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AN ANALYSIS OF POLICYMAKING: FINANCIAL AID, TUITION AND ACCESS FOR LOW-INCOME STUDENTS AT MICHIGAN PUBLIC UNIVERSITIES

By

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ABSTRACT

AN ANALYSIS OF POLICYMAKING: FINANCIAL AID, TUITION AND ACCESS FOR LOW-INCOME STUDENTS AT MICHIGAN PUBLIC UNIVERSITIES

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Terry Brennan Viau

In the current environment of limited financial resources for higher education, there is evidence to indicate that national access policy has been undermined by financial constraints at the state and institutional levels. Spiraling tuition rates, the declining purchasing power of need-based financial aid programs and increasing competition for high-quality students are factors that may be contributing to the widening gap between the participation rates of low-income and high-income students (McPherson & Schapiro, 1998). Evidence also indicates that it is rare today to find states enacting policies that explicitly link funding for public higher education, tuition rates and funding for state financial aid programs. Without this coordinated effort, it has been posited that low-income student access to public higher education is unlikely to be sustained.

The purpose of this study was to determine the extent to which coordinated efforts exist at the university level. Specifically, this study sought to determine the extent to which institutional policymakers at Michigan public universities link decisions related to need-based financial aid and tuition pricing, and to determine if these policies support institutional goals related to access and affordability. Resource dependence theory was utilized to frame and analyze the results of this study. In this context, university policymaking is interpreted as the institutional response to external forces that control needed resources (Pfeffer & Salancik, 1978).

This study may be of significance to state and university policymakers as they evaluate university policies and practices that facilitate or negatively affect low-income student access to higher education, specifically access to public universities in Michigan. The research strategy for this study was a case study of policymaking at the 15 public universities in Michigan. The study included the use of qualitative and quantitative research methods and data was collected from three primary sources: state and university documents, archival reports and records and a survey of financial aid and budget officers at Michigan's 15 public universities.

The results of the study indicate that policy decisions related to funding for institutional need-based aid and tuition pricing are coordinated at Michigan public universities and indicate that the extent to which the policies are linked may be based, in part, on university type and the university's mission and goals related to access and affordability. The results of the survey also reveal that a growing share of institutional financial aid funding is being allocated to merit-based scholarships; at most of the institutions responding to the survey questionnaire, the share of institutional aid allocated to merit-based scholarship exceeds the share allocated to need-based grant.

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CHAPTER 1

INTRODUCTION

Statement of the Problem

Simply defined, access is the goal of providing qualified students with the opportunity to participate in higher education by removing the financial barriers that prevent them from doing so. Indeed, with the passage of the Higher Education Act of 1965 and the federal policies that followed, the provision of federal student aid in the form of grants, loans and work-study opened the doors to higher education for low-income students by removing financial barriers (Spencer, 1999). Since 1965, the notion of "access" has become a complex matter. As Eaton (1997) explains it, national access policy has been extended beyond the early, "simple" consideration of ability-to-pay to also accommodate diversity, choice, motivation and lack of academic preparation. Further, public policy related to access is carried out through a myriad of programs at the federal, state and institutional levels.

To facilitate access to public higher education for low-income students, state governments and colleges and universities historically sought to hold down the price of tuition (Halstead, 1990). "Low tuition" policies were prescribed and/or supported by state legislatures through direct appropriations to public colleges and universities (Eaton, 1997; Halstead, 1990). In Michigan, where public colleges and universities are constitutionally autonomous, the state legislature has attempted to hold tuition rates down through the appropriation process and through legislation such as tax incentives for taxpayers who attend public institutions holding tuition increases below the previous year's inflation rate (Martinez & Nodine, 1997). In addition to state support in the form

of appropriations, the federal government, the states and institutions have facilitated access for low-income students through the provision of need-based, financial aid (Creech & Davis, 1999).

In recent history, economic events have significantly affected state and institutional policies for and commitment to access for low-income students. Reduced state subsidies for public higher education and declining or static enrollments contributed to spiraling increases in college and university tuition prices during the 1980s. From fiscal year 1980-81 through fiscal year 1994-95, tuition at public universities increased by 234% while the median household income increased by only 82%; further, federal financial aid programs failed to keep pace with the rising rate of tuition (Stampen & Layzell, 1997). In order to keep higher education affordable to low-income students in an environment of rising tuition rates, states and institutions were called upon to invest additional resources in need-based, financial aid to offset, or discount, the rising price of tuition. This pricing strategy is often referred to as "high-tuition/high-aid". States and colleges and universities utilizing the "high-tuition/high-aid" strategy, also referred to as the "market model", set higher tuition prices that more accurately represent the true costs of higher education, including the cost of an increased investment in need-based financial aid (Stampen & Layzell, 1997).

Evidence indicates, however, that it is rare today to find states enacting policies that explicitly link funding for public higher education, tuition rates and funding for need-based, financial aid programs. In three different studies, researchers found that states pursuing a high-tuition policy failed to provide a correspondingly high investment in need-based financial aid (Griswold & Marine, 1996; Hearn & Anderson, 1995; Hossler,

Lund, Ramin, Westfall, & Irish, 1997). These studies conclude that access for low-income students is unlikely to be sustained in today's environment of limited resources unless state tuition policies and state financial aid programs are explicitly linked and supported (Griswold & Marine, 1996; Hossler et al., 1997). These studies, however, do not describe the linkages between tuition pricing policy and funding for need-based aid at the institutional level nor the impact that institutional policies might have on sustaining access for low-income students. Although public universities in most states are controlled by a single governing or coordinating board responsible, to some degree, for the development and implementation of policy, public universities in Michigan are controlled by individual, autonomous boards of control (McGuinness, 1997, 1999). Studies of financial aid and tuition policy at institutions in states controlled by a single board may very likely yield findings similar to the studies of statewide policy. Given the constitutional autonomy of the 15 public universities in Michigan, however, a study of policymaking at the university level could yield findings divergent from those discovered in the studies of tuition pricing and need-based aid funding policies at the state level.

Purpose and Research Questions

The purpose of this study, then, is to determine the extent to which institutional policymakers at Michigan public universities link policy decisions related to need-based financial aid and tuition pricing and to determine if these decisions support institutional goals related to access and affordability. To this end, the research questions examined in this study are as follows:

> To what extent are institutional policy decisions related to funding for need-based financial aid programs and tuition pricing linked at the 15 Michigan public universities?

To what extent do these policies support or counteract the institutional mission or goals related to access and/or affordability?

Significance

Expanding access to higher education by eliminating financial barriers for qualified students has been the historic purpose of federal, state and institutional financial aid programs. This coordinated effort to provide financial assistance to disadvantaged students has supported the educational goals of social equality and economic growth. As the value of a college education has increased, the need for programs that facilitate access to a higher education for the disadvantaged have become even more critical. In 2002, the annual earnings of a college graduate were estimated to be 80% higher than that of a high school graduate (College Entrance Examination Board, 2002a). To the extent that financial aid is not available to low-income students to facilitate their access to a college education, social inequality is perpetuated. Because the results of this study include the various pricing strategies and financial aid funding policies utilized by Michigan's public universities, the study may be useful to university administrators attempting to facilitate access for low-income students by identifying institutional models that are successful in this regard. Further, the study may be of significance to state policymakers as they evaluate policies and other factors that facilitate or negatively affect low-income student access to higher education, specifically access to public universities in Michigan.

While there is documented evidence of growth in institutionally funded financial aid, information about how institutions are allocating this funding between merit-based and need-based financial aid is elusive (Mortenson, 1999). A recent study of trends in expenditures for financial aid noted that institutional expenditures for need-based grant and non need-based grant are not distinguished within the report because accurate

information is not available (College Entrance Examination Board, 2002b). This study is significant because it reveals estimated allocations to need-based grant and merit-based scholarship at Michigan's public universities.

Context and Background

Despite the historical efforts to eliminate financial barriers for low-income students, their participation in higher education continues to lag behind that of high-income students. While the percentage of low-income students participating in higher education increased from 46% in 1970 to 58% in 1994, participation by low-income students continued to lag behind participation by high-income students by approximately 30 percentage points (Hartle & King, 1997; Mortenson, 1999). In their analysis, McPherson and Schapiro (1998) found that the enrollment gap between low-income and high-income students actually increased by 12 percentage points during the period 1980 to 1993. A recent report by the Advisory Committee on Student Financial Assistance predicts that this trend will continue; the Committee estimated that financial barriers will prevent 48% of qualified, low-income, high school graduates from attending a four-year college and 22% from attending any college at all within two years after graduating from high school (Advisory Committee on Student Financial Assistance, 2002).

Low-income students that are participating in higher education are increasingly doing so at community colleges. Between 1980 and 1994, the number of low-income students attending community colleges increased while the number of middle-income and high-income students attending community colleges decreased (McPherson & Schapiro, 1998). In 1999-2000, only 25% of the lowest-income, first-year, traditional undergraduate students attended a public, four-year university while 55% attended a

public, two-year university (Institute for Higher Education Policy, 2002). Factors such as increasing tuition prices and the reduced purchasing power of federal and state financial aid may have contributed to the low participation rates of low-income students at public universities. It is not surprising to learn that the enrollment gap between low-income and high-income students has been found to be greatest in high-tuition states (McPherson and Schapiro, 1998).

Evidence also indicates that colleges and universities are increasingly engaging in selective tuition discounting by awarding merit-based scholarships and/or leveraging need-based financial aid to attract high-quality students (McPherson & Schapiro, 1998). Colleges and universities utilizing a selective tuition discounting strategy, invest tuition revenue in merit-based scholarships that are designed to attract high-quality students who can enhance the prestige of the institution and/or that are designed to meet other enrollment goals. Merit-based scholarships are most often awarded based on the student's high school grade point average and/or standardized test score. Because of the effect of family income on high school grade point average and standardized test scores, merit-based scholarships are more likely to be awarded to students from affluent families.

The 1997 ACT Mean Composite Score was lowest for students from families with the lowest family income and highest for students from families with the highest family income (Mortenson, 1997). Further, average high school grades in 1996 increased as family income increased (Mortenson, 1999). The financial aid packages of students from low-income families are therefore less likely to include institutional financial aid and are more likely to include a relatively higher self-help (work and loan) component at colleges and universities practicing selective tuition discounting.

In an analysis of data gathered by the *1993 National Postsecondary Student Aid Study*, King and Redd (1997) found that there was a greater burden on low-income students to borrow to cover the cost of attendance at colleges and universities. This is particularly troubling because other studies have shown that the receipt of self-help assistance is not positively correlated to the low-income student enrollment decision (Somers & St.John, 1997). And McPherson and Schapiro (1998) found that increases in the net-tuition price negatively affected the enrollment rates of low-income students. Therefore, low-income students faced with rising tuition rates and financial aid packages largely comprised of loan and work assistance are less likely to enroll.

Resource Dependence Theory

As Baldridge (1971) describes it, the study of policymaking is the study of those institutional decision processes that are critical and are likely to have long-lasting effects on the institution. Although few studies of the application of organizational theory to higher education were conducted before the mid-1970s, the field has advanced significantly since that time (Peterson, 1991). Internal models that attempt to explain the governance process or unique attributes of post-secondary institutions, external models that describe the impact of external forces on the institution, cultural and value system models, and inter-organizational models are examples of the types of models that have been developed and/or studied in recent decades (Peterson, 1991). Peterson (1991) explains that while the early models were primarily concerned with explaining the internal dynamics and impacts on organizational performance, models that are more recent are concerned with studying external forces and their impact on the organizational decision process. Other models that have been applied to the study of higher education

policymaking in the last decade include contested state theory, resource dependence theory and positive political theory (Pusser, 1999; Slaughter & Leslie, 1997).

For example, Pusser (1999) used several policymaking models to frame his research of the contest over affirmative action at the University of California. Contested state theory was utilized to frame the study of this conflict as a struggle for access to public higher education; the positive theory of institutions (PTI) framed the study as a political struggle among interest groups to control a public benefit; interest articulation theory framed the study of the University's efforts to "mediate" the conflict into policy; and, institutional cultural theory assisted in framing the evolution of the contest (Pusser, 1999). But because the change in policy enacted by the University of California was not in concert with the majority party of the state legislature (from which the university received approximately 35% of its revenues), Pusser (1999) rejected the use of resource dependence theory as relevant in framing this contest.

Resource dependence theory holds that organizations will adapt to the environment in order to obtain resources that are critical to the survival of the organization; those that control the resources, then, have significant power over the organization (Pfeffer & Salancik, 1978). Unlike internal organizational theories that explain higher education policymaking in terms of management theory or governance models, resource dependence theory finds that many of the policies enacted by an organization are in response to the external forces that control needed resources (Pfeffer & Salancik, 1978; Slaughter & Leslie, 1997). Pfeffer and Salancik (1978) argue that the resource dependence perspective "denies the validity of the conceptualization of organizations as self-directed, autonomous actors pursuing their own ends and instead

argues that organizations are other-directed, involved in a constant struggle for autonomy and discretion, confronted with constraint and external control" (p.257).

Slaughter and Leslie (1997) utilized resource dependence theory to explain the emergence of academic capitalism in higher education in the United States, the United Kingdom, Australia and Canada. Their research suggests that as public, "undesignated" funding for higher education declines, universities and their faculty must compete for alternative sources of external funding resulting in "acute resource dependence". As Slaughter and Leslie (1997) explain it:

> Resource dependence theory suggests that as unrestricted moneys for higher education constrict, institutions within a national system will change their resource-seeking patterns to compete for new, more competitively based funds. To respond to new opportunities, institutions will have to shift away from basic research toward more applied science and technology. Further, they will likely increase tuition and become more active in expanding sales and services while lowering labor costs, primarily through replacing full-time faculty with part-time professors. To manage the shift from more unrestricted to more restricted moneys, institutions will likely spend more funds on administration as they attempt to oversee the transition as well as to manage new revenue generating endeavors (such as institutional advancement-fund raising from private sources-and sales and services of their own educational activities) and academic capitalism (such as offices for patenting and licensing, technology transfer, arm's-length corporations, spin-off companies and research parks). (p. 65)

Slaughter and Leslie's (1997) findings also confirm that since the 1980s, the share of revenues from state appropriations for public higher education has declined while the share from tuition continues to steadily increase. Due to this growth in tuition revenue, students are increasingly viewed and treated as important customers; Slaughter and Leslie (1997) posit that student power and control over institutional policymaking will also steadily increase. Slaughter and Leslie (1997) further find a growing institutional investment in student recruiting efforts as yet another outcome of the increasing reliance on tuition revenues at U.S. higher education institutions. Perhaps resource dependence

theory should not have been dismissed as a valid framework for evaluating the contest over affirmative action at the University of California. It is likely that tuition also represented an important revenue source and the student movement galvanized as a result of this contest has been credited for changes in admissions standards that redress educational inequality (Pusser, 1999).

Conceptual Framework

Resource dependence theory is utilized to frame this study: determining the extent to which institutional policymakers at Michigan public universities link policy decisions related to need-based financial aid and tuition pricing, and to determine if these decisions support institutional goals related to access and affordability. From a resource dependence perspective, one expects to find accelerating rates of tuition at Michigan public universities in response to moderating or declining state appropriations. In order to maximize tuition revenues, one expects to find decreasing expenditures for institutional financial aid; however, the use of financial aid as an effective recruiting tool has previously been noted. The adage "you have to spend some money to make some money" may apply here. From a resource dependence perspective, it seems likely for one to find expenditures for financial aid to be strategic and to find institutions seeking external sources of funding to cover the cost of institutional financial aid programs. In addition to answering the research questions, the research data gathered and analyzed expands knowledge about the usefulness of resource dependence theory as a framework for studying higher education policymaking.

CHAPTER 2

REVIEW OF RELATED LITERATURE

The number of studies that have been conducted to determine the extent to which state and/or institutional policymakers link policy decisions related to need-based financial aid and tuition pricing are few. Those studies that have been conducted are reviewed in this chapter and the limited data that are available regarding such policymaking in Michigan are highlighted. In addition, the trends in institutional financial aid policy including the literature that describes the emerging practice of selective tuition discounting in higher education are reviewed.

State and Institutional Policymaking

Recent reports confirm that tuition and fee rates have increased dramatically in the last decade and tuition revenue as a percentage of current fund revenue for public higher education continues to rise; for example, the State Higher Education Executive Officers (SHEEO) report that average tuition and fee rates increased 94% (in current dollars) from fiscal year 1990-91 to fiscal year 2000-01 (McKeown-Moak, 2001). The report also indicates that tuition revenue comprised 12.9% and state appropriations comprised 44% of total current fund revenues for public colleges and universities in 1981; by 1998, tuition revenue's share increased to 20% and state appropriation's share decreased to 30% (McKeown-Moak, 2001). Although the cost to attend public higher education as a percentage of family income has stabilized overall, the percentage has increased significantly for low-income families in the last decade; average cost of attendance as a percentage of family income increased from 40% to 62% for families in the lowest quintile of income distribution (AASCU & NASULGC, 2002;

McKeown-Moak, 2001).

Similarly, expenditures for institutional financial aid more than doubled in the last decade (McKeown-Moak, 2001). Institutional aid increased at a slightly higher rate than federal and state aid, increasing by 92% in the last decade while federal aid increased by 83% and state aid increased by 90% (in current dollars) (AASCU & NASULGC, 2002). And in the categories of federal and state aid, there has been a shift in the focus of financial aid programs from need-based aid targeted for low-income students to tax incentives and merit aid that predominantly assist middle and high-income students. Non-need based aid as a percentage of total state financial aid increased from 11% in 1989-90 to 21% in 1999-2000 and the number of states that implemented a state merit based scholarship program has increased by 60% since 1998 (AASCU & NASULGC, 2002; McKeown-Moak, 2001). Further, it is estimated that the lost federal revenue resulting from federal tax incentives in the form of education tax credits, deductions and saving incentives will exceed the combined cost of all of the other federal financial aid programs in existence (McKeown-Moak, 2001).

Although these general data describing trends in university revenues and expenditures are available, research studies that specifically analyze the extent to which institutional policymakers link policy decisions related to need-based financial aid and tuition pricing are apparently non existent. Research studies have, however, been conducted of such policymaking at the state level.

For example, Hossler et al. (1997) conducted research that encompassed all 50 states and included the study of the extent to which funding for state financial aid programs and the setting of tuition rates at public colleges and universities are linked.

Data for the study were collected from three sources: state financial, economic and governance factors from the early 1990s collected from primary and secondary sources; surveys of each state's higher education executive officer (SHEEO) and financial aid director; and in-depth telephone interviews with SHEEOs, state financial aid directors, other state policymakers and analysts. Frequencies, CROSS-TABS, *t*-tests, regression analysis and factor analysis were utilized to examine the data and to identify relationships between variables.

The results of the survey and in-depth telephone interviews indicate that little relationship exists between the two areas of policymaking. Approximately 52% of the state financial aid directors surveyed reported that there was little relationship between funding for state financial aid programs and the setting of tuition rates, approximately 37% reported that there was a less formal relationship and approximately 9% of the respondents indicated that state financial aid and tuition pricing policies were formally linked in their state. In addition, 59% of the respondents reported that the average state financial aid award per student had remained either stable or decreased. Further, the majority of the study participants reported no plans in their state to control affordability at public universities through the linkage of state appropriations for financial aid and the setting of tuition rates.

In addition to the surveys and interviews of state higher education policymakers and analysts, Hossler et al. (1997) conducted statistical analysis of the relationship between average tuition levels and state financial aid appropriations. They hypothesized that if state financial aid and tuition pricing policies were linked then average public tuition levels should be associated with state financial aid appropriations. Results from

the *t*-test run to compare average public tuition levels and state financial aid appropriations were insignificant. Regression analysis was also employed to identify potential independent variables predicting funding for state financial aid programs. None of the independent variables tested, including average public tuition levels, were identified as significant predictors of funding for state financial aid programs. Hossler et al. (1997) suggest that the "rhetoric of the market model is being used as a justification for reduced state appropriations to public institutions and increased tuition levels in the public sector, but public policy makers have ignored the other part of the market model equation —higher levels of state financial aid" (p.182). They conclude that educational opportunity is unlikely to be sustained without a commitment to coordinated tuition and financial aid policy.

Hearn, Griswold and Marine (1996) discovered similar findings in their study of the differences and similarities in tuition pricing and financial aid policies in the 50 states in the early 1990s. Data for the study were collected from secondary data sources for the period 1985 to 1990 and bi-variate descriptive analyses, analysis of variance and multiple regression analysis research methods were utilized to examine the data. They analyzed the relationship between state factors (i.e., regional location, available resources and higher education governance structure) and tuition pricing and financial aid policies. Their results included finding a strong relationship between both region and tuition pricing and region and financial aid funding, a strong relationship between population and funding for financial aid, a strong, negative relationship between state economic development and tuition pricing, and mixed results in their examination of educational resources. They also examined the relationship between state tuition policies and state

financial aid policies and found the Pearson correlation between the average tuition level at public institutions and per capita need-based aid to be .41, indicating that only about 17% of the variation in per capita need-based aid could be explained by the average tuition level. Another interesting and relevant finding of this study was that both those states with planning agency governance structures and those states with strong coordinating boards were identified as high tuition states. Michigan is one of four states identified as a planning agency state. McGuinness (1997) describes a planning agency governance structure as one that has no statutory authority to govern or coordinate policy and whose responsibility is often limited to facilitating communication among institutions and sectors.

Griswold and Marine (1996) conducted a case study of changes in tuition and financial aid policies during the 1980s and early 1990s in five states; two of these states were identified as states with explicitly linked tuition and aid polices (Minnesota and Washington) and three were identified as having unlinked policies (New York, Massachusetts, and California). They reviewed news and research publications, policy initiatives and interviewed state policymakers. Their study found that all of the states had attempted to implement significant tuition increases in response to economic problems. However, in those states with explicitly linked policies, the influences of fiscal exigency and politics were lessened because of the existence of coordinated plans. Similarly, Hearn and Anderson's (1995) case study of the development and implementation of a high tuition/high aid policy in Minnesota concluded that the "experiment" was largely successful in meeting this state's goals of maintaining educational quality and access while preserving limited financial resources. Griswold and Marine (1996) conclude that

better planning and better coordination of state financial aid and tuition policies is needed to support a high tuition/high aid strategy but also suggest that the implementation of such a strategy may be difficult to accomplish. As Griswold and Marine (1996) put it: "One of the challenges facing supporters of such programs is garnering support for a program which seems to aid groups with less political clout at the expense of those with more power and who are more likely to vote" (p.384).

In his examination of how state financing policies (appropriations to public higher education, tuition pricing and state financial aid programs) can better support access and accountability, Hauptman (2001) reports that spending for state financial aid programs is limited to, on average, 5% of state higher education budgets. Further, he finds that most often the budgets set for state financial aid programs are not the result of explicit policymaking but instead are based on "residual" moneys available to fund such programs. Hauptman (2001) recommends coordination of state financing policies in order to achieve accessibility and affordability.

One of many conclusions that McPherson and Schapiro (1998) draw from their analysis of higher education financing and its impact on postsecondary access and choice in recent decades is that reductions in state funding have led to rising public tuition prices without a concomitant increase in aid for financially needy students. They further posit that rising expenditures for merit based financial aid by both states and institutions have also reduced the resources available to facilitate access for low-income students.

A number of the research studies that Donald E. Heller conducted (1996, 1997, 1999; Heller & Laird, 1999) have examined the impact of state tuition and financial aid policies on access to public higher education. Heller's (2001) most recent update

examines the relationship of college tuition prices, state financial aid funding and enrollment in public colleges and universities across all 50 states for the period 1976 to 1999. The evidence indicates that a relationship does, in fact, exist between tuition prices, financial aid and college attendance. The model that he developed from these relationships found that, on average, a 10% tuition increase would need to be offset by a 15.9% increase in state grant spending per capita to maintain current enrollments in four-year public institutions. In an earlier study, Heller and Laird (1999) found that the largest growth in expenditures for need-based aid from 1989 to 1995 occurred in public institutions; they surmise that this increase in institutional financial aid expenditures was necessary to mitigate high tuition increases.

The U.S. Department of Education's National Center for Education Statistics (2001) conducted a research study of college costs and prices for the period 1988-89 to 1997-98; data for the study were collected from the *Integrated Postsecondary Education Data System (IPEDS)*. The research methods of the study included identifying trends in the data and multiple regression analyses of the relationships between variables. One of the purposes of the research study, as requested by Congress, was to determine the effect of institutional aid on tuition increases. The study found that expenditures for institutional scholarships and fellowships increased more than most other expenditures at all types of public higher education institutions; the average annual percentage increase in expenditures for scholarships and financial aid for the 10 year time period of the study was 4.5 for research doctoral universities, 3.6 for comprehensive universities, 2.5 for bachelor's universities and 4.3 for 2-year colleges (U.S. Department of Education National Center for Education Statistics, 2001). Using a correlation regression model,

the study also found a significant relationship between the change in institutional scholarships and fellowships and the change in in-state undergraduate tuition at public institutions; the relationship was significant for all types of institutions for the time period 1988-89 to 1997-98 with the exception of two-year institutions (U.S. Department of Education National Center for Education Statistics, 2001). Authors of the study warn that the relationship between financial aid and tuition is unlikely to be a "direct link" as interrelationships among many factors, including those external to the institution, likely affect changes in tuition pricing (U.S. Department of Education National Center for Education Statistics, 2001).

Policies and Practices in Michigan

There were no studies identified in the review of the research that were undertaken for the purpose of determining the extent to which state and/or university policymakers in Michigan link policy decisions related to need-based financial aid and tuition pricing. However, the reports and studies summarized below illuminate the status of higher education financing in Michigan.

Due to concerns about rising tuition rates and the potential impact on educational quality and access, the Michigan Senate commissioned a study of tuition policy at Michigan colleges and universities in 1989 (Senate Select Committee on Higher Education To Study Tuition Policy at Michigan Colleges and Universities, 1990). It was found that from 1977 to 1989, tuition revenues at Michigan colleges and universities increased by 155%. One of the largest expenditure increases at Michigan colleges and universities during this same time period was a 37% increase in financial aid expenditures. The researchers posited that this increase in institutional financial aid was

necessary to "mitigate" significant tuition increases. In this same report, Halstead (1990) stated that Michigan ranked 47th in affordability, as a higher percentage of family income was required to pay for postsecondary education in Michigan than in most other states.

Martinez and Nodine (1997) conducted a case study of the critical financial issues affecting Michigan for the period 1990-1995 by interviewing public officials and higher education administrators through December 1996. Martinez and Nodine (1997) found great legislative concern with Michigan's continuing status as a high tuition state. Their report also included the following data: in 1995-96, the amount that students in Michigan public universities paid in tuition as a percentage of total revenues was 43% compared to the national average of 31.6%, and the proportion of median family income required to make tuition payments was 11% in Michigan compared to 6.9% nationally. Martinez and Nodine (1997) reported moderate growth in expenditures for state and four-year public institutional financial aid programs during the period 1989-90 to 1994-95; the most significant growth in aid expenditures during this time period was in the category of federal student loans. Martinez and Nodine (1997) surmised that the existence of these factors signal a potential affordability problem in Michigan.

In 1999, Governor Engler created the Michigan Commission on Financing Postsecondary Education to identify financial challenges facing Michigan students and potential solutions to these challenges. Although the apparent intent of the final report of the Commission (2000) was to introduce the new Michigan Education Savings Plan, it presents percentage increases in tuition at the public universities in the state. For the period 1988-1998, tuition increased by as much as 52% at some of the universities. Unfortunately, the report does not provide much illumination regarding the status or

adequacy of state or institutional aid programs, simply noting that need-based financial aid programs exist.

In November 2000, *Measuring Up 2000: The State-by-State Report Card for Higher Education* (National Center for Public Policy and Higher Education, 2000) assessed state performance in six categories: preparation, participation, affordability, completion, benefits and learning. Michigan "earned" a grade of 'C' in the affordability category. Low scores for two of the factors considered, "Need-based Financial Aid" and "Low-Priced Colleges", contributed to this average grade. In comparing Michigan's scores to those of 'A' rated states, a pattern is discernible. The five 'A' rated states appear to have implemented, explicitly or otherwise, either low tuition/low aid or high tuition/high aid linked policies; Michigan, on the other hand, appears to be operating with a high tuition/low aid strategy.

The National Center for Public Policy and Higher Education (2002a) recently examined the affordability of American higher education by analyzing national trends as well as state trends. For the last decade in Michigan, the study found that tuition at public four-year institutions increased 39% (adjusted for inflation) while state grant aid per student increased by only 2% (National Center for Public Policy and Higher Education, 2002a).

Institutional Financial Aid

As reported previously, evidence in the literature shows substantial growth in expenditures for institutional financial aid on an annual basis. Over the last decade, from 1999-2000 to 2000-2001, expenditures for institutional financial aid increased 9% per year in current dollars (AASCU & NASULGC, 2002). However, none of the evidence

indicates that the majority of this funding has been allocated to need-based financial aid programs. In fact, evidence indicates that institutional aid is increasingly allocated to programs intended to attract high academic achievers or other special populations to campus.

Colleges and universities utilizing a selective tuition discounting strategy invest tuition revenue in merit-based scholarships that are designed to attract high-quality students who can enhance the prestige of the institution and/or that are designed to meet other enrollment goals. The following is a review of studies that report the growth in the practice of selective tuition discounting. In Lapovsky's (1997) analysis of the results of a NACUBO sponsored survey of private colleges and universities, she found that more institutions were publicly engaging in the practice of selectively discounting tuition in 1996 than had reported doing so in the 1995 survey. Although in a recent update to her study Lapovsky and Hubbell (2001) report a stabilization in the average discount rate for new freshmen, they warn that at 37.7 percent, the rate is likely too high for many institutions to bear. Institutions reported discounting the tuition for students from specific geographic locations, students who were members of specific honor societies and students who were children of alumni. In an analysis of the *U.S. Department of Education's National Postsecondary Student Aid Study*, Lee (1999) found that 30% of federal, state and institutional grants were awarded to students with family incomes greater than $50,000 in 1995-96. In a continuing longitudinal study of higher education national databases, Stampen and Layzell (1997) found that 20% of available aid per student was comprised of non need-based grants in 1995. Wilkinson (1998) reports that a 1994 survey of colleges and universities, sponsored by the National Association of

College Admission Counselors, found that 64% of the private and 34% of the public colleges and universities that responded to the survey indicated they practiced preferential aid packaging. In a study of the impact of financial aid strategy on the enrollment decision, Somers and St. John (1997) found that each of the four institutions they studied were selectively discounting tuition to some extent by offering institutional merit-based scholarships.

In their study of 29 highly selective private colleges and universities, Mulugetta, Saleh, and Mulugetta (1997) found that for the period 1985-86 to 1995-96, the average tuition and fees of these institutions increased by 96% while expenditures for institutional financial aid increased by 124%. Mulugetta et al. (1997) also found that there was a higher growth rate in expenditures for institutional financial aid at the institutions that awarded aid to students based on an admission rating of the student's competitiveness than at those institutions that awarded aid to students based on financial need. Mulugetta et al. (1997) suggested that selective tuition discounting has become common practice.

From their analysis of data from the *Integrated Postsecondary Education Data System (IPEDS)*, McPherson and Schapiro (1998) reported that both public and private research and doctoral universities dramatically increased spending for scholarships from unrestricted sources and for total institutional financial aid during the period 1987 to 1994, increasing expenditures at an average annual rate of 9%. This tremendous growth in institutional financial aid explains why net tuition and fee revenue grew slower than gross revenue during this same time period (McPherson & Schapiro, 1998). McPherson and Schapiro's (1998) analysis of data from *Peterson's Institutional and Financial Aid Database* of 379 colleges and universities found that the average, merit-based aid per

student increased from $177 in 1983-84 to $505 in 1991-92. While the greatest spending for merit-based aid in public universities occurred at the least selective institutions, the highest growth rate in spending for merit aid from 1983-84 to 1991-92 occurred in the most selective institutions (annual real growth rate of 20%) (McPherson & Schapiro, 1998).

In his analysis of a national research study of financial aid awarding policies Kenneth Redd (2000) found that the percentage of institutions awarding institutional grants based on merit grew from 20% in 1988 to 41% in 1996. Approximately 1,500 financial aid administrators from public, private and proprietary two-year and four-year institutions participated in this national survey conducted in 1996. The results of the survey were compared to an earlier but similar study conducted in 1988. Four-year public institutions reported an increase of 163% in the number of merit scholarship recipients and a growth of 193% in the value of these scholarships from 1988 to 1996. Redd (2000) concludes that the data prove that public colleges and universities are actively competing for undergraduate students by utilizing selective tuition discounts. Heller (2000) also found that GPA was a consideration when awarding both need-based and non need-based grants.

Summary

The review of the literature indicates that it is rare today to find states enacting policies that explicitly link funding for public higher education, tuition rates and funding for need-based, financial aid programs. The evidence regarding the status of such policymaking in Michigan is inconclusive, as few studies have been conducted that expressly describe the status of such policymaking in this state. Given the data and trends

depicting a pattern of low affordability, however, it appears that higher education funding, tuition and need-based aid policymaking are not coordinated in Michigan. Finally, few of the resources identified described the extent to which policymakers at the university level link policies related to need-based aid and tuition pricing but a great deal of evidence was discovered indicating that universities are increasingly discounting tuition with merit-based scholarships to attract high-quality students.

Although studies have been conducted at the state level, it appears that little research has been conducted to determine the linkages between financial aid policy and the setting of tuition rates at the institutional level and to determine if these policies support institutional goals related to access and affordability. The findings from this research study could prove to be useful to both university and state policymakers as the research questions appear to be largely unexplored.

CHAPTER 3

METHODOLOGY/RESEARCH DESIGN

The design of this research was a case study of policymaking at public universities in Michigan. Specifically, the study was conducted to determine the following:

1. To what extent are institutional policy decisions related to funding for need-based financial aid programs and tuition pricing linked at the 15 Michigan public universities?

2. To what extent do these policies support or counteract institutional mission or goals related to access and/or affordability?

The study was designed to elicit data about the case and to expand knowledge about the usefulness of resource dependence theory as a framework for studying higher education policymaking. According to Leedy and Ormrod (2001), researchers utilizing the case study design collect a great deal of data, through varied methods, about the phenomenon to be studied. Both quantitative and qualitative research methods were employed in this study. Data for the study were collected from three primary sources: state and university documents, archival reports and records and a survey of financial aid and budget officers at the 15 public universities in Michigan.

Methods

A review was conducted of existing Michigan statute and/or mandate informing the public university community of expectations and standards related to access and affordability (e.g., tuition restraint legislation and/or mandate). To determine institutional goals related to access and affordability, university mission and/or vision statement documents were collected and analyzed.

University reported financial data were gathered to determine tuition and fee rates, tuition revenue, revenue appropriated by Michigan and expenditures for financial aid. Annually reported financial data for each of the 15 Michigan public universities for fiscal years 1989-1990 through 1999-2000 were downloaded from the U.S. Department of Education's National Center for Education Statistics (NCES) *Integrated Postsecondary Education Data System (IPEDS)-Peer Analysis System* (Years 1990 to 2001). Because the *IPEDS* data are self-reported, two years of the data (1998-1999 and 1999-2000) were validated by comparing them to the data presented in each university's audited financial statements. An adjustment was made to the *IPEDS* reported institutional aid expenditure for one university as a result of this comparison. To assist in answering the first research question regarding the extent to which financial aid and tuition pricing policies are linked, the financial data were also analyzed to determine if relationships exist between expenditures for institutional financial aid and the other variables (i.e., tuition and fee rates, tuition and fee revenue, state appropriation revenue, etc.) Because the documents and reports referenced above are public, access permission was not required.

Additional data for this study were solicited via a survey questionnaire direct mailed to each university's financial aid director and budget director. The purpose of the survey was to collect data regarding institutional financial aid and tuition policies and to determine if any models or strategies exist linking these policies. Personal interviews of the financial aid and budget officers were considered but a mailed survey instrument was determined to be the more appropriate research tool due to the sensitivity of some of the questions and the need for the participants to gather information for some of their

responses (Fowler, 1993).

Although the respondents were not asked to disclose their identity nor the identity of the institution they represent, the surveys were coded so that responses could be categorized by Carnegie Classification. The 2000 Carnegie Classification differentiates institutions based on the type and number of degrees awarded by the institution (The Carnegie Foundation for the Advancement of Teaching, 2001). Table 1 presents the Carnegie Classification for each of the 15 public universities in Michigan.

Table 1. Carnegie Classification of Michigan Public Universities (2001)

Carnegie Classification	Michigan Public Universities
Doctoral/Research Universities-Extensive	Michigan State University University of Michigan-Ann Arbor Wayne State University Western Michigan University
Doctoral/Research Universities-Intensive	Central Michigan University Michigan Technological University Oakland University
Master's Colleges and Universities I	Eastern Michigan University Grand Valley State University Northern Michigan University Saginaw Valley State University University of Michigan-Dearborn University of Michigan-Flint
Master's Colleges and Universities II	Ferris State University Lake Superior State University

The 15 public universities in Michigan are categorized by four of the Carnegie Classifications: Doctoral/Research Universities-Extensive (50 or more doctoral degrees from at least 15 disciplines awarded per year); Doctoral/Research Universities-Intensive

(10 or more doctoral degrees from at least three disciplines awarded per year or 20 or more doctoral degrees awarded per year overall); Master's Colleges and Universities I (40 or more master's degrees from at least 3 disciplines awarded per year); Master's Colleges and Universities II (20 or more master's degrees awarded per year).

The surveys of the financial aid officers (Appendix A) were differentiated from the surveys of the budget officers (Appendix B) by the addition of questions regarding financial aid awarding practices. Per a written request by the researcher, Dr. Donald Hossler provided copies of the protocols utilized in the Hossler et al. study (1997). Although the content of the questions differ, to a great extent the format of the questions and the design of the survey questionnaire for this study replicate the protocols utilized in the study conducted by Hossler et al. (1997).

To further protect the personal identity of the respondents, postage-paid, pre-addressed return envelopes were provided. Because the personal identities of the participants who actually responded to the survey were unknown to the researcher, a second letter and survey were delivered to the entire group of potential non-respondents via e-mail. As an incentive to complete the questionnaire, the financial aid and budget officers were informed that they would receive a summary report of key findings at the conclusion of the study. Nine of the 15 financial aid officers and 11 of the 15 budget officers responded to the survey questionnaire. Two of the completed surveys represented both the response of the financial aid officer and that of the budget officer; these responses were counted in both participant categories. A description of the participants is presented in Table 2.

Table 2. Description and Number of Survey Participants

Carnegie Classification	Budget Officers	Financial Aid Officers	Universities
Research-extensive (4)	1	2	2
Research-intensive (3)	3	2	3
Master's I (6)	5	4	5
Master's II (2)	2	1	2
Total (15)	11	9	12

Analysis

Content analysis was conducted of the Michigan statute and university mission/vision documents for reference to the specific terms "access" (financial) and "affordability" or for reference to similar concepts. The frequencies and the actual terminology used in the university mission/vision statements were categorized by Carnegie Classification and recorded in a matrix for comparison to other findings.

Descriptive statistics were used to analyze trends in the financial data and bi-variate regression was employed to analyze relationships among the financial data variables. Specifically, bi-variate regression was used to analyze the relationships between change in the dependent variable 'average institutional financial aid expenditure' and change in the independent variables: 'average federal financial aid expenditure', 'average state and local financial aid expenditure', 'average tuition and fee revenue', 'average state appropriation revenue', 'average tuition and fee rates', and 'average fall semester enrollment'. Trends and relationships were analyzed of changes in each variable over the time period 1989-90 to1999-2000 (n=10) for the 15 public universities

overall, for each Carnegie Classification category of universities and for each university. Further, bi-variate regression was used to analyze the independent variable 'change in revenue from tuition and fees' as a predictor of the dependent variable 'change in expenditures for institutional aid' for the most current year available (1999-2000) across all universities (n=15).

Frequencies and mean comparisons were used to analyze the responses to the survey questionnaire. CROSS Tabs were used to analyze the responses by participant (budget officer or financial aid officer) and by Carnegie Classification (Research-extensive, Research-intensive, Masters I or Masters II). The returned surveys from one university did not include responses to the questions requesting estimates of the sources and types of aid funded by institutional resources; institutional financial aid expenditures by type were, however, made available at the university's web site and this data was included in the overall results.

The results from the analysis of the three data sources were recorded in matrices to facilitate identifying relationships, to validate emerging patterns and to identify divergent data. Patterns and themes were identified by comparing the findings from the three data sources to patterns predicted by resource dependence theory and the literature (Creswell, 1994; Yin, 1994).

Validity

Validation of the data was accomplished through triangulation of research methods by comparing the financial data collected from audited financial statements to the *IPEDS* reported data and by comparing the financial data analysis to the findings from the survey questionnaire.

Limitations

Because this is a case study of financial aid policy at public universities in Michigan, specific generalizations of the findings may not be extended to other higher education sectors or to other states; unlike many states, public universities in Michigan are constitutionally autonomous. The theory that emerges from the study may, however, be applicable to other states, public universities and to other types of higher education institutions. The findings of this study may also be useful as a basis for similar research in other states, other universities and other types of higher education institutions.

Ethical Considerations

Survey responses were aggregated by Carnegie classification, minimizing risk to study participants and the universities they represent. Further, the personal identities of the actual survey respondents were unknown to the researcher. These privacy and confidentiality safeguards were outlined in the survey questionnaire cover letter (Appendix C). Because the *IPEDS* data and the mission/vision statements analyzed in this study are public records, results were reported by institutional name.

CHAPTER 4

RESULTS/PRESENTATION OF FINDINGS

The data and findings of this research study are presented in four sections. In the first section, revenue, expenditure and enrollment trends from an analysis of the *IPEDS* financial data are reported in aggregate for the 15 public universities and by Carnegie Classification. To understand the relationship between university revenue and expenditure policy, the trends and changes in the tuition and fee revenue, revenue from state appropriation, expenditures for institutional financial aid and enrollment were examined over the 11-year period 1989-1990 through 1999-2000.

The second section addresses the research question: to what extent are institutional policy decisions related to funding for need-based financial aid programs and tuition pricing linked at the 15 Michigan public universities? To answer this question, both the budget officer and financial aid officer responses to the survey questions regarding policy linkages were analyzed. Further, using the *IPEDS* reported financial data, bi-variate regression analysis was employed to measure the relationship between changes in the average expenditure for institutional financial aid and changes in tuition and fee revenue (and changes in other financial factors). Finally, responses to the survey items that questioned the amount of institutional financial aid allocated to need-based programs were analyzed.

The third section addresses the research question: to what extent do the policies support or counteract the institutional mission or goals related to access and/or affordability? To answer this question, the findings from Section 2 regarding the

existence of policies and linkages supporting access and affordability were compared to an analysis of institutional mission statements.

Finally, the fourth section analyzes the findings to determine if resource dependency theory is a valid framework for studying institutional policymaking related to access and affordability.

Section 1: Revenue, Expenditure and Enrollment Trends

Figure 1 presents the trend in expenditures for institutional financial aid and the trend in institutional revenues from tuition and fees and state appropriations for the time period 1989-90 to1999-2000. The expenditures and revenues presented in Figure 1

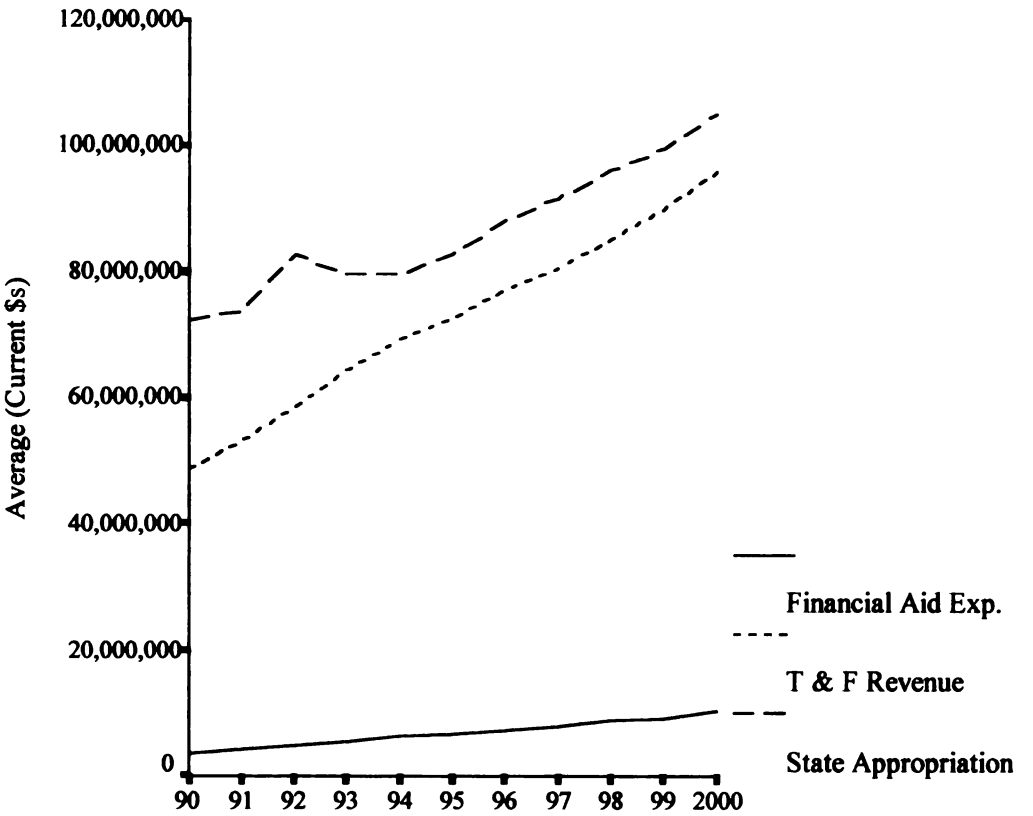

Figure 1. Average Revenue/Expenditures-15 Michigan Public Universities

Source. Author's calculations from *IPEDS* data.

represent the averages of all 15 public universities in Michigan as reported by *IPEDS* (U.S. Department of Education National Center for Education Statistics, Years 1990 to 2001).

Institutional Financial Aid Expenditures

The average per university expenditure for institutional financial aid for Michigan's 15 public universities increased by 170% for the time period 1989-1990 to 1999-2000, increasing from approximately $3.8 million to $10.2 million (see Figure 1). The Research-intensive universities increased average expenditures the most, from approximately $2.6 million to $8.4 million, or 220%. Master's I universities increased the average expenditure for institutional financial aid by 212%, from approximately $1.3 million to $4.1 million; Master's II universities increased the average expenditure by 174%, from approximately $1 million to $2.8 million; and, Research-extensive universities increased the average expenditure for institutional financial aid by 152%, from approximately $9.7 million to $24.5 million.

Institutional Revenues

Average revenue from tuition and fees for Michigan's public universities increased by 97% for this time period, from approximately $48.7 million in1989-90 to $95.8 million in1999-2000 (see Figure 1). Master's I universities increased average revenue from tuition and fees the most (by 127%), from approximately $18.9 million to $42.9 million. Research-intensive universities increased average revenue from tuition and fees by 114%, from approximately $28.5 million to $60.9 million; Research-extensive universities increased average revenue by 89%, from approximately $124.8

million to $235.9 million; and, Master's II universities increased average revenue from tuition and fees by 64%, from approximately $16.4 million to $26.9 million.

Average revenue from state appropriations increased at a slower rate (by 45%) for Michigan's public universities for this same time period, from approximately $72.4 million to $105.1 million (see Figure 1). Master's I universities experienced a 55% increase in average revenue from state appropriations from 1989-90 to1999-2000, increasing from approximately $28 million to $43.5 million; Research-intensive universities experienced a 44% increase in average revenue, increasing from approximately $41.7 million to $60.1 million; Research-extensive universities experienced a 43% increase in average revenue, increasing from approximately $186.4 million to $267.4 million; and, Master's II universities experienced a 41% increase in average revenue from state appropriations, increasing from approximately $23.6 million to $33.2 million.

Throughout this 11 year time period, the combined average revenue from tuition and fees and state appropriations accounted for approximately 64% of the average total current fund revenues for the 15 Michigan public universities. During this time period, however, the percentage of revenue from tuition and fees increased while the percentage of revenue from state appropriations decreased. On average for the 15 public universities, tuition and fees increased as a percentage of total current fund revenues from 25% in 1989-90 to 30% in 1999-2000 and state appropriations decreased as a percentage of total current fund revenues from 39% in 1989-90 to 34% in 1999-2000. Figure 2 depicts the change in the average expenditure for institutional financial aid and the change in the average revenue from both tuition and fees and state appropriation for the

15 Michigan public universities for the time period 1989-1990 to1999-2000.

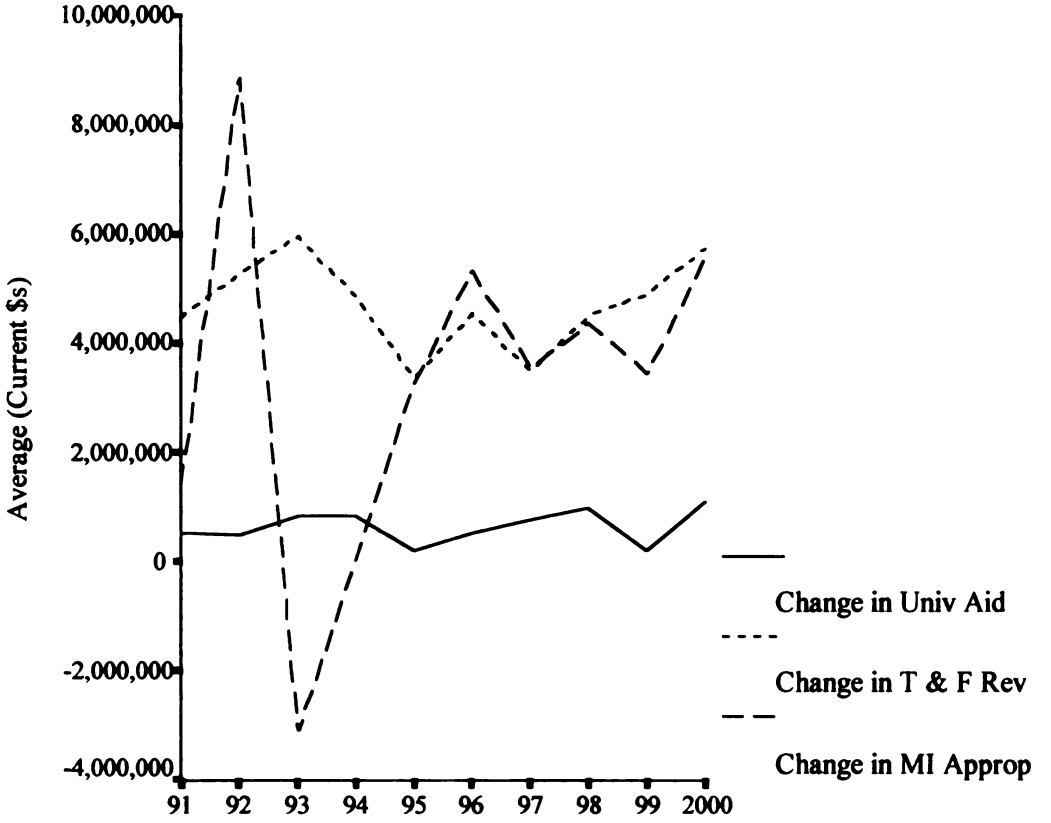

Figure 2. Change in Average Revenue/Expenditure-15 Michigan Public Universities

Source. Author's calculations from *IPEDS* data.

Enrollment

During this time period, enrollment also increased at Michigan's public universities. Average enrollment grew by approximately 4%, from approximately 17,774 students per university in the fall term of 1990 to 18,451 students per university in the Fall term of 2000. (A change in the institutional procedure for reporting enrollment to *IPEDS* was made by one of the universities in the Fall of 1993; so that the growth in

enrollment would not be overstated, this adjustment was made to the base year, Fall 1990.) Figure 3 presents the trend in enrollment by Carnegie Classification.

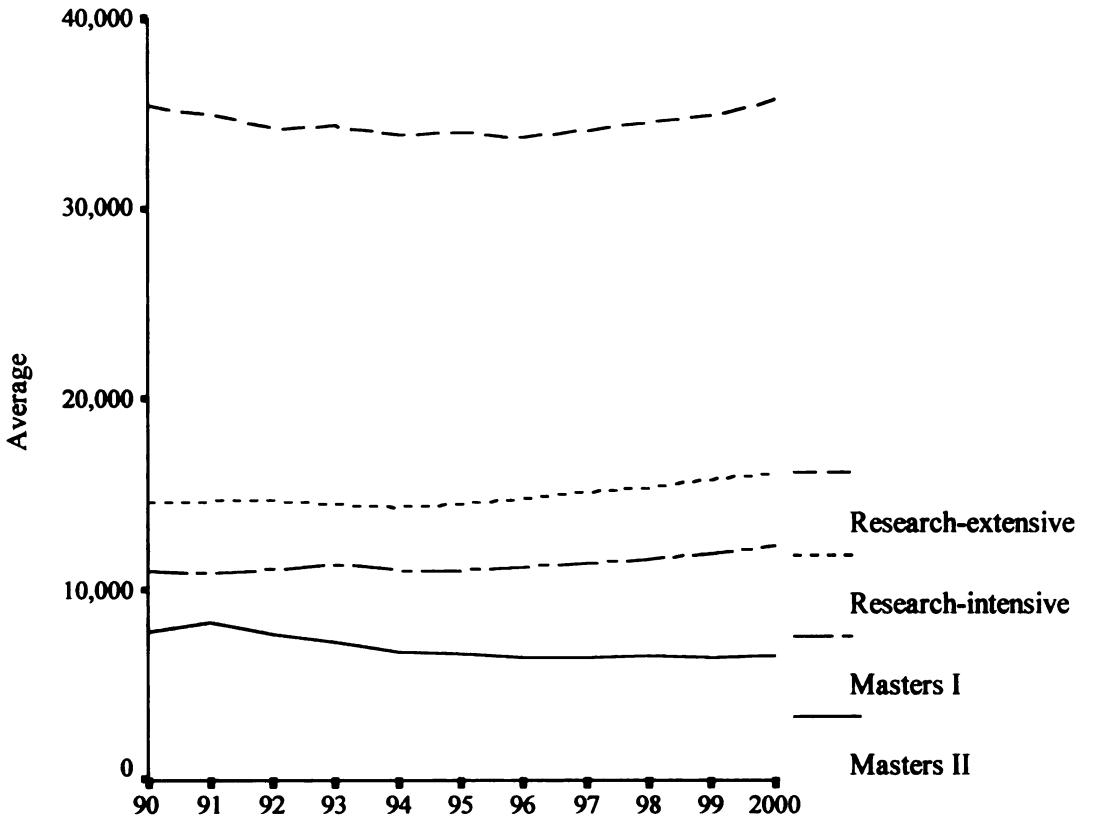

Figure 3. Average Enrollment for Michigan's Public Universities by Carnegie Classification

Source. Author's calculations from *IPEDS* data.

The highest growth in average enrollment was experienced by the Master's I universities with a 12% increase, from an average enrollment of 10,949 students per university in the Fall term of 1990 to an average enrollment of 12,316 students per university in the Fall term of 2000. Research-intensive universities experienced a 10% growth in average enrollment, increasing from an estimated average enrollment of 14,638 students per university in the Fall term of 1990 to an enrollment of 16,319 students per

university in the Fall term of 2000. Average enrollment at the Research-extensive universities increased slightly, growing by 1%, from an average enrollment of 35,390 students per university in the Fall term of 1990 to an enrollment of 35,710 students per university in the Fall term of 2000 while average enrollment declined at the Master's II universities by 16%, dropping from an enrollment of 7,722 students per university in the Fall term of 1990 to an enrollment of 6,483 students per university in the Fall term of 2000.

Summary

The trends found in the average expenditures and revenues for the 15 Michigan public universities, as reported by *IPEDS*, show that the growth in expenditures for institutional financial aid outpaced the growth in revenue from state appropriations and enrollment and surpassed even the tremendous growth in tuition and fees during the time period 1989-90 to 1999-2000. The average per university expenditure for institutional financial aid increased by 170% while the average revenue from state appropriations increased by 45%, average enrollment grew by only 4% and average revenue from tuition and fees increased by 97%. Similar findings were also true for the average expenditures and revenues of each category of Carnegie Classification.

The U.S. Department of Education's National Center for Education Statistics (2001) reported that expenditures for institutional scholarships and fellowships increased more than most other expenditures at all types of public higher education institutions during the period 1988-89 to 1997-98. As McPherson and Schapiro (1998) discovered, this tremendous growth in expenditures for institutional financial aid has moderated the growth in net tuition and fee revenue in comparison to the growth in gross tuition and fee

revenue for the same time period. From the College Board's *Trends in Student Aid 2001*, AASCU and NASULGC (2002) report a 92.4% growth in institutional aid for the time period 1990-91 through 2000-01; the average growth in expenditures for institutional financial aid at Michigan's public universities was almost twice the amount of this national average (170%) for a comparable time period. Table 3 presents the average tuition discount rates (average expenditures for institutional aid as a percent of average revenue from tuition and fees) and the share of average current fund revenues that tuition and fee revenue represents for Michigan's public universities by Carnegie Classification for fiscal year 1999-2000.

Table 3. Average Tuition Discount Rates and Average Tuition and Fee Revenue as a Percent of Average Total Current Fund Revenues in FY2000

Carnegie Classification	Tuition Discount Rate	Tuition as a % of Current Fund Revenues	N
Doctoral/Research-extensive	10%	21%	4
Doctoral/Research-intensive	14%	33%	3
Master's I	10%	36%	6
Master's II	10%	28%	2

Source. Author's calculations from *IPEDS* data.

The average growth in revenue from tuition and fees for the Michigan public universities (97%) is similar to that found by SHEEO; SHEEO reports a 94% increase in average tuition and fee rates for public, four-year institutions for the time period 1990-91 to 2000-2001(McKeown-Moak, 2001). Also similar to the SHEEO report is the finding

that the proportion of current fund revenues from state appropriations and tuition at Michigan's public universities has shifted with the proportion from state appropriations declining and the proportion from tuition and fees growing; SHEEO reports a decline of 14% in the share from state appropriations and an increase of 7.5% in the share from tuition and fees from 1981 to 1998 for all public institutions (McKeown-Moak, 2001). In Michigan, the share of revenue from state appropriations declined 13% and the share from tuition and fees increased by 20% for the time 1989-90 to 1999-2000.

Section 2: Coordinated Tuition and Aid Policy

This section seeks to answer the research question: to what extent are institutional policy decisions related to funding for need-based financial aid programs and tuition pricing linked at the 15 Michigan public universities?

Survey Results

Both budget officers and financial aid officers at Michigan's 15 public universities were asked to describe the policy at their university (if any) that links tuition and fee rates and funding for institutional financial aid programs. Eight of the 20 survey participants (40%) indicated that a very formal relationship exists-funding for institutional financial aid is increased in direct proportion to increases in tuition and fee rates; nine participants (45%) indicated that a less formal relationship exists-funding for institutional financial aid is increased but not in direct proportion to increases in tuition and fee rates; and, three participants (15%) responded that little or no relationship exists between funding for institutional financial aid and tuition and fee rates. Table 4 categorizes the responses by participant and by Carnegie Classification.

Table 4. Relationship Between Tuition & Fee Policy and Institutional Financial Aid Policy

Participant	Carnegie Classification	Very Formal	Less Formal	Little Relationship	Total
Budget Officer					
	Master's I	2	3		5
	Master's II	1		1	2
	D/Research-intensive	1	2		3
	D/Research-extensive	1			1
	Total	5	5	1	11
Financial Aid Off.					
	Master's I	1	2	1	4
	Master's II			1	1
	D/Research-intensive	1	1		2
	D/Research-extensive	1	1		2
	Total	3	4	2	9

Fifteen of the 20 survey participants (75%) further reported that their institution planned no change to institutional policy defining the relationship between tuition and fee pricing and funding for institutional financial aid; five survey participants (25%) indicated that a less formal relationship was planned.

The survey participants were also asked to describe the linkage between various financial factors and funding for institutional financial aid programs. Participants were asked to indicate the existence of a "direct linkage"-funding for institutional financial aid is indexed to changes in the financial factor, "indirect linkage"-the financial factor is generally taken into consideration when funding institutional financial aid, or "no linkage"-the financial factor is not taken into consideration when funding institutional financial aid programs. Table 5 presents the frequency of responses for each of the categories.

Table 5. Financial Factors Linked to Funding for Institutional Financial Aid Programs

Factor	Direct Linkage	Indirect Linkage	No Linkage
Increase/decrease in state appropriation revenue	4	12	4
Increase/decrease in tuition & fee revenue	15	5	0
Increase/decrease in funding for state financial aid programs	3	10	7
Increase/decrease in funding for federal financial aid programs	3	8	9
Other (Projected enrollment added by one participant)	1		

Clearly, the majority of the survey participants indicated a "direct linkage" between tuition and fee revenue and funding for institutional financial aid programs and the majority indicated "indirect" or "no linkage" for the other financial factors. Table 6 categorizes the linkage between tuition and fee revenue and funding for institutional financial aid by participant and Carnegie Classification.

Table 6. Linkage between Tuition & Fee Revenue and Funding for Institutional Financial Aid

Participant	Carnegie Classification	Direct Linkage	Indirect Linkage	No Linkage	Total
Budget Officer					
	Master's I	3	2		5
	Master's II	1	1		2
	D/Research-intensive	3			3
	D/Research-extensive	1			1
	Total	8	3		11
Financial Aid Off.					
	Master's I	4			4
	Master's II		1		1
	D/Research-intensive	2			2
	D/Research-extensive	1	1		2
	Total	7	2		9

Carnegie Classification. Three of the nine survey participants (33%) from Master's I universities indicated that a very formal relationship exists while five of the nine (56%) responded that a less formal relationship exists between tuition and fee rates and funding for institutional financial aid; all of the survey participants responding that little or no relationship exists represented Master's universities (I or II). Two of the five survey participants (40%) from Doctoral/Research-intensive universities indicated that a very formal relationship exists and three of the five (60%) responded that a less formal relationship exists between tuition and fee rates and funding for institutional financial aid. Participants representing the Doctoral/Research-extensive universities split their responses between a very formal relationship and a less formal relationship.

The majority of the participants reported a "direct linkage" between tuition and fee revenue and funding for institutional financial aid programs; four of the five participants who indicated that the linkage was indirect represented Master's (I & II) universities. Three of the four participants who selected "direct linkage" to describe the relationship between state appropriation revenue and funding for institutional financial aid represented Master's I universities and the four participants who indicated "no linkage" represented Doctoral/Research universities. The three participants who selected "direct linkage" to describe the relationship between funding for both state and federal financial aid programs and funding for institutional financial aid represented Master's II and Research-intensive universities.

Budget officers. Five of the 11 budget officers (45%) responding to the survey indicated that a very formal relationship exists between tuition and fee rates and funding for institutional financial aid; these budget officers represented all categories of Carnegie

Classification. The five budget officers (45%) who indicated that a less formal relationship exists represented only Master's I and Doctoral/Research-intensive universities. Only one budget officer (Master's II) indicated that little relationship exists between tuition and fee rates and funding for institutional financial aid. Nine of the 11 budget officers (82%) indicated that no change was planned to the institutional policy linking tuition and fee rates and funding for institutional financial aid; the two budget officers (18%) indicating that a less formal relationship was planned represented Master's level universities.

Eight of the 11 budget officers (73%) participating responded that a "direct linkage" between tuition and fee revenue and funding for institutional financial aid exists; these budget officers represented all categories of Carnegie Classification. The three budget officers (27%) indicating that the linkage is indirect represented Master's level universities. No other financial factor was directly linked to funding for institutional financial aid by a majority of the budget officers. With the exception of the federal financial aid factor, "indirect linkage" received the highest number of responses by the budget officers for all other financial factors; three budget officers (27%) reported a "direct linkage" in federal financial aid funding and funding for institutional financial aid, four budget officers (36%) reported an "indirect linkage" and four budget officers (36%) reported "no linkage".

Financial aid officers. Only three of the nine financial aid officers (33%) responding to the survey indicated that a very formal relationship exists between tuition and fee rates and funding for institutional financial aid; these financial aid officers represented Doctoral/Research-extensive, intensive and Master's I universities. The four

financial aid officers (44%) reporting a less formal relationship also represented Doctoral/Research-extensive, intensive and Master's I universities. The only Master's II financial aid officer to respond to the survey reported little or no relationship between tuition and fee rates and funding for institutional financial aid. Six of the nine financial aid officers (67%) indicated that no change was planned to policy linking tuition and fee rates and funding for institutional financial aid; the three financial aid officers (33%) indicating that a less formal relationship was planned represented all but the Doctoral/Research-intensive category of universities.

Seven of the nine financial aid officers (78%) responding to the survey reported a "direct linkage" between tuition and fee revenue and funding for institutional financial aid; these financial aid officers represented Doctoral/Research-extensive, intensive and Master's I universities. The two financial aid officers (22%) reporting an "indirect linkage" between tuition and fee revenue and funding for institutional financial aid represented Doctoral/Research-extensive and Master's II universities. No other financial factor was directly linked to funding for institutional financial aid by a majority of the financial aid officers. With the exception of the federal financial aid factor, "indirect linkage" received the highest number of responses by the financial aid officers for all other financial factors; four financial aid officers (44%) reported an "indirect linkage" in federal financial aid funding and funding for institutional financial aid and five financial aid officers (56%) reported "no linkage".

Review of survey results. The survey results reveal that while other financial factors are considered when funding institutional financial aid programs, policy decisions related to tuition pricing and funding for institutional financial aid programs are directly

linked for at least nine of the 15 Michigan public universities. Further, this relationship between tuition pricing and funding for institutional financial aid is present, to a greater or lesser degree, regardless of Carnegie Classification.

By counting the number of responses received from either the budget officers or the financial aid officers (but not both), the survey results indicate that a "very formal relationship" exists between tuition pricing and funding for institutional financial aid for at least five of the universities: one of the four Research-extensive universities, one of the three Research-intensive universities, two of the six Master's I universities and one of the Master's II universities. And a "less formal relationship" is indicated for at least six of the universities: one of the four Research-extensive universities, two of the three Research-intensive universities and three of the six Master's I universities. Similarly, the survey results indicate that "direct linkage", likely describes the relationship between changes in tuition and fee revenue and funding for institutional financial aid for at least nine universities: one of the four Research-extensive universities, three of the three Research-intensive universities, four of the six Master's I universities and one of the two Master's II universities.

The survey responses of the budget officers and the financial aid officers are comparable. By far, the majority of the budget officers (91%) and the financial aid officers (78%) indicate that a relationship exists between tuition and fee rates and funding for institutional financial aid; a higher percentage of the budget officers (45%) than the financial aid officers (33%) indicate that the relationship is formal. A majority of both the budget officers (73%) and the financial aid officers (78%) also report a "direct linkage" between tuition and fee revenue and funding for institutional financial aid and,

with the exception of federal financial aid funding, "indirect linkage" received the highest number of responses for the other financial factors for both budget officers and financial aid officers. Fifty-six percent of the financial aid officers report "no linkage" between federal financial aid funding and funding for institutional financial aid while only 36% of the budget officers report no linkage and 27% actually reported a "direct linkage".

Bi-variate Regression Results

To further analyze the relationship between tuition pricing (or other financial factors) and funding for institutional financial aid, bi-variate regression was employed. Specifically, the relationships between change in actual expenditures and change in actual revenues at the 15 Michigan public universities were measured. The financial data used in these analyses were downloaded from NCES *IPEDS* for fiscal years 1989-1990 through 1999-2000 and included expenditures for institutional, federal and state financial aid, revenues from tuition and fees and state appropriations, tuition and fee rates and fall enrollment. Analysis was conducted of changes in the overall averages, changes in the Carnegie Classification averages and changes in the financial factors at each university over time and a cross-sectional analysis was conducted of the 1999-2000 year change for all 15 public universities. Because the *IPEDS* data are public records, analysis and results were reported by institutional name

Analysis of all-universities' average. Table 7 presents the relationship between the dependent variable 'change in the average institutional financial aid expenditure' for all 15 Michigan public universities and the independent variables listed for fiscal year 1989-1990 through 1999-2000 (n=10). As can be seen in Table 7, neither the

relationship between the dependent variable and 'change in average tuition and fee revenue' nor the relationship between the dependent variable and 'change in average tuition and fee rates' are strong or statistically significant. These findings do not substantiate the results of the survey questionnaire that revealed a linkage between tuition pricing policy and funding for institutional financial aid.

Table 7. Summary of Bi-variate Regression Analysis of Variables Predicting Change in Average Institutional Financial Aid Expenditure for All 15 Michigan Public Universities

Independent Variables	*Beta*(R)	R^2	*t*	Sig
Change in average state appropriation revenue	-.169	.028	-.484	.642
Change in average tuition & fee revenue	.412	.169	1.277	.237
Change in average state financial aid exp.	.430	.185	1.347	.215
Change in average federal financial aid exp.	-.249	.062	-.728	.487
Change in average tuition & fee rates	.258	.066	.754	.472
Change in average fall enrollment	.330	.109	.989	.352

*p<.05
Source. Author's calculations from *IPEDS* data.

Analysis of Carnegie Classification averages. Further examination was conducted of the financial data by utilizing bi-variate regression to analyze the relationship between change in average expenditures and change in average revenues for each Carnegie Classification of universities for fiscal years 1989-1990 through 1999-2000 (n=10). The results of the analysis, presented in Table 8, reveal a significant, positive relationship between the change in the average tuition and fee revenue and the change in the average expenditure for institutional financial aid for the Michigan Doctoral/Research-intensive

Table 8. Summary of Bi-variate Regression Analysis of Variables Predicting Change in Average Institutional Financial Aid Expenditure by Carnegie Classification

Independent Variables Carnegie Classification	*Beta*(R)	R^2	*t*	Sig
Change in average state appropriation rev.				
Doctoral/Research-extensive	-.344	.118	-1.037	.330
Doctoral/Research-intensive	.606	.367	2.154	.063
Master's I	.089	.008	.252	.808
Master's II	-.224	.050	-.650	.534
Change in average tuition & fee revenue				
Doctoral/Research-extensive	.359	.129	1.089	.308
Doctoral/Research-intensive	.684	.468	2.653	.029*
Master's I	.746	.556	3.164	.013*
Master's II	-.474	.224	-1.521	.167
Change in average state financial aid exp.				
Doctoral/Research-extensive	.406	.164	1.255	.245
Doctoral/Research-intensive	-.727	.528	-2.991	.017*
Master's I	-.747	.558	-3.176	.013*
Master's II	.015	.0	-.041	.968
Change in average federal financial aid exp.				
Doctoral/Research-extensive	-.262	.069	-.768	.465
Doctoral/Research-intensive	-.076	.006	-.216	.834
Master's I	-.173	.030	-.496	.634
Master's II	-.707	.499	-2.824	.022*
Change in average tuition & fee rates				
Doctoral/Research-extensive	.090	.008	.257	.804
Doctoral/Research-intensive	-.139	.019	-.396	.703
Master's I	-.418	.175	-1.301	.229
Master's II	-.202	.041	-.583	.576
Change in average fall enrollment				
Doctoral/Research-extensive	.205	.042	.593	.570
Doctoral/Research-intensive	-.144	.021	-.413	.691
Master's I	.535	.286	1.789	.111
Master's II	-.286	.082	-.844	.423

*p<.05

Source. Author's calculations from *IPEDS* data.

and Master's I universities; 47% and 56%, respectively, of the variability in the change of the average institutional financial aid expenditures for these Carnegie Classifications can be accounted for by the change in the average tuition and fee revenue.

For the Michigan Doctoral/Research-intensive and Master's I universities, a significant, negative relationship was found between the change in the average expenditure for state financial aid and the change in the average expenditure for institutional financial aid; as the change in the average expenditure for state financial aid decreased, the change in the average expenditure for institutional financial aid increased. Similarly, a significant, negative relationship was found between the change in the average expenditure for federal financial aid and the change in the average expenditure for institutional financial aid at Michigan Master's II universities. Although the result did not reach the .05 level of significance, the relationship between change in the average revenue from state appropriation and change in the average expenditure for institutional financial aid was moderately strong for the Michigan Doctoral/Research-intensive universities; perhaps a larger sample size might have yielded $p < .05$.

The results of the regression analysis by Carnegie Classification support the findings of the survey indicating that policy related to funding for institutional financial aid programs and tuition pricing are linked at one or more of the 15 Michigan public universities categorized as Research-intensive or Master's I.

Results per university. Although the statistical mean, or average, is sensitive to extreme data, an effect of averaging financial factors like expenditures for financial aid and tuition and fee revenues by all 15 public universities or by Carnegie Classification may be to balance out extreme and/or divergent findings (Shavelson, 1996). A series of

scatter plots and bi-variate regression analyses were therefore run (Table 9) to observe and measure the relationship between change in actual expenditures for institutional financial aid and change in actual revenues from tuition and fees for each university for the time period fiscal year 1989-1990 through fiscal year 1999-2000 (n=10). The results of the bi-variate regression analyses reveal a significant, positive relationship between change in revenue from tuition and fees and change in expenditures for institutional financial aid for only one university (Michigan Technological University).

Table 9. Summary of Bi-variate Regression Analysis of Change in Tuition & Fee Revenue Variable Predicting Change in Institutional Financial Aid Expenditure

Carnegie Classification University Name	*Beta*(R)	R^2	*t*	Sig
Doctoral/Research-extensive				
Michigan State University	.325	.106	.972	.359
University of Michigan-AA	.487	.237	1.578	.153
Wayne State University	.129	.017	.367	.723
Western Michigan University	-.017	.000	-.047	.964
Doctoral/Research-intensive				
Central Michigan University	.190	.036	.547	.599
Michigan Technological Univ.	.642	.413	2.371	.045*
Oakland University	.124	.015	.353	.733
Master's I				
Eastern Michigan University	-.220	.049	-.639	.541
Grand Valley State University	.315	.099	.938	.376
Northern Michigan University	.197	.039	.568	.585
Saginaw Valley State University	.499	.249	1.629	.142
University of Michigan-Dearborn	.055	.003	.155	.880
University of Michigan-Flint	.305	.093	.907	.391
Master's II				
Ferris State University	-.543	.295	-1.828	.105
Lake Superior State University	-.175	.031	-.504	.628

*p<.05

Source. Author's calculations from *IPEDS* data.

Due to the lack of significant relationships between revenue from tuition and fees and expenditures for institutional financial aid at the individual university level, the results from the scatter plot analyses were examined for the presence of outlier data; the results were examined for the presence of observations that might be a greater distance from the regression line causing prediction error in the bi-variate regression model (Lewis-Beck, 1980). Assuming that the outliers were atypical observations, removal of the data could improve the prediction model. Therefore, where outliers were identified, these observations were removed and bi-variate regression analysis was run again to determine if a significant relationship was found between the expenditure for institutional financial aid and revenue from tuition and fee variables. The revised findings are presented in Table 10. The downside to removing the outliers is that important information may be excluded from the analysis and the already small sample size is

Table 10. Summary of Bi-variate Regression Analysis of Change in Tuition & Fee Revenue Variable Predicting Change in Institutional Financial Aid Expenditure With Outliers Removed

Carnegie Classification University Name	Outlier Year(s)	*Beta*(R)	R^2	*t*	Sig
Doctoral/Research-extensive					
Michigan State University	2000	.803	.644	3.562	.009*
Wayne State University	1991,95,99	.760	.578	2.618	.047*
Master's I					
Grand Valley State University	2000	.720	.518	2.745	.029*
Northern Michigan University	2000	.716	.513	2.713	.030*
Saginaw Valley State University	1991,92,94	.890	.792	4.367	.007*
Master's II					
Ferris State University	1997	-.763	.582	-3.121	.017*

*p<.05

Source. Author's calculations from *IPEDS* data.

further reduced (Lewis-Beck, 1980). Significant relationships were identified for six additional universities after removing outlying data: Michigan State University, Wayne State University, Grand Valley State University, Northern Michigan University, Saginaw Valley State University and Ferris State University.

Bi-variate regression analysis was also employed to measure the relationships between the other financial factors and actual expenditures for institutional financial aid; statistically significant results are presented in Table 11. Significant relationships were found between change in expenditures for institutional financial aid and change in expenditures for state financial aid for five universities. For three of the universities (Michigan State University, University of Michigan-AA and University of Michigan-Dearborn), the relationship between the two variables was positive-as the change in expenditures for state financial aid increased, the change in expenditures for institutional financial aid increased. For two of the universities (Michigan Technological University and Northern Michigan University), the relationship between the two variables was negative-as the change in expenditures for state financial aid decreased the change in expenditures for institutional financial aid increased. Similarly, a significant, negative relationship was found between the change in expenditures for institutional financial aid and the change in expenditures for federal financial aid at University of Michigan-AA and Central Michigan University-as change in the expenditures for federal financial aid decreased, change in expenditures for institutional financial aid increased. Finally, a significant, positive relationship was found between the change in expenditures for institutional financial aid and change in tuition and fee rates at Northern Michigan

University-as the change in tuition and fee rates increased, the change in expenditures for institutional financial aid increased.

Table 11. Summary of Bi-variate Regression Analysis of Other Variables Predicting Change in Institutional Financial Aid Expenditure

Independent Variable University Name	*Beta*(R)	R^2	*T*	Sig
Change in state appropriation revenue				
Western Michigan University	.621	.386	2.242	.055
Change in state financial aid exp.				
Michigan State University	.880	.775	5.252	.001*
University of Michigan-AA	.735	.540	3.063	.016*
Michigan Technological Univ.	-.679	.461	-2.614	.031*
Northern Michigan University	-.938	.881	-7.686	.000*
University of Michigan-Dearborn	.773	.597	3.446	.009*
Lake Superior State University	.611	.374	2.185	.060
Change in federal financial aid exp.				
University of Michigan-AA	-.668	.447	-2.541	.035*
Central Michigan University	-.655	.429	-2.45	.040*
Ferris State University	-.624	.389	-2.257	.054
Change in tuition & fee rates				
Northern Michigan University	.958	.918	9.434	.000*

*p<.05
Source. Author's calculations from *IPEDS* data.

Cross-Sectional Analysis. Bi-variate regression was also employed to analyze the independent variable 'change in revenue from tuition and fees' as a predictor of the dependent variable 'change in expenditures for institutional aid' for the most current year available (1999-2000) across all universities (n=15). The variable 'change in revenue from tuition and fees' was found to be a significant predictor and accounted for 63% of the variation in 'change in expenditures for institutional aid' for the 15 universities.

Review of bi-variate regression. The results of the bi-variate regression indicate that although other financial factors are significantly related to the change in expenditures for institutional financial aid, the relationship between expenditures for institutional financial aid and revenues from tuition and fees is also statistically significant over time at several of the 15 public universities in the state: Michigan State University, Wayne State University, Michigan Technological University, Grand Valley State University, Saginaw Valley State University, Northern Michigan University and Ferris State University. Further, this statistically significant relationship was found at universities from all four categories of Carnegie Classification represented in the state. At those universities where no statistically significant relationship was found between the two variables, it was just as likely to find the change in expenditures for institutional financial aid to increase when the change in tuition and fee revenue decreased, as it was to find the opposite result. At Ferris State University, where a negative significant relationship between expenditures for institutional financial aid and revenues from tuition and fees was found, an examination of the data shows that when the change in revenues from tuition and fees declined, the change in expenditure for institutional financial aid increased. Further, results of the cross-sectional regression analysis found the change in revenues from tuition and fees to be a significant predictor of change in expenditures for institutional aid in 1999-2000 for the 15 Michigan public universities.

Need-Based Aid

The findings from the survey questionnaire present convincing evidence that institutional policy decisions relating to funding for institutional financial aid programs and tuition pricing are directly linked and that formal relationships exist at many of the

15 Michigan public universities. Further, the results of the bi-variate regression analysis support these survey results by presenting evidence of statistically significant relationships between expenditures for institutional financial aid and revenues from tuition and fees at some of the Michigan universities. Although these findings reveal institutional linkages between financial aid funding policy and tuition pricing policy, they do not describe the extent to which institutional financial aid is invested in need-based programs; that is, what portion of institutional financial aid funding is allocated to need-based grant? Because the research question to be answered asks to what extent institutional policy decisions related to need-based financial aid programs and tuition pricing are linked, the responses to the survey questions related to the estimated amounts and percentages of institutional funding allocated to need-based financial aid were analyzed.

Twelve of the 20 survey participants (60%) responded that the most influential goal of institutional financial aid at their university was to provide financial assistance to the neediest students, six of the 20 participants (30%) responded that supporting the enrollment growth objective of the university was their most influential goal and two of the 20 participants (10%) reported shaping the profile of the undergraduate class as the most influential goal of institutional financial aid. When asked to estimate the percentage of institutional financial aid funds allocated to need-based grant, merit-based scholarship, loan and other aid in fiscal year 2000-2001, the average of the responses for the 20 survey participants was as follows: 30% to need-based grant, 64% to merit-based scholarship, 5% to loan and 1% to other funds. The results of this survey item also show a downward trend in the average estimated allocation to need-based grant over the last

three fiscal years for all survey participants; a corresponding upward trend in the average estimated allocation to merit-based scholarship was also reported. Table 12 presents the trends in the average estimated allocations to need-based grant and merit-based scholarship.

Table 12. Three-year Trend in Average Allocations to Financial Aid Estimated by All Survey Participants

Type of Aid	2000-2001	1999-2000	1998-1999
Need-based Grant	30%	32%	32%
Merit-based Scholarship	64%	62%	61%
Loans	5%	5%	5%
Other Aid	1%	1%	2%

All of the survey participants affirmed that their institution had experienced an increase in the number of students applying for financial aid. Table 13 presents the institutional response to this growing number of student aid applicants. The participants' answers indicated that the institutional response was divided. Seven of the survey participants (35%) indicated that institutional funding for need-based financial aid had been increased resulting in a higher award per financial aid applicant; 13 survey participants (65%) indicated that funding had been increased providing for the same average award or increased (but not enough) or not increased, resulting in a decline in the average award per financial aid applicant.

Table 13. Institutional Response to the Increase in the Number of Financial Aid Applicants

Participant	Carnegie Classification	Increase Ave Award	Same Ave Award	Decrease Ave Award	Total
Budget Officer					
	Master's I		3	2	5
	Master's II	2			2
	D/Research-intensive	1		2	3
	D/Research-extensive	1			1
	Total	4	3	4	11
Financial Aid Off.					
	Master's I	1		3	4
	Master's II	1			1
	D/Research-intensive	1		1	2
	D/Research-extensive		1	1	2
	Total	3	1	5	9

Carnegie Classification. All of the survey participants from the Research-extensive and Master's II universities and five of the nine participants (56%) representing Master's I universities responded that the most influential goal of institutional financial aid at their university was to provide financial assistance to the neediest students; only one of the five survey participants (20%) from Research-intensive universities listed providing financial assistance to the neediest students as the most influential goal. Four of the nine Master's I university survey participants (44%) and two of the five Research-intensive participants (40%) indicated that the most influential goal of institutional financial aid was to support the university's enrollment growth objective; two of the five survey participants (40%) representing Research-intensive universities indicated that shaping the profile of the undergraduate class was the most influential goal of institutional financial aid.

Participants representing the Research-extensive universities reported the highest average allocation to need-based grant (49%) and lowest average allocation to merit-based scholarship (34%) and reported allocating 13% to loan and 4% to other aid. Conversely, participants representing the Research-intensive universities reported the lowest average allocation to need-based grant (11%) and highest average allocation to merit-based scholarship (88%) and reported allocating only 1% to loans. Master's I survey participants reported the second-highest average allocation to need-based grant of 37% and an average allocation to merit-based scholarship of 56% and reported allocating 6% to loan and 2% to other aid. Master's II survey participants reported an average allocation to need-based grant of 23% and an average allocation to merit-based scholarship of 77% and reported no allocation of institutional funding to loans or other categories. Table 14 presents the average estimated allocations by Carnegie Classification for 2000-2001. Over the last three fiscal years, a downward trend in the average estimated allocation to need-based grant and corresponding upward trend in the average estimated allocation to merit-based scholarship was found for each Carnegie Classification group.

All three of the survey participants from Master's II universities reported that their institution's response to the increase in the number of students applying for need-based financial aid was to increase institutional funding for these programs and to increase the average award. Conversely, only one of the nine survey participants (11%) from Master's I universities reported increasing institutional need-based aid to increase the average award, while three participants (33%) reported increasing institutional need-based aid to maintain the average award and five participants (56%) reported increasing

Table 14. Estimated Percent of Institutional Financial Aid by Type of Aid And Carnegie Classification for 2000-2001

Carnegie Classification	Need-based Grant	Merit-based Scholarship	Loan	Other
Master's I				
Mean	36	56	6	2
S.D.	24	27	17	5
N	9	9	9	9
Master's II				
Mean	23	77		
S.D.	9	9		
N	3	3		
Doctoral/Research-intensive				
Mean	11	88	1	
S.D.	1	2	1	
N	5	5	5	
Doctoral/Research-extensive				
Mean	49	34	13	4
S.D.	40	22	21	8
N	3	3	3	3

institutional need-based aid but with a resulting decline in the average award. Two of the five Research-intensive survey participants (40%) reported that the average award had increased while two (40%) reported that the average award had remained the same or declined. Similarly, one of the three Research-extensive survey participants (33%) reported an increase in the average institutional aid award while two (67%) reported that the average award had remained the same or declined.

Budget officers. Seven of the 11 budget officers (64%) responding to the survey reported that the most influential goal of institutional financial aid at their institution was to provide financial assistance to the neediest students. Three of the 11 budget officers (27%) reported supporting the university's enrollment growth objective and one budget officer (9%) reported shaping the profile of the undergraduate class as the most

influential goal of institutional financial aid. However, when asked to estimate the percentage of institutional financial aid funds allocated to need-based grant, merit-based scholarship, loan and other aid in fiscal year 2000-2001, the average of the responses for the 11 budget officers was as follows: 26% to need-based grant, 63% to merit-based scholarship, 8% to loan and 3% to other funds.

Most of the budget officers (64%) indicated that institutional funding for need-based financial aid had been increased in one or more of the last three years resulting in either a higher or the same average award per financial aid applicant while four budget officers (36%) indicated that funding had either been increased (but not enough) or not increased, resulting in a decline in the average award per financial aid applicant.

Financial aid officers. Five of the nine financial aid officers (56%) responding to the survey reported that the most influential goal of institutional financial aid at their institution was to provide financial assistance to the neediest students. Three of the nine financial aid officers (33%) reported supporting the university's enrollment growth objective and one financial aid officer (11%) reported shaping the profile of the undergraduate class as the most influential goal of institutional financial aid. When asked to estimate the percentage of institutional financial aid funds allocated to need-based grant, merit-based scholarship, loan and other aid in fiscal year 2000-2001, the average of the responses for the nine financial aid officers was as follows: 34% to need-based grant, 64% to merit-based scholarship, 1% to loan and 1% to other funds.

Five of the nine financial aid officers (56%) indicated that institutional funding for need-based financial aid had been increased in one or more of the last three years (but not enough) resulting in a decline in the average award per financial aid applicant while four

of the financial aid officers (44%) indicated that institutional funding for need-based financial aid had been increased resulting in either a higher or the same average award per financial aid applicant. A similar division in responses was found when the financial aid officers were asked to indicate the percentage of applicants awarded institutional need-based grant for the last three fiscal years. Table 15 presents the average percent of financial aid applicants awarded institutional need-based aid by Carnegie Classification in fiscal year 2000-2001. Four financial aid officers (44%) reported an increase in the percentage of applicants awarded institutional need-based financial aid, three of the financial aid officers (33%) reported a decrease in the percentage of applicants awarded institutional financial aid and two financial aid officers (22%) reported no change in the percentage of applicants awarded institutional financial aid.

Table 15. Percent of Aid Applicants Awarded Institutional Need-Based Aid in 2000-2001

Carnegie Classification	Mean	S.D.	N
Master's I	35	25	4
Master's II	18		1
Doctoral/Research-intensive	19	14	2
Doctoral/Research-extensive	62	3	2

Review of institutional need-based aid. Although 12 of the 20 survey participants (60%) indicated that providing financial assistance to the neediest students was the most influential goal for institutional aid at their respective universities, all but four of the survey participants reported a higher institutional investment in merit-based scholarships

than in need-based grants; the average of the estimated allocations for all 20 participants was 30% to need-based grant, 64% to merit-based scholarships, 5% to loan and 1% to other aid in 2000-2001. Further, all survey participants reported a downward trend in the average estimated allocation to need-based grants over the last three fiscal years and a corresponding upward trend in the average estimated allocation to merit-based scholarships for the same time period.

The survey participants from the Research-extensive and Research-intensive universities represented the opposite ends of the need-based aid frequency distribution. All of the survey participants from Research-extensive universities indicated that providing financial assistance to the neediest students was the most influential goal for institutional aid and these participants reported the highest average allocation to need-based grant. Only one of five survey participants (20%) from Research-intensive universities indicated that providing financial assistance to the neediest students was the most influential goal for institutional aid and these participants reported the lowest average allocation to need-based grant. Similarly, the average percent of aid applicants awarded need-based aid as reported by the financial aid officers who participated in the survey was 62% for the Research-extensive universities and 19% for the Research-intensive universities in 2000-2001.

The survey responses of the budget officers and the financial aid officers are comparable. The majority of both the budget officers and the financial aid officers reported that the most influential goal of institutional financial aid at their institution was to provide financial assistance to needy students, but the majority of both also estimated that the percentage of institutional aid funds allocated to merit-based scholarships

exceeded the percentage allocated to need-based grant. A higher percentage of the financial aid officers (56%) than budget officers (36%) reported that the average need-based award per financial aid applicant had declined in one of the last three years.

Summary

The survey results reveal the existence of a relationship between tuition pricing policy and funding policy for institutional financial aid for at least 11 of the 15 public universities in Michigan (73%) and the findings from the bi-variate regression analysis support these survey results. The effect of the relatively low allocation of institutional funding to need-based grant, however, may counteract the efficacy of such policy to maintain access and affordability for financially needy students. The answer to the first research question is therefore dependent upon the allocation of institutional funds to need-based aid as well as the existence of coordinated tuition pricing and financial aid funding policy.

A higher percentage of the current survey participants reported that the relationship between tuition and fee rates and funding for financial aid was very formal than did in the study conducted by Hossler et al. (1997). In the Hossler et al. (1997) study, only 9% of the survey respondents reported a formal relationship between funding for state financial aid programs and the setting of tuition rates while 37% reported a less formal relationship; survey participants from at least five (33%), of the Michigan universities reported that a very formal relationship exists between tuition and fee rates and funding for institutional financial aid programs. More participants (representing at least six of the 15 Michigan universities, or another 40%) reported a less formal

relationship; i.e., funding for institutional financial aid is increased in response to increases in tuition and fee rates but not in direct proportion.

Further, the survey participants from at least nine (60%) of the Michigan universities reported a "direct linkage", indicating that funding for institutional financial aid is indexed to increases and decreases in tuition and fee revenue; one of the Research-extensive universities, all three Research-intensive universities, four of the Master's I universities and one of the Master's II universities responded in this fashion.

Although the survey results also reveal that other financial factors are considered when funding institutional financial aid programs, fewer survey participants reported direct linkages between these factors and funding for institutional financial aid. Survey participants from at least 3 of the universities (two of the Master's I universities and one of the Research-extensive universities) indicated that funding for institutional financial aid is directly linked to increases and decreases in state appropriation revenue; participants from at least 3 of the universities (two of the Master's II universities and one of the Research-intensive universities) indicated that funding for institutional financial aid is directly linked to increases and decreases in funding for both federal and state financial aid programs; and, one survey participant representing a Master's I university reported that funding for institutional financial aid was directly linked to projected enrollment.

Unlike the Hossler et al. (1997) study which found no significant relationship between average public tuition levels and state financial aid funding and unlike the study conducted by Hearn, Griswold and Marine (1996) which found only a slight relationship (Pearson correlation of .41) between per capita need-based aid and the average tuition

level at public institutions, change in tuition and fee revenue was determined to be a significant predictor of change in expenditures for institutional aid for the 15 Michigan public universities in 1999-2000 when cross-sectional regression analysis was employed. No significant results were found when bi-variate regression analysis was employed to measure the relationship between change in average institutional financial aid expenditures and change in average revenue from tuition and fees over time. However, when bi-variate regression was used to analyze the relationship by Carnegie Classification over time, a significant positive relationship was found for both the Research-intensive and Master's I universities. Similarly, after outlier data was removed, bi-variate regression yielded significant results for the following universities when analyzing the relationship between change in expenditures for institutional financial aid and change in revenues from tuition and fees over time: Michigan State University, Wayne State University, Michigan Technological University, Grand Valley State University, Northern Michigan University, Saginaw Valley State University and Ferris State University. A significant, positive relationship was also found between the change in expenditures for institutional financial aid and change in tuition and fee rates over time at Northern Michigan University.

Because the survey participants and the institutions they represent cannot be identified, it is not possible to complete a comparison of the survey responses to the bi-variate regression results by institution. Overall, however, the findings from the bi-variate regression analysis support the results of the survey questionnaire; survey participants from nine, or 60%, of the universities reported that funding for institutional financial aid is directly linked, or indexed, to increases and decreases in tuition and fee

revenue and the results of the bi-variate regression analysis indicate a significant relationship between change in the expenditures for institutional financial aid and change in revenue from tuition and fees over time for nearly one-half, or seven, of the universities. Any difference in the results of the survey responses and bi-variate regression analysis may be attributable to a difference in the time period examined; the bi-variate regression analysis examined relationships between changes in expenditures for institutional financial aid and revenue from tuition and fees over an 11-year time period spanning 1989-90 through 1999-2000 while the survey questionnaire asked participants to comment on the status of current policy.

Similar statistical results were discovered in the U.S. Department of Education NCES (2001) study that found a significant relationship between the change in institutional scholarships and fellowships and the change in in-state, undergraduate tuition at all types of four-year public institutions over time. The authors of the U.S. Department of Education NCES (2001) study caution that interrelationships among many internal and external factors likely have an effect on changes in tuition and changes in expenditures for institutional financial aid. Indeed, the results of the bi-variate regression analysis for the 15 Michigan public universities show that the relationships between change in expenditures for institutional financial aid and change in some of the other financial factors were also significant. A significant relationship between change in expenditures for institutional financial aid and change in funding for state financial aid programs over time was found for five universities and a significant relationship between change in expenditures for institutional financial aid and change in funding for federal financial aid over time was found for two universities. A moderately strong, but not

significant relationship ($p = .055$), was also found between change in expenditures for institutional financial aid and change in revenue from state appropriations over time for one university. These statistical findings also support the findings from the survey questionnaire as some of the university survey participants reported the existence of a direct linkage between funding for institutional financial aid and changes in funding for state and federal financial aid programs and change in revenue received from the state.

The average of the estimated allocations to institutional financial aid for all 20 participants was 30% to need-based grant, 64% to merit-based scholarships, 5% to loan and 1% to other aid in 2000-2001 with Research-extensive universities reporting the highest average allocation to need-based grant and Research-intensive universities reporting the lowest average allocation to need-based grant.

As was illuminated by the literature review, expenditures for institutional merit-based aid have grown tremendously: McPherson and Schapiro (1998) found a 20% annual real growth rate in spending for merit aid from 1983-94 to 1991-92 in their analysis of highly selective universities while Redd (2000) found that the number of merit scholarship recipients had grown by 163% and the value of the scholarships had increased by 193% at four-year public institutions for the period 1988 to 1996. Similarly, the results of the survey questionnaire of Michigan financial aid and budget officers show a downward trend in the average estimated allocation to need-based grant and a corresponding upward trend in the average estimated allocation to merit-based scholarship over the last three fiscal years. Further, Hossler et al. (1997) found that 59% of the states responding to their survey reported that average financial aid awards had remained the same or declined over the three-year period 1989-90 through 1991-92; 67%

of the Michigan financial aid officers and 64% of the Michigan budget officers responded similarly, that the average need-based award remained the same or declined in at least one of the last three fiscal years.

Although the average percent of institutional aid allocated to need-based grant for fiscal year 2000-2001 for all 20 survey participants was 30%, Figure 4 illustrates that several of the survey participants reported a smaller allocation of institutional aid to need-based grant. The average percent of institutional aid allocated to need-based grant as reported by the survey participants from Research-extensive universities was 49%, from Master's I universities was 37%, from Master's II universities was 23% and from Research-intensive universities was 11%.

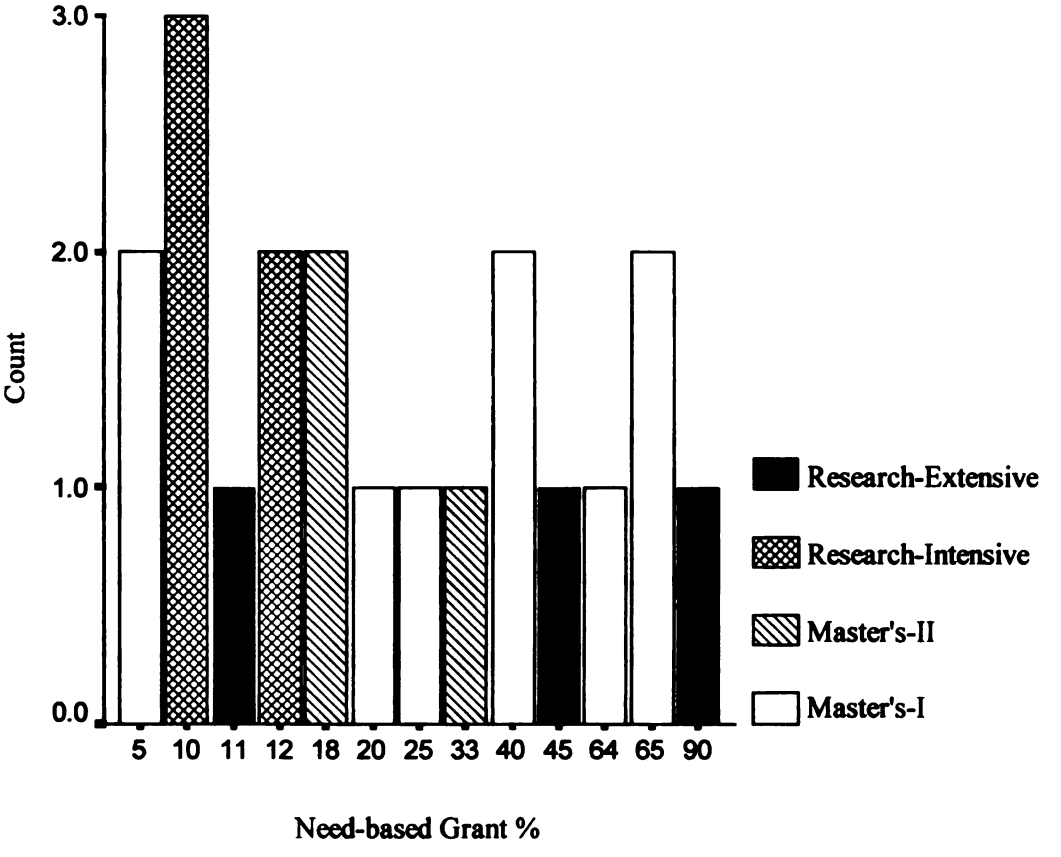

Figure 4. Need-Based Grant as a % of Institutional Financial Aid

Based on the results of this study it appears that institutional policy decisions related to funding for need-based financial aid programs and tuition pricing are more likely to be linked at universities categorized as Research-extensive or Master's I than at universities categorized as Research-intensive or Master's II. Irrespective of Carnegie Classification, coordinated tuition pricing and financial aid funding policy was found to exist at many of the 15 Michigan public universities but, on average, the Research-extensive and Master's I universities responding to the survey commit a greater share of institutional aid funding to need-based grant than do the Research-intensive and Master's II universities.

It is evident from the findings of the survey questionnaire and the bi-variate regression analysis that to a great extent institutional policy decisions related to funding for institutional financial aid programs and tuition pricing are directly linked and formal relationships exist at many of the 15 Michigan public universities; it is not, however, evident that these linked policies can effectively support access for low-income students given the apparent limited investment in need-based financial aid programs at many of the same universities.

Section 3: Support for Institutional Mission

Public universities in Michigan enjoy constitutional autonomy; elected or appointed governing boards have sole responsibility for directing and approving institutional policy, including ultimate responsibility for setting tuition prices. Critics blame university autonomy for low affordability and low accountability while advocates hail the high educational quality associated with this system and contend that autonomy allows the "market" to determine tuition rates (Martinez & Nodine, 1997). Regardless of

their position on university autonomy, legislators expressed great concern about affordable higher education in the state when interviewed during a study conducted by Martinez and Nodine (1997) in the early 1990s. Evidence from university mission statements indicates that many public higher education officials also rank access and affordability as important university goals.

This section seeks to answer the research question: to what extent do institutional policies linking funding for need-based aid and tuition pricing support or counteract institutional mission or goals related to access and/or affordability. To answer this question, state and institutional goals related to access and/or affordability were first reviewed and then compared to the findings from Section 2 of this chapter regarding policy linkages that support access and affordability for low-income students.

State Policy

Although Michigan legislators and other elected officials cannot mandate tuition rates, they can influence the setting of rates through the annual budget appropriation process and through new legislation. In 1995 and again in 2002, the Michigan legislature and Governor took extraordinary steps to protect access and affordability at Michigan's public colleges and universities.

In 1995, the Michigan legislature passed, and the Governor signed into law, a bill that provides tax incentives to students who attend a public institution of higher learning that does not increase tuition and fees by more than the annual average increase in the U.S. consumer price index for the prior tax year (Income Tax Act of 1967, 1967 & Add. 1995, 1996, 1997). Although this amendment to the Income Tax Act of 1967 generated a great deal of controversy, and continues to do so, it did not prevent public, four-year

universities from raising tuition and fees when fiscal exigency required that they do so; e.g., only four of the public universities met the criteria that would allow their students to take advantage of the tax credit in 1995-1996 (Martinez & Nodine, 1997).

In February 2002, Governor Engler negotiated and announced an agreement with the presidents of all 15 public universities guaranteeing that state appropriations would remain at fiscal year 2002 levels for each university that limited tuition increases to 8.5% or $425, whichever was greater; prior to the agreement, cuts in higher education appropriations were anticipated (Shafer, 2002). The agreement language was added to the Higher Education Appropriations Act of 2002 (appropriating funds for the 2003 fiscal year) and states in part: "It is also the intent of the legislature to recognize the need for tuition restraint on the part of Michigan's public universities, in order to maintain access and affordability at Michigan's colleges and universities for students and parents" (Higher Education Appropriations Act 2002, 2002).

University Mission

To determine institutional goals related to access and affordability, university mission and/or vision statement documents were collected and analyzed. Table 16 presents the relevant content of the mission/vision statements for those universities with stated access or affordability goals. Content analysis was conducted for reference to the terms "access", "affordability" or terms and phrases describing similar concepts (e.g., educational opportunity regardless of "economic circumstances" or "financial resources", etc.). Because the mission/vision statements are public documents, analysis and results were reported by institutional name. Three of the four Research-extensive university mission statements included access or affordability as an institutional goal, five of the six

Table 16. Mission/Vision Statement Content Related to Access or Affordability At Michigan's Public Universities

Carnegie Class. University	Mission Statement Content
Research-extensive	
Michigan State University	"...committed to providing equal educational opportunity to all qualified applicants..."
Wayne State University	"...an obligation to develop special avenues that encourage access for promising students from disadvantaged educational backgrounds..."
Western Michigan University	"To provide access to academic programs at reasonable cost..."
Master's I	
Eastern Michigan University	"Opportunity-seeks to attract, serve and accommodate...student body...from a variety of ethnic, social and economic backgrounds..."
	"Affordable- "...committed to ensuring that those individuals who are qualified and who desire to participate are not discouraged from doing so because of financial resources..."
Grand Valley State University	"...GVSU remains committed to its original tenets...access for all qualified citizens of West Michigan and the state."
Northern Michigan University	"While maintaining accessibility and affordability, the University shall also seek, when appropriate, the highest standards of accreditation for its liberal arts and professional programs."
Saginaw Valley State University	"To provide academic and support services that address the educational needs of a diverse student population that varies by...and economic circumstances."
University of Michigan-Dearborn	"We strive to be the institution of choice in southeastern Michigan for individuals and organizations that value accessibility, flexibility, affordability, diversity and preeminence in education."
Master's II	
Ferris State University	"...providing the opportunity for all students to reach their highest potential..."
	"...we are determined to make admission to this institution easy; we are determined to command the attention of backward men and women, we are determined to adapt our institution to their needs..."(Founder's Mission)

Master's I universities included access or affordability as an institutional goal and one of the two Master's II universities included access or affordability as an institutional goal. None of the Research-intensive university mission statements included access or affordability as an institutional goal.

To determine if university access and affordability goals are supported or counteracted by institutional policy, the goals were compared to the survey questionnaire and bi-variate regression findings relating to the existence of coordinated tuition pricing and financial aid funding policy and to the findings related to the allocation of institutional funds to need-based aid. Table 17 summarizes the results of the comparison by Carnegie Classification.

Three of the four Research-extensive universities (75%) have a stated institutional mission or goal related to access or affordability; based on the results of the survey questionnaire and bi-variate regression analysis, it appears that the institutional rhetoric regarding access is supported by coordinated tuition pricing and financial aid funding policy (although not necessarily directly linked policy) for at least two of these universities (50%). That the Research-extensive universities responding to the survey reported the highest average allocation of institutional aid to need-based grant and reported the highest percentage of applicants awarded need-based aid provides further substantiation that access or affordability is an institutional priority at some of the Research-extensive universities.

Although all of the Research-intensive universities reported the existence of coordinated tuition pricing and financial aid funding policy, none of these universities has a stated institutional mission or goal related to access or affordability. Further evidence

Table 17. Summary of Institutional Access/Affordability Goals Compared To Institutional Policy

Goals/Policies	Research-extensive	Research-intensive	Master's I	Master's II
Number of universities with access and/or affordability goals	3 of 4	0 of 3	5 of 6	1 of 2
Number of participating universities reporting that tuition pricing and aid funding policy is related	2 of 2	3 of 3	5 of 5	1 of 2
Number of participating universities reporting that the linkage between tuition revenue and aid funding is "direct"	1 of 2	3 of 3	4 of 5	1 of 2
Number of universities for which the relationship between tuition and aid expenditures was determined to be significant	2 of 4	1 of 3	3 of 6	1 of 2
Number of participating universities ranking assisting the neediest students as the most influential goal of aid programs	2 of 2	1 of 3	3 of 5	2 of 2
Ave. % of aid allocated to need-based grant in 2001 as reported by all 20 survey participants	49%	11%	37%	23%
Number of universities reporting a 50% or more allocation to need-based grant in 2001	1 of 2	0 of 3	2 of 5	0 of 2
Ave. % of applicants awarded need-based aid in 2001 as reported by the nine financial aid officers	62%	19%	35%	18%
Number of universities awarding need-based aid to 50% or more of applicants	2 of 2	0 of 2	2 of 4	0 of 1

that access for low-income students may not be a high institutional priority for Research-intensive universities are the survey responses reporting the lowest average percentage of institutional aid allocated to need-based grant and the responses ranking support of the university's enrollment growth objective and shaping the profile of the

undergraduate class as the most influential goals for institutional financial aid by two of these three universities (67%).

Five of the six Master's I universities (83%) have a stated institutional mission or goal related to access or affordability and based on the results of the survey questionnaire and bi-variate regression analysis, it appears that the institutional rhetoric regarding access is supported by coordinated tuition pricing and financial aid funding policy at some of these universities. Although the Master's I universities responding to the survey reported an average allocation of institutional aid to need-based grant of only 37%, two of the universities participating in the survey reported allocations that exceeded 50% of institutional aid funds and reportedly awarded need-based aid to more than 50% of the aid applicants.

The results of the comparison for the two Master's II universities are divided. Only one of the two universities has a stated institutional mission or goal related to access or affordability and only one of the two reports the existence of coordinated tuition pricing and financial aid funding policy but neither of the universities report an allocation to need-based aid greater than 33% of total institutional aid funding.

Summary

Based on the examination of state mandate it can be said that affordability is of concern to elected officials in Michigan. Prior and current legislation illustrate that lawmakers are concerned about the price of higher education. And a review of university mission statements indicate that some higher education policymakers are concerned about access and affordability; although constitutionally autonomous, nine of the 15 Michigan public universities (60%) identify access and/or affordability as an institutional priority.

Overall, the findings from the comparison of institutional goals to institutional policy indicate that where access and affordability are stated institutional priorities, it is more likely that tuition pricing policy and funding policy for institutional aid are coordinated and to find a sufficient portion of institutional aid allocated to need-based grant to support these institutional priorities.

Of the nine universities identifying access and/or affordability as an institutional priority, eight of the universities are categorized as either Research-extensive or Master's I universities. The survey participants representing universities categorized as Research-extensive and Master's I also reported the highest average allocations of institutional funding to need-based grant; survey participants representing five of these universities reported allocations of 40% or more of institutional aid funding to need-based grant. In contrast, four of the six universities with no stated access or affordability goal, are categorized as Research-intensive or Master's II universities and the survey participants representing these universities reported the lowest average allocations of institutional funding to need-based grant.

The comparison of institutional goals to institutional policy also illuminated cases where the limited percentage of institutional aid allocated to need-based grant may counteract institutional priorities regarding access and/or affordability. For example, five of the six Master's I universities have stated institutional priorities regarding access and/or affordability but two of the five Master's I universities responding to the survey estimated institutional allocations to need-based grant for 2001 at or below 25%.

Section 4: Resource Dependence Theory as a Valid Framework

The intent of this section is to analyze the validity of resource dependence theory

as a framework for studying institutional policymaking. Specifically, the intent is to determine the theory's value in framing this study: determining the extent to which institutional policymakers at Michigan public universities link policy decisions related to tuition pricing and funding for need-based institutional aid and to determine if these policy decisions support institutional goals related to access and affordability. In this context, university policymaking is interpreted as the institutional response to external forces that control needed resources (Pfeffer & Salancik, 1978).

University Revenues

From a resource dependence perspective, it was posited that one finding of this study would be accelerating rates of tuition at Michigan public universities in response to moderating or declining state appropriations. Indeed average revenue from tuition and fees for Michigan's 15 public universities increased by 97% for the time 1989-90 to 1999-2000 while average revenue from state appropriations increased at a slower rate (by 45%) for this same time. Throughout this time period the combined revenue from tuition and fees and state appropriations accounted for approximately 64% of total current fund revenues for Michigan's 15 public universities but the percentage of revenue from tuition and fees increased while the percentage of revenue from state appropriations decreased. On average for the 15 public universities, tuition and fees increased as a percentage of total current fund revenues from 25% in 1989-90 to 30% in 1999-2000 and state appropriations decreased as a percentage of total current fund revenues from 39% in 1989-90 to 34% in 1999-2000. Slaughter and Leslie's (1997) findings also confirm that since the 1980s, the share of university revenues from state appropriations for public

higher education have declined while the share from tuition revenues continues to steadily increase.

Expenditures for Institutional Aid

From a resource dependence perspective, one might also expect to find decreasing expenditures for institutional aid in order to maximize tuition revenues. In fact, however, expenditures for institutional financial aid at Michigan's 15 public universities increased 170% for the time 1989-90 to 1999-2000. This tremendous growth in expenditures for institutional financial aid is not unique to Michigan's public universities and has resulted overall in moderating the growth of net tuition and fee revenues in comparison to gross tuition and fee revenues (McPherson & Schapiro, 1998). Resource dependence theory actually provides a useful framework for understanding this growth in expenditures for institutional financial aid.

Although expenditures for federal, state and local, and private financial aid also increased from 1989-90 to 1999-2000 at Michigan's public universities, the percentage of total financial aid expenditures accounted for by federal aid (excluding loans) declined substantially. On average for the 15 public universities, federal aid decreased as a percentage of total financial aid expenditures from 55% in 1989-90 to 37% in 1999-2000 and institutional aid increased as a percentage of total financial aid expenditures from 27% in 1989-90 to 41% in 1999-2000. The average per university expenditure for federal financial aid increased by only 24%, increasing from approximately $5.6 million in 1989-90 to $7 million in 1999-2000; this slow rate of growth in federal financial aid expenditures occurred at the same time that Michigan public universities increased revenue from tuition and fees by 97%. It is likely that the growth in expenditures for

institutional aid was in part due to the declining purchasing power of federal financial aid; i.e., federal financial aid funding failed to keep pace with tuition prices. Further evidence of this relationship is the finding from this study of a significant, negative association between expenditures for institutional financial aid and expenditures for federal financial aid for some of the Michigan universities. Therefore, university policy decisions to increase funding for institutional financial aid may have been in part a response to external forces; i.e., federal policymakers.

It is also likely that the increasing reliance on student-generated revenue is in part responsible for university decisions to allocate more funds to institutional financial aid programs. The literature indicates that universities are increasingly competing for more and better students by discounting tuition with merit-based scholarships. Slaughter and Leslie (1997) suggested that "marketlike behaviors" such as recruiting efforts necessary to compete for students are an outcome of shrinking unrestricted sources of institutional funding and Redd (2000) concluded from his study that public colleges and universities were actively competing for undergraduate students by selectively discounting tuition with institutional aid dollars.

Attracting more students with institutional aid dollars may also result in a higher appropriation from the state. In 1999, Governor Engler introduced a new financing formula for public universities in Michigan that divides universities into tiers by mission and cost of instruction and "recognizes" a "funding floor" allocation per fiscal-year-equated student; the amount of the funding floor per student is dependent upon the university's tier placement (Higher Education Appropriations Act 2002, 2002; Schmidt,

1999). In theory, then, the more students enrolled, the higher the institution's base appropriation from the state.

Strategic Allocations

Given that university revenues available to fund institutional financial aid programs are limited, one would expect funds to be strategically allocated and from a resource dependence perspective, one would expect those funds to be allocated to merit-based aid programs that spawn additional revenue and perhaps future revenue streams. The review of the literature indicates that colleges and universities are increasingly discounting tuition with merit-based scholarships to attract high-quality students who can enhance the prestige of the university or who meet other university enrollment goals. Because of the effect of family income on high school grade point average and standardized test scores, the common measures of student quality, merit-based scholarships are more likely to be awarded to students from affluent families. The results of this study indicate that the practice of selectively discounting tuition based on merit is common practice at Michigan's public universities. All but three of the universities responding to the survey questionnaire reported a higher institutional investment in merit-based scholarships than in need-based grant. The average percentage of institutional aid funds allocated to merit-based scholarship as estimated by the budget officers responding to the survey was 63%, as estimated by the financial aid officers was 64% and as estimated by all of the survey participants was 64%.

The financial aid officers participating in the survey were also asked to indicate the first, second and third most often utilized criterion for awarding both institutional need-based and merit-based aid. As expected, all of the financial aid officers indicated

that financial need was the most often utilized criterion for awarding need-based aid and residency and high school grade point average were the second most utilized criteria for awarding need based aid; no criterion was listed by the majority of participants as the third most utilized. All but one of the financial aid officers indicated that high school grade point average was the most often utilized criterion for awarding merit-based aid and standardized test score was the second most utilized criterion; talent/skill and ethnicity were the third most utilized criteria for awarding merit-based aid.

Alternative/External Sources of Financial Aid

From a resource dependence perspective, one would expect universities to seek out alternative sources of aid to assist increasing numbers of student aid applicants in meeting the rising cost of education. The *IPEDS* reported data for the time 1989-90 to 1999-2000 shows that private aid expenditures increased by 194% for the 15 Michigan public universities with the average per university expenditure increasing from $1.26 million in 1989-90 to $3.72 million in 1999-2000. Private aid is defined by *IPEDS* as scholarships and fellowships received from private sources such as businesses, foundations, individuals and foreign governments (U.S. Department of Education National Center for Education Statistics, Years 1990 to 2001). On average for the 15 public universities, private aid expenditures increased as a percentage of total financial aid expenditures from 5% in 1989-90 to 9% in 1999-2000. Research-intensive universities experienced the greatest growth in expenditures for private aid at 363% followed by Master's I universities experiencing a 258% increase, Research-extensive universities experiencing a 182% increase and Master's II universities experiencing a 171% increase.

It was also posited that from a resource dependence perspective one would expect to find institutions seeking out external sources of funding to cover growing expenditures for institutional financial aid. In the current study, survey participants were asked to estimate the source of funding for institutional financial aid for the last three fiscal years; the average of the responses for the 18 participants who responded to this question for 2000-2001 was as follows: 76% from general and unrestricted funds, 11% from gifts and endowment income and 13 % from other sources. Table 18 presents the average estimated sources by Carnegie Classification for 2000-2001. There was only a slight

Table 18. Estimated Percent of Institutional Financial Aid by Source of Aid And Carnegie Classification for 2000-2001

Carnegie Classification	General & Unrestricted	Gift & Endowment	Other
Master's I			
Mean	69	6	25
S.D.	36	4	39
N	9	9	9
Master's II			
Mean	91	9	
S.D.	6	6	
N	3	3	
Doctoral/Research-intensive			
Mean	94	6	
S.D.	1	1	
N	3	3	
Doctoral/Research-extensive			
Mean	62	32	6
S.D.	17	19	10
N	3	3	3

upward trend in gift and endowment income as a source and a correspondingly slight downward trend in other sources of aid; the average estimated percentage of institutional

aid from general and unrestricted sources remained at 76% from 1998-99 through 2000-2001.

Figure 5 presents the trends in revenues from all sources for the period 1989-90 to the period 1999-2000. A previous review of the *IPEDS* reported current funds revenue sources confirmed that although revenue from both tuition and fees and state appropriations had increased for Michigan's 15 public universities from 1989-90 to 1999-2000, on average, state appropriations as a percentage of total current funds revenue declined to 34% and tuition and fees increased to 30%. Similarly, revenue from federal,

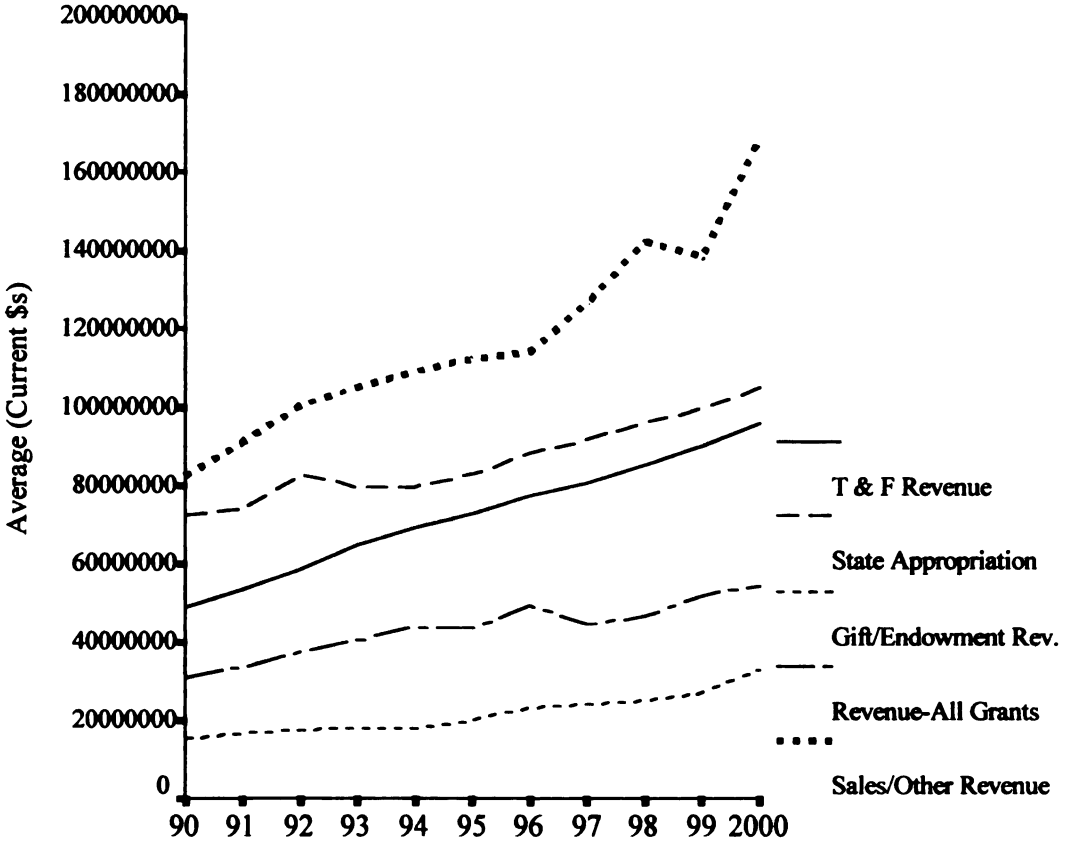

Figure 5. Average Sources of Revenue-15 Michigan Public Universities

Source. Author's calculations from *IPEDS* data.

state and local grants increased by 77%, revenue from gifts and endowment income increased by 116% and revenue from sales and auxiliary services increased by 105% for this same period for Michigan's 15 public universities. On average federal, state and local grants as a percentage of total current funds revenue declined from 10% to 9%, gifts and endowment income as a percentage of total current funds revenue increased from 5% to 6%, and sales and other revenue as a percentage of total current funds revenue declined from 22% to 21% over the same period.

Summary

From this analysis, resource dependence theory is determined to be a valid framework for studying institutional policy decisions related to tuition pricing and funding for need-based institutional aid and the affect of these policies on institutional goals related to access and affordability. According to resource dependence theory, university financial requirements are paramount in explaining policy initiatives and responses (Slaughter & Leslie, 1997). The results of the current review indicate that it is likely that increased allocations of university funding to institutional aid were necessary due to declining federal financial aid funding and moderating revenues from external sources. Similarly, resource dependence theory is determined to be a valid framework for explaining university policies that allocate an increasing share of institutional funds to merit-based scholarship programs given the growing competition for students and the revenue they generate.

The results are inconclusive as to whether resource dependence theory effectively framed university responses to growing expenditures for institutional aid, specifically policy initiatives to seek out alternative and external sources of institutional aid. Private

aid expenditures did increase overall and as a percentage of total financial aid expenditures, however, the amount of private aid expenditures remains relatively low in comparison to expenditures for federal and institutional financial aid. And although *IPEDS* reports a growth in other sources of revenue for the time 1989-90 to 1999-2000, including a 116% increase in gift and endowment income from where funding for scholarships often originates, the percentage of total current funds revenue from this source increased from only 5% to 6% over this period. Similarly, the survey participants reported very little change in the sources of institutional aid for the time 1998-99 to 2000-2001; general and unrestricted sources as an average estimated source of institutional aid remained at 76% over this period.

Summary of Results/Findings

Given the data and trends outlined in the literature review depicting a pattern of low affordability for public higher education in Michigan, it was posited that tuition pricing policy and funding policy for institutional financial aid were not coordinated at the 15 Michigan public universities. The results of this study, however, contradict this hypothesis. The results of the survey questionnaire of budget and financial aid officers and the findings from the bi-variate regression analysis reveal that such policymaking is coordinated at many of the public universities in the state. Nevertheless, the results of the survey also reveal that a growing share of institutional aid has been allocated to merit-based scholarships; at most of the institutions responding to the survey questionnaire, the share of institutional aid allocated to merit-based scholarship exceeds the share allocated to need-based grant.

The results of this study indicate that some of the Michigan public universities

link policy decisions related to funding for need-based institutional aid to tuition pricing to a great extent and these coordinated policies support institutional goals related to access and affordability. It was also determined, however, that other Michigan public universities link funding for need-based institutional aid to tuition pricing to a much lesser extent and these universities were less likely to have stated institutional goals related to access and affordability.

Based on a review of university mission and vision documents, it was discovered that Michigan Research-extensive and Master's I universities were more likely to have stated institutional goals relating to access and affordability. And based on the responses of the survey participants, substantiated by the bi-variate regression analysis, these universities were more likely to support access goals with coordinated policy linking funding for need-based financial aid to tuition pricing and with a relatively healthy investment in need-based grant. Due to the relatively limited allocation of institutional funding to need-based grant reported by the Michigan Research-intensive and Master's II universities participating in the study, it was determined that institutional policy decisions related to funding for need-based grant and tuition pricing were not linked to any great extent.

CHAPTER 5

SUMMARY, CONCLUSIONS AND IMPLICATIONS

This chapter presents a summary of the research study and outlines the conclusions and implications that may be drawn from the study's findings.

Purpose of the Research

Policy analysts have posited that higher education access for low-income students is unlikely to be sustained unless policy related to tuition pricing and financial aid is coordinated (Griswold & Marine, 1996; Hossler et al., 1997). Conventional strategies utilized by both states and institutions to facilitate access for low-income students have included low tuition/low aid and high tuition/high aid coordinated policies. Recent studies indicate that the gap between the college participation rates of low-income and high-income students continues to widen and that the college participation rate of low-income students may actually be on the decline (Advisory Committee on Student Financial Assistance, 2002; Hartle & King, 1997; McPherson & Schapiro, 1998; Mortenson, 1999). These findings suggest that tuition pricing and financial aid policy are no longer coordinated or that the conventional strategies are no longer effective. In an updated analysis of college participation rates, Mortenson (2001a) found that the gap in participation rates between low-income students and high-income students was almost 40 percentage points by the year 2000 with only 35.4% of the students from the lowest income quartile participating while 75.2% of the students from the highest income quartile participated.

Mortenson (2002a) also evaluated the college participation rates, by state, of students who had qualified for free or reduced-price school lunches as fourth to ninth

graders. He found that the average participation rate for all states had peaked at 27.5% in fiscal year 1998 but declined to 23.1% in fiscal year 2001; in Michigan, the college participation rate for these students was 23.3% in fiscal year 2001 (Mortenson, 2002a).

A review of related research studies turned up little evidence that coordinated state policy related to tuition pricing and need-based financial aid actually exists today. Hossler et al. (1997) conducted research that included the study of the extent to which funding for state financial aid programs and the setting of tuition rates at public colleges and universities in all 50 states are linked. The results of their study indicate that little relationship exists between the two areas of policymaking. Similarly, in their study of the differences and similarities in tuition pricing and financial aid policies in all 50 states in the early 1990s, Hearn, Griswold and Marine (1996) discovered that the statistical relationship between average tuition rates at public institutions and per capita need-based aid awards was weak.

Although institutional policymaking related to funding for need-based financial aid and tuition pricing has apparently not been studied, a recent analysis of college costs and prices conducted by the U.S. Department of Education's National Center for Education Statistics (2001) sheds some light on funding for total institutional aid. The study determined that expenditures for total institutional aid increased more than most other expenditures at all types of public higher education institutions and that a significant relationship exists between the change in expenditures for total institutional aid and the change in undergraduate tuition at most public institutions.

Evidence in the literature shows substantial growth in expenditures for institutional aid but evidence also indicates that this funding is increasingly allocated to

merit-based scholarships intended to attract high academic achievers or other special populations to campus rather than to need-based grant (AASCU & NASULGC, 2002; McPherson & Schapiro, 1998; U.S. Department of Education National Center for Education Statistics, 2001). For example, in his analysis of a national research study of financial aid awarding policies, Kenneth Redd (2000) found that four-year public institutions participating in the study reported an increase of 163% in the number of merit scholarship recipients and a growth of 193% in the value of these scholarships from 1988 to 1996.

Based on the review of the literature, it appeared that very little research had been conducted at the university level to determine if policy linkages between the setting of tuition rates and funding for institutional, need-based financial aid programs exist. The purpose of this study, therefore, was to determine the following:

1. To what extent are institutional policy decisions related to funding for need-based financial aid programs and tuition pricing linked at the 15 Michigan public universities?
2. To what extent do these policies support or counteract institutional mission or goals related to access and/or affordability?

Tuition and Financial Aid Trends in Michigan

Recent reports illuminate why a coordinated effort may be necessary to achieve higher education access for low-income students in Michigan. The latest evidence confirms Michigan's status as a high tuition state. Mortenson (2001b) found that, on average, tuition and fees at state flagship universities represented 10.9% of median state household income in fiscal year 2001; in Michigan, this percent equaled 14.6% ranking Michigan fourth highest among all states in the percent of median state household income

required to pay for tuition and fees at its state flagship university. Further, from fiscal year 2001 to 2002, average in-state, undergraduate tuition and fees at all public universities increased 7.1%, from $3,514 to $3,763(AASCU & NASULGC, 2002). At Michigan's public universities, the lower division, tuition and fee rates for in-state, undergraduate students ranged from $3,897 to $6,935 and averaged $4,811 in fiscal year 2002 (Stevens, 2001). The state's investment in need-based aid apparently does not correspond to the relatively high tuition and fee rates charged by Michigan's public universities. Michigan was ranked 31st lowest in the percent of public university tuition and fees paid by state need-based aid (2%) and ranked 46th lowest in the percent of public university tuition and fees paid by federal Pell grants (8.9%) in fiscal year 1997 (Mortenson, 2002b).

Conceptual Framework

Resource dependence theory was utilized to frame this research study. The theory holds that organizations will adapt to the environment in order to obtain resources that are critical to the survival of the organization (Pfeffer & Salancik, 1978). For the purpose of this study, university policymaking was interpreted as the institutional response to external forces that control needed resources. Based on resource dependence theory, accelerating rates of tuition in response to moderating state appropriations, strategic use of institutional financial aid and growing external sources of funding for institutional financial aid programs were expected results.

Research Design

Data for this case study of policymaking at Michigan's 15 public universities were collected from state and university documents, the *IPEDS-Peer Analysis System* and

a survey of the universities' financial aid and budget officers. Nine financial aid officers and 11 budget officers representing at least 12 of the 15 Michigan public universities responded to the survey questionnaire. In addition to a detailed and summary review of the survey results, the data were categorized and analyzed by Carnegie Classification; institutional identities of the survey participants were unknown to the researcher and therefore not reported. The 2000 Carnegie Classification differentiates institutions based on the type and number of degrees awarded by the institution (The Carnegie Foundation for the Advancement of Teaching, 2001). Michigan's public universities are categorized by one of the following classifications: Doctoral/Research Universities-Extensive, Doctoral/Research Universities-Intensive, Master's Colleges and Universities I and Master's Colleges and Universities II.

Content analysis was conducted of Michigan statute and university mission statements for reference to mandates or goals related to access and affordability; because the vision statements are public documents, the results of this analysis were reported by institutional name. Descriptive statistics were used to analyze trends in the financial data collected from the *IPEDS-Peer Analysis System* and bi-variate regression was utilized to analyze the relationship between various financial factors including the relationship between expenditures for institutional financial aid and revenues from tuition and fees. Because IPEDS data are public, the results of the analyses were reported in total, by Carnegie Classification and by institutional name. Frequencies, mean comparisons and CROSS-Tabs were used to analyze the budget and financial aid officer responses to the survey questionnaire.

Results

Revenue, Expenditure and Enrollment Trends

A review of the *IPEDS* reported financial data for the 15 Michigan public universities found that the average growth in expenditures for institutional financial aid outpaced the average growth in revenue from state appropriations and enrollment and even surpassed the average growth in tuition and fees for the time 1989-90 to 1999-2000. The average per university expenditure for institutional financial aid increased by 170% while the average revenue from state appropriations increased by 45%, average enrollment grew by only 4% and average revenue from tuition and fees increased by 97%.

Michigan's Research-intensive universities increased average expenditures for institutional aid the most (220%) while Research-extensive universities reported the highest average expenditure for institutional financial aid in fiscal year 1999-2000 ($24.5 million). Master's I universities increased average revenue from tuition and fees and average revenue from state appropriations the most (127% and 55%, respectively) but Research-extensive universities reported the highest average revenue from both in fiscal year 1999-2000 ($235.9 million and $267.4 million, respectively). Master's I universities reported the highest average increase in student enrollment (12%) while Research-extensive universities reported the highest average enrollment for fiscal year 1999-2000 (35,710). During the period 1989-90 to 1999-2000, the proportion of current fund revenues from state appropriations and tuition and fees at Michigan's public universities shifted with the average proportion for state appropriations declining from 39% to 34% and the average proportion from tuition and fees growing from 25% to 30%.

Coordinated Tuition and Aid Policy

The survey questionnaire asked the fifteen budget officers and fifteen financial aid officers to describe the policy at their university (if any) that links tuition and fee rates and funding for institutional financial aid programs. The survey participants were also asked to describe the linkage between various financial factors and funding for institutional financial aid programs. The survey results indicate that a "very formal relationship" or a "less formal relationship" exists between tuition pricing and funding for institutional financial aid for at least 11 of the 12 universities (92%) responding to the survey. These responses indicate that most of the institutions responding to the survey increase funding for institutional financial aid (proportionately or otherwise) in response to increases in tuition and fee rates. Only one of the Master's II universities indicated that little or no relationship exists between tuition and fee rates and funding for institutional financial aid programs.

The survey results also reveal that while other financial factors are considered when funding institutional financial aid programs, policy decisions related to tuition pricing and funding for institutional financial aid programs are directly linked at a majority of the universities responding to the survey. Survey participants representing 9 of the 12 universities (75%) selected "direct linkage" to describe the relationship between changes in tuition and fee revenue and funding for institutional financial aid. One of each of the Research-extensive, Master's I and Master's II universities responding to the survey indicated that the linkage was "indirect".

The results of the survey show no substantial difference in the responses of the budget officers and financial aid officers. The majority of both the budget officers and the financial aid officers indicated that a relationship exists between tuition and fee rates

and funding for institutional financial aid; a higher percentage of the budget officers than the financial aid officers indicated that the relationship is formal. Majorities of both also report a "direct linkage" between tuition and fee revenue and funding for institutional financial aid.

Bi-variate regression was employed to further analyze the relationship between tuition pricing and funding for institutional financial aid at the 15 Michigan public universities. Specifically, the relationships between the dependent variable (change in institutional financial aid expenditures) and the independent variables (change in tuition and fee revenue, change in state appropriation revenue, change in state financial aid expenditures, change in federal financial aid expenditures, change in tuition and fee rates and change in fall enrollment) were measured. The financial data used in these analyses were downloaded from NCES *IPEDS* for fiscal years 1989-90 to 1999-2000. Analyses were conducted of changes in the 15 Michigan public university averages, changes in the Carnegie Classification averages and changes in the financial factors at each university over time. In addition, a cross-sectional regression analysis was conducted of same year data for all 15 Michigan public universities. The results of the bi-variate regression analysis support the survey results indicating that although other financial factors are significantly related to the change in expenditures for institutional financial aid, the relationship between expenditures for institutional financial aid and revenues from tuition and fees over time is also statistically significant at several of the 15 Michigan public universities. Further, change in tuition and fee revenue was found to be a significant predictor of change in expenditures for institutional financial for the 15 Michigan public universities in 1999-2000.

No significant relationships were found between the dependent and independent variables when analysis was conducted of changes in the overall averages over time. When analysis was conducted of the changes in the averages of each Carnegie Classification over time, a significant positive relationship was found between the change in average institutional financial aid expenditure and change in average tuition and fee revenue for the Doctoral/Research-intensive universities and the Master's I universities. Similarly, a significant negative relationship was found between the change in average institutional financial aid expenditure and change in average state financial aid expenditure over time for the same university categories. Further, a significant negative relationship was found between the change in average institutional financial aid expenditure and change in average federal financial aid expenditure over time for the Master's II universities.

A series of scatter plots and bi-variate regression analyses were run to observe and measure the relationship between change in actual expenditures for institutional financial aid and change in actual revenue from tuition and fees for each university for the period 1989-90 to 1999-2000. A significant positive relationship was found for only one of Michigan's 15 public universities (Michigan Technological University). However, when the outliers identified through the scatter plot analyses were removed from the data for each university, significant relationships between financial aid expenditures and tuition and fee revenues over time were identified for six additional universities: Michigan State University, Wayne State University, Grand Valley State University, Northern Michigan University, Saginaw Valley State University and Ferris State University. Statistically significant relationships were also found between change

in actual expenditures for institutional financial aid and change in expenditures for state financial aid, change in expenditures for federal financial aid and change in tuition and fee rates over time for several universities.

These findings reveal that institutional linkages exist between financial aid funding policy and tuition pricing policy at many of Michigan's public universities but do not specifically respond to the research question regarding the extent to which institutional financial aid is invested in need-based programs. To answer this question, the survey participants were asked to describe the underlying goals of their institutional aid programs and to estimate the percentages of institutional aid allocated to various programs.

Participants representing 8 of the 12 universities (67%) responding to the survey reported that the most influential goal for institutional financial aid at their university was to provide financial assistance to the neediest students. Three of the 12 universities (25%) represented in the survey (one Research-intensive and two Master's I universities) selected supporting the university's enrollment growth objective as the most influential goal and 1 of the 12 universities (8%) represented (Research-intensive university) selected shaping the profile of the undergraduate class as the most influential goal. Although the majority of the survey participants identified providing financial assistance to the neediest students as the most influential goal, their average estimated percentage of institutional aid dollars allocated to need-based grant was only 30%. The average percentage of institutional financial aid allocated to merit-based scholarship, loan and other aid in fiscal year 2000-01 as estimated by the survey participants was as follows: 64% to merit-based scholarship, 5% to loan and 1% to other funds. The results of this

survey item show a downward trend in the average estimated allocation to need-based grant over the last three fiscal years for all survey participants and a corresponding upward trend in the average estimated allocation to merit-based scholarship. The financial aid officers participating in the survey estimated a higher average allocation of institutional aid to need-based grant (34%) than the budget officers participating in the survey (26%).

There also appeared to be differences in the allocations of institutional aid dollars by Carnegie Classification category. The average response for the estimated allocation to need-based grant was highest for Research-extensive universities at 49% to need-based grant, 34% to merit-based scholarship, 13% to loan and 4% to other aid, and lowest for Research-intensive universities at 11% to need-based grant, 88% to merit-based scholarship and 1% to loans. The average response for Master's I survey participants was 37% to need-based grant, 56% to merit-based scholarship, 6% to loan and 2% to other aid and the average response for Master's II survey participants was 23% to need-based grant, 77% to merit-based scholarship and no institutional aid allocated to loans or other categories. A similar difference by Carnegie Classification was found when the financial aid officers participating in the survey were asked to estimate the percentage of applicants who were awarded institutional need-based grant for fiscal year 2000-01. The average response for Research-extensive universities was 62%, for Research-intensive universities was 19%, for Master's I universities was 35% and for Master's II universities was 18%.

All of the survey participants indicated that their institution had experienced an increase in the number of students applying for financial aid in one or more of the last

three years. Further, 67% of the financial aid officers and 64% of the budget officers also indicated that the average need-based award remained the same or declined during this same period.

Support for Institutional Mission

To answer the second research question regarding the extent to which institutional policies linking funding for need-based aid and tuition pricing support or counteract institutional mission or goals related to access and/or affordability, state and institutional mission and goal statements were reviewed and compared to the findings of policy linkages supporting access for low-income students. Based on the examination of prior and current legislation, it was apparent that Michigan lawmakers are concerned about the price of higher education and its impact on access. For example, the most recent higher education appropriations act includes language that limits tuition and fee increases. A review of university mission statements indicated that many higher education policymakers are also concerned about access and affordability; nine of the 15 Michigan public universities (60%) identify access and/or affordability as an institutional priority in published mission, vision or goal statements. Once again, differences were noted among Carnegie Classification categories.

Three of the four Research-extensive (75%) and five of the six Master's I universities (83%) have stated institutional missions or goals related to access or affordability that are supported by coordinated financial aid and tuition pricing policy. Survey participants representing the Research-extensive universities reported the highest average allocation of institutional aid to need-based grant and reported the highest percentage of applicants awarded need-based aid. Although the Master's I universities

responding to the survey reported an average allocation of institutional aid to need-based grant of only 37%, two of the universities participating in the survey reported allocations that exceeded 50% of institutional aid dollars and awarded need-based aid to more than 50% of aid applicants. All of the Research-intensive universities reported the existence of coordinated financial aid and tuition pricing policy but none of these universities has a stated institutional mission or goal related to access or affordability. The Research-intensive universities reported the lowest average percentage of institutional aid allocated to need-based grant and one of the three universities ranked support of the university's enrollment growth objective and one ranked shaping the profile of the undergraduate class as the most influential goals for institutional financial aid. Only one of the two Master's II universities has a stated institutional mission or goal related to access or affordability and only one of the two reported the existence of coordinated financial aid and tuition pricing policy but neither of the universities reported an allocation to need-based grant exceeding 33% of total institutional aid dollars.

Resource Dependence Theory

Resource dependence theory was determined to be a valid framework for studying institutional policy decisions related to tuition pricing and funding for need-based institutional aid and the affect of these policies on institutional goals related to access and affordability. Based on this study, it seems likely that the growing investment in institutional aid programs by Michigan's public universities was, in part, a response to moderating funding from state and federal sources. Resource dependence theory was also determined to provide a useful framework for understanding that the growing competition in Michigan for high-quality students and the revenue they generate explains,

in part, the institutional need to allocate an increasing share of institutional aid dollars to merit-based scholarship programs. There was little evidence to indicate, however, that alternative or external sources of funding for institutional aid have been identified as would be suggested by the theory. It may be that other economic factors are affecting the availability of these sources or that any substantial growth in external and/or alternative sources of institutional aid will require additional time to develop.

Conclusions

The four conclusions drawn from the results of this research study are outlined and discussed below.

1. Michigan universities link policies related to total funding for institutional financial aid and tuition pricing.

The literature reviewed in this study confirmed Michigan's status as a high tuition state and a cursory review of the research results suggests that policy linkages are in place to support access for low-income students by means of a high tuition/high aid strategy. The study found that many of Michigan's public universities coordinate institutional policy related to funding for institutional financial aid and tuition pricing. Most of the institutions participating in the survey indicated that it is their policy to increase funding for institutional financial aid (proportionately or otherwise) in response to increases in tuition and fee rates. The results of the survey also revealed that while other financial factors are considered when funding institutional financial aid programs, the majority of the institutions participating directly link changes in tuition and fee revenue to changes in funding for institutional financial aid. The results of the bi-variate regression analysis supported these survey findings as statistically significant relationships between change in the expenditures for institutional financial aid and

change in revenue from tuition and fees were found in the data for several of Michigan's public universities.

2. An increasing share of institutional aid funding is allocated to merit-based scholarship and a declining share is allocated to need-based grant.

In a recently released update to an earlier assessment of higher education performance in the 50 states, Michigan's grade for affordability dropped from a 'C' rating in 2000 to a 'D+' in 2002 (National Center for Public Policy and Higher Education, 2002b). Among other findings, the report concludes that Michigan allocates very little to need-based financial aid and that a higher percentage of the incomes of financially needy families is required to pay for even the lowest-priced, Michigan higher education options in comparison to many other states. Likewise, this study of institutional policy revealed that many of Michigan's public universities allocate very little of their institutional aid dollars to need-based financial aid. The average of the estimated allocations of institutional aid dollars to need-based grant as reported by all 20 survey participants was 30%, as reported by the 11 budget officers participating in the survey was 26%, and as reported by the 9 financial aid officers participating in the survey was 34%. Hossler et al. (1997) concluded from their study that although high tuition was a consequence of recent state policies, the corresponding high investment in need-based financial aid had been forgotten; it appears that institutional policymakers in Michigan are unaware of or have also ignored the other part of the high tuition/high aid model.

The results of this study of institutional policy at Michigan's public universities revealed that allocations of institutional aid, as estimated by the 20 survey participants, were 30% to need-based grant, 64% to merit-based scholarship, 5% to loan and 1% to other programs. These findings are comparable to those from a recently conducted

national study of financial aid policies, practices and procedures. Kenneth Redd (2002) discovered that, on average, public, four-year universities distributed 35% of institutional grants based on financial need and 65% of institutional grants based on non-need based criteria in the 1999-2000 academic year. Comparability of institutional allocations to need-based aid is not, however, an indication that allocations are sufficient. In fact, the relatively low allocations to need-based financial aid at the federal, state and institutional levels have contributed to the low college participation rates of financially needy students. Evidence from this study also indicates that recent institutional policy decisions at many of Michigan's public universities are unlikely to improve access for low-income students as survey results reveal a trend of declining allocations to need-based grant and an average need-based grant award that has remained the same or declined in one of the last three fiscal years. This is of particular concern for low-income students given the rising cost of attendance at Michigan's public universities for this same period.

Majorities of both the budget officers and financial aid officers responding to the survey reported that the most influential goal for institutional financial aid at their university was to provide financial assistance to needy students but the relatively low average allocation of institutional aid dollars to need-based grant (30%) appears to contradict this response. It may be that the underlying goal for financial aid programs at many of Michigan's public universities is to assist in removing the financial barriers that prevent low-income students from attending but fiscal exigency has forced institutions to add merit-based scholarship programs to enhance their recruiting of more and better students. As reported earlier in this study, Slaughter and Leslie (1997) suggest that

"marketlike behaviors" such as recruiting efforts necessary to compete for students are an outcome of shrinking unrestricted sources of funding.

One common justification for adding a new merit-based scholarship program is that it is financial aid that would not otherwise exist and some portion of the aid will assist low-income students who qualify for the award. From this perspective, a relatively high institutional investment in merit-based scholarship does not necessarily conflict with an institutional goal to assist financially needy students. At a recent conference regarding state-based merit scholarship programs, several policy analysts indicated that it was incorrect to assume that funding for state-based merit scholarships had been diverted from programs otherwise available to assist financially needy students as state lawmakers had invested limited funding in such programs previously (Selingo, 2002). Further, the analysts claimed that some portion of low-income students (those qualifying for the scholarship) were better off than they would have been had the state scholarship program not been introduced (Selingo, 2002). If this is so, then growth in funding for merit-based scholarships may facilitate access for at least a segment of low-income students. To assess the validity of these claims and their relevancy to Michigan's experience, research should be conducted of the numbers and characteristics of low-income students qualifying for merit-based scholarships at Michigan's public universities. Further, future research should include a comparison of the numbers and characteristics of scholarship-qualifying, low-income students who do and do not persist to graduation. Identifying the similarities in the characteristics of low-income students who are qualifying for merit-based scholarships and persisting to graduation presents an opportunity to strengthen

funding for and the development of programs and services that will support access and the success of low-income students.

3. The extent to which Michigan universities link funding for need-based aid and tuition pricing policies may be related to institutional type.

The results of this study revealed differences among Carnegie Classification categories in the percentage of institutional aid dollars allocated to need-based grant and the percentage of aid applicants awarded need-based grant. Relative to the Research-intensive and Master's II universities represented in the survey, the Research-extensive and Master's I universities reported allocating a higher share of institutional aid to need-based grant (49% average and 37% average, respectively). The Research-extensive and Master's I universities represented in the survey also reported awarding institutional need-based grant to a higher percentage of aid applicants (62% average and 35% average, respectively).

Evidence also indicates that two of the three universities categorized as Research-intensive are admittedly engaged in selectively discounting tuition in order to attract more and higher quality students. This finding suggests that competition for students and/or resource dependence may be particularly acute for universities categorized as Research-intensive. Survey participants representing these universities indicated that the most influential goal for institutional financial aid was something other than providing financial assistance to the neediest students. One of the three Research-intensive universities listed supporting the university's enrollment growth objective and another listed shaping the profile of the undergraduate class as the most influential goals for institutional financial aid. Further, the average tuition discount (average expenditures for institutional aid as a percent of average revenue from tuition and fees) of 14% for

Research-intensive universities was higher than the 10% discount rate calculated for all other categories indicating that one or more of the Research-intensive universities is discounting tuition at a higher rate than most other Michigan public universities.

Two of the Research-intensive universities did report tuition and fee rates ($4,440 and $4,247) that were below the average for Michigan's public universities ($4,811) in fiscal year 2001-02. It is unlikely that these institutions are relying on a low tuition/low aid strategy to reduce financial barriers for low-income students as their tuition and fee rates remain well above the national average ($3,763) and require a higher share of family income to cover in comparison to other states (AASCU & NASULGC, 2002; National Center for Public Policy and Higher Education, 2002b).

4. Institutional policies related to need-based financial aid support stated goals related to access and affordability.

Although there is no evidence of cause and effect, there does appear to be a relationship between an institution's goals related to access and affordability and the institution's share of funds allocated to need-based grant. Three of the four Research-extensive and five of the six Master's I universities have stated missions or goals related to access and affordability and universities in these categories reported allocating a relatively higher share of institutional aid to need-based grant. None of the Research-intensive universities publishes formal statements regarding access and affordability and access goals are included in the mission statement of only one of the Master's II universities.

Implications

The results of this study indicate that many of the public universities in Michigan are actively competing for high-quality students by selectively discounting tuition prices

with merit-based scholarships. In Michigan, the authority to set differential prices for students based on academic merit or some other criteria rests with each university's board of control. As was noted earlier in this study, universities in Michigan enjoy constitutional autonomy. Instead of a statewide board or commission authorized to control public university tuition pricing, separate, elected or appointed boards have responsibility for setting tuition pricing policy at their respective institutions. This governance structure purportedly relies on competition to control prices (Martinez and Nodine, 1997).

The relatively high allocation to merit-based scholarship reported by some of the survey participants suggests that social equality as an influential goal for institutional financial aid programs has been forsaken. Instead, these universities are investing institutional aid dollars in merit-based scholarship programs designed to attract high-quality students or to meet other enrollment objectives. To attract high-quality students, less prestigious universities must offer higher tuition discounts than institutions that are more prestigious; this likely explains why Michigan's Research-intensive universities allocate a greater share of institutional aid funding to merit-based scholarships than do the Research-extensive universities.

Maintaining or reducing the federal, state and institutional investment in need-based aid at a time when tuition prices are on the rise effectively reduces low-income student access to a four-year degree and sustains the gap between the "haves" and the "have-nots". As was previously reported, the annual earnings of a college graduate are estimated to be 80% higher than that of a high school graduate in 2002 (College Entrance Examination Board, 2002a). To the extent that financial barriers prevent low-income

students from participating in higher education and from earning a four-year degree, their opportunity for higher earnings is reduced and social inequality is perpetuated.

There is no direct evidence to indicate that institutional funding has been diverted from need-based grant to fund merit-based scholarship programs at Michigan's public universities. Evidence does indicate, however, that students from affluent families are more likely to qualify for merit-based scholarships suggesting that scarce institutional resources are awarded to students who could likely afford college without the award (Mortenson, 1997, 1999). McPherson and Schapiro (1998) posit that active bidding among competitors for high-quality students likely results in colleges enrolling the same students they would have enrolled without discounting the price and without forfeiting scarce revenue. The loss of revenue is particularly egregious when one considers the social good that could be accomplished or the academic programs that could be enhanced (and that bear directly on the quality and reputation of the university) with these resources.

To date, data regarding the dollar and percentage allocations to institutional need-based and merit-based aid programs have been largely unavailable (College Entrance Examination Board, 2002b; Mortenson, 1999). The survey results from this study disclose the financial aid funding and tuition pricing policies of Michigan's public universities overall and by Carnegie Classification while protecting the names of institutional participants. The data presented could be useful to institutional administrators who benchmark university policies and procedures by state or by Carnegie Classification.

Through professional associations and colloquiums, financial aid administrators have called upon federal, state and institutional policymakers to recommit to need-based aid principles and have called upon one other to fully disclose institutional financial aid funding and pricing policies to the public (College Entrance Examination Board, 1997). Intense competition for high-quality students and arcane pricing strategies have not only threatened access for low-income students but have also threatened the historically collaborative nature of financial aid administration. The data reported in this study could be the first step toward disclosing the policies in place at Michigan universities to the "light of day" so that they might be understood and evaluated by our many constituencies. The evidence presented in this study could also be useful to Michigan's financial aid associations and individual aid administrators as they solicit additional institutional and state support for need-based aid programs. Further, the results of this research could prove useful to policymakers who are evaluating factors in Michigan, including institutional policy, that support or counteract higher education access and affordability.

Additional research should be conducted of the numbers and characteristics of low-income students qualifying for institutional merit-based scholarships before state and institutional policymakers console themselves with the belief that merit aid has facilitated access for low-income students to any great extent. Not only is the number of high school graduates expected to grow over the next decade but an increasing share of these graduates are expected to be from low-income families (Advisory Committee on Student Financial Assistance, 2002). Given the benefits of a college education that accrue to the individual and to society and the positive economic consequences of both, it will be

imperative for public universities in Michigan and elsewhere to be prepared with models and strategies that adequately facilitate access and maintain affordability for low-income students.

APPENDICES

APPENDIX A

Financial Aid Officer Survey Questionnaire

1. From among the options described below, what are the underlying goals for institutional financial aid at your university. *Please rank the three most influential goals by assigning a 1 to the most influential, a 2 to the second most influential and a 3 to the third most influential:*

_____To provide financial assistance to the neediest students.

_____To support the enrollment growth objective of the university.

_____To shape the profile of the undergraduate class in terms of academic standing, diversity, academic interest, talent, residency, or other desired characteristic.

_____To shape the profile of the graduate class in terms of academic standing, diversity, academic interest, talent, residency, or other desired characteristic.

_____Other. (Please briefly describe) _____

2. Please ***estimate*** the source of funding for institutional financial aid (excluding university employment) by listing the percentage of total funds that were allocated from the following sources in the last three fiscal years.

2000-2001	____% General and Unrestricted funds	_____% Gifts and Endowment Income	____% Other
1999-2000	____% General and Unrestricted funds	_____% Gifts and Endowment Income	____% Other
1998-1999	____% General and Unrestricted funds	_____% Gifts and Endowment Income	____% Other

3. Please ***estimate*** the distribution of funding to institutional financial aid by listing the percentage of total funds that were allocated to the following programs in the last three fiscal years. (Gift assistance that is awarded, in part or in whole, on the basis of financial need should be counted in the need-based grant category; exclude university employment.)

2000-2001	____% Need-based grant funds	____% Merit-based scholarship funds	____% Loan funds	____% Other
1999-2000	____% Need-based grant funds	____% Merit-based scholarship funds	____% Loan funds	____% Other
1998-1999	____% Need-based grant funds	____% Merit-based scholarship funds	____% Loan funds	____% Other

4. Please indicate the extent to which the following financial factors are taken into account in determining the level of funding for institutional financial aid programs. *By placing a check mark (√) in the selected box for each factor, indicate whether there is a direct linkage ("indexing") between the factor and funding levels for institutional financial aid programs; an indirect relationship in which the factor is generally taken into consideration; or the factor is not taken into consideration.*

Factor	Direct Linkage Financial Aid $	Indirect Linkage Financial Aid $	No Linkage Financial Aid $
A. Increase/decrease in state appropriation revenue			
B. Increase/decrease in tuition & fee revenue			
C. Increase/decrease in funding for state financial aid programs			
D. Increase/decrease in funding for federal financial aid programs			
E. Other (please briefly describe)			

5. From among the options listed below, what are the criteria utilized for awarding institutional *need-based* financial aid to undergraduate students at your university? *Please rank the three criteria most often utilized by assigning a 1 to the most utilized, a 2 to the second most utilized and a 3 to the third most utilized:*

_____financial need
_____first generation
_____high school grade point average
_____standardized test score
_____high school class rank
_____membership in honors organization
_____undergraduate grade point average
_____ethnicity
_____residency (regional or national)
_____alumni parents
_____academic interest
_____talent/skill
_____other (please list)_____

6. From among the options listed below, what are the criteria utilized for awarding institutional *merit-based* financial aid to undergraduate students at your university? *Please rank the three criteria most often utilized by assigning a 1 to the most utilized, a 2 to the second most utilized and a 3 to the third most utilized:*

_____financial need
_____first generation
_____high school grade point average
_____standardized test score
_____high school class rank
_____membership in honors organization
_____undergraduate grade point average
_____ethnicity
_____residency (regional or national)
_____alumni parents
_____academic interest
_____talent/skill
_____other (please list)_____

7. Which of the following statements is the most similar to policies at your university regarding the relationship between tuition and fee rates and funding for institutional financial aid programs? *Please check the most similar statement:*

_____ A very **formal relationship** exists, funding for institutional financial aid is increased in direct proportion to increases in tuition and fee rates.

_____ A **less formal relationship** exists, funding for institutional financial aid is increased but not in direct proportion to increases in tuition and fee rates.

_____ There is **little or no relationship** between funding for institutional financial aid and tuition and fee rates.

8. Are there any discussions or plans at your university to change the relationship between tuition and fee rates and funding for institutional financial aid programs?

_____No

_____Yes...*please check the statement that best describes the planned change*:

_____ A very **formal relationship** is planned, funding for institutional financial aid will be increased in direct proportion to increases in tuition and fee rates.

_____ A **less formal relationship** is planned, funding for institutional financial aid will be increased but not in direct proportion to increases in tuition and fee rates.

_____ There will be **little or no relationship** between funding for institutional financial aid and tuition and fee rates in the future.

9. My university formally evaluates the effectiveness of institutional financial aid programs. *Please check one*:

_____Yes

_____No

10. The number of students enrolled at my university who file the Free Application for Federal Student Aid (FAFSA) has increased in one or more of the past three years (2000-2001, 1999-2000,1998-1999).

_____Yes

_____No

11. Please indicate the percentage of applicants (from question #10) who were awarded institutional need-based grant for each year listed below.

2000-2001 _____% 1999-2000_____% 1998-1999_____%

12. Please respond to this final question if the number of students filing the FAFSA has increased during any of the past three years.

Generally, how has your university responded to increases in the number of applicants for need-based financial aid? *Please check the statement that most closely approximates the response at your university*:

_____The university has increased funding for institutional need-based aid so that the average award has **increased**.

_____The university has increased funding for institutional need-based aid so that the average award has **remained the same**.

_____The university has increased funding for institutional need-based aid but not enough to keep up with student demand resulting in a **decline** in the average award.

_____The university has not been able to increase funding for institutional need-based aid resulting in a **decline** in the average award.

_____Because of competing demands for institutional funding and/or declining resources, the university has had to reduce funding for institutional need-based aid resulting in a **decline** in the average award.

_____Other. (Please briefly explain.) _____

Other Comments:

Thank you for your participation.
Please complete this survey by June 15, 2002 and return it in the enclosed envelope to:
Terry Viau
1865 Beech Street
Mt. Pleasant, MI 48858

I-3

APPENDIX B

Budget Officer Survey Questionnaire

FINANCIAL AID POLICY SURVEY

1. From among the options described below, what are the underlying goals for institutional financial aid at your university? *Please rank the three most influential goals by assigning a 1 to the most influential, a 2 to the second most influential and a 3 to the third most influential:*

   _____To provide financial assistance to the neediest students.

   _____To support the enrollment growth objective of the university.

   _____To shape the profile of the undergraduate class in terms of academic standing, diversity, academic interest, talent, residency, or other desired characteristic.

   _____To shape the profile of the graduate class in terms of academic standing, diversity, academic interest, talent, residency, or other desired characteristic.

   _____Other. (Please briefly describe) _____

2. Please ***estimate*** the source of funding for institutional financial aid (excluding university employment) by listing the percentage of total funds that were allocated from the following sources in the last three fiscal years.

   2000-2001 ____% General and Unrestricted funds _____% Gifts and Endowment Income ____% Other

   1999-2000 ____% General and Unrestricted funds _____% Gifts and Endowment Income ____% Other

   1998-1999 ____% General and Unrestricted funds _____% Gifts and Endowment Income ____% Other

3. Please ***estimate*** the distribution of funding to institutional financial aid by listing the percentage of total funds that were allocated to the following programs in the last three fiscal years. (Gift assistance that is awarded, in part or in whole, on the basis of financial need should be counted in the need-based grant category; exclude university employment.)

   2000-2001 ____% Need-based grant funds ____% Merit-based scholarship funds ____% Loan funds ____% Other

   1999-2000 ____% Need-based grant funds ____% Merit-based scholarship funds ____% Loan funds ____% Other

   1998-1999 ____% Need-based grant funds ____% Merit-based scholarship funds ____% Loan funds ____% Other

4. Please indicate the extent to which the following financial factors are taken into account in determining the level of funding for institutional financial aid programs. *By placing a check mark (√) in the selected box for each factor, indicate whether there is a direct linkage ("indexing") between the factor and funding levels for institutional financial aid programs; an indirect relationship in which the factor is generally taken into consideration; or the factor is not taken into consideration.*

Factor	Direct Linkage Financial Aid $	Indirect Linkage Financial Aid $	No Linkage Financial Aid $
A. Increase/decrease in state appropriation revenue			
B. Increase/decrease in tuition & fee revenue			
C. Increase/decrease in funding for state financial aid programs			
D. Increase/decrease in funding for federal financial aid programs			
E. Other (please briefly describe)			

5. Which of the following statements is the most similar to policies at your university regarding the relationship between tuition and fee rates and funding for institutional financial aid programs? *Please check the most similar statement:*

_____ **A very formal relationship** exists, funding for institutional financial aid is increased in direct proportion to increases in tuition and fee rates.

_____ **A less formal relationship** exists, funding for institutional financial aid is increased but not in direct proportion to increases in tuition and fee rates.

_____ There is **little or no relationship** between funding for institutional financial aid and tuition and fee rates.

6. Are there any discussions or plans at your university to change the relationship between tuition and fee rates and funding for institutional financial aid programs?

_____No

_____Yes...*please check the statement that best describes the planned change*:

_____ **A very formal relationship** is planned, funding for institutional financial aid will be increased in direct proportion to increases in tuition and fee rates.

_____ **A less formal relationship** is planned, funding for institutional financial aid will be increased but not in direct proportion to increases in tuition and fee rates.

_____ There will be **little or no relationship** between funding for institutional financial aid and tuition and fee rates in the future.

7. My university formally evaluates the effectiveness of institutional financial aid programs. *Please check one*:

_____Yes

_____No

8. Please respond to this final question if the number of students applying for financial aid has increased during any of the past three years. Generally, how has your university responded to increases in the number of applicants for need-based financial aid? *Please check the statement that most closely approximates the response at your university*:

_____The university has increased funding for institutional need-based aid so that the average award has **increased**.

_____The university has increased funding for institutional need-based aid so that the average award has **remained the same**.

_____The university has increased funding for institutional need-based aid but not enough to keep up with student demand resulting in a **decline** in the average award.

_____The university has not been able to increase funding for institutional need-based aid resulting in a **decline** in the average award.

_____Because of competing demands for institutional funding and/or declining resources, the university has had to reduce funding for institutional need-based aid resulting in a **decline** in the average award.

_____Other. (Please briefly explain.) _____

Other Comments:

Thank you for your participation.
Please complete this survey by June 15, 2002 and return it in the enclosed envelope to:
Terry Viau
1865 Beech Street
Mt. Pleasant, MI 48858

APPENDIX C

Survey Questionnaire Cover Letter

May 16, 2002

Name
Title
Address 1
Address 2
City, State Zip

Dear :

Although studies have been conducted of financial aid and tuition pricing policy at the national and state levels, few studies have been conducted of these policies at the institutional level. This survey seeks data on the linkages between financial aid and tuition pricing policies at the 15 public universities in the state of Michigan and will provide much of the research data required to complete my doctoral dissertation at Michigan State University. Although you will not be asked to disclose your identity nor the identity of the university you represent, the survey instruments have been coded by Carnegie Classification.

The survey is being forwarded to the administrators responsible for financial aid and for budgeting at each of the 15 public universities in the state of Michigan. If you are not the correct person to complete this survey, please forward it to the individual at your institution who is responsible for financial aid {budgeting}. Your privacy will be protected to the maximum extent allowable by law. However, if you find any question objectionable or if the response is unknown to you, please leave the response blank and complete the remainder of the survey. You indicate your voluntary agreement to participate in this study by completing and returning the survey. Although accuracy is appreciated, please do not spend an unwarranted amount of time providing exact numbers; educated estimates are sufficient.

A summary report of key findings will be forwarded to you at the conclusion of this study. I hope you will find the results to be both interesting and useful. If you have any questions about this study, please contact the responsible project investigator (Dr. Marilyn Amey, 427 Erickson Hall, MSU, East Lansing, MI 48824, 517-432-1056, amey@msu.edu). If you have questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact – anonymously, if you wish – Ashir Kumar, M.D., Chair of the University Committee on Research Involving Human Subjects (UCRIHS) by phone: (517) 355-2180, fax: (517) 432-4503, e-mail: ucrihs@msu.edu, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

Please complete your survey as soon as possible but before June 15, 2002 and return it in the pre-addressed, postage paid envelope enclosed. I appreciate your assistance and participation.

Sincerely,

Terry Brennan Viau
Student/Financial Aid Administrator
1865 Beech Street
Mt. Pleasant, MI 48858
Telephone #: 989-289-1208

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