changes in the composition of the characteristics of grant applicants.

- In spite of significant increases in State Grant Program funding, total costs at all higher education institutions have continued to rise faster than inflation for a variety of reasons. Compounding the issue is stagnant family income, particularly among those have historically had the least access. These conditions will require additional targeted investments in the State Grant Program if access to educational opportunities regardless of socioeconomic status is to remain a public policy objective in Minnesota.

We hope our comments, as well as those we made in a subsequent letter to your office, broaden the report's context and perspective. Thank you for the opportunity to participate in the research and review process.

Sincerely,

David B. Laird, Jr.
President

DBL:llz

Minnesota Technical College System

State Board of Technical Colleges
Capitol Square Building 550 Cedar Street St. Paul, MN 55101

James R. Nobles, Legislative Auditor
Office of the Legislative Auditor
Centennial Building
St. Paul, MN 55155

Dear Mr. Nobles:

We have reviewed your office's report on "Higher Education Tuition and State Grants". Your staff have presented these very complex issues with fairness and clarity.

The technical college system is concerned about the affordability of its education; particularly with 35% of adult students with household incomes below $10,000 and more than 33% of dependent students with household incomes less than $25,000.

We support the recommendations for more complete and accurate data on grant recipients. We are greatly concerned, though, with the statement that fewer low income students are applying for financial aid and strongly endorse your suggestion that application trends be monitored for explanations of this decline.

With a recognition of the scope and complexity of this study, we appreciate the approach you have taken to identify and clarify the issues. We trust that this report, along with the Minnesota Financial Aid Task Force report, will frame policy discussions in the upcoming legislative session.

Sincerely,

Carole M. Johnson

Carole M. Johnson
Chancellor

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