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Access to higher education: A study of state-level changes in access from 1969 to 1979 to 1989

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The Ohio State University, 1991
ACCESS TO HIGHER EDUCATION:
A STUDY OF STATE-LEVEL CHANGES IN ACCESS
FROM 1969 TO 1979 TO 1989

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
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The Ohio State University
1991

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To My Best Friend, Michael
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Field of Study

Major Field: Education
<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td></td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Access to Higher Education</td>
<td>1</td>
</tr>
<tr>
<td>Excellence</td>
<td>3</td>
</tr>
<tr>
<td>State Governments</td>
<td>4</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>6</td>
</tr>
<tr>
<td>Research Questions</td>
<td>8</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>8</td>
</tr>
<tr>
<td>Scope and Limitations</td>
<td>9</td>
</tr>
<tr>
<td>Significance of the Study</td>
<td>9</td>
</tr>
<tr>
<td>II</td>
<td></td>
</tr>
<tr>
<td>REVIEW OF THE LITERATURE</td>
<td>11</td>
</tr>
<tr>
<td>Access</td>
<td>11</td>
</tr>
<tr>
<td>Price of Tuition</td>
<td>20</td>
</tr>
<tr>
<td>Selectivity</td>
<td>24</td>
</tr>
<tr>
<td>Geographic Access</td>
<td>26</td>
</tr>
<tr>
<td>Excellence</td>
<td>27</td>
</tr>
<tr>
<td>State Government</td>
<td>32</td>
</tr>
<tr>
<td>III</td>
<td></td>
</tr>
<tr>
<td>RESEARCH DESIGN AND METHODOLOGY</td>
<td>40</td>
</tr>
<tr>
<td>Variables</td>
<td>41</td>
</tr>
<tr>
<td>Sampling</td>
<td>42</td>
</tr>
<tr>
<td>Quantitative Methodology</td>
<td>42</td>
</tr>
<tr>
<td>The Qualitative Analysis</td>
<td>49</td>
</tr>
<tr>
<td>Triangulation of the Two Methods</td>
<td>52</td>
</tr>
</tbody>
</table>
LIST OF TABLES

TABLE                                  PAGE
1. Ranking Scale for Selectivity        44
2. Ranking Scale for Tuition            45
3. Ranking Scale for Institution Accessibility 46
4. Geographic Access of Institutions 47
5. The Number of Institutions with Accessible Admissions Standard 57
6. U.S. Median Compared to State Median Family Income 58
7. The Number of Institutions with Accessible Tuition Based on U.S. Median Family Income 59
8. The Number of Institutions with Accessible Tuition Based on State Median Family Income 60
9. Number of Institutions that are Accessible 61
10. Summary of Changes in Ohio's Policies 95
11. Summary of Changes in Massachusetts' Policies 122
12. Summary of Changes in South Dakota's Policies 143
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>64</td>
</tr>
<tr>
<td>2</td>
<td>64</td>
</tr>
<tr>
<td>3</td>
<td>65</td>
</tr>
<tr>
<td>4</td>
<td>66</td>
</tr>
</tbody>
</table>

1. Ohio Selectivity and Tuition
2. Massachusetts Selectivity and Tuition
3. South Dakota Selectivity and Tuition
4. Accessibility of Public Institutions
CHAPTER I
INTRODUCTION

Opportunities for post-secondary education are more available in the United States than in any other system in the world (Astin, 1985). However, the availability of higher education fluctuates as institutions continue to try to provide access and pursue traditional concepts of academic excellence. The assumptions behind traditional concepts of excellence conflict with the values of providing greater access to higher education (Birnbaum, 1988). As a result, higher educational policies have fluctuated as institutions oscillate between the goals of providing access and maintaining these concepts of academic excellence.

Access to Higher Education

Providing access to higher education is a complex issue that should be analyzed from multiple perspectives: the individual applicant, the institution, and the public (Threscher, 1966). Extensive literature exists on how applicants choose colleges (Willingham, 1970). Most of the professional literature on issues of access is written from an institutional perspective, focusing on admissions policies and procedures. Limited research examines the issues of access from the state's perspective (Threscher, 1966). Threscher (1966) claims when access to higher education is examined from the state's perspective, the issues and problems of access become magnified as the interest of a particular college runs counter to that of an individual, another college, or the public's interest.
Both increases in admissions standards and tuition have been found to have a
negative impact on the availability of higher education at the state level
(Willingham, 1970; Ferrin, 1971). Statewide studies have focused on the issues of
admissions standards and cost of higher education. These studies document changes
in admissions standards and increases in higher education cost, but these studies
have not addressed the question of how changes in admissions standards and
increases in tuition affect the availability of higher education at the state level.

In a national survey of admissions officers, Breland, Wilder, and Robertson
(1986) found admissions standards increased dramatically in the 1980s. This finding
was surprising, based on educators' assumptions that institutions would lower their
admissions standards in response to declining numbers of high school graduates
(Breland, 1986). The findings of Breland, Wilder, and Robertson (1986) indicated
that there had been no wide-scale lowering of admissions standards. In fact, most
four-year public institutions had raised standards and reduced the number of students
they admitted.

Another factor negatively associated with access to higher education has been
sharp increases in the cost of higher education. The cost of higher education in the
1980's rose sharply and outpaced economic indicators (Consumer Price Index and
Capita Disposable Income Index) for the first time in 1982-83 (Wittstruck and
Braggs, 1988). During this same period, funding from state appropriations and
federal student financial aid programs had decreased (Curry, 1988). Curry (1988)
found the political traditions and economic conditions of each state play a major
role in shaping tuition and financial policies. The cost of higher education has
become a major policy issue for both campus and state leaders (Hines, 1988).
Excellence

Policies and procedures in American higher education are strongly influenced by traditional concepts of excellence, such as reputation and resources (Astin, 1985). Reputational excellence is based on a set of shared beliefs of educators about what makes an institution excellent. Typically, a small population of knowledgeable experts is surveyed for their opinion about the relative excellence or quality of various institutions. In rating undergraduate programs, institutional selectivity was the factor most highly correlated with high reputational rating (Astin, 1985). In other words, the more selective an institution is in admitting students, the higher the reputational rating will be for its undergraduate program. The second concept of excellence, resource excellence, focuses on the accumulation of resources rather than on how effectively an institution uses its resources. Under this concept of excellence, students with strong high school academic records are an important resource. Therefore, stringent admissions standards are regarded as necessary for maintaining academic excellence. Only the most qualified students are admitted. Institutions practice selective admissions due to their unquestioning faith in the validity of traditional concepts of excellence (Astin, 1985). Because educators define excellence in traditional terms, access and excellence are perceived as being in conflict (Birnbaum, 1988).

Another definition of academic excellence is talent development. The assumption behind the talent development concept of excellence is that academic institutions should develop the intellectual talents of their students and faculty (Astin, 1985); therefore, true excellence lies in the institution's ability to positively affect the intellectual and scholarly development of its students and faculty. Under traditional concepts of excellence focusing on reputation and resources, priority is given only to the "best" students. Under the talent development concept,
institutions have a stake in educating people at all levels of competence and preparation. The definition of excellence used by policymakers has impacted the availability of higher education (Birnbaum, 1988; Astin, 1985).

State Governments

State governments have the primary authority and responsibility for higher education in the United States (Millet, 1984). This responsibility includes providing access to public institutions, and providing access to higher education has been shown to be a benefit to states. Educated people bring economic and social benefits to the communities and states in which they live. Economically, educated people get better jobs, earn higher wages, and pay more taxes (Bowen, 1980). The social benefits to the community are more difficult to quantify; however, highly educated people are more involved in social and civic activities and provide important resources to communities in which they live (Ostar, 1986).

From the late 1950's throughout the 1960's, access to higher education was a major policy objective for state governments (Millet, 1984). The objective was to provide an opportunity for every high school graduate to enroll in a college or university. There were three common characteristics in the master plans for most state systems of higher education. One was the importance of locating two-year colleges within commuting distance of most of the population within a state, particularly in major urban areas. Another characteristic was the shift from selective admissions policies towards open admissions policies as an effort to remove the academic barriers to access in public higher education. The final characteristic was the increase of state-funded student financial aid programs.

In the 1980's, the concerns about providing access changed as the public began to question the quality of education being provided at state institutions. Increasing
access to higher education was perceived as having reduced standards of quality in student performance and the quality of service to the public rendered by college graduates (Millet, 1984). In addition, governors and state legislators were reluctant to increase state appropriations for remedial programs needed to help underprepared students admitted under an open admissions policy (Millet, 1984). The expansion of low-tuition and accessible public institutions into urban areas also created competitions for older private institutions which had higher admissions standards and higher tuition. Many private institutions lobbied the legislators to control the expansion of public institutions in urban areas (Gorbman, 1988).

Despite the efforts made in the 1960's and 1970's, there is less equality in the nation's postsecondary educational system in the mid-1980's than there was in 1978 (Chambers, 1987). Demographic studies show students from middle- and high-income families are more likely to go to college in the late 1980's than they were in 1978; however, students from lower-income families are less likely to attend (Chambers, 1987). Cutbacks in student financial aid at the federal level, including the policy shift from grants-in-aid to loans, could result in states having to shoulder greater financial responsibility in expanding higher education for low-income students (Chambers, 1987).

Researchers have described fluctuations in the availability of higher education because of changes in admissions standards and price of tuition. The reason for this fluctuation has been explained by the statement that institutions are trying to balance the goals of access and pursuing excellence, without giving either goal primary attention on a continuous basis (Birnbaum, 1988; Green, 1987; and Rivlin, 1987).
Purpose of the Study

The purpose of this study is to examine how the availability of higher education has fluctuated over time. Researchers have used three factors to determine the extent to which higher education is available to citizens in a particular state (Willingham, 1970; Ferrin 1971). The first factor is price of tuition: the full-time residential undergraduate tuition and required fees for one academic year. Another factor is selectivity: the admissions standards institutions use to admit students. The final factor is geographic access: the commuting distance to an institution in relationship to where the majority of the state’s population lives. These three factors were used to determine the availability of higher education in this present study.

Warren Willingham has done extensive research on the availability of higher education at the state level. In 1968, he conducted a national study to determine the availability of higher education for each state. Willingham (1970) claimed that if higher education is to be available, three conditions must exist: 1) the price must be relatively inexpensive; 2) the level of selectivity must allow for the majority of people that apply for admissions to be admitted; and 3) institutions must be located with commuting distance of the majority of the state’s population.

Willingham used the following procedure to determine the availability of higher education in each state. First, he rated the level of selectivity and cost of each of the colleges and universities in the state. Selectivity refers to the admissions standards and procedures an institution uses to admit students. For an institution to be accessible, its admissions policies should allow the acceptance of applicants who graduated in the top 75 percent of their high school class with a "C" or better grade point average. An institution also needs to be financially accessible. Willingham determined that for an institution to be accessible, its tuition could not be more than five percent of the national family income. The third step was to determine if the
institutions identified as accessible were within commuting distance of the majority of a state's population. Using the three factors (selectivity, price of tuition, and geographic access), Willingham determined to what extent higher education was available in a particular state. The researcher replicated Willingham's methodology in the present study.

In addition to Willingham's study, Ferrin (1971) employed the same quantitative methods as Willingham to determine to what extent the availability of higher education had changed from 1959 to 1969. Ferrin (1971) found that the number of accessible colleges had increased between 1959 and 1969 from 538 to 789, an increase of 47 percent. However, the number of inaccessible colleges also increased by the same margin, as a result largely off-setting increases in accessible institutions overall.

Ferrin found that selectivity, rather than cost, had been the crucial factor that made most institutions inaccessible. The demand for higher education increased dramatically during the 1960's. In particular, state colleges and universities which had a tradition of open admissions policies found themselves overwhelmed with applicants. Most state colleges and universities responded by increasing the number of freshmen they admitted; however, many other institutions raised their admissions standards and limited their enrollment (Ferrin, 1970). Ferrin (1970) claims there are at least three reasons why institutions raised their admissions standards and limited their enrollment. First, capital and educational resources were limited; second, many in the academic community, including faculty and students, felt that the quality of education would suffer if enrollment became too large; third, the number of community colleges grew during this time and assumed the role of educating the less academically-prepared students.
The researcher used the methodology developed by Willingham and Ferrin to quantitatively describe changes in the access to higher education between 1969 and 1979 and 1989. Case studies of state-level policies were used to determine how changes in state-level policies related to changes in selectivity, price of tuition, and geographic access.

Research Questions
1. To what extent has access to higher education institutions changed as indicated by changes in selectivity, price of tuition and geographic access of institutions in the past three decades (1969-1979-1989)?
   a) how has selectivity changed?
   b) how has the price of tuition changed?
   c) how has geographic access of college and universities changed?

2. How do changes in state-level policies relate to changes in selectivity, price of tuition, and geographic access?

Definition of Terms
Selectivity
The admissions standards and procedures used to admit students.

Price of Tuition
The full-time residential undergraduate tuition and required fees for one academic year.

Geographic Access
The commuting distance students must travel between home and the institution.
Access

The availability of higher education to citizens in a particular state as indicated by selectivity, price of tuition, and geographic access.

Scope and Limitations

This particular study of access to higher education is limited to three states. Any type of trend or assessment of the availability of higher education from this study can only be applied to the particular state in which the data were generated.

The researcher also acknowledges an awareness of other factors affecting the availability of higher education. As in the case of the original study conducted by Willingham (1970), this research deals with only one aspect of the educational opportunity question and as such provides only one type of input. Policymakers who want to expand such opportunities should consider these findings as essential but insufficient information on which to plan for the future.

Because this research involves replicating a study, any limitations inherent in the original study will be found in the present research. However, in the cases where the study design can be strengthened, the researcher has collected additional data and performed additional analysis to aid in the evaluation of the availability of higher education at the state level.

Significance of the Study

Willingham's and Ferrin's studies provide a quantitative analysis of the availability of higher education to citizens in individual states. The current study provides a longitudinal quantitative analysis of the availability of higher education in three states. Another purpose of this study is to demonstrate the importance to policymakers of considering both the need to provide access and the need to
enhance excellence when establishing educational policies and procedures. The findings from this study can provide policymakers with insights into which factors, selectivity, price of tuition, or geographic access, have been associated with limiting the availability of higher education over time. This study also demonstrates the importance of understanding the environmental context when studying issues in higher education at the state level.
CHAPTER II
REVIEW OF THE LITERATURE

The review of the literature addresses three major subject areas that provide the conceptual framework for this study. The first section outlines how the American system of higher education has responded to the public's demand to increase access to higher education. Research related to factors that have been identified as barriers to higher education also will be reviewed. The final section will delineate the role and responsibility of a state to provide access to higher education for its citizens. This information points to the researcher's major question about the availability of higher education at the state level.

Section One
Access

The two driving forces behind the expansion of higher education have been economic factors and egalitarian principles. Historically, the purpose of higher education has been to provide an opportunity for individuals to prepare themselves for a better life. A second major purpose of higher education was recognized following World War II; colleges and universities were needed to supply highly trained individuals to meet the economic and technological demands of a prospering society. As a result, higher education was viewed as a "social investment" because of the economic contributions of human talent it could make to society (Henderson, 1966).
Economic Responses

Most of the expansion of higher education from 1945 to 1960 was driven by economic factors. Following World War II, the demand for college-educated people was greater than the supply for the first time in history. In response, Congress passed the G. I. Bill that provided federal funds for postsecondary education for any person who served in the military during World War II (Cohen, 1974). Approximately sixty percent of the veterans used these educational benefits. The G. I. Bill represented the first major expansion of higher education to people who otherwise could not financially afford to attend college (Cohen, 1974).

As the G. I. Bill was being implemented, Truman appointed the President’s Commission on Higher Education in 1947. The purpose of the Commission was to define the responsibility that colleges and universities had in a prospering democracy. The Commission recommended that racial, ethnic, and financial barriers to higher education be removed as soon as possible. The Commission suggested that a program of financial aid to students be established as one way to eliminate economic barriers to higher education. The key recommendation of the Commission was to expand the community college system to provide for a network of low-cost commuter institutions. The recommendations of the Commission caused a great deal of public debate over the purpose of higher education and how accessible institutions should be to citizens but did not result in any substantial changes in the availability of higher education for egalitarian reasons until the 1960’s (Fenske, 1981).

The Sputnik scare of the 1950’s resulted in another economic response to the expansion of the availability of higher education. The National Defense Act of 1958 was passed in response to the need to build up the nation’s mathematics and science human resources (Fenske, 1981). The National Defense Student Loan Program was conceived as an emergency measure to remedy serious deficiencies in the supply of
American trained scientists. The loan program helped more than 1.5 million students finance their education in the first decade of its existence and became the first long-term federal program to aid undergraduate students (Fenske, 1981). The purpose of the financial aid programs of the 1950's was to increase the number of college-educated citizens. Most of the programs were established to meet a specific economic or labor need, not necessarily to broaden the opportunities of higher education (Hines, 1988).

Egalitarian Trends

In the late 1950's, state leaders realized that despite financial aid programs, the educational needs of a large percentage of their citizens were not being met (Ferrin, 1970). Finally after a decade, the key recommendation of the Truman Commission to develop a strong public two-year college system was implemented by many states (Ferrin, 1970). This was evident by the growth of public two-year colleges in the 1960's; between 1948 and 1958, only thirteen public two-year colleges were built. In contrast to this, from 1958-1968, a new public two-year college was built at a rate of more than one every two weeks, for a total of 595 public two-year colleges (Ferrin, 1970; Digest of Educational Statistics, 1968).

It was also during the 1960's that the federal government greatly expanded its federally-based funded student financial aid programs and changed its focus to an egalitarian purpose. The Economic Opportunity Act of 1964 established the College Work-Study Program. One year later, the Higher Education Act of 1965 provided grants as opposed to loans for low-income students; and the Higher Education Amendment of 1972 continued this funding for grants to needy students. The amendment of 1972 made explicit that the rationale for the federally-based grants was "... that every American is equally entitled to postsecondary education"
(Caldwell, 1975, p. 32). Individual states also developed financial aid programs; by 1974, twenty-eight states had developed comprehensive financial assistance programs (Boyd, 1975).

The federal government also used federally-based financial aid programs as a "carrot and stick" strategy to encourage state governments to increase access to higher education (Green, 1987). The federal government had to step in and "set the right agenda" for higher education in many states on issues such as civil rights and the rights of disabled students (Green, 1987). The Civil Rights Act of 1964 prohibited discriminatory practices in federally supported programs, which included many institutions of higher education that received federal dollars as research grants. Any state institution violating the Civil Rights Act could lose all its government research grants and student financial aid assistance. The Civil Rights Movement and the student rebellions of the 1960's caused many legislatures and educators to examine the accessibility of higher education to minority students. "The Civil Rights Movement brought the nation face to face with the lack of basic fairness in its institutions North and South" (Blake, 1987). Several studies validated the need for aggressive and creative action.

In 1970, the Carnegie Commission on Higher Education released a special report entitled A Chance to Learn: An Action Agenda for Equal Opportunity in Higher Education, in which the Commission advocated universal access to higher education for all citizens who wanted to attend college, who could make reasonable progress after enrollment, and who could benefit from attendance. The Commission put the major responsibility of providing higher education at the state level. The Commission made the following recommendations to states in order to assure universal access:
1. Each state should plan to provide universal access to its total system, but not necessarily to each of its institutions, since their nature and purpose vary.

2. Each state should establish community colleges within commuting range of potential students in populous areas.

3. Each state should accept responsibility to serve the disadvantaged minorities at each level of its higher education system.

Another study that directly addressed the issues of selective admissions was the Carnegie Council Studies on Selective Admissions in 1977. From these studies the Carnegie Council concluded that the practice of selective admissions was appropriate as long as it was not discriminatory. However, the Council did outline some specific recommendations for institutions to consider when making selective admissions decisions.

1. Institutions should adhere to policies of affirmative action in developing educational policies.

2. No student should be admitted who cannot meet the general academic standards set for all students.

3. Numerical quotas should not be used; rather, goals should be established that may change over time as conditions change.

4. Institutions should be given maximum latitude in exercising their judgments about the admissions of individual students.

5. The judgments of courts, legislatures, or government officials should not replace professional judgments, except when clearly required by the public interest.

Many of the recommendations of these studies were implemented. More public two-year colleges were established in urban areas. Many public four-year
colleges modified their admissions standards and established academic and social support programs to help disadvantaged students make the transition to college (Blake, 1987). From 1970 to 1977, black enrollment in higher education doubled from 522,000 to 1.1 million (Blake, 1987). The goal of increasing access to higher education was high on the educational policy agenda (Birnbaum, 1988).

However, in early 1980's, the governing boards of public institutions and state boards of higher education began to question the adequacy of their policies to increase access. Students entering college were reported as being less well prepared: the average SAT or ACT scores of freshmen had dropped during the decade of the 1970's and students were taking fewer college preparatory courses (Goertz and Johnson, 1985). As students entered college less well prepared, the scope and cost of remedial services in colleges increased, and a growing number of college freshmen experienced academic problems (Goertz and Johnson, 1985).

In response to the crisis of the underprepared student, issues of outcome assessments, measures of academic excellence, and the public demand for quality dictated a new policy agenda for higher education (Birnbaum, 1988). National and statewide commissions now focused on how to improve the academic excellence of their institutions. One consistent recommendation of these commissions was to raise admissions standards and eliminate remedial courses at the college level (National Commission on Excellence, 1983; Southern Regional Educational Board, 1983; American Association for State Colleges and Universities, 1983). However, the studies of the 1980's did not address the implications that raising admissions standards and eliminating remedial courses would have on the accessibility of higher education. As a result, the issues of social justice and equality did not receive the same attention that they did in the 1960's and the 1970's and became a secondary priority to the excellence movement (Birnbaum, 1987). The following review of
literature will highlight the current issues and concerns of providing access to higher education.

Studies on Access to Higher Education

Limited research has been conducted on the broad concept of access to higher education. Most of the literature has focused on three factors that have been identified as barriers to higher education: price of tuition, selectivity of institutions, and geographic access of institutions. However, this review on access will begin with two national studies conducted by Willingham (1970) and Ferrin (1970) because these two studies provided the initial foundation for the present longitudinal study.

Willingham (1970) conducted an analysis of the higher educational resources and demographic characteristics in each state. The purpose of his study was to determine how accessible higher education was to citizens in a particular state. Willingham used three factors in his analysis: price of tuition, selectivity of admissions policies, and geographic location. His operational definition for an accessible college or university was an institution that: (1) charged no more than five percent of the national family income ($400 in 1968) for tuition; (2) selected at least one-third of its freshman class who ranked in the fiftieth percentile or lower in high school; and (3) was located no more than 45 minutes commute from the state's major populations.

Overall, price and selectivity both contributed to the inaccessibility of higher education. However, Willingham found from his descriptive analysis three other factors that were related to the availability of higher education. One was the type of institution; public two-year colleges were more accessible than private two-year colleges or public and private four-year institutions. Also, four-year public institutions were more accessible than four-year private institutions. Another factor
was regional location. Higher education was least accessible in the Northeast (fewer than 22 percent of the institutions) and most accessible in the West (71 percent of the institutions). The large number of private institutions in the Northeast contributes to the lower percentage of accessible institutions. A third factor was geographic location. Higher education was more available in the small metropolitan areas between 500,000 and 1,000,000 people than in the major cities of 1,000,000 people. In fact, the percentage of people living within commuting distance of an accessible institution was 63 percent for small metropolitan areas as compared to 38 percent for major cities, and 24 percent for rural areas. The high cost of land in urban cities has limited the development of accessible costs in this geographic area (Willingham, 1970).

The Willingham study was one of the first comprehensive studies of accessibility of higher education conducted on a state-by-state basis. His study was unique in that it was conducted before most states practiced master planning. In Willingham’s attempt to analyze education resources, he did not consider the economic differences among states. When he calculated the factor of price of tuition, he used a national family income as opposed to the family income of a particular state. There can be great variations in the median family income from state to state. A limitation of Willingham’s study is that it is an analysis of the availability of higher education at one time (1970). From his analysis, one cannot judge whether access to higher education has increased or decreased.

Ferrin (1970) extended the Willingham study by employing a retrospective analysis of the accessibility of higher education in 1959, and then comparing his findings with Willingham’s to determine the extent to which access to higher education had changed over the decade from 1959 to 1969. Ferrin found that the number of accessible institutions had increased 47 percent (538 to 789); however,
the number of inaccessible institution had also increased by the same percentage, largely offsetting the advancement in the number of accessible institutions. A key finding in Ferrin's retrospective analysis was that selectivity, not price, was the crucial factor that attributed to institutions being inaccessible from 1958 to 1968. Furthermore, the greatest increase in selectivity occurred in public research universities. In 1958, 538 institutions were accessible based on the criteria outlined in Willingham's original study. In 1968, 109 of these institutions became inaccessible because they were too selective. Among them, 88 were senior public colleges and universities; 12 were junior colleges; five were branch campuses of state institutions; and only four were private colleges. Ferrin (1970) explains that as community colleges developed in the 1950's, senior public colleges and universities concluded that it was the responsibility of community colleges to provide mass postsecondary education while the four-year colleges admit only those students with superior academic credentials. Ferrin also found the largest increases in the number of accessible institutions were in large metropolitan areas (30 percent, in 1958 compared to 42 percent in 1968).

In summary, Willingham (1970) and Ferrin (1970) examined the accessibility of higher education at the state level by measuring three factors: price of tuition, selectivity, and geographic location. Willingham (1970) found in 1968 that both price and selectivity contributed to the inaccessibility of higher education. In Ferrin's (1970) retrospective analysis from 1958 and 1968, he found that selectivity, rather than price, had been the most important factor that made institutions inaccessible. Other factors that were associated with inaccessible institutions in both studies were type of institution, regional variations, and geographic location.
Price of Tuition

The issue of what should be the price of tuition centers on two opposing doctrines on who benefits from higher education: the individual alone or the individual and the state (Finn, 1978). One doctrine holds that higher education is similar to elementary and secondary education. Higher education is "a public good" that benefits the entire nation; and, therefore, society should assume most of the cost of providing higher education from tax resources. The other doctrine asserts that the individual is the greatest beneficiary of higher education and, therefore, higher education is a private investment, and the individual should pay most of the cost. Finn (1978) claims that the crazy quilt-like pattern of financing higher education in the United States reflects the inability of society to agree on either doctrine.

These two doctrines provide the underlying principles that influence how tuition policies are made at the state level. States that maintain a low-tuition policy support the public goods viewpoint of higher education by assuming either a full or substantial portion of instructional costs. The low-tuition approach to higher education is often advocated by people who support universal access to higher education (Wittstruck and Braggs, 1988). The high-tuition policy is based on charging students with a higher proportion of the instructional costs with smaller direct institutional subsidies from the state or federal government. Advocates of high-tuition support providing financial aid only to low-income students, because some economists argue that low-tuition policies subsidize more middle- and upper-income students than lower-income students. State governments often support high-tuition policies because of the lower state expenditures and tax dollar savings. Independent colleges and universities also support high-tuition policies for state institutions because it reduces the tuition gap between public and private institutions (Wittstruck and Braggs, 1988).
In 1988, the State Higher Education Executive Officers Association commissioned a Committee on College Costs. The committee conducted three national surveys to assess the current condition of college costs. The Wittstruck and Braggs (1988) study focused on three public policy questions: (1) "What factors affect the price paid by students for a college education?"; (2) "What factors affect the total cost of higher education, especially that portion borne by state taxpayers?"; (3) and finally, "How can states help insure that parents and students are able to pay the cost of going to college?". In their study, Wittstruck and Braggs found that tuition had increased substantially from 1972-73 to 1987-1988. However, it has only been in the last seven years that tuition increases have been greater than other economic indicators such as the Capital Disposable Income Index and Consumer Price Index. Increases in state appropriations in general have kept pace with inflation until the economic recession of the 1980's. The economic recession changed the relationship between state support for public higher education and tuition at public institutions: institutions were required to assume a majority of the rising cost of higher education (Wittstruck and Braggs, 1988). Wittstruck and Braggs found that institutions adopted the strategy first to plan their academic program goals, and then seek revenue from the state to implement their goals. If state appropriations do not meet the institution's expectations, tuition is adjusted to compensate. State appropriations have not increased proportionally to increased cost of higher education, as a result; tuition has increased at a record pace (Wittstruck and Braggs, 1988).

The factors that affect total cost of higher education at the state level depend on the political environment unique to each state. The traditions and the environment of each state play a major role in shaping the policies that affect tuition and financial policies (Curry, 1988). In another SHEEO national survey, Curry identified two
predominant higher education funding models: revenue and formula models. In the
formula model, states have rules or budget procedures established by state statute (law) that set tuition levels or revenue expectations. There are 16 states that use a
formula funding model (Curry, 1988). Curry found that states most likely to have
a formula funding model were states that had substantial financial aid programs and
a strong independent higher education sector. An example of a state that uses a
formula model would be the state of Minnesota. Minnesota has a statute that
students will not pay more than 50 percent of the instructional cost of their
education. The state is required to provide funds for the other 50 percent of the cost
(SHEEO, 1988). Under the formula funding model, many schools the assumption
that by increasing their enrollment they would receive more state appropriation.
Leslie & Ramey (1986) conducted a study to determine if increased enrollment
resulted in greater state appropriations. This strategy may have worked in the
1970's, but Leslie and Ramey found that since 1977, higher enrollment growth
strategy was not solving financial problems in the 1980's. They found that state
revenue shortfalls were more affected by the state's economic condition than by
enrollment figures. Thirty-two states reported that they used a revenue model in
which tuition level is set each year depending on how much revenue the institution
needs to generate after state appropriations (Curry, 1988). Curry (1988) found 80
percent of the low-tuition states use a revenue model approach. These states have
been most affected by economic condition in the 1980's.

Student Responsiveness to Price Increases

The effect of tuition increases on student enrollment has been studied using
economic demand theory. Student demand studies have shown that enrollment rates
are negatively associated with tuition increases (Leslie & Brinkman, 1987). Leslie
& Brinkman (1987) conducted a meta-analysis of thirty empirical works that focused on the relationship of the price of higher education (tuition) to enrollment rates; which they call "students' responsiveness to price increases." In their analysis, Leslie & Brinkman (1987) standardized the findings of different studies to determine student changes in participation rates among 18-24 years old stemming from a $100 price increase (SPRC). They found that enrollment declined three-quarters of a percentage point for every $100 increase in tuition. They found that low-income students enrolled at low-cost institutions typically demonstrated the highest responsiveness to price increases. A $100 tuition increase at a low-cost institution resulted in a greater economic impact than a $100 tuition increase at a high-cost institution (Leslie and Brinkman, 1988).

Leslie and Brinkman found some variation on the impact of student aid on students' responsiveness to higher tuition prices. Earlier studies showed that students were more sensitive to tuition increase even when financial aid was increased to cover the higher tuition price. Studies by Tierney (1980) and Fife & Leslie (1976) show less difference in students' responsiveness to tuition increases when financial aid was also increased. One explanation may be that when a student is trying to make a decision about enrolling at an institution, the posted tuition price may be a greater factor in the student's decision than the promise of financial aid (Leslie & Brinkman, 1987). Leslie & Brinkman (1987) offer other explanations on why students' responsiveness to tuition increase were as great: (1) tuition is the most visible of the college prices; (2) annual increases in tuition are generally well publicized and often are debated publicly; (3) student aid may result in a net reduction in tuition because it varies more than tuition. Leslie & Brinkman (1987) explain that their results are good estimates for higher education institutions in the aggregate, but may not be for an individual institution. Two other limitations that
Leslie & Brinkman cited in their study of student responsiveness to higher tuition were that enrollment rates are more affected by sociological variables than economic rates and that student demand studies usually concentrate on freshmen enrollments only. Thus, economic studies of student demand only provide one aspect of the factors that affect access to higher education.

In conclusion, studies on tuition increases and the impact on enrollment rates show that increases in tuition were associated with decreases in enrollment rates. Low-income students are particularly sensitive to tuition increases. The economic decline in many states has resulted in a decrease in state appropriations at the very time that the cost of providing higher education has increased (Birnbaum, 1988). Tuition levels in individual states are, in part, driven by cost factors and state appropriation; but Curry (1988) concludes that the overall factor having the greatest influence is the policies and the principles implicit in funding models that states use to fund higher education.

Selectivity

There have been several studies in the 1980's that have focused on increases in selectivity of colleges and universities. The national concern for quality in higher education during the 1980's caused colleges and universities, as well as state higher education officials to re-examine their admissions policies (Birnbaum, 1987). In 1978, the American Association of Collegiate Registrars and Admissions Officers (AACROA) and the College Board conducted a comprehensive study of admissions policies in all regionally-accredited undergraduate degree-granting institutions. Most public two-year institutions were open door--any high school graduate or equivalent is admitted. Seventy percent of the public four-year institutions and 77 percent of the private four-year institutions were selective. The majority of applicants who meet
some specific level of academic achievement or other qualification beyond high school graduation are admitted. Only a few institutions were competitive. Ten percent of the public four-year institutions and 13 percent of the private four-year institutions had a competitive admissions standard. In 1986, Breland, Wilder, and Robertson repeated the AACRAO and the College Board study. The admissions officers reported that admissions standards were higher in 1985 than they were in 1979. Thirty-nine percent of the institutions reported having higher high school academic course requirements than in 1979. Forty-three percent of the institutions reported having higher standards for test scores. Fifty-one percent of the four-year public institutions required a 2.2 high school grade-point average as compared to forty-three percent in 1979 that required a 2.0 grade-point average.

Although admission standards increased from 1979 to 1985, Breland, Wilder, and Robertson (1986) did not find any substantial change in the acceptance rate. The average acceptance rate for all institutional types was 83 percent in 1985. For four-year institutions, both public and private, the acceptance rate was 76 percent. The acceptance rate for minority students was the same as the overall rate in four-year public and private institutions, except for black students. At public institutions, the average acceptance rate for black students was 70 percent as compared to 76 percent for all students. Between 1979 and 1985, undergraduate enrollment increased by 40 percent for Asians, by 12 percent for Hispanics, and by one percent for Native Americana. During the same period, black undergraduate enrollment decreased by four percent (Breland, Wilder and Robertson, 1986). Also, the number of exceptions to the formal admissions requirements for minority applicants had decreased from 1980 (45 percent in public four-year institutions and 35 percent in private institutions) to 1985 (45 percent for private institutions and 25 percent for four-year private institutions).
Goertz and Johnson (1985) conducted a study to identify who had the authority to set admissions policies at state institutions. Twenty-four states reported having statewide admissions standards in effect for their public institutions. Thirteen of these states do not allow institutions to exceed the state requirements. There was a difference in the type of admissions standards that individual states required for their state institutions. Nine of the states had an open admissions policy, while thirteen states required applicants to meet a certain test score, minimum grade point average, class rank and/or other requirements. In the remaining twenty-three states, individual institutions have the authority to establish their own admissions standards.

In summary, nationwide studies have shown that admissions standards have increased in the 1980's. What the studies do not indicate is whether or not the accessibility to higher education has changed as admissions standards have increased.

Geographic Access

Studies have found that the existence of a college in the immediate vicinity positively influenced a student's decision to attend college (Anderson, Bowman, and Tinto (1972); Medsker and Trent, 1959). The less expensive price of attending a local college was the major factor that affected students' decisions to attend college (Anderson, Bowman, and Tinto, 1972; Medsker and Trent, 1959). A local college did not affect the college-going rate of academically able and/or affluent youths, but had the greatest impact on students who were less academically able and/or from lower-income families (Anderson, Bowman, and Tinto, 1972). As a result, these studies point out the importance of geographic location to increase access to higher education for lower-income students.

In conclusion, Willingham (1970) and Ferrin (1970) used three factors (price of tuition, selectivity, and geographic location) to determine the accessibility of higher
education in a given state. There have been several changes in these three factors since Willingham's and Ferrin's studies. During the 1980's, price of tuition has increased at a record high pace. Research shows that student enrollment is negatively associated with tuition increases (Leslie and Brinkman, 1987). Selectivity of college admissions has also increased during the 1980's. Breland, Wilder, and Robertson (1985) found substantial increases in the admissions standards at most public four-year institutions in 1985 as compared to 1979. Research has shown that the existence of colleges in the immediate vicinity positively influences lower-income students to attend college, but there has been a lack of accessible colleges in urban areas where many lower-income students live (Gorbman, 1988). Overall, factors associated with access to higher education in the 1980's have changed dramatically since Willingham's (1970) and Ferrin's (1970) studies in the late 1960's.

Section Two

Excellence

Excellence in higher education is easy to support, but difficult to define (Birnbaum, 1987). Legislators, faculty members, administrators, and students are likely to define excellence differently, depending on their values and assumptions about excellence. As a result, these different constituents may agree upon the importance of excellence in higher education in theory, but have a difficult time agreeing in practice how to achieve excellence in higher education (Astin, 1985). The intent of this section is to show how different definitions of excellence can either support or conflict with the goal of increasing access. First, two traditional definitions of excellence that have led to conflict in increasing access to higher education will be discussed. Then the value-added definition of excellence and how it supports the goals of increasing access to higher education will be discussed.
Traditional Definitions of Excellence

One traditional definition of excellence is based on institutional reputation. Reputational excellence is based on a set of shared beliefs about what makes an institution excellent. Reputational studies are done by surveying knowledgeable educators about the relative excellence of various institutions. This survey technique produces high agreement among educators about which institution is the "best," as well as correlating highly with public opinion (Webster, 1986). Astin (1982) found that institutional reputation of undergraduate programs is strongly related to three factors: selectivity, enrollment size, and size of the graduate faculty. For high reputational ranking, an institution must have a highly selective admissions policy, large enrollment, and a large number of graduate faculty. Selective admissions policy was the factor most highly correlated to a high reputational ranking for undergraduate programs. In other words, the more selective an institution is in admitting students, the higher the reputational ranking will be for its undergraduate program. Because reputational excellence is linked to selectivity, institutions are reluctant to change admissions standards to be more accessible in fear that lower admissions standards may jeopardize their reputation ranking (Astin, 1985; Webster, 1986). The problem with reputational studies is that excellence is defined in terms of the quality of students that are admitted, and not necessarily on the quality of the education they receive (Astin, 1985).

Another traditional definition of excellence is based on institutional resources. Measuring excellence by institutional resources is seen as an objective indicator by policy-makers and accrediting agencies (Astin, 1985). Some resource studies compare educational expenditures per student, faculty-student ratio, and the number of volumes in the library to determine the relative excellence of institutions (Webster, 1986). Other resource studies judge excellence by measuring the quantity
and quality of resources such as the number of National Merit Scholars enrolled or the number of faculty elected to the National Academy of Science or winning Nobel Prizes. The advantage of the resource measure of excellence is that it provides a common basis upon which to compare many different types of institutions. Another advantage is that the data are easy to obtain; many institutions collect resource data regularly. Evaluating institutional excellence on a resource basis has one major problem: most studies focus on the amount of resources, rather than on how effectively an institution uses its resources to educate students (Webster, 1981). When defining excellence in terms of resource, some policy-makers become concerned that by making access to higher education more available, finite resource must be distributed to a larger number of people, therefore reducing the amount any one person can receive, and reducing the overall excellence of the higher education system (Astin, 1985).

Value-Added Excellence

A different approach to defining excellence is the valued-added concept (Astin, 1985; Birnbaum, 1988). The value-added approach assesses the excellence of an institution based on how well an institution educates its students. An excellent institution may not have the "best" students or the most highly trained faculty, but these institutions have the greatest impact on students' knowledge, personality, and career development. The input-environment-outcome model can be used to measure value-added excellence (Lawrence and Green, 1980). The input variable represents the abilities and characteristics that students bring with them to college, such as prior knowledge, motivation, and socioeconomic factors. The environment variable is what the institution offers the students in terms of educational programs, including students services and extracurricular activities. The outcome variable measures the
cognitive or intellectual changes (reasoning abilities) as well as noncognitive or affective changes (in values and attitudes) (Lawrence and Green, 1980).

Lawrence and Green (1980) advocate that the input-environment-outcome model provides a means by which researchers can measure how well an institution educates its students. In the input-environment-outcome method, statistics are used to control the characteristics students bring with them to college (input variables), and thus assess the actual contribution that colleges (environment variable) make to the students’ educational experience (variable). By controlling the characteristics students bring with them to college, researchers can evaluate how well institutions educate students of all abilities, not just the brightest students. Defining excellence in terms of how well an institution educates its students supports the goal of increasing access as opposed to traditional definitions of excellence.

There are several reasons why this model has not been more widely used in studies of academic quality and excellence. One reason is the lack of consensus within most institutions about the appropriate outcome goals, i.e., what students should learn by the end of their college experience. Another reason is that many outcome goals are hard to quantify, such as "a well-rounded student." Finally, the input-environment-outcome model requires more sophisticated methodology than other measures of excellence, and the studies should be longitudinal. Most institutions will not or cannot make a commitment to this elaborate type of evaluation. The conflict between the goals of increasing access and enhancing excellence may be an arbitrary one by definition; however, the perceived conflict has some practical consequences (Birnbaum, 1988). Because of this perception, educators view the goals of improving access and enhancing excellence as being in competition for their limited resources and political support. Birnbaum (1988, p. 449) claims that educators, like other organizational leaders, respond to these
conflicts "by attending to different goals at different times." Relatively little attention is given to either the goal of access or the goal of quality on a continuous basis.

Birnbaum (1988) conducted an open-ended interview of 32 college presidents in an attempt to elicit their commitment to the goals of enhancing excellence and improving access. Birnbaum asked these presidents, "In what ways do you hope your institution will be different in five years from now than it is today?". The question was asked based on two assumptions by Birnbaum: (1) what a president would say would be a valid indication of future outcomes to which he or she was committed, and (2) presidents would allocate resources of time, energy, political support, and financial support to programs consistent with their goals. A content analysis was used to classify the interview responses into categories of goals. One category was maintaining and/or enhancing excellence and quality. Another category was maintaining and/or enhancing access and equality. Seventeen of the presidents (53%) indicated goals related to excellence as compared to the 5 presidents (15%) with indicated a goal to improving access. Birnbaum (1988) remarks that the presidents' responses are consistent with public policy trends in higher education of placing greater emphasis on improving excellence than upon increasing access.

In conclusion, if the purpose of higher education is to educate students, then excellence in higher education should be defined in terms of how well institutions educate students. Traditional methods of measuring excellence in higher education limit how an institution can provide access and educate students because of the manner in which excellence is defined. Excellence defined as the reputational ranking focuses only on the quality of the students admitted, and not on how well institutions educate students. Resource excellence is centered on the accumulation of resources, and not on how effective an institution uses its resource to educate students. In comparison, the value-added approach provides a method to assess what
contribution the institution makes to the education of students, without limiting access to higher education.

Section Three

State Government

Unlike in other countries, providing education is not specifically a federal responsibility. By constitutional design and conscious political choice, education is the responsibility of individual states (Green, 1987). Furthermore, states also assume the fundamental responsibility to provide equality of educational opportunities, including postsecondary education. This section of the literature review will focus on the role of states in providing higher education. The three types of state organizational structures and planning mechanisms used to provide higher education will be discussed. Then how states have responded to the public demand to improve access to higher education will be described. Finally, the key higher education issues facing state governments will be discussed.

Organizational Structure and Planning at the State Level

As public higher education grew in the 1960’s, three types of state boards were developed to coordinate state systems of higher education. Governing boards are the most common and have the greatest formal authority. Twenty-two states have a governing boards structure. A second type is coordinating boards, whose main function is to coordinate higher education at the state level. Eighteen states have coordinating boards. Advisory boards have the least amount of authority over individual institutions. Nine states have advisory boards. Although each board has a different level of authority, all three types of boards are responsible for meeting the higher education needs of the state.
Governing boards have the greatest authority over public institutions, having authority in three areas not found in either coordinating or advisory boards. One area involves the governance of individual institutions, including the appointment and evaluation of campus presidents. Another area is the board’s authority to intervene in the internal affairs of a campus. Finally, governing boards have authority over how individual institutions manage their budgets (Hines, 1988). An advantage of a governing board structure is the board’s involvement in making policy decisions affecting admissions standards, determining tuition and fee prices, and developing new programs that could affect the availability of higher education to citizens. A disadvantage of governing boards is their tendency to become too involved in the activities of a particular institution and forget the bigger state picture of higher education (Hines, 1988). Coordinating boards have the responsibility of developing master plans and approving new degrees and programs; they do not have direct authority over individual institutions or budgets. The major advantage of coordinating boards is their broad based scope of authority to develop state master plans for higher education, to approve new degree programs, and to make recommendations for state appropriations to higher education without becoming involved in the internal affairs of individual institutions. A major disadvantage of coordinating boards is that institutional governing boards and presidents may act independently of coordinating boards to further their interest at the expense of other public institutions (Hines, 1988). In comparison to governing and coordinating boards, advisory boards have limited authority. Advisory boards do have the authority to review instructional programs and can discontinue any program deemed deficient in quality. However, advisory boards have a major disadvantage in that they lack the authority to require institutions to work cooperatively to serve the public as a whole (Millet, 1984).
One major function of many state boards is to develop and revise statewide master plans for higher education. The advent of the master plan was the result of the need to centralize planning during the rapid expansion of higher education during the 1960's (Halstead, 1974). Halstead (1974) explains that the rationale behind state master plans is that state goals, whether economic, social, or political, can be best obtained through the development of human talent. States can best develop human talent by making postsecondary educational opportunities available to all citizen. However, the increasing complexity of the present society requires a variety of human talent; therefore a diversity of educational opportunities needs to be made available to citizens (Halstead, 1974).

Many states have used the principle of differential functions to provide a diversity of educational opportunities at the state level. The principle of differential functions as applied to higher education is:

Institutions should play distinctive roles in developing a diversified educational program to meet, with efficiency and economy, the varied needs of the youth and citizenry of the state (Halstead, 1974, p. 191).

This principle serves as an important basis for organizing coordinating state systems of higher education. Halstead (1974) operationalizes the principle of differential functions of higher education by explaining the differences in the missions of community colleges, state colleges, and research universities. Community colleges can best provide lower division undergraduate education, technical-vocational training and continuing education at the community level. Four-year colleges are the most effective means of providing comprehensive programs of higher education that are geographically accessible. Research universities are the best institutions capable of offering graduate programs and conducting major research for the state.
Newman (1987) claims the most frequent irritant undermining the relationship between states and institutions of higher education is the difficulty in achieving any differences in missions of institutions within a state. In his study of the relationship between states and universities, Newman (1987) found the major cause of the difficulty over institutional missions was the single pyramid of institutional prestige. Despite the assumption of different goals, the greatest prestige and the most rewards accrue to the research universities. It is understandably hard to convince those at regional universities, state colleges, and community colleges that they should be happy with second-class status (Newman, 1987, p.45).

Furthermore, Newman (1987) explains that most faculty at state colleges and regional universities receive their education at research universities. As a result, there is an inexorable drive within faculty to try to turn each institution into some form of research university. As a consequence, the harnessing of an appropriate missions to serve as the central driving force toward quality has been difficult to achieve. Newman (1987) argues unless mission can be differentiated and multiple pyramids of prestige created, there will be competition among institutions for prestige and limited resources. This competition will hurt and not help the overall quality of state higher education.

State's Responses to Increasing Access to Higher Education

Access has been an objective of state master plans since the late 1950's. The objective has been to provide an opportunity for every qualified high school graduate to enroll in a college or university (Millet, 1984). States have tried to meet this objective of access in three ways (Halstead, 1974; Millet, 1984). The first strategy has been to locate community colleges within commuting distance of most citizens,
while also locating state universities in the major urban areas. As a result, access to higher education has been expanded through greater geographic proximity (Millet, 1984).

Another strategy has been to remove the academic barriers to higher education by implementing an open admissions policy at state institutions. An open admissions policy is based on the assumption that higher education should be made available to every high school graduate, regardless of high school grades or standardized test scores (Millet, 1984). However, the open admissions policy has caused the greatest controversy of any of the strategies to increase access to higher education. Legislators and educators are concerned that open admissions policies have resulted in lowering the standards expected of students and have led to grade inflation (Millett, 1984). Another concern is that high schools have not prepared all students to attend college; therefore, institutions have had to request from the state additional revenue to pay for remedial or developmental services. Governors and legislators have been reluctant to pay the cost of remedial education (Millet, 1984). A third concern in some states is that only community colleges have an open admissions policy, while state colleges and universities have maintained selective admissions policies (Breland, 1985; Millet, 1984). As a result, access to higher education may be limited to only the community college system for some students.

States have developed student financial assistance programs as a third strategy to attempt to eliminate economic barriers to high education. In 1958, states began to administer student loan programs with federal guarantees (Fenske, 1981). The amendment to the Higher Education Act of 1965 provided for federal grants to state governments for student financial assistance (Millet, 1984). However, in the 1980's the federal government has cut back on student financial assistance programs, while simultaneously, students are experiencing record high tuition increases at state
institutions (Wittstruck and Braggs, 1988). Maintaining economic access to higher education will be a challenge for many states in the future.

Green (1987) is critical of the public policy used by legislators to address the issue of increasing access to higher education. He claims that policymakers have made the assumption that access to any postsecondary institution has the equivalent effect and benefits of attending any other college or university. Green argues that this assumption is incorrected based on nearly three decades of research on college students and institutional impact. The attitudes, experiences, and actions of individual policymakers affect how a state will respond to providing access to higher education (Greer, 1987). Depending on what type of state board exists in a state, legislators can have a major impact on insuring that access to higher education is provided at the state level.

Current Issues for State Systems of Higher Education

Higher Education has become a key policy issue in many states during the 1980's. Since 1982, all fifty states have formed some kind of commission to examine the future of their state, and all the commissions identified the quality of their higher education system as the key to their state's future (Newman, 1987). In 1985, 38 state-of-the-state addresses by governors cited economic development as the state's top priority, and in every case linked the economic development of a state to the dependence on its system of higher education (Newman, 1987). As Richard Lamm, former governor of Colorado said, "the state that is second best educationally will be second best economically" (Newman, 1987).

In a review of 15 state reports on higher education, Mangieri and Arnn (1986) identified six common areas of concern: quality of education, differentiation of mission and function of institutions, campus governance, financial support of higher
education, and the relationship of higher education to the state's economic growth. The major concern in all 15 reports was the question of quality, but the states varied on how they measure quality, or define the term (Mangieri and Arnn, 1986). Access to higher education was the major focus of the concern for differentiation of mission and function of public institutions. The states' reports also addressed the issue of limited resources and how states plan to reduce cost by streamlining some programs and eliminating duplication of other costly programs. Mangieri and Arnn (1986) claim that efficiency has become a significant component in educational reform. As states begin to implement some of the recommendations to reduce the state's cost of providing higher education, the issues of access may create competition or conflict over policy within higher education or between campuses and the state. Hines (1988) outlines the conflict for many state and campus policy makers when he says . . .

In a period of ample resources, campus leaders can meet the needs of both access and quality improvements. In periods of scarce resources, however, the perception may exist that campuses are compelled to make hard choices between access and quality. (p 110)

Mangieri and Adams (1989) conducted a survey of commissioners of higher education to identify top issues facing higher education at the state level. The two issues were ensuring quality and providing access to higher education. Forty-two of the forty-six commissioners ranked quality as a very important issue in their state. Every commissioner ranked matters related to access as important to their state system of higher education. Mangieri and Adams (1989) did find some differences among the commissioners' responses based on the population and geographic location of their state. In sparsely populated states, academic quality was the most important issue for the public higher education. In more populated states,
recruitment and retention of minority and ethnic faculty and students was the most important issue. States in the West and North Central were most concerned with attracting qualified faculty and increasing state appropriations, while states in the South and Northeast were concerned with recruiting minority and ethnic faculty and students. In addition, states in the Northeast were concerned with maintaining student financial assistance programs.

In summary, states have the primary responsibility for providing higher education. Each state has created a state board and developed mechanisms to coordinate higher education within the state. States have developed different strategies to improve access to higher education. However, the current issues facing state systems of higher education may make it more difficult to provide access to higher education in the future.
CHAPTER III
RESEARCH DESIGN AND METHODOLOGY

The purpose of this study was to examine how access to higher education has changed over time. Researchers have used three indicators to determine the extent to which access to higher education is available to citizens in a particular state (Willingham, 1970; and Ferrin, 1971). The first indicator is the price of tuition: the full-time residential undergraduate tuition and required fees for one academic year. Another indicator is selectivity: the admission standards institutions use to admit students. The final indicator is geographic access: the commuting distance to an institution in relationship to where the majority of the state’s population lives.

Chapter III describes the research methods and analysis used to determine how these three indicators (selectivity, price of tuition and geographic access) have changed over time as an indication of how access to higher education has changed.

Two different methodologies were used in this study to determine how access to higher education had changed from 1969 to 1989. Section One describes the quantitative methodology that was used to analyze how selectivity, price of tuition, and geographic access has changed. Section Two describes the second methodology which used multiple-case studies that document how changes in state-level policies relate to changes in selectivity, price of tuition, and geographic access within the context of state policies (Yin, 1989).
Variables

Willingham (1970) used three variables to determine the extent to which higher education is accessible to citizens in a particular state: selectivity, price of tuition, and geographic access. These three variables were the focus of the current study.

Selectivity refers to the admissions standards and procedures that an institution uses to admit students. One method of measuring the selectivity is the formal written admissions policy of an institution, for example, "we accept students with a 'C' or better grade point average in high school." The advantage of using written admissions statement is that the statement serves as a statement of the admissions criteria to the public (Astin, 1985). However, there was a problem with using only the written admissions statement, as sometimes there is a discrepancy between what the written admissions policy states, and how that policy is actually implemented (Willingham, 1970). As a result, Willingham suggested using a second measurement in conjunction with the written admissions policy: the percentage of the freshmen class who ranked in the top half of their high school graduating class. The measure of rank provides the best indicator of whether an applicant with an average record from high school will or will not be accepted--either by explicit or de facto circumstances.

Price of Tuition refers to the full-time residential undergraduate tuition and required fees for one academic year a student must pay.

Geographic Access refers to the length of travel between home and the institution. Willingham suggests using a time period such as 45 minutes as opposed to a certain distance traveled by a student. It may take a student in large urban city
45 minutes to travel 10 miles in city traffic, while a student in a rural area could travel 40 miles in the same time period.

Sampling

The unit of analysis for this study will be the state. The focus of the study is to determine to what extent access to higher education is available to citizens in a particular state. Willingham's (1970) original study included all fifty states. The current study was limited to 3 states. These states were Massachusetts, Ohio, and South Dakota. The states were selected based on their differences in how they attempted to provide access to higher education. Other factors were the difference in the number of institutions and the balance of public and private institutions in each state. Choosing states that have different approaches to providing access to higher education allowed the researcher to compare the states on how effective they were in providing access to higher education. Any type of trend or assessment of access to higher education from this research can only be applied to a particular state in which the data were generated.

Quantitative Methodology

The quantitative method used for this study was a replication of the methodology developed by Warren Willingham (1970). Willingham developed a systematic method of classifying raw data into ordinal rankings as a means of measuring the accessibility of selectivity, price of tuition, and geographic access of individual institutions. From the ordinal rankings, Willingham determined the frequency of the ranking of each variable as a means of assessing accessibility of higher education at the state level. No statistical techniques are used in this methodology.
This researcher was interested in how access to higher education had changed over time. Therefore, the researcher replicated Willingham's methodology in a longitudinal design to assess how access to higher education had changed from 1969 to 1979 to 1989. Describing a change or trend in a phenomenon in the current study of access to higher education involves the examination of a series of measurements over time (Hyman, 1972). Hyman (1972) claims the merit of using internal replication as a means to measuring change is based on the assumption that errors, such as response biases and sampling biases that are constant in magnitude, create no problem in assessing change, if the same design and the same measurements are used. However, if the researcher also wants to make generalizations beyond the sample and variables in the study, then the researcher needs to conduct a further evaluation of the reliability of the measurements.

Quantitative Analysis One: Selectivity

The first analysis was to determine which institutions are accessible, based on their level of selectivity. Willingham developed a five-point rating scale to classify the different levels of selectivity using admissions policies and the average high school class rank of the freshmen class. In the present study, Willingham's selectivity scale was used to classify the selectivity of each institution. Institution that score one or two are classified as accessible.
Table 1. Ranking Scale for Selectivity

<table>
<thead>
<tr>
<th>Selectivity Score</th>
<th>Class Rank</th>
<th>Admissions Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Open Door</td>
<td>0-49%</td>
<td>Accepts all applicants</td>
</tr>
<tr>
<td>2- Nonselective</td>
<td>50-69%</td>
<td>Accepts top 75%, C average</td>
</tr>
<tr>
<td>3- Selective</td>
<td>70-84%</td>
<td>Accepts top 50%, C+ average</td>
</tr>
<tr>
<td>4- Very Selective</td>
<td>85-94%</td>
<td>Accepts top 1/3, B average</td>
</tr>
<tr>
<td>5- Most Selective</td>
<td>95+</td>
<td>Very Competitive</td>
</tr>
</tbody>
</table>

Quantitative Analysis Two: Price of Tuition

The second analysis was to determine the accessibility of the institution based on its price of tuition. Willingham (1970) also developed a five-point rating scale to classify the different prices of tuition as compared to the median family income in the United States. For the present study, there are three price-of-tuition scales, one each to reflect the economic conditions of 1969, 1979 and 1989. For an institution to be accessible, Willingham claims the price of tuition should not be higher than 5% of the family income, or a score of two.
Table 2. Ranking Scale for Tuition

<table>
<thead>
<tr>
<th>Tuition Score</th>
<th>Tuition and Fees</th>
<th>Percent of Family Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1969</td>
<td>U. S. 1969*</td>
</tr>
<tr>
<td>1</td>
<td>$ 0-190</td>
<td>0.0-2.0 %</td>
</tr>
<tr>
<td>2</td>
<td>191-480</td>
<td>2.1-5.0</td>
</tr>
<tr>
<td>3</td>
<td>481-960</td>
<td>5.1-10.0</td>
</tr>
<tr>
<td>4</td>
<td>961-1920</td>
<td>10.1-20.0</td>
</tr>
<tr>
<td>5</td>
<td>1921-higher</td>
<td>20.1-higher</td>
</tr>
</tbody>
</table>

* Individual state tables were revised to reflect economic conditions in each state for each year.

This researcher conducted a second tuition analysis using a tuition table substituting the state median family income in each state for the U.S. median family income. Curry (1988) claims that the traditions and the economic conditions in each state play a major role in shaping state policies which affect the price of tuition.

Quantitative Analysis Three: Institutional Accessibility

The third analysis was to determine the overall accessibility of each institution. The accessibility of individual colleges was judged based on joint consideration of the price of tuition and selectivity scores. An institution that has an open enrollment admissions policy but has a high price of tuition is just as inaccessible as a college which practices selective admissions but has a lower price of tuition. Willingham (1970) believed for an institution to be accessible it should admit the majority of students who apply, and the tuition should be relatively inexpensive. A final scale developed by Willingham was used to assess the accessibility level of each
institutions. Institutions were classified into one of five levels of accessibility depending on the higher of the two scores of selectivity (Table 1) or tuition (Table 2). Institutions which have an accessibility level of one or two were judged to be accessible to the majority of applicants.

Table 3. Ranking Scale for Institution Accessibility

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>The institution accepts all high school graduates and tuition is generally free or very inexpensive.</td>
</tr>
<tr>
<td>Level 2</td>
<td>The institution accepts most applicants and tuition is still within reach of most students not clearly in poverty.</td>
</tr>
<tr>
<td>Level 3</td>
<td>The institution accepts a substantial number of applicants and/or tuition is high.</td>
</tr>
<tr>
<td>Level 4</td>
<td>The institution accepts fewer than half the applicants and/or the price of tuition is fairly costly.</td>
</tr>
<tr>
<td>Level 5</td>
<td>The institutions accept applicants on a competitive basis and/or tuition is costly.</td>
</tr>
</tbody>
</table>

Quantitative Analysis Four: State Level Access

Once the accessibility of individual institutions was determined, then the accessibility of higher education on the state level was to be assessed by evaluating the location of accessible institutions in relation to the state’s population for the fourth analysis. Willingham developed a table to adjust for time required to travel in urban, suburban, and rural areas. The table has different commuting mileage limits based on how many miles a student could commute in 45 minutes. A student living in a rural area could travel 25 miles in 45 minutes, while a student living in a suburban area could travel only 5 to 10 miles in 45 minutes. The table is designed
to take into consideration the differences due to type of environment where students may live.

**Table 4. Geographic Access of Institutions**

<table>
<thead>
<tr>
<th>Miles One Way*</th>
<th>Type of area (population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 1/2</td>
<td>Large central city, more than 1 million</td>
</tr>
<tr>
<td>5</td>
<td>Suburban area, more than 1 million</td>
</tr>
<tr>
<td>5</td>
<td>Metropolitan, 500,000-1,000,000</td>
</tr>
<tr>
<td>10</td>
<td>Metropolitan, 250,000-499,000</td>
</tr>
<tr>
<td>15</td>
<td>Metropolitan, 50,000-249,000</td>
</tr>
<tr>
<td>20</td>
<td>Town, 10,000-49,000</td>
</tr>
<tr>
<td>25</td>
<td>Rural area and town, less than 10,000</td>
</tr>
</tbody>
</table>

*Miles traveled by students commuting 45 minutes

**Quantitative Analysis Five: Change in Access**

In order to assess how the availability of higher education has changed over time, the institutional analysis (analysis 1-4) was repeated for the three time periods (1969, 1979, 1989). The researcher then compared the changes in three variables (selectivity, price of tuition, or geographic location) to determine how the accessibility of higher education had changed from 1969 to 1979 to 1989 in each state.
Data Collection

A secondary data gathering technique was used to collect data for this study. This data gathering method involves the extraction of data from a data set collected for another purpose (Hyman, 1972). The primary advantage of secondary data gathering is its potential for saving money, time, and personnel in the data collection process (Kiecolt and Nathan, 1985). Another advantage is that many of the data collection problems can be avoided by using an original data base which has been drawn from a national sample with standard items and standard indices (Kiecolt and Nathan, 1972). The primary disadvantage of secondary data gathering is the possibility in the original data set of errors that are no longer visible and may be impossible to differentiate (Kiecolt and Nathan, 1985). Another concern is measurement error: the extent to which the original items are a precise measurement of the concept the secondary analyst has in mind (Kiecolt and Nathan, 1985).

The primary source for data on admissions policies, class rank, and the price of tuition will be the College Blue Book (1969, 1979, 1989) published by McMillan Publishing Company. Willingham (1970) used similar secondary sources for his data collection. Brinkman and Krakower (1983) claim that the College Blue Book is one of the best sources of institutional data on institutional selectivity (admissions policies), class rank, application to acceptance ratio, data not readily available elsewhere. The College Blue Book has been used as a professional reference since 1923. In each set, two volumes contain the information most pertinent to this study: the tabular data and the narrative description volumes. The information reported in the College Blue Book is collected by questionnaires sent to all accredited institutions of higher education in the United States.
Section 2

The Qualitative Analysis

The second methodology involved developing multiple-case studies that document how changes in state-level policies relate to changes in selectivity, price of tuition, and geographic access. The case study methodology was useful to investigate changes in selectivity, price of tuition, and geographic access within the context of state policies (Yin, 1989).

The researcher used the case studies to compliment the quantitative data. Fielding and Fielding (1986) claim that methodological triangulation can increase the interpretability and validity of inquiry results by capitalizing on the inherent strengths and weaknesses of different methods. The critical point of using mixed method research design is how the integration of the different data sources is accomplished. Fielding and Fielding (1986) caution that comparison of different data sources is possible, but integration with a single narrative is not only difficult but also obscures the very complexity the researcher worked hard to document.

Policy documents and interviews with state policymakers were used to develop a case study for each state in the study. Documents can play an explicit role in developing a case study. Yin (1989) claims that a systematic search for relevant documents is an important part of the case study method. However, Yin (1989) warns that it is important in reviewing any document to understand that it was written for some specific purpose and some specific audience other than those of the case study. He suggested that the researcher constantly try to identify the conditions under which the document was written and the objectives of the parties involved in writing the document. The most important use of documents is to corroborate and augment evidence from other sources (Yin, 1989).
Key informant interviews were used to corroborate the researcher’s findings from policy documents. Yin (1989) claims that well-informed respondents (informants) can provide important insights into a situation. Instead of a standardized interviewing format in which the interviewer defines the question and problem, an elite interviewing technique was used by the researcher. An elite interview is a specialized treatment of interviewing that focuses on one particular type of respondent (Marshall and Rossman, 1989). Elites are informants that are considered to be the influential, the prominent, and the well-informed people in an organization. Elite informants are selected for interviews based on their expertise in areas relevant to the research (Dexter, 1970; Marshall and Rossman, 1989).

Elite interviewing has several advantages. Valuable information can be gained from these respondents because of the positions they hold in social, political, financial, or administrative realms. Elites are more likely than other informants to be familiar with the legal and financial structure of their organization (Marshall and Rossman, 1989). They are also able to report on their organizations’ policies, past histories, and future plans.

Marshall and Rossman (1989) also outline some of the disadvantages in the process of elite interviewing. There can be a problem of accessibility to elites because of their busy schedules and the demands on their time. Another disadvantage in the interview process of elites is that the interviewer must modify the conventional role of confining herself to asking questions and recording answers. Marshall and Rossman (1989) claim that elites, in general, resent the restrictions placed on them by narrow, stereotypical questions. Elites desire more active interplay with the interviewer. Marshall and Rossman (1989) found that elites respond well to inquiries related to broad areas of content and to a high proportion of intelligent, provocative, open-ended questions that allowed them freedom to use their knowledge and
imagination. As a result of this more interactive interviewing format, greater
Demands are placed on the interviewer to establish competence in the topic by
projecting an accurate conceptualization of the problem through shrewd questioning.

In the current study, several elite informants were interviewed in each state. Informants included college presidents, regents, state higher education officials, members of the independent college associations, and fiscal budget officers. The researcher asked the question, "How does the state provide access to higher education?" The elite informants responded by defining in their perspective the issues, problems, and concerns in regards to how the state provide access to higher education. The researcher then asked follow-up questions to corroborate or disaffirm findings from the policy documents.

The researcher used an embedded case study design in which the findings from each case study were not pooled, but used only to interpret the access policies of a given state (Yin, 1989). For example, instead of pooling the three states' policies in regard to tuition, the researcher examined the tuition policies in relationship to a state and its other access policies.

In the final analysis, the researcher compared the findings from the quantitative analysis and the case studies to determine how access to higher education has changed in each state.

Data Collection

The two primary sources of evidence for case studies were policy documents and interviews. Public policy documents from each state were used to document changes in state-level policies as they relate to selectivity, price of tuition, and geographic access. The State Higher Education Executive Officer in each state was contacted and asked to identify key documents which outlined the state's policies in
regards to access to higher education from 1969 to the present. The state officials either sent the documents or provided necessary reference information to the researcher. The Association of Independent Colleges and Universities, in each state, was also contacted and they provided documents that cited their access policies and their perspective on how state-level policies affected private institutions.

The informants for the interviews were selected based on their expertise in state-level policies related to access to higher education. Informants often recommended other informants who had more expertise in a particular area. In each state, the researcher interviewed informants both in the public sector and the private sector.

Section 3

Triangulation of the Two Methods

The results of the case studies were compared to the findings from the quantitative analysis to provide a more robust understanding of how access to higher education had changed between 1969 and 1989 in the three states. A methodological triangulation was used to interpret the findings from the two methods. Different methods of investigation can give rise to different sets of data, which then can be triangulated to provide an increased interpretability of the results (Fielding and Fielding, 1986). An important feature of triangulation is not the simple combination of different kinds of data, but an attempt to relate them so as to counteract the threats of validity identified in each method (Fielding and Fielding, 1986). Fielding and Fielding (1986) believe there are benefits to using both quantitative and qualitative methods. Qualitative work can assist quantitative work in providing a theoretical framework, validating survey data, offering case study illustration, deciphering puzzling responses, and selecting survey items to construct indices.
Quantitative data offers information about patterns within an overall population which can be used to direct the researcher's in-depth investigation. In the current study, the researcher used the case studies to provide a more in-depth interpretation of how access to higher education had changed in each state.

Summary

Two methodologies were used for this study. The first was a replication of the quantitative methodology developed by Willingham in a longitudinal research design. This longitudinal design provided the means of measuring how access to higher education has changed from 1969 to 1979 to 1989. The researcher conducted a second tuition analysis based on state-level income to better reflect the economic conditions in a particular state. The case studies methodology, from Section 2, provides the state-based context in which to investigate the changes in access to higher education. Triangulation of these two methods were then used to provide more in-depth interpretation of how access to higher education had changed in each state.
CHAPTER IV
RESEARCH FINDINGS

Chapter IV is an analysis of data collected from the quantitative study and the case studies to determine how access to higher education has changed from 1969 to 1979 to 1989. Section 1 will focus on the analysis of the quantitative data using a systematic analysis methodology developed by Warren Willingham (1970). In Section 2, the researcher will discuss the results of the three state-case studies. Section 3 will compare the findings from the quantitative study with the findings from the individual state-case studies.

Section 1
Quantitative Data Processing

A secondary data gathering technique was used to collect data on admissions standards and price of tuition for the accredited two-year and four-year institutions in each state. The primary source of data was the College Blue Book (1969, 1979, and 1989) published by McMillan Publishing Company. The researcher classified the data using the ordinal ranking scales developed by Willingham (1970). Once the data were ranked, it was entered into a data base file using Statistical Package for the Social Sciences (SPSS/PC). From the ordinal data, the researcher calculated the frequency of the ranking of each variable within a given state and year to determine how that variable had changed. For admissions standards or tuition to be accessible, it must have a ranking of one or two. Using the frequency of the ranking, the researcher determined the accessibility of admissions standards and

54
tuition in terms of the percentage of accessible institutions to the total number of institutions in each state.

The overall accessibility of each institution was evaluated based on joint consideration of the price of tuition and selectivity rankings. Institutions were classified into a third ordinal scale of institutional accessibility depending on the higher of the two rankings of selectivity or tuition. Willingham (1970) claims that for an institution to be accessible, it should admit most students who apply, and the tuition should be relatively inexpensive. Therefore, he claims an institution that has an open enrollment admissions policy but has a high price of tuition is just as inaccessible as a college that practices selective admissions but has a lower price of tuition.

Once the accessibility of individual institutions was determined, the researcher then assessed the accessibility of higher education on the state level by evaluating the location of accessible institutions in relation to the state's population. Willingham (1970) developed a table to adjust for time required to travel in urban, suburban, and rural areas. The United State Population Census (1970, 1980, 1988) was used as the primary source for changes in state population from 1969 to 1979 to 1989. The researcher used Willingham's Geographic Table to assess the geographic access of institutions that had accessible admissions standards and price of tuition.

Changes in access to higher education were examined by integrating the results from the quantitative analysis and the findings from the case studies. Each variable (selectivity, tuition, and geographic access) was examined separately to determine how access to higher education had changed.
Selectivity

The researcher, using SPSS/PC, aggregated the selectivity rankings for all public and private institutions in a state to determine the number of institutions with accessible admissions standards. Table 5 lists the number of institutions with accessible admissions standards (rank 1 or 2) by state. Table 1 also lists the percentage of accessible institutions to the total number of institutions in each state.

In all three states, admissions standards were more accessible in 1979 than 1969 and 1989. Private institutions had more selective admissions standards than public institutions in each state. Two-year institutions were more accessible than four-year institutions. Ohio and South Dakota had a greater percentage of their public institutions with accessible admissions standards than Massachusetts. Massachusetts's public two-year institutions were accessible, but the public four-year institutions had more selective admissions standards. Massachusetts was the only state that had a significant change in admissions standards. In 1989, Massachusetts' private and public institutions increased their admissions standards, resulting in a decrease in the percentage of institutions with accessible admissions standards.
Table 5. The Number of Institutions with Accessible Admissions Standards

<table>
<thead>
<tr>
<th></th>
<th>1969</th>
<th>1979</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td><strong>OHIO</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>27</td>
<td>50</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>90%</td>
<td>100%</td>
<td>92%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>17</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Four-Year</td>
<td>10</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>77%</td>
<td>100%</td>
<td>69%</td>
</tr>
<tr>
<td>Private</td>
<td>19</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>36%</td>
<td>100%</td>
<td>45%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>6</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>83%</td>
</tr>
<tr>
<td>Four-Year</td>
<td>13</td>
<td>41</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>28%</td>
<td>77%</td>
<td>41%</td>
</tr>
<tr>
<td><strong>MASS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>17</td>
<td>26</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>53%</td>
<td>93%</td>
<td>74%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>92%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Four-Year</td>
<td>5</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>38%</td>
<td>86%</td>
<td>46%</td>
</tr>
<tr>
<td>Private</td>
<td>32</td>
<td>49</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>46%</td>
<td>73%</td>
<td>55%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>20</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>83%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Four-Year</td>
<td>12</td>
<td>32</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>26%</td>
<td>64%</td>
<td>40%</td>
</tr>
<tr>
<td><strong>S. DAKOTA</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>6</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>83%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Four-Year</td>
<td>6</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>83%</td>
</tr>
<tr>
<td>Private</td>
<td>10</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>77%</td>
<td>88%</td>
<td>86%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Four-Year</td>
<td>7</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>77%</td>
<td>86%</td>
<td>86%</td>
</tr>
</tbody>
</table>

Note % = the total number of institutions in each category

Price of Tuition

The researcher aggregated the tuition rankings for all public and private institutions in a state to determine the number of institutions with accessible tuition. For an institution to be accessible, Willingham claims the price of tuition should not be higher than 5 percent of the family income (rank 1 or 2). When the researcher compared the tuition ranking based on the U.S. median family income with the tuition ranking based on the states' median family income, there was a discrepancy. The U.S. median family income may not accurately reflect a state median family
income (Table 6). As a result, a family may have more or less income to pay for higher education. The median family income in Massachusetts was above the U.S. median average for all three years. South Dakota was below the U.S. median average for all three years.

Table 6. U.S. Median Compared to State Median Family Income

<table>
<thead>
<tr>
<th></th>
<th>1969</th>
<th>1979</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>$9,500</td>
<td>$19,587</td>
<td>$32,191</td>
</tr>
<tr>
<td>Ohio</td>
<td>10,309</td>
<td>20,909</td>
<td>28,750</td>
</tr>
<tr>
<td>Mass</td>
<td>10,833</td>
<td>21,166</td>
<td>33,750</td>
</tr>
<tr>
<td>S. Dakota</td>
<td>7,490</td>
<td>15,993</td>
<td>23,749</td>
</tr>
</tbody>
</table>

When the U.S. median family income (Table 7) was used to calculate the accessibility of tuition, it overestimated the number of institutions with accessible tuition in South Dakota and underestimated the number of institutions with accessible tuition in Massachusetts. As a result, the researcher based the analysis of tuition on the state median family income (Table 8) to better reflect the economic conditions of individual states.

The price of tuition was more accessible in 1979 than in 1969 and 1989. Public institutions were more accessible based on the price of tuition than private institutions. The price difference of tuition between two-year and four-year institutions was minimal; as a result there was a minimal difference between the percentage of two-year and four-year institutions concerning the price of tuition. In 1989, increases in tuition at public institutions in Ohio and South Dakota resulted in
a large of number public institutions having inaccessible tuition prices. During the same time, Massachusetts's tuition at public institutions remained accessible.

Table 7. The Number of Institutions with Accessible Tuition Based on U.S. Median Family Income

<table>
<thead>
<tr>
<th></th>
<th>1969 %</th>
<th>1979 %</th>
<th>1989 %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OHIO</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>12</td>
<td>40%</td>
<td>47</td>
</tr>
<tr>
<td>Two-Year</td>
<td>8</td>
<td>47%</td>
<td>36</td>
</tr>
<tr>
<td>Four-Year</td>
<td>1</td>
<td>8%</td>
<td>10</td>
</tr>
<tr>
<td>Private</td>
<td>1</td>
<td>2%</td>
<td>9</td>
</tr>
<tr>
<td>Two-Year</td>
<td>0</td>
<td>0%</td>
<td>2</td>
</tr>
<tr>
<td>Four-Year</td>
<td>0</td>
<td>0%</td>
<td>7</td>
</tr>
<tr>
<td><strong>MASS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>24</td>
<td>77%</td>
<td>27</td>
</tr>
<tr>
<td>Two-Year</td>
<td>12</td>
<td>92%</td>
<td>11</td>
</tr>
<tr>
<td>Four-Year</td>
<td>13</td>
<td>72%</td>
<td>13</td>
</tr>
<tr>
<td>Private</td>
<td>1</td>
<td>1%</td>
<td>1</td>
</tr>
<tr>
<td>Two-Year</td>
<td>0</td>
<td>0%</td>
<td>1</td>
</tr>
<tr>
<td>Four-Year</td>
<td>1</td>
<td>2%</td>
<td>0</td>
</tr>
<tr>
<td><strong>S. DAKOTA</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>3</td>
<td>50%</td>
<td>6</td>
</tr>
<tr>
<td>Two-Year</td>
<td>0</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Four-Year</td>
<td>6</td>
<td>100%</td>
<td>7</td>
</tr>
<tr>
<td>Private</td>
<td>1</td>
<td>8%</td>
<td>0</td>
</tr>
<tr>
<td>Two-Year</td>
<td>0</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Four-Year</td>
<td>1</td>
<td>10%</td>
<td>0</td>
</tr>
</tbody>
</table>

Note % = the total number of institutions in each category
Table 8. The Number of Institutions with Accessible Tuition Based on State Median Family Income

<table>
<thead>
<tr>
<th></th>
<th>1969</th>
<th>1979</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>OHIO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>12</td>
<td>47</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>40%</td>
<td>95%</td>
<td>25%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>8</td>
<td>37</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>41%</td>
<td>100%</td>
<td>34%</td>
</tr>
<tr>
<td>Four-Year</td>
<td>4</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>44%</td>
<td>83%</td>
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<tr>
<td>Private</td>
<td>1</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2%</td>
<td>15%</td>
<td>5%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>0</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>22%</td>
<td>13%</td>
</tr>
<tr>
<td>Four-Year</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>MASS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>24</td>
<td>27</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>77%</td>
<td>93%</td>
<td>88%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>11</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>85%</td>
<td>100%</td>
<td>92%</td>
</tr>
<tr>
<td>Four-Year</td>
<td>13</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>72%</td>
<td>87%</td>
<td>85%</td>
</tr>
<tr>
<td>Private</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1%</td>
<td>1%</td>
<td>0%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>6%</td>
<td>0%</td>
</tr>
<tr>
<td>Four-Year</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>2%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>S. DAKOTA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>3</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>86%</td>
<td>0%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Four-Year</td>
<td>3</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>86%</td>
<td>0%</td>
</tr>
<tr>
<td>Private</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>8%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Four-Year</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Note % = the total number of institutions in each category

Accessible Institutions

The researcher aggregated the accessibility rankings for all public and private institutions in a state to determine the number of institutions that were accessible based on their selectivity and tuition rankings. Table 9 lists the number of institutions that were accessible (rank 1 or 2) in each state. Table 9 also lists the percentage of accessible institutions to the total number of institutions in each state.

Institutions were more accessible in 1979 than in 1969 and 1989. Public institutions were more accessible than private institutions. In 1989, there was a significant decrease in the number of accessible institutions in Ohio and South
Dakota compared to 1979 and 1969. There was only a modest decrease in the number of accessible institutions in Massachusetts in 1989.

Table 9. Number of Institutions that are Accessible.

<table>
<thead>
<tr>
<th></th>
<th>1969 %</th>
<th>1979 %</th>
<th>1989 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>OHIO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>12 40%</td>
<td>48 96%</td>
<td>13 25%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>8 47%</td>
<td>38 100%</td>
<td>13 34%</td>
</tr>
<tr>
<td>Four-Year</td>
<td>4 31%</td>
<td>10 83%</td>
<td>0 0%</td>
</tr>
<tr>
<td>Private</td>
<td>1 2%</td>
<td>9 15%</td>
<td>3 6%</td>
</tr>
<tr>
<td>Two-Year</td>
<td>0 0%</td>
<td>2 22%</td>
<td>0 0%</td>
</tr>
<tr>
<td>Four-Year</td>
<td>1 2%</td>
<td>7 13%</td>
<td>0 6%</td>
</tr>
</tbody>
</table>

| MASS   |        |        |        |
| Public | 13 42% | 25 89% | 22 81% |
| Two-Year | 11 85% | 13 100% | 13 92% |
| Four-Year | 2 11% | 12 80% | 6 69% |
| Private | 1 1% | 2 3% | 0 0% |
| Two-Year | 0 0% | 1 6% | 0 0% |
| Four-Year | 1 1% | 1 2% | 0 0% |

| S. DAKOTA |        |        |        |
| Public | 3 50% | 6 86% | 0 0% |
| Two-Year | 0 0% | 0 0% | 0 0% |
| Four-Year | 3 50% | 6 86% | 0 0% |
| Private | 1 10% | 0 0% | 0 0% |
| Two-Year | 0 0% | 0 0% | 0 0% |
| Four-Year | 1 10% | 0 0% | 0 0% |

Note % = the total number of institutions in each category

Geographic Access

Once the accessible institutions in each state were identified, the researcher then determined the geographic accessibility of higher education by comparing the location of accessible institutions to the state's population. United States Population Census Maps were used to measure the location of accessible institutions to the state's population areas.
The researcher found that geographic access to higher education was dependent on the number of accessible institutions in each state. The more accessible the institutions, the greater was the geographic access. Geographic access was high in 1979 because there was a high number of accessible public institutions. Because of the limited number of private accessible private institutions in each state, geographic access in all three states was primarily provided by public institutions. Public two-year institutions were more geographically accessible than four-year institutions.

The State of Ohio greatly increased geographic access to higher education from 1969 to 1989. The number of accessible public institutions increased from 12 in 1969 to 48 in 1979. The greatest increase in geographic access was at public two-year institutions because of the dramatic increases in the number of two-year institutions in the state. However, geographic access to higher education became limited in 1989 when the number of accessible institutions in the state decreased. In 1989, only 13 public two-year institutions were accessible and none of the public four-year institutions were accessible. The decrease in the number of accessible institutions limits the geographic access to higher education in Ohio.

Massachusetts' residents have adequate geographic access to accessible public two-year institutions. There is an accessible public two-year institution within commuting distance of the majority of the state's residents. However, geographic access to public four-year institutions is not as adequate. As the number of accessible public four-year institutions decreased from 12 in 1979 to 6 in 1989, there was also a decrease in the geographic access for public four-year institutions. The most notable lack of geographic access to a public four-year institution was in the Boston area. There is only one public four-year institution in the Boston
metropolitan area, and it is not accessible because of high selectivity and high price of tuition.

Geographic access to higher education in South Dakota was more available in 1979 than in 1969 and 1989. In 1979, there was an accessible public four-year institution within commuting distance of the majority of the state's population. However, in 1989, none of the public institutions was accessible; this limited the geographic access to accessible institutions.

Quantitative Summary

Changes in access to higher education were different in the three states. In Ohio and South Dakota, it was the price of tuition that changed, especially at public institutions. In Ohio, the percentage of institutions with accessible tuition changed from 40 percent in 1969 to 95 percent in 1979 to 25 percent in 1989 (Figure 1). In South Dakota, the percentage of institutions with accessible tuition changed from 50 percent in 1969 to 86 percent in 1979 to 0 percent in 1989 (Figure 2). The changes in Massachusetts were related to changes in selectivity. The percentage of public institutions with accessible admissions standards changed from 53 percent in 1969 to 93 percent in 1979 to 74 percent in 1989 (Figure 3). The greatest change in percentage of institutions with accessible admissions standards was at public four-year institutions. In Massachusetts' public four-year institutions the percentage of institutions with accessible admissions standards changed from 38 percent in 1969 to 86 percent in 1979 to 46 percent in 1989.

Changes in geographic access were directly related to changes in the number of accessible institutions. As the number of accessible institutions changed so did the geographic access.
Figure 1
Ohio Selectivity and Tuition

Figure 2
Massachusetts Selectivity and Tuition
Figure 3
South Dakota Selectivity and Tuition
Figure 4
Accessibility of Public Institutions
Section 2

Case Study Process

Policy documents and key informant interviews were used to develop a case study for each state. The researcher first reviewed state policy documents and then conducted interviews of key informants. The State Higher Education Executive Officers in each state was contacted and asked to identify key documents that described the state’s policies regarding access to higher education from 1969 to the present. State officials either sent the documents or provided the necessary reference information. The executive officers of Independent Colleges and Universities Associations from each state was also contacted and they provided documents that cited their access policies and their perspective on how state-level policies affected private institutions. From the documents, the researcher developed a chronological outline of changes in state policies and procedures as they related to providing access to higher education from 1969 to the present.

After reviewing the state’s documents, the researcher conducted interviews with key informants in each state. An elite interviewing technique was used by the researcher (Marshall and Rossman, 1989). Elites are informants that are considered influential and well-informed people in an organization. The informants, for this study, were selected based on their expertise in state-level policies related to access to higher education. The informants often recommended other informants who had more expertise in a particular area. Informants included college presidents, members of State Boards of Regents, staff members of Boards of Regents, Executive Officers of the Independent Colleges and Universities Associations, and state fiscal budget officers.

Marshall and Rossman (1989) found that elites respond well to inquiries related to broad areas of content and to a high proportion of intelligent, provocative,
open-ended questions that allowed them the freedom to use their knowledge and imagination. Therefore, the researcher did not use a standard set of questions in interviewing informants. Instead, the researcher asked the question, "How does the state provide access to higher education?" The elite informants responded by defining in their perspective the issues, problems, and concerns regarding how the state provides access to higher education. The researcher then asked follow-up questions to corroborate or disaffirm findings from the policy documents or other informant interviews.

The researcher used an embedded case study design in writing the case studies in which the findings from each case study were not pooled, but used only to interpret the access policies of a given state. For example, instead of pooling the three states' policies regarding tuition into one section, the researcher examined tuition policies in relationship to a particular state and its other policies. The case studies examine the social, political, and economic context that contributed to or inhibited a state's ability to provide access to higher education for its residents. The individual case studies are presented according to the decades of the 1970's and 1980's. The analysis of the individual state policies will be discussed in section 3.

The first case study will describe the access policies in Ohio. Ohio is one of the nation's leading industrial states. Manufacturing is centered in or near eight major cities in the state and eighty percent of the population live in these eight urban centers. Because of the availability of high paying assembly-line jobs in Ohio, higher education had not been a priority for many residents. However, the decline in manufacturing, particularly the auto industry, has had a major impact on the state's economy in the 1980's. In the 1990's, Ohio is trying to make an economic transition from a declining assembly-line economy to one driven by high technology. State policymakers believe that more highly educated population will be needed to
help the state make this transition. The state supports 25 four-year institutions and 36 two-year institutions. There are 65 independent four-year institutions and 26 independent two-year colleges.

The second case study will examine Massachusetts. Massachusetts is very dependent on its institutions of higher education for the state's economic vitality. The state's leading industry is high technology, which thrives on the basic research and researchers coming from the prestigious research universities in the state. Massachusetts is the only state that has more students attending private institutions than public. Eighty-nine of the state's colleges and universities are private as compared to the state's 31 public institutions.

The final case study will describe the state policies in South Dakota. Unlike Massachusetts and Ohio, South Dakota is primarily an agricultural state. Agricultural production and related activities dominate the state's economy. The heavy dependence on farming has made the state's economy extremely vulnerable to agricultural price swings. The state supports two state universities, a school of mines and technology, and three state colleges. The state does not support any public two-year institutions. However, there are five tribally controlled colleges funded by the federal government. Unlike Ohio and Massachusetts, there are only five private colleges in South Dakota. The large geographic size of the state and the low population provides a challenge to state policymakers to provide geographic access to higher education.

Ohio Case Study

Ohio has provided access to higher education by maintaining an open admissions policies and wide geographic access. Ohio has a state law dating back to 1913 mandating open-access to public higher education to every resident with a
high school diploma. During the 1960's, Ohio increased its geographic access by locating a two-year college within 30 miles of every person in the state and a four-year institution in every major urban center.

The high price of tuition has been the major factor that makes higher education in the Ohio inaccessible. The average cost of tuition and fees in 1990 at four year state-assisted institution in Ohio was $2,432, compared to the national average of $1,694 (Chronicle, 1990). In 1990, students in Ohio's public institutions paid 40 percent of the total cost of education, compared to the national average of 33 percent. Higher education has been historically underfunded by the state with a net effect of high tuition charges to students. Elaine Hairston (personal communication, January 8, 1991), Chancellor of the Ohio Board of Regents, explained that until about 10 years ago, people in Ohio did not think it was necessary to go to college. Parents did not encourage their children to pursue a college education and voters did not make higher education a priority with their state legislators. As a result, the legislators did not make allocations to higher education a priority (E. Hairston, personal communication, January 8, 1991). It is a problem of 'attitudinal access,' claims Hairston (personal communication, January 8, 1991); Ohioans' did not value a college education and therefore there is a history of low participation and low state financial support of public higher education.

The low participation rate in higher education is a concern to state educators. Forty-five percent of the high school graduates in Ohio go directly on to college compared to sixty-six percent nationally (Ohio, 1988a). Two hundred and fifty-two thousand Ohioans' would have to earn a bachelor's degree to be at the national average for the state's population. Ohioans' reliance on manufacturing has been cited as the reason high school graduates do not go on to college. For generations, Ohioans went from high school directly to the assembly line--high paying jobs that
didn't require training at the postsecondary level. In the 1990's, Ohio is trying to make an economic transition from a declining assembly-line economy to one driven by high technology. A successful transition will depend on a population that is more highly trained and educated (Ohio, 1988a).

State Profile

Ohio is one of the nation's leading industrial states. Originally, Ohio was primarily a farming state; however, the industrial revolution in the 1850's had a major impact on changing the economic structure of Ohio. Agriculture is still a major source of income for the state. In 1986, Ohio ranked 12th among states in earnings from the sale of agricultural products (Collier, 1990). However, the 1950's and 1960's, farm consolidation in the rural areas and industrial growth in the urban areas caused many people to abandon the family farm and move to the city. Ohio ranks as the third among the states (after California and New York) in income generated by manufacturing (Collier, 1989). Ohio is a leading producer of transportation equipment, fabricated metal products, non-electrical and electrical machinery, and primary metals. Ohio's manufacturing is centered in or near the eight major cities in the state.

Eighty percent of Ohio's populations lives in eight urban centers--Akron, Cincinnati, Cleveland, Columbus, Dayton, Franklin, Toledo, and Youngstown. Ten percent of Ohio's population is Black, with 65 percent of Ohio's Black citizens living in the major urban areas. Population growth in the state has been slow during the 1970's and 1980's. There has been little migration into the state and considerable out-migration. According to the 1980's census data, Ohio had only 1.2 percent growth in population compared to the national average of 11.4 percent.
In addition, Ohio is expected to have a 2.4 percent decline by the year 2000 (Ohio, 1988a).

The decline in manufacturing, particularly in the auto industry, has had a major impact on Ohio’s economy in 1980’s. Many Ohioans lost their jobs because the automobile industry was unable to compete with the more efficient and lower-wage foreign auto producers. However, manufacturing is still Ohio’s largest employment sector, although it is only one-third as strong in as the 1970’s. Ohio’s unemployment rate peaked in 1983 at 14.2 percent and remains above the national average (Ohio, 1988a). Racial/Ethnic minorities have been disproportionately effected by the decline in manufacturing. The percentage of residents living below the poverty level in 1984 was 14.4 percent. Ohio’s 28 Appalachian counties, located in Southeast Ohio, all have a mean family income below the state’s average.

Background

One distinction of higher education in Ohio is its highly decentralized governance system. Each public college and university has its own board of trustees who have primary authority for all fiscal, academic, and personnel policies. The Board of Regents serves as the statewide coordinating agency and policy recommending body to the Governor and the General Assembly. However, the Board of Regents has limited authority to implement public policy affecting higher education. The Regents, by law, are authorized to 1) approve new degree programs at public institutions, and 2) approve the location and establishment of new two-year campuses. Otherwise, policy recommendations and state appropriations requests for higher education can only be implemented through the legislative process of the State of Ohio (Ohio, 1971).
Expanding academic facilities to meet the increasing demand for higher education was the focal point of public policy in Ohio during the 1960's. Millet (1974), the first chancellor of the Ohio Board of Regents, claims there was never any debate what the policy objective should be; it was to accommodate every high school graduate who wanted to enroll in higher education. Ohio had a law dating back to 1913 mandating open access to public higher education. Millet interpreted the 1913 ruling in the following manner:

> Open access to public higher education means that every high school graduate who wished to go to a public college or university should have the opportunity to do so. There may be economic, academic, and motivational barriers to higher education, but under an open access policy the high school graduate who asks for admission must be given the opportunity to enroll (Millet, 1974, p. 65).

In order to provide access to public higher education, the Regents were urged by newly elected Governor James Rhodes to undertake a bold action plan. The objective was to locate a two-year campus within thirty miles of every person in the state, and to locate a four-year institution in all eight major urban centers in the state. Christman (personal communication, January 17, 1991), former state representative and currently executive director of the Association of Independent Colleges and Universities of Ohio, claims that public higher education was expanded without consideration of existing private colleges because of two fundamental assumptions. One assumption was that if a state institution did not exist in a given service area, then taxpayers were not being served, even though there may have been private colleges and universities in that service area. The second assumption was that the state of Ohio was obligation to financial support public institutions, in contrast to the obligation to provide access to higher education. Christman (personal communication, January 17, 1991) believes that these two assumptions resulted in
the General Assembly expanding the public system of higher education without consideration or incorporation of the existing private institutions.

In expanding the public sector, the size of a county's population would be the determining factor as to what type of institutions a county received. All eight urban centers received a university. Two municipal universities of Akron and Toledo were converted to state universities. The University of Cincinnati became a state-related university. Two private colleges were purchased to create Cleveland State University and Youngstown State University. Finally, the General Assembly passed a bill to build a new state university in the Dayton areas called Wright State University. From 1964 to 1967, Ohio added six new state universities to its system, for a total of 12 state universities.

University branches would be considered for counties or groups of counties with a population of 100,000 or more people and with an unfulfilled enrollment demand. Counties with a minimum of 100,000 people would be considered for a community college. Technical institutes offering two-year programs in technical education were considered for counties with a minimum population of 50,000 people. Besides expanding facilities, the Regents recommended limiting enrollment of freshmen on the main campuses of state universities because they felt that enormous cost reductions could be made by providing a "live-at-home" for lower-division students. The Regents believed the "live-at-home" option would benefit both the students and the state. Students would benefit financially if there were more lower-division programs available within commuting distance. The state would benefit by separating the first two years of collegiate instruction from the university's upper-division programs and graduate studies. The Regent's rationale for this policy was that upper-division programs require more complex and expensive resources; it was sound educational policy to avoid duplicating these
extensive programs (Ohio, 1966). The "living-at-home" option was implemented by establishing university branch campuses. These branch campuses were the state's primary response to its legal obligation to provide open access to higher education.

Independent Non-Profit Higher Education in Ohio

The Association of Independent Colleges and Universities of Ohio (AICUO) was organized in 1969 to represent the interests of independent colleges and universities in Ohio to lawmakers, regulators, and citizens. AICUO seeks to strengthen financial aid programs for students and bring a greater understanding of the impact and contributions of independent colleges in Ohio. Forty-five independent non-profit four year and graduate/professional schools are represented by AICUO. Public accountability of Ohio's independent colleges and universities is provided by the Ohio Board of Regents, which grants certificates of authorization to non-profit educational institutions that offer degrees within the state (AICUO, 1990). Unlike public universities, independent institutions must be reauthorized by the Regents at regular intervals.

Historically, Ohio's independent colleges and universities enroll about one quarter of the students enrolled in four-year institutions and confer almost thirty percent of the degrees earned at four-year institutions (AICUO, 1990). These institutions enroll about 28 percent of the African-American students enrolled in four-year institutions in the state, and confer 44 percent of the bachelor's degrees to African-American students. Based on these statistics, AICUO (1990) claims that Ohio's independent colleges and universities have been more productive than their public counterparts in helping students complete their college educations.

Ohio's independent colleges and universities are funded from a variety of sources--tuition, private philanthropy, and government grants and appropriations,
with the largest proportion coming from tuition. The average tuition in 1989-90 for Ohio’s independent four-year institutions was $7,976 as compared to $2,394 at public four-year institutions which results in a $5,582 tuition gap between independent and public institutions. Ohio’s independent colleges and universities have historically relied on corporate and private contributions for revenue. Ohio’s public institutions have become more aggressive in the corporate fundraising arena, which has resulted in a smaller proportion going to private institutions (AICUO, 1990).

Independent institutions provide substantial tuition assistance to their students. In 1988-89, AICUO institutions provided more than double the amount of tuition assistance to students than spent by the federal government and Ohio combined. These institutions spent $122 million of their resources to fund tuition assistance programs that amounts to 61 percent of the total of the financial aid received by undergraduates attending independent institutions. The federal government amount equals 23 percent and the state’s is 16 percent of the financial aid to students attending independent institutions. Eight out of ten students attending AICUO institutions receive some type of financial aid. Independent institutions actually enroll a greater percentage of students in the lowest two income brackets or families with incomes of less than $20,000 than at public institutions. AICUO claims that Ohio benefits when independent institutions educate residents at a fraction of the cost that taxpayers spend to educate the same student at a four-year public institution.
Background Summary

In summary, Ohio has provided access to higher education through open-admissions policies and wide geographic access. Yet, historically, higher education has been underfunded by the state, with the net effect of higher tuition charges to students. Ohio’s history of low participation rates in higher education is a concern of many policy makers as Ohio tries to make the transition from an assembly line economy to a high technology and service-oriented economy.

Decade of the 1970's

Public higher education in Ohio became more accessible during the 1970’s. Based on the researcher’s quantitative analysis, 96 percent of the state-assisted institutions in Ohio were accessible in 1979, compared to 40 percent in 1969. Admissions standards at most state-assisted institutions were accessible in both 1969 and 1989. Access to public higher education increased because of changes in the price of tuition. The percentage of state-assisted institutions with accessible tuition price increased dramatically from 40 percent in 1969 to 95 percent in 1979. Higher state appropriation to higher education during the 1970’s could have been a contributing factor to more accessible tuition at state-assisted institutions. Private higher education was not as accessible as public higher education in Ohio during the 1970’s. Only 15 percent of the private institutions were accessible based on the analysis of admissions standards and price of tuition. However, the high price of tuition was the major reason private higher education was inaccessible.

In the 1960’s, the focal point of public policy for higher education in Ohio was on expanding academic facilities to meet the increasing enrollment demands.
The Regents felt that higher education policy in the 1970's must be concerned about issues beyond the single concern of just accommodating numbers of students, and deal with policy issues of how much and what kind of educational opportunities must be provided to citizens in Ohio. The major public policy issues related to access in the Ohio Board of Regents' 1971 Master Plan were admissions policy for public higher education, enrollment size of public universities, and adequate financing of higher education programs.

Admissions Policies

From 1960 to 1970, state universities expanded their enrollment 200 percent to meet the demand for more higher education. Yet these same institutions, in the late 1960s, began to be criticized by public officials and citizens for having campuses that were over-crowded, congested, and required increased municipal services and resources. In 1969, the Ohio General Assembly enacted a law (Section 3345.19 of the Ohio Revised Code) that limited enrollment on five state universities: Bowling Green State Universities (15,000), Kent State University (20,000), Miami University (15,000), Ohio State University (40,000), and Ohio University (20,000). The Ohio Board of Regents recommended that these enrollment limitations be continued because of the problems of providing student housing and services. The Regents also recommended that The Ohio State University 40,000 cap not include graduate, agricultural, nursing, and allied medical students.

Although the General Assembly and the Regents agreed on limiting the enrollment size at public universities, the state was still obligated to admit every graduate of the twelfth grade to an Ohio public university. As a result, the Regents made the following recommendations. One, the Regents recommended that public universities be authorized, by law, to select Ohio high school graduates for
baccalaureate programs according to enrollment limitations, enrollment objectives, and special characteristics of each public university. The Regents recommended that public universities continue to provided opportunities to students with high motivation, but who were disadvantaged in their preparation for college, especially black students. To make the admissions policy of the state and the enrollment limitation statute consistent, the Regents amending the open-access to public university law (Section 3345.06 Ohio Revised Code) to read as follows:

An Ohio resident who graduates from the twelfth grade shall be entitled to admissions without examination to a two-year publicly sponsored college receiving current operating support from the state. An Ohio resident who graduates from the twelfth grade shall be admitted to a baccalaureate degree program of a publicly sponsored university receiving current operating support from the state, according to standards and procedures to be determined by the board of trustees or directors of such university. (Ohio, 1971)

Tuition and Financial Aid Policies

The state primary supports for higher education are state subsidies for instructional and general operations costs. During the 1960's, public institutions sought increases in state appropriations for increasing faculty salaries, expanding expensive instructional programs, and obtaining more instructional equipment and facilities. When the state appropriation did not meet what institutions requested, public institutions increased students' tuition and fees. The citizens of Ohio began to become concerned with the rising cost of public higher education in Ohio. Essentially, the Regents and the General Assembly reacted to citizens' concerns by increasing state financial aid.

Legislation was passed in 1970 to establish the Ohio Instructional Grant Program (OIG) to help low- and moderate-income undergraduate students in meeting their financial needs. To be eligible, residents must attend a public, private or
proprietary school in the state, and must come from a family with a gross annual income of less than $7,000 (AICUO, 1990). This grant was established by the General Assembly with the understanding that OIG was only to supplement student's other resources such as students earnings, family support, federal government assistance, and loans. The General Assembly believed that students were primarily responsible for paying for their college education.

The focus of the Ohio Board of Regents' 1976 Master Plan was again the high price of tuition and fees at public colleges and universities. Ohio was still a high tuition and fee state with students paying approximately 35 percentage of the cost of instruction, compared with a national average of 25 percent (Master Plan, 1976). In 1973-74, Ohio had the fourth highest public tuition average overall and the second-highest two-year institution tuition average in the nation. The Regents recommended that the student share of the cost of education should be reduced until the student/state share approximated the national average.

In response to citizens' concern over higher education, a Citizen's Task Force was formed in 1973 to probe independently public policy issues confronting higher education in Ohio. The first project of the Task Force was to assess how Ohio's higher education system compared nationally. Ohio had one of the lowest percentage of students enrolled in higher education. In 1973, Ohio would have had to "add 13,000 students to its enrollment merely to equal the five poorest states in the percentage of population enrolled in public higher education" (Citizens Task Force, 1974). Though Ohio had several fine private institutions, the enrollment in both public and private institutions would not have been equal to the national average (Ohio 3.68%/ National 4.56%). Based on these statistics, the Task Force recommended that Ohio's prime goal should be that, by 1980, the percentage of students enrolled in public higher education at least equal the national average.
However, in 1980, the percentage of students enrolled in higher education in Ohio was still below the national average (13.75% Ohio/16.3% National).

Although Ohio's record in providing open admissions and geographic access was noteworthy, the Task Force found the major problem with providing equal access was socio-economic factors. Ohio compared poorly to other states in its financial support of higher education. In 1973, Ohio ranked 15th in comparison to other states in per capita income. Yet, Ohio ranked 34th in percentage of total state revenue appropriated to higher education and 48th in per capita appropriations to higher education in comparison to other states. In their report, the Task Force (1974) stated "historically, higher education in Ohio has been under-funded with a net effect of excessive charges to students" (p. 34). They also claimed that "historically, institutions have not fought effectively the common funding cause for higher education." The Task Force faulted the state's inadequate financial support to higher education as the cause for the enrollment deficiency. The Task Force (1974) made several recommendations to increase state funding for higher education. One, the General Assembly should continue to use an enrollment-based formula for allocating state appropriations to public colleges and universities. The Task Force supported an enrollment-based formula because it provides the most objective and equitable basis to award funds. However, the Task Force did acknowledge the serious drawbacks of an enrollment-based formula, particularly the absence of qualitative measures to judge the quality of education and the inflexibility to deal with a large decline in enrollment. Another recommendation of the Task Force was to lift the freeze of $50.00 per quarter for general service fees imposed by the General Assembly in 1969 to permit individual institutions to set their charges based on documentation.
The final recommendation of the Task Force emphasizes the importance of the Ohio Instructional Grant Program in promoting access to students for low-income families. In 1973, five thousand fewer students from low-income families received an Ohio Instruction Grant than in 1972. The Task Force Members did not agree how to increase the number of Ohio Instructional Grants awarded. Most the members on the Task Force recommended raising the family income ceiling and increasing the maximum award to equal the price of tuition and general fees. Members of the task force in the minority filed a separate report recommending against raising the maximum family income ceiling because it would provide additional funds to students from higher-income families while diverting funds away from students from lower-income families. The minority report recommended that the State of Ohio should target its limited educational funds to help those students with the greatest financial need. These recommendations were never implemented.

Summary of the 1970's Policies

In the 1970's, the major policy issues focused on the high price of tuition and the lack of financial support for higher education from the state. The high price of tuition at state-assisted institutions continued to be a concern to the citizens of Ohio. The General Assembly responded by establishing the need-based Ohio Instructional Grant Program. An independent Citizen's Task Force also attempted to link the lack of state financial support for higher education to the low participation rate of Ohio's citizens in higher education. Besides the high price of tuition, enrollment limitations were imposed on five state universities with high enrollment demands. The Citizens' Task Force findings attempt to link the low participation of Ohio's citizens in higher education to the lack of financial support for higher education from the state.
Recommendations from the Task Force called for substantial increases in state appropriations for higher education.

Decade of the 1980's

During the 1980's, state-assisted institutions became inaccessible because of rising tuition charges and increased selectivity. Based on the quantitative analysis, only 25 percent of the state-assisted institutions were accessible. The branch campuses of these institutions had open admissions policies but charged the same high tuition price. Five of the nine state-assisted community colleges and six of the technical colleges were inaccessible because of the high price of tuition. State appropriation to higher education decreased during the 1980's; that could have contributed to higher tuition charges at state-assisted institutions. The percentage of state-assisted universities with accessible admissions standards decreased from 100 percent in 1979 to 69 percent in 1989. Only three percent of the private institutions were accessible. Private higher education was inaccessible because of the high price of tuition and increase in selectivity at four-year colleges.

The financial situations for Ohio's public colleges and universities took a turn for the worse during the recession of the early 1980's. Ohio, because of its economic reliance on heavy manufacturing, suffered a more serve recession than other states. The state was faced with high unemployment, rapid escalation of basic welfare services, and severe losses in state tax revenues. The 114th Ohio Generally Assembly mandated that the Ohio Board of Regents study and make recommendations regarding Ohio business and industry extension services, including social services. The Regents' 1982 Master Plan was a strategic plan to work with business, industry, and the government in identifying areas in which the needs of the
state and the strengths of higher education intersect (Ohio, 1982). The Regents proposed "a new social compact" equally important and rewarding to all parties, to promote the advancement of the quality of life in Ohio.

The Regents recognized that the financial crisis facing Ohio in early 1980 might be prolonged, and that long-range strategies needed to be established if public institutions were going to remain vital. Therefore, the Regents conducted a series of management studies. The findings from these studies indicated a need to reform the state's subsidies formula to be more responsive to changes in enrollment. State Subsidy had been allocated to institutions based on full-time equivalent enrollment by level of instruction and average cost of instruction. This fixed enrollment formula was not responsive to changes in enrollment. A new state subsidy formula was developed that was responsive to changes in enrollment by having both fixed and variable costs. The new formula was incorporated into the state's 1981-1983 budget process.

The management studies also point out the importance of individual institutions undertaking a systematic, periodic, internal review of all academic programs. In the 1981-83 state appropriation act, the General Assembly included "instructions to state colleges and university boards of trustees to initiate ongoing processes for review and evaluation of all programs of instruction presently conducted by institutions" (Ohio, 1982, p. 26). Individual institutions were told to evaluate their current programs and to strengthen their strongest academic programs by reallocating resources from lower-priority programs. The Regents warned that because of financial constraints, institutions may need to make choices among their best programs. The Regents further stated that the choice of programs to strengthen should be based on: the relative excellence of a program; the centrality of the
program to the institutional mission; its geographic accessibility; as well as its importance to the larger public that the university serves.

An added financial burden for higher education began to impact state subsidy to higher education during the 1980's. In the 1970, the State of Ohio began to sell bonds under a new arrangement to finance capital improvements in higher education. The cost of retiring this debt is now a major portion of the state's higher education operating budget. Starting at zero in 1970, the annual debt service payment now exceeds $200 million. Because the debt service payments are made prior to the allocation of funds to individual institutions, the size of the debt has a direct effect on the amount of state subsidy available to institutions (Ohio, 1988, Vol. 1, p. 29).

Because of the long-term economic impact the recession had on Ohio, the Board of Regents commissioned two policy studies as background reports to their 1988 Master Plan. The first study entitled Student Access and Success in Ohio's Higher Education System identified low participation and high attrition rates of citizens in higher education as factors that impact Ohio's economic future. The second study focused primarily on the state's financial aid programs to assess how effectively they are in providing access to higher education for low-income students.

The Student Access Study focused on the participation and success of students in higher education. In the 1980's, Ohio was above the national average for adults who have completed four years of high school, but below the national average for citizens completing four years of college (Ohio 13.755 compared to the national average of 16.3%). Ohioans' reliance on manufacturing has been cited as the reason why students do not go on to college. "Generations of Ohioans going from high school directly to the assembly-line--high paying jobs that didn't require training at the postsecondary level" (Ohio, 1988a, p. 19).
The Student Access Study Committee made the following conclusions based on an analysis of student participation, retention, and completion of higher education. Ohio's rate of participation in higher education is lower than it must be for a successful transition from an assembly-line economy to one driven by an expanding knowledge base. The Committee recommended that assertive steps must be taken to speed up the education and training of people for careers, not just for individual jobs. The Committee also found that Ohio's colleges and universities, particularly in the public sector, are losing too many students through attrition. The Committee cited the under-representation of minority students, particularly Black students, as a problem that must be corrected if Ohio, its economy, and its people are to prosper. Most colleges and universities were actively trying to improve student retention and completion rates and the Committee recommended that retention efforts be strongly encouraged and reinforced.

Admissions Policies

The concern for retention caused educators to examine their admissions standards. Educators found that, increasingly, students were entering college unprepared to handle college-level work. In 1980, the Ohio Board of Regents joined the Ohio Board of Education in an effort to improve the articulation of students from secondary education to Ohio's Colleges and Universities. The Advisory Commission on Articulation was charged with developing a college preparatory curriculum that, if mastered, would prepare students for college-level work.

The Commission found that many students were graduating from high school unprepared for college level work, particularly in English Composition and Mathematics. Although these courses were offered in most high schools, students did not take these courses, because Ohio's public colleges and universities lacked admissions standards beyond earning a high school diploma. The Commission
recommended that a college preparatory curriculum be developed that included four units of English and a minimum of three units of Mathematics, one of which should be taken in the senior year. The Commission also recommended three units of social studies, three units of science, and three units of a foreign language. As a result of the Commission’s recommendations, state-assisted and independent colleges and university began to require that students who wished to be admitted to their institution on an unconditional basis must have successfully completed a college preparatory curriculum in high school (Ohio Board of Regents, 1981).

Tuition and Financial Aid

The other study focused on the effectiveness of the state’s financial aid programs on providing access to higher education. During the 1980’s, Ohio continued to be a high tuition state. Between 1980-1982, Ohio’s tuition at public colleges and universities rose nearly 50 percent. Ohio’s net tuition for all public institutions of $1,646 in 1985-86 was higher than the national average of $1,116 (Ohio, 1988a). Throughout the 1980’s, Federal financial aid programs were cut back, resulting in fewer students qualifying for few dollars. The Regents commissioned a second policy study to examine the role of student financial aid in expanding access to higher education. The committee was charged with determining if the state’s major financial aid investment, principally the Ohio Instructional Grant Program, was an adequate resource in addressing the state’s access objectives.

The committee focused on four tasks in their analysis. The first was to develop a cogent financial aid philosophy statement that would give direction to state policy. The second task was to assess the trends in federal, state, and institutional financial aid programs and determine how these three programs interact. Another task was to determine the adequacy of the Ohio Instructional Grant Program in
lowering the financial barriers for students of low-income families. The last task was to determine how to reduce the complexity of financial aid delivery systems to make financial aid programs more responsive to students (Ohio, 1988b, p. ii).

The financial aid philosophy statement was developed based on the assumption that individuals, their family, the state, and the larger society all benefit from higher education. Therefore, the responsibility of paying for a college education should be shared among these entities. However, the Committee made a distinction that the primary financial responsibility falls on the student and the student's family; only when the student's resources are inadequate is it appropriate and necessary to supplement the student's resources with federal and state funds. The Committee also stated that it was appropriate to invest state funds in financial aid programs that enhanced students' freedom of choice among institutions or rewarded high academic achievements.

The Ohio General Assembly established a Student Choice Grant Program in 1983 to ensure "genuine choice for Ohioans seeking higher education within the state, by partially equalizing the difference in price of attending a state-assisted four-year institution and an independent non-profit institution" (AICUO, 1990). The reasoning behind the Choice Grant was to encourage Ohioans to stay in-state for their higher education with the expectations that these students would remain in Ohio after graduation, continuing to contribute to the state's well-being as educated taxpayers (AICUO, 1990). The state's statute allows students attending an independent institution a grant equivalent to 25 percent of the average public university instructional subsidy for the preceding biennium. Based on this formula, students attending independent institutions in 1989-1990 should have received a $764 grant from the state, but instead received a grant for $590. Larry Christman (personel communication, January 17, 1991), President of the Association for
Independent Colleges and Universities in Ohio, explains that, unfortunately, the Student Choice Grant Program has been under-funded in the last two state biennial budgets, resulting in grant awards below the amount established by law.

The Ohio Instructional Grant Program (OIG) continues to be the state’s major financial aid investment. In 1970, the OIG met 31 percent of average tuition at both public and private institutions. In 1988-89, the OIG met only 18 percent of the average tuition at independent colleges in Ohio (AICUO, 1990). These need-based grants are awarded based on the family’s income. Because of the low ceiling on family income, the program has been less effective for many students from low-income families and has essentially taken middle income families out of the program entirely. As Christman (personal communication, January 17, 1991) explains the current awards table prohibits many students whose families are below the federal poverty level from receiving the maximum grant award.

After evaluating the state’s financial aid programs, the Committee made several recommendations related to the Ohio Instructional Grant (OIG) Program. The Committee recommended raising the income floor to reflect more accurately the income level at which a family can reasonably be expected to contribute to the cost of college. It was also recommended that the OIG income ceiling should be adjusted to reflect the number of dependents in a family, including the cost of having more than one dependent in college. Again, the OIG recommendations have not been implemented.

In addition, the Committee expressed concern that the perceived availability, as well as the real availability of financial aid has an impact on the student’s perceived accessibility of higher education. It explained that many low-income families, without knowledge to the contrary, continue to perceive a college education as a privilege reserved for middle and upper-income families. The Committee
recommended that the Regents implement programs designed to distribute financial aid information to students and their families. These programs would give special attention to under-represented students. In conclusion, the Financial Aid Study Committee stated "the positive value of these recommendations may be offset if increases in the cost of higher education in the state, principally in the form of higher tuition charges, outpaced growth in state grant benefits and other grant assistance" (Ohio, 1988b, p 53).

Current Policies

The Ohio Board of Regents' 1988 Master Plan was a strategic master plan that highlighted the Regents Selective Excellence Programs initiated in 1985, but neglects to address fully the critical issues raised in the Student Access and Success Study or the Student Financial Aid Study. The purpose of the Selective Excellence Program was to challenge individual colleges and universities to make strategic choices about their strongest programs, while preserving the autonomy of individual colleges and universities. The Selective Excellence Programs also help to create a partnership between the State and institutions by using matching grants to provide funding for these programs at a level above normal state subsidy. The Regents report that in three short years, the Selective Excellence Programs have resulted in better instruction, more research, and stronger funding support for selective programs.

The Regents highlighted the findings of the Student Access and Success Study in their 1988 Master Plan and concluded that without swift and coordinated action, Ohio's workforce would be ill-prepared. The Board proposed an aggressive proposal to develop a ten-year program to help colleges and universities in achieving greater expanded access and retention goals. The Regents proposed a statewide
"Reach for Success" campaign aimed at substantially increasing the number of people participating in higher education. The campaign is based on the assumption that if college costs were within reach for students, and students had adequate support and academic preparation students, they will succeed.

The Regents acknowledge that cost within reach is a recurring theme in their Master Plans. However, the Regents pledged to seek ways to make higher education more affordable through reducing students' share of the cost of higher education. In their 1991-1993 biennium budget recommendation, the Regents asked for a substantial increase the state financial aid from $88,602 (FY1990-1991) to $255,032 (FY1992-1993). A major component of the new financial aid programs would be a Freshman Foothold Program aimed at increasing Ohioans' participation in higher education. Through the Freshman Foothold Program, the State of Ohio would pay one-half of the instructional and general fees for residents who are freshman attending state colleges and universities—provided the student's family income is less than $30,000 annually. A sliding scale would apply to freshman from families whose incomes are between $30,000 and $40,000. Freshmen at independent colleges and universities in Ohio would receive support equivalent to the average received by students attending state institutions (Hairston, 1990). Funding for these financial aid programs is pending budget approval.

In their 1991-1993 biennium budget request, the Regents recommended a significant expansion of the Ohio Instructional Grant Program. The recommended changes in the OIG would increase the size of grant and the number of students eligible. The Regents recommended increasing the family income level at which students could receive a maximum award from $7,000 to $10,000. The Regents also recommended that the maximum grant be increased by ten percent (Hairston, 1990).
The Support for Aspiration was another initiative in the Reach for Success campaign. The Regents agreed with the Financial Aid Study Committee recommendation to provide, early in students' high school experience, information about careers and college opportunities especially programs that inform students about the availability of financial aid.

The final part of the Reach for Success initiatives focuses on improving the high school curriculum for students enrolled in vocational and general education. The Regents recommended that colleges and universities work with local high schools to strengthen the high school curriculum in math, science, and writing in vocational and general education, so that these high school graduates can pursue postsecondary education.

In 1990, Ohio still had a low participation rate in higher education and students' share of the cost of higher education had risen to 41 percent. Two hundred fifty-two thousand Ohioans would have to earn a baccalaureate degree to be at the national average for the state's population. The economic impact of the recession continues to affect Ohio. Ohio's per capita income is now below the national average. Newly appointed Chancellor of the Ohio Board of Regents, Elaine Hairston (1990) summarized the state of higher education in Ohio when she say:

Ohio cannot afford to be an uneducated state. It cannot spend years catching up to the rest of the country. Ohio needs to do more than invite its citizens to pursue higher education. It needs to motivate and support that pursuit in the strongest possible terms.

Conclusion

State policymakers claim that Ohioans for decades did not value a college education because of the accessibility of high paying--assembly line jobs in the state's auto industry. Chancellor Hairston claims, until 1980's people in Ohio did not think it was necessary to go to college. Parents did not encourage their children
to pursue a college education and voters did not make higher education a priority with their state legislators. As a result, the legislators did not make allocations to higher education a priority. It is a problem of 'attitudinal access,' claims Hairston (E. Hairston, personal communication, January 8, 1991); Ohioans did not value a college education, and therefore there is a history of low participation and low state financial support for public higher education.

The high price of tuition was a recurring theme in Ohio's Master Plans for higher education. In each master plan, the Regents pledged to seek ways to make higher education more affordable through reducing the price students pay for tuition. However, the state's General Assembly did not provide adequate state subsidy for state-assisted institutions. As a result, individual institutions increased tuition to make up for the lack of state support. In addition to the high price of tuition, the state did not provide adequate financial aid programs for residents. The state's financial aid philosophy is based on the assumption that the primary responsibility for paying for higher education falls on the student and the student's family; only when the student's resources are inadequate is it appropriate and necessary to supplement the student's resources with federal and state funds. Yet, the low ceiling on the Ohio Instructional Grant Program prohibits many students whose families are below the federal poverty level from receiving the maximum grant award.

The state has not always taken advantage of its private institutions. Ohio's independent colleges and universities enroll about one quarter of the students enrolled in four-year institutions and confer almost thirty percent of the degrees earned. These institutions enroll a greater percentage of students in the lowest two income brackets or families with incomes of less than $20,000 than at Ohio's public institutions. AICUO claims that Ohio benefits when independent institutions educate residents at a fraction of the cost that taxpayers spend to educate the same student
at a four-year public institution. Yet during the geographic expansion in the 1960s, the state established new state-assisted institutions without consideration of existing private colleges. It was not until 1983, when the Student Choice Grant Program was established did the state begin to recognize the value of its independent institutions. The reasoning behind the Choice Grant was to encourage Ohioans to stay in state for their higher education as opposed to going to the private colleges in the east.

In summary, Ohio has provided access to higher education by maintaining accessible admissions standards and wide geographic access. It has been the high price of tuition that has been the major factor that makes higher education inaccessible. The high price of tuition is a result of low state subsidy for higher education. Until the 1980's, higher education had not been a priority of the citizens of Ohio because of the accessibility of high-paying assembly line jobs, as a result, appropriations to higher education were not a priority with state legislators. However in the 1990's, Ohio is trying to make an economic transition from a declining assembly-line economy to one driven by high technology. A successful transition will depend on a population that is more highly trained and educated.
Table 10. Summary of Changes in Ohio's Policies.

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<tr>
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<th>1969</th>
<th>1979</th>
<th>1989</th>
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<tbody>
<tr>
<td>Admissions</td>
<td>Open Access</td>
<td>Revised Open-Access Policy by placing an enrollment limit on state universities.</td>
<td>Instituted a college preparatory curriculum requirement.</td>
</tr>
<tr>
<td>Tuition</td>
<td>Institutions increased tuition when state appropriations did not meet their request.</td>
<td>In response to citizens' concern over high tuition the state established the OIG program.</td>
<td>State established a Student Choice Grant for residents attending private institutions.</td>
</tr>
<tr>
<td>Geographic</td>
<td>Policy objective to locate two-year campuses within 30 miles of every resident in the state.</td>
<td>No policy change.</td>
<td>No policy change.</td>
</tr>
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Massachusetts Case Study

Massachusetts' policies on higher education are based on the assumption that the state has the responsibility to provide an accessible, diverse, and academically-sound higher education to its residents. Most colleges and universities in the state are private, and the majority of residents attend private institutions. The predominance of private colleges and universities has affected the development of public systems of higher education and the state's financing of higher education.

The state has maintained a low tuition policy to provide access to public higher education. The state's low tuition policy for public institutions creates the
largest tuition differential between public and private institutions found in any other state (Massachusetts, 1988a). In the late 1970's, the cost of private higher education in the state became prohibitive for families who traditionally sent their children to private colleges. These families and private institutions lobbied successfully to expand the definition of access to include "access with choice." The choice concept is based on the assumption that students should have access to the institution of their choice, and not be limited by their socio-economic status. The "access with choice" policy became the driving force behind the state's policies and funding decisions during the 1980's.

State Profile

Massachusetts' institutions of higher education are vital to the state's economy. High-tech industry is the state's single largest source of industrial income and jobs. Massachusetts' chief products are office and computing machines. The high-tech industry thrives in the state because of the outflow of basic research and researchers from the Massachusetts Institute of Technology, Harvard and other universities (Collier, 1990). The electrical equipment industry is the state's second most important source of income and jobs. The electrical industry produces equipment from home appliances to electronic components for the aerospace industry. Printing and publishing is another major industry in the state.

Thirty-five percent of adults have at least one to three years of college while twenty percent have at least four years of college. Most the colleges and universities are private four year institutions (71) enrolling 223,640 students, of which 12 percent are minority students. Sixteen private, two-year institutions enroll 14,209 students of which 14.5 percent are minority students. The public system of higher education has 14 four-year institutions and 16 two-year institution, enrolling 112,800 and
75,971 respectively. The percentage of minority students enrolled in the public sector is lower than the private sector; 7 percent at public four-year and 13 percent at two-year institutions. Sixty-eight percent of freshmen are Massachusetts residents (Chronicle of Higher Education, 1990).

Background

Private colleges and universities were well established before the development of public higher education in the Commonwealth. Higher education in the United States began in Massachusetts when the Commonwealth's General Court gave 400 pounds for the establishment of Harvard University (The Commonwealth of Massachusetts, 1965). Private institutions in Massachusetts have a strong reputation for their quality, diversity, and innovation. The Association of Independent Colleges and Universities in Massachusetts (AICUM) defines private colleges as independent colleges, independent of direct state control (AICUM, 1990). The eighty-nine independent institutions in the Commonwealth range from small, specialized two-year and four-year colleges to traditional four-year liberal arts colleges and large research universities.

AICUM (1990) states that the impact of independent colleges is not just felt in the classroom, but also throughout the educational, social, economic, cultural, and community life of the Commonwealth. The Association claims that the key measure of educational impact is the number of students enrolled in independent colleges and universities. Independent colleges enrolled nearly 60 percent of the full-time equivalent students and awarded nearly 70 percent of the degrees granted in the state (AICUM, 1988). About fifty percent of their students are Massachusetts' residents; others come from all over the world.
The social impact of private colleges and universities can be measured by the diversity of students they enroll and the number of students who succeed. Independent colleges educate qualified students from all ethnic and minority groups and socio-economic levels. Thirty percent of these students have an annual family income of less than $32,000 (AICUM, 1988). Independent colleges awarded nearly 70 percent of the degrees granted in the state. They enroll over 60 percent of the minority students attending college in Massachusetts and award 75 percent of degrees earned by minority students.

Independent colleges and universities have a major economic impact in Massachusetts. Private higher education is a $10.15 billion industry; and its impact is felt throughout every sector of the state's economy (AICUM, 1988). As a labor-intensive industry, private higher education is one of the largest employment sectors in the state, employing 118,429 employees. Directly and indirectly independent colleges and universities account for 3.75 percent of the total gross state product and income in Massachusetts (AICUM, 1988).

The social-economic impact of private colleges and universities is made in aid (grants, scholarships, loans, or work-study) that is awarded to two-thirds of the undergraduate students enrolled in independent colleges in Massachusetts. These institutions made approximately $330 million in awards to students; 31 percent of these dollars went to Massachusetts' residents (AICUM, 1988). Independent colleges and universities have had a cultural and community impact on the state as well by providing services to the state. Private colleges open their galleries, concert halls, theatres, and lectures to the public. Private colleges and universities also make an important contribution to the state through faculty who are actively involved in research and community service that benefit the Commonwealth. Independent colleges and universities have a long and rich tradition in Massachusetts. These
institutions provide an educational resource for the state, and represent a major economic, cultural, and community service resource for the state.

In contrast, public higher education in Massachusetts does not have as long and rich a tradition. Massachusetts was a decade and half behind New York and California in expanding its public system of higher education (J. Duffey, personal communication, November 20, 1990). Most state colleges and universities were built between 1839 and 1890. Yet in the 1950's, the public sector enrolled fewer than 10,000 students. Beginning in the 1960's, Massachusetts made major efforts to improve and expand its public system of higher education. Between 1960 and 1978, the state invested $1 billion into facilities of 15 community colleges and two regional universities, while state appropriations increased more than 16-fold. By 1978, public higher education in Massachusetts represented a major state investment with 27 institutions enrolling 98,000 students; this figure is half the state's total enrollment (Sloan, 1978).

The most significant reason for the slow growth in public higher education was the public's opinion that private higher education is better than public (Stafford & Lustbery, 1978). Private institutions were well established in the state prior to the development of public colleges and universities. Because of the strong reputation of private colleges and universities in the state, political leaders did not see the need to develop a strong public sector (Stafford & Lustbery, 1978). Prior to 1960, political leaders focused on strengthening elementary and secondary education, which they viewed as "feeder schools" to the private colleges and universities. However, several events came together in the 1960's that created the necessary political support for public higher education. The first was a major change in the leadership of the state legislature. The Democratic Party came into power with the election of Morris Donahue as majority leader of the senate. It was the first time the
Democratic Party held this leadership position in the Commonwealth’s history. These democrats came from the western part of the state and brought a more "populist" ideology to the senate which resulted in more political support for public higher education (Stafford & Lustbery, 1978). As Donahue explains, "with the GOP control and its traditional conservative, private orientation, there was simply not political support for public colleges" (Stafford & Lustbery, 1978, p 17). Another event that contributed to the growth in public higher education was the baby boom. The demand for higher education exceeded its availability. Private colleges and universities were unable and some were unwilling to absorb this increase in demand. The public system of higher education was expanded to meet the demand.

Geographic Access

When the demand for higher education exceeded the availability, the state responded by developing a community college system. In 1964, the state legislature adopted a master plan for developing community colleges within commuting distance of 95 percent of the state’s population (Deyo, 1967). The Vocational Education Act of 1963, which substantially redefined the concept of vocational education to include education provided by community colleges, provided an additional financial incentive for the development of community colleges because of the possible of federal reimbursement for vocational education (Deyo, 1967). The major criteria used to establish community colleges were to minimize capital and operating cost, and to assure institutions large enough to be economically comprehensive in their program. Using these criteria, 15 community colleges were created to provide greater geographic access to higher education for most of the state’s residents, except Boston. Only one community college was established in the Boston area, where most of the state’s residents live. Besides the development of community colleges, a second campus of the University of Massachusetts was established in South Boston
to help meet the demand for higher education in the city. University of Massachusetts at Boston was to provide undergraduate liberal arts programs. The only other public four-year college in the city was Boston State College located in North Boston. As Boston State College changed its curriculum focus from teaching to a more liberal arts focus in 1970, Boston State College and the University of Massachusetts began to look similar. In 1974, when the University of Massachusetts at Boston was not able to reach its enrollment goals, the legislature began to question the cost of building the University of Massachusetts' Boston Campus. The public higher education authorities responded by closing the Boston State College and instructing students to transfer to the University of Massachusetts' Boston Campus. The problem was that the students from middle-class suburbs did not transfer to the campus located in South Boston. Even today, the University of Massachusetts at Boston does not award as many degrees each year as Boston State College did in the early 1970's (A. Mayer, personal communication, November 20, 1990).

The Decade of the 1970's

Rising costs of private higher education and an economic crisis in the state influenced the state's policy regarding higher education in the 1970's. Public higher education's steady growth stopped in 1975 when an economic crisis hit Massachusetts. Michael S. Dukakis, the newly elected governor, described the economic crisis as "the largest budget deficit of any state with an economic base that was stagnant and eroding" (Stafford & Lustbery, 1978, p. 25). Dukakis called for reducing expenditures, eliminating waste, reexamining programs and priorities, and matching revenues to expenditures. For public higher education, the economic crisis marked the end of an era of steady state funding and the beginning of fiscal stringency. The Chronicle of Higher Education (Oct., 25, 1977) described the
situation in Massachusetts as the "Boom-Bust Phenomena." The Chronicle cited how the state had ranked eighth per capita in spending for higher education for ten years (1967-1977), and then dropped to 47th in 1978. Many state legislators blamed Dukakis for the low priority given to higher education. One key administrator in the public sector claimed, "Dukakis is a product of the private sector. He attended a private school, and understandably has a bias toward private education, but he does not place a very high priority on education in general" (Stafford & Lustbery, 1978).

Admissions Standards

Public higher education became much more accessible during the 1970's. The quantitative analysis showed a marked increase in the accessibility of higher education due to the lowering of the selectivity of admissions criteria at state institutions. In 1969, most of the state colleges were inaccessible because their admissions standards required students to graduate in the top 50 percent of their high school with a C+ average or better. All four-year institutions were inaccessible because of their admissions standards. Eleven of the thirteen community colleges had accessible admissions standards. In contrast, most of the public institutions were accessible in 1979 because they accepted students who graduated in the top 75 percent of their high school with a C average.

Private higher education was not as accessible as public higher education in Massachusetts. In 1969, independent institutions were inaccessible because of their selective admissions standards and high price of tuition. Only sixty-four percent of the four-year private institutions had accessible admissions standards. Less than two percent had accessible tuition.
Tuition and Financial Aid

The economic crisis in the mid-1970's resulted in some major policy shifts in how Massachusetts provided access to higher education. Prior to 1978, state colleges and universities were accessible because of the low tuition charges and federal financial aid programs. The state's low tuition policy resulted in a large gap between the price of attending a state college or university in comparison to private institutions. During the economic downturn of the late 1970's, families earning less than $25,000 per year (or nearly three-fourths of the potential students in the state) could not afford the cost of private education (Stafford & Lustbery, 1978). The price of tuition and fees at private colleges was too high. As the cost of private education became prohibitive for families who traditionally sent their children to private colleges, these families lobbied for more state financial aid (J. Duffey, personal communication, November 20, 1990). These families and independent colleges and universities lobbied for "access with choice." The choice concept is based on the assumption that students should have access to the institution of their choice and not be limited by their socioeconomic background.

The origins of the choice concept came from the Association of Independent Colleges and Universities in Massachusetts (AICUM) beginning in 1969 (Stafford & Lustbery, 1978). The state constitutional law dating back to 1917 precluded the use of state funds to support non-public education. In 1972, a constitutional amendment allowing the state to support non-public education was introduced into the legislation. This amendment caused conflict between the public and private sectors of higher education. In the summer of 1974, the two sectors agreed to a compromise. The public sector agreed to withdraw their opposition to the amendment if the private sector would not lobby for increases in tuition at state institutions (Stafford & Lustbery, 1978). The passing of the constitutional amendment led to the private
sector lobbying successfully for increases in state financial aid. In 1977, the Gilbert Matching Scholarship Program was created; under this program, the state would match scholarship aid given by private institutions to state residents.

The choice debate is well documented in a report prepared for the Sloan Commission on Government and Higher Education written by Stafford and Lustberg entitled Higher Education in Massachusetts: Issues in their Context. Stafford and Lustberg (1978) outline the "choice" dilemma for Massachusetts by explaining that the objective of providing "choice" should be viewed both in terms of education and economics. They explain that to view the issue simply as giving students an educational "choice" neglects the economic impact that private institutions have in the state. The independent colleges and universities effectively documented the economic benefits the state receives from private higher education in the form of jobs, revenue from students, and state income taxes. Therefore, Stafford and Lustberg advocated that the state must take an economic as well as an educational interest in private colleges and universities.

In reviewing the decade of the 1970's, the economic recession of the mid-1970's had an impact on higher education policies. State appropriations were reduced to public institutions, and the cost of attending private colleges and universities rose. In response to the rising cost of private institutions, middle-income families and independent institutions successfully lobbied for more state aid for students attending private higher education under a broader definition of "access with choice." Expanding the state's access policy to include the concept that students should have access to the institution of their choice would impact future state policies and funding decisions.
The Decade of the 1980's

During the 1980's, access to higher education in Massachusetts was limited because state colleges and universities became more selective. The four state universities and three of seven state colleges raised their admissions standards. Despite increases in tuition at most state institutions, tuition remained accessible at 88 percent of the institutions. All private institutions remained inaccessible, primarily because of high tuition price.

In 1980, a major change in the governance structure of higher education in Massachusetts resulted in a central governing board with strong budgetary and programmatic authority. This shift in policy marked a departure from the loosely coordinated system of higher education that had been in place since 1965 (Massachusetts, 1982). The new system had a unique governance structure: a central governing board juxtaposed to boards of trustees who had the responsibility for the day-to-day management of individual institutions.

The newly appointed Board of Regents of Higher Education developed a five-year master plan for the state. The Regents claimed that the public should continue to substantially subsidize the cost of public higher education both to insure access to higher education for all citizens and as an essential investment in the state's future economic and social strength and vitality. The Regents (Massachusetts, 1982) did acknowledge the interrelationship of public and private higher education in Massachusetts. They stated that every aspect of the supply and demand for educational services is affected by the relationship between the public and private sector. They also point out that the educational and economic benefits to educational institutions follow from the cooperation in state-wide planning and review of both the public and private sector.
Admissions Standards

The Regents (Massachusetts, 1982) defined access to higher education as providing opportunities for all citizens to further their education at a level and institution appropriate to their interests, abilities, and preparedness. The Regents specified that all baccalaureate-granting institutions shall enroll a student population that holds promise of success and can benefit from the advanced capabilities of their institutions. In doing so, the Regents support selective admissions at baccalaureate-granting institutions to assure a match between a student’s needs and abilities, and the institution’s mission. Each institution was to develop an admissions process based on a combination of predictive indexes of achievement and potential (secondary school grades, successful completion of college pre-courses, and SAT score). The Regents set a minimal predictive index, but individual institutions could impose a more selective index on programs in high demand (Angeli, personal communication, December 20, 1990). This predictive index would be used to admit students who had the ability to succeed. The Regents also stipulated that baccalaureate-degree-granting institutions shall seek and define a proportion of their entering class for educationally disadvantaged students; and each institution should consider other indicators for the admissions criteria for nontraditional or disadvantaged students. Annually, all institutions are requested to submit a profile of current students and to explain or justify any major changes in the profile. In addition, the State law requires that admissions standards developed by the board of trustees at a public baccalaureate-degree-granting institution be approved by the Board of Regents (Massachusetts, 1982). Another reason why the Regents made state colleges set minimum admissions standards was to stop competition between state colleges and community colleges for students who were better qualified to
Community Colleges provide open admissions, including those students who can eventually benefit from transferring to a four-year institution. Articulation between two-year and four-year institutions was an important consideration in the Regents' access goals. The Regents (Massachusetts, 1982) recommended the establishment of a task force to review the Massachusetts Transfers Compact between two-year and four-year institutions and to make recommendations that would improve the articulation of students.

Geographic Access

State colleges and community colleges are located strategically throughout the state (Tisinger, 1988). However, only three public institutions were located in the Boston area. In comparison, most of the private institutions are located in the Boston area, where most of the state's population lives, as well as where the media and the state's legislators focus their attention (A. Mayer, personal communication, November 20, 1990).

As part of the Regents' efforts to provide access to quality programs, they developed a regional planning strategy for educational effectiveness and operational efficiency. Regional planning would be based on: curriculum program access; the need to prevent and to reduce unnecessary program duplication; and to identification of certain campuses for specialization and distinction in unique fields of study (Massachusetts, 1982). Each institution would develop its own programs of distinction and expertise.
Tuition and Student Financial Aid

Most the state's funding for higher education is for operating support of public colleges and universities. The state primarily supports independent higher education by providing financial aid to needy residents who choose to attend an independent institution. When the legislation established the Board of Regents, the Board was to develop a rational and equitable statewide tuition plan for all public institutions. The Board of Regents also had the responsibility to distribute state financial aid funds to residents attending all postsecondary institutions within the Commonwealth.

A tuition policy was adopted by the Board of Regents in 1984. The underlying philosophy of the policy was that the state has the responsibility of providing an accessible, diverse, and academically sound higher education programs to residents of Massachusetts (Massachusetts, 1984). Because of this responsibility, the state had the obligation to bear a part of the cost of providing this education. The Regents established a maximum tuition level for resident students of 33% of the cost of education, and they stressed that this is a cap, not a target. In addition, they set 15 percent as the maximum increase per year.

The low tuition price of public higher education helped to provide greater access to higher education, but also contributed to Massachusetts having the largest tuition differential between public and private of any state (Massachusetts, 1988a). The average tuition at private four-year college in 1988 was $8,953, compared to $1,388 at public institutions. At two-year private college tuition was $5,602, compared to $750 for public two-year colleges (Chronicle, Sept. 6, 1989). When the cost became too prohibitive for middle-income families to send their children to private colleges, these families did not send their children to less-expensive public institutions, but lobbied for more state financial aid (J. Duffey, personal
communication, November 20, 1990). Lawmakers developed a strategy for financial aid to meet the public demand to be able to send their children to private institutions.

In 1980, Massachusetts' commitment to student financial aid lagged behind most states; however, in 1986 the state's spending for student aid per capita ranked 4th nationally. Massachusetts' student aid programs grew 234 percent between 1980-81 and 1986-87. Student aid programs accounted for 12 percent of the total state allocation to higher education in FY1987 as compared to 5 percent in FY1981 (Massachusetts, 1988a). This rapid increase in state financial aid was in response to cuts in federal financial aid programs and rising cost of higher education. Many state residents could not meet the cost, particularly at independent institutions. As a result, the Commonwealth began to take an aggressive role in providing student financial assistance.

A major initiative in this financial aid policy was to quadruple funds available in the state's General Scholarship Program. In FY1983, there were $15 million dollars allocated to the General Scholarship Program, this increased to $57 million by FY1988 (Massachusetts, 1988a). The Regents also changed the General Scholarship Award from a flat dollar award to an indexing system that fixes the amount of a student's award to the cost of attendance and the family's ability to pay. The rationale for the indexing system is to provide greater access (financial assistance) to the neediest students by ensuring those with the greatest financial need receive the largest scholarship award to attend the college of their choice. In FY1988, the Gilbert Matching Scholarship Grant Program, in which the state matches the scholarship aid that an independent institution awards to state resident, accounted for $9.2 million, or 11 percent, of the state's appropriation for student aid. The Gilbert Matching Program accounts for 15 percent of the aid awards made to Massachusetts residents by private colleges and universities. In the public sector,
tuition waivers provided financial assistance to needy students. In FY1988, students in public sector colleges and universities received the equivalent of $10 million in tuition waivers. Massachusetts colleges and universities provided a substantial amount of student aid from their resources. In 1984-85, Massachusetts institutions reported that they had provided $350 million in institutional aid to their students, more than what was provided through federal and state grant programs combined. “This amount of institution-based aid is unmatched by colleges and universities in any other state” (Massachusetts, 1988a, p 6). Over a five-year period, state support of student financial aid in Massachusetts increased dramatically from $19 million in FY1983 to $84 million in FY1988. The number of student aid programs also grew: the Regents had responsibility for 16 separate and distinct programs by 1988. During the 1987 legislative session, over thirty pieces of legislation were introduced into the state legislature proposing new student aid programs ranging from tuition subsidies to loan forgiveness (Massachusetts, 1988a). It became apparent to the Board of Regents that an overall strategy and policy for student aid should be established. In 1988, the Regents appointed the Task Force on Student Financial Aid to examine whether the current set of state student aid programs were adequately serving the residents of Massachusetts and to make recommendations for improvements.

The Task Force stated in its report that the Commonwealth had three principal responsibilities in supporting higher education: to provide a high quality education in the public sector, to preserve a strong pluralized system of higher education, and to reduce the economic barriers to access and choice through programs of student financial assistance. The Task Force identified several critical issues for ensuring the future adequacy of student aid in Massachusetts. Four of these issues have important policy implications. The first is expanding opportunities
for disadvantaged students by increasing the maximum amount of financial aid they can receive. A second is providing necessary support services for students once they enroll in a college. Another issue is providing accurate and timely information about financial aid to students earlier than in their senior year of high school. The final issue is the importance of linking the cost of education to the price of tuition and the amount of financial aid available.

The Task Force (Massachusetts, 1988a) highlighted the increased participation of economically disadvantaged students as the primary purposes of student aid programs. However, they discovered that the percentage of students from low-income families did not increase substantially, despite the substantial growth in the state's general scholarship program. In analyzing the financial need low-income students had after receiving the General Scholarship from the state and Pell Grants from the federal governments, many low-income students could not afford the cost of higher education. Until FY1988, a student would receive a flat award from the General Scholarship Program regardless of their financial need. Beginning in FY1988, an indexing system was introduced to increase the percentage that the neediest students receive in grant assistance. The Task Force recommended continuing indexing because it significantly improves access and choice for students over the previous system of a flat award, especially for students attending independent institutions. However, raising the maximum award for the neediest students also resulted in a proportionate increase in awards for all recipients, including those who have some family contribution. Therefore, the Task Force recommended a more targeted financial aid strategy to meet the remaining financial need to disadvantaged students. They recommended establishing a supplementary award to the General Scholarship Award for students who have a zero amount of family contribution under the needs analysis procedure. Establishing a separate "add
on" scholarship would enable the state to expand opportunities for disadvantaged students without increasing the overall financial aid program (Massachusetts, 1988a).

The Task Force claimed that providing financial assistance without providing support services is a strategy unlikely to increase the participation of economically disadvantaged students. They explained that many students face social and cultural obstacles that are as formidable as financial concerns. For this reason, the Task Force recommended linking the state subsidy for support services to the amount of student aid an institution receives. Their rationale is that if institutions receive state funds for support services on the basis of the number of student aid recipients, then institutions would have a greater incentive to recruit and retain those students.

Another important strategy for increasing the participation of economically disadvantaged students is to provide adequate and accurate information on financial aid opportunities early in a student's secondary education. Massachusetts has taken the initiative in developing a nationally recognized model on how public and private institutions can work together in providing students with knowledge of financial aid and college opportunities (Massachusetts, 1988a). Six Educational Opportunity Centers were created to provide, at no cost, financial aid information, application assistance, and referral information to other agencies for support services. The Task Force recommended encouraging matching grants with local communities and private sector groups to expand these centers throughout the state.

The Task Force's final recommendation was to link the cost of education with the price of tuition and financial aid available. As tuition increases, needy students need to be assured of adequate financial aid. The Task Force also pointed out it is vital to the "future of the state that independent colleges and universities be able to serve their public purpose of educating Massachusetts' students" (Massachusetts, 1988a, p. X). The principal means by which the state can accomplish this objective
is through awarding scholarships to needy residents attending independent institutions within the Commonwealth. Cotton (1990), president of AICUM, claims that state scholarships to residents attending independent colleges are the most effective dollars Massachusetts commits to higher education. He explains that the average state grant of $2,200 becomes a part of a package of savings, earnings, loans, federal and institutional aid that can add up to an average of $14,500. The Task Force suggested that Massachusetts residents would be better served if the maximum awards of General Scholarship Program were related to both the direct state costs of providing an education in the public sector and to the size of tuition in the independent sector. With the understanding, that, in no case should the General Scholarship Award to students in the independent sector exceed what it would cost to educate the student in the public sector.

In pointing out the importance of linking the price of tuition to the availability of financial aid, the Task Force suggested a fundamental change in how higher education budget decisions are made (Massachusetts, 1988a). The Task Force points out that, every year, state policymakers make three important sets of decisions regarding the financing of higher education in the Commonwealth. One is the amount the state appropriates to support public higher education. Another decision involves setting the tuition and fee rate at public institutions. The third is the allocation of funds for state financial assistance programs provided to students attending public, independent, and proprietary sector institutions.

The Task Force explains that these three sets of decisions are related to one another (Massachusetts, 1988a). The difference between what it costs to educate a student in the public sector and price of tuition determines how many taxpayers' dollars are needed from the state to support public higher education. Tuition levels in both the public and private sector should be a key factor in determining the
financial need of students attending college in the state. No policy mechanism currently exists in the state that links these three critical financial decisions in any formal or systematic way. Instead, each of these decisions are made independently of each other. The Task Force believed that the state's financial commitment to higher education is too large and too important to the state's economic future not to require coordinated decision making for expenditures, tuition, and student financial aid. Therefore, the Task Force on Student Financial Aid recommended that the Board of Regents review and modify their current tuition policy.

In May 1988, the Board of Regents adopted its second statewide tuition plan for all public institutions, entitled A Margin For Excellence. (Massachusetts, 1988b). An analysis of tuition decisions made under the 1984 policy suggested that the policy had four major faults (Mitchell and Dars, 1988). The policy did not provide for a minimum tuition level that students should be expected to pay when the costs and economic circumstances change. The policy did not support the principle that students should pay their fair share of the cost of their own education. The policy did not provide a linkage between increases in tuition and the amount of financial aid available. Finally, tuition decisions appear to be heavily dependent upon subjective determinations (Mitchell and Dars, 1988). Mitchell and Dars (1988) found the following outcomes from the 1984 Tuition Policy:
a. Between 1983 and 1985, tuition increased by 15 percent, and tuition remained the same between FY 1986 to FY 1988, while national tuition increased over 40 percent.
b. Between FY1983 and FY1988, the state appropriations increased between 31 percent to 55 percent, depending on the segment. In addition, per capita income had increased by 44 percent, while the self-reported income of families with college-bound students increased by 64 percent.
c. Tuition as a percentage of cost declined in every year. State Colleges had the highest tuition percentage (24% of cost), while community colleges had the lowest (18%).
d. Between FY1983 and FY1988, salaries generally increased more rapidly than other costs of higher education. For 1988, approximately 82 percent of the state appropriation to higher education was spent on salaries. As result, public institutions have limited financial flexibility to develop new programs.

The objective of the new policy was to promote access and to improve quality by providing resources to support academic quality and institutional responsiveness, as well as to permit greater public management in public higher education (Massachusetts,1988b). The Regents' policy was based on the assumption that the tuition policy for the public systems should be grounded on higher education's mission of service. Based on this assumption, the state should provide an excellent system open to qualified students of every socioeconomic background; and in turn, students should be expected to assume a fair share of the cost of their education, insofar as they are financially able to do so.

The Regents outlined their new tuition policy based on a set of principles that linked the price of tuition to critical policy issues. The first policy issue was the link between tuition and access; increasing the price of tuition can limit access to higher education. Traditionally, Massachusetts has had a low tuition policy. This policy was based on the assumption that the best way to assure access is to keep tuition low. The Regents began to question this policy by claiming the net effect of such policy is to provide a substantial subsidy for everyone who attends a public college or university, regardless of income. The Regents recommended taking a
different policy stance: students who can afford to pay should pay a stated amount for the benefits they receive from their education. This change in policy is also grounded in two other principles of equity and partnership that the Regents used in developing their tuition policy.

The principle of equity is based on the belief that students who derive personal benefit from higher education should assume their fair share of the cost. Tuition only pays a fraction of the total cost of higher education. The Regents (Massachusetts, 1988b) suggest that tuition charges should apportion the cost of higher education according to a calculation of benefits between the student and the state. Massachusetts ranks in the top ten in net appropriations per students, yet the state ranks much lower in the total expenditure per student because the state tuition revenue is below average. The Regents (Massachusetts, 1988b) claim that by holding tuition increases below the rise of appropriations, inflation, and personal income, the state has "capped" the aspirations of public colleges and universities. They suggest that tuition charges should be set at a fixed share of the cost of education, and should rise with the state's appropriations as the cost of higher education rises. It is difficult to calculate accurately the cost-benefit of higher education for students and for the state. Therefore, the Regents recommended using the Carnegie Commission's estimate of approximately one-third benefit to the student, and two-thirds to society. Using this benefit estimate, the Regents suggested that students should be responsible for 30 percent of the cost of education at the public universities and state colleges, and a slightly lower cost of 25 percent of the cost at the community colleges.

An essential part of equity principle is partnership between the state and students. The Regents (Massachusetts, 1988b) claim that if students are expected to pay their share of the cost of education, then the state should fulfill its obligation to
support higher education with its fair share. Based on these three principal, the Regents set the following tuition goals. Undergraduate tuition at senior institutions was set at 30 percent of the prior year’s average educational cost per student. Community colleges shall be set at 25 percent.

The Regents (Massachusetts, 1988b) adopted another principle to help students cope with the rising tuition cost. They incorporated the principle of predictability into the tuition policy because they "believe it does not serve the public's interest when tuition decisions are subject to ad-hoc political, fiscal, and other pressures that too often surround them" (Massachusetts, 1988b, p. 11). The Regents said the maximum annual increase for residents in any year shall not exceed nine percent. This tuition cap would allow parents and students some ability to predict the cost of a four-year education.

Another major change in policy was to allow individual institutions to retain some of their tuition revenue. Under the then-current policy, public sector institutions did not retain any of the tuition collected from their students. Instead, all tuition was deposited in the State's General Fund; the institutions were totally dependent on state appropriations and student fees to fund their programs (Massachusetts, 1988b). The Regents advocated a percentage of the tuition revenue should be retained at the institution in which it was generated, in order that those who pay their appropriate share of the cost can benefit directly from their payment. The policy of paying tuition into the general revenue fund did not provide an assurance that monies would be expended on the campus where they were paid. The Regents called this principle the direct benefit principle. The Regents advocate that these funds would be used for "Margin of Excellence" and for campus-based improvements and would give institutions more flexible and more responsive to students' needs, as well as give institutions greater responsibility for resource
management. The Regents recommended that beginning FY1989, colleges and universities shall be permitted to retain a percentage of tuition approved by the Board of Regents.

Tuition is not the only cost to students. Students are also required to pay fees for specific services. Some fees are voluntary, in that students only pay a fee if they use the service. Other fees are mandatory, i.e. all students are required to pay the fee. The Regents (Massachusetts, 1988b) claim, that to students, mandatory fees are indistinguishable from tuition. Therefore, fees should be included in any tuition policy that is developed. During budget constraints, public institutions have used fees to cover their expenses when state appropriations have been cut or tuition increases have not kept pace with the cost of instruction. During the 1980's, fees have risen six times as fast as tuition (Mitchell and Dars, 1988). In 1988, the University of Massachusetts had the largest percentage of fees to tuition at 49 percent, followed by state colleges at 39 percent, community colleges at 32 percent and regional universities at 28 percent (Mitchell and Dars, 1988). Mitchell and Dars (1988) report that increasing fees may be seen as a means of raising revenues to support those activities that should be supported through state appropriations or tuition. Because of the rapid rise in fees, the Regents included a cap on campus-based fees of 30 percent of tuition. They did exempt certain fees that supporting student life initiated or approved by students (Massachusetts, 1988b).

Implementing the new tuition policy and the recommendations of the Student Financial Aid Task Force has been delayed because of another state budget crisis beginning in 1988. Since 1988, state institutions have had to endure nine budget cuts in three years; five of the cuts occurred in the middle of the year. As the Chancellor of the University of Massachusetts, Joseph Duffey (personal communication, November 20, 1990), explains, "the new policies were sound; it was
the timing that was wrong." The most important feature of the 1988 Tuition Policy was the Margin of Excellence provision, which allowed individual institutions to retain future tuition increases, which amounted to $40 million system-wide in 1990. However, instead of the money going to improving the academic quality of public institutions, state colleges and universities have had to use the Margin of Excellence monies to make up for cuts in state appropriations (P. Mitchell, personal communication, December 20, 1990).

State Colleges and Universities have also had to increase student fees despite their voluntary agreement with the Regents to keep fees at 30 percent of tuition (P. Mitchell, personal communication, December 20, 1990). At one state college, the Board of Trustees voted to increase the second semester fees by $500, to a total of $921, to make up a $1.6 million cut in state appropriations. State appropriations have declined from 64 percent of this college's budget to 45 percent, which now makes the institution state-assisted rather than state-supported for the first time in its 96-year history (Fitchburg, 1990). Andre Mayer (personal communication, November 20, 1990), Director of Planning for the Board of Regents, explains the problem in rising student fees is not the amount, but their unpredictability." A student budgets a certain amount of money for the year and cannot afford a sudden increase of $500." The budget crisis has also limited access because institutions have cut part-time faculty who teach nights or extra sections of high demand courses (A. Mayer, personal communication, November 20, 1990).

The legislature responded to the rapid increase in student charges by revising the state law on tuition for public institutions. The legislature changed a statute giving the Regents authority to set all student charges (tuition and fees). The new statute also requires that the Regents develop a new tuition plan to maximize student access to higher education, and it requires the Board to establish fee guidelines with
the provision that fees shall not exceed 25 percent of the total student charges (P. Mitchell, personal communication, December 20, 1990). At the present, the Regents are revising their tuition policy.

Massachusetts has attempted to develop sound educational policies to provide access to higher education however, the instability of the state's economic condition has not allowed the state to implement these policies. The future economic condition in the state will determine if the state's policy objectives will be reached. As Andre Mayer (personal communication, November 20, 1990) commented, "We have not been able to plan because of the instability of funding; higher education in Massachusetts is either in a Boom or Bust situation."

Conclusion

Massachusetts' higher education policies are based on the principle that the state has the primary responsibility for providing an accessible, diverse, and academically sound higher education programs to its residents. The state has maintained a low tuition policy to provide access to its public institutions and a generous state grant to residents to provide access to its private institutions.

The price of tuition has been the subject of many state policy studies. In the late 1970's, the cost of private higher education became prohibitive to many middle-income families who traditional sent their children to private institutions. Access to private institutions was important to middle-income families because of the public's perceptions that private institutions were better than public institutions. These families lobbied successfully to establish the "access with choice" policy that provided financial assistance to residents attending private institutions. State policymakers claim that the "access with choice" policy is not simple an issue of giving students an educational "choice", but the state must take an economic interest
in its private colleges and universities. Private higher education is a $10.15 billion industry, and its impact is felt throughout every sector of the state’s economy.

In the 1980’s, the Regents redefined access to higher education by changing the admissions standards at public four-year institutions (Table 11). The Regents defined access to higher education as providing an opportunity to citizens to further their education at a level and institution appropriate to their interest, ability, and preparedness. The admissions standards resulted in baccalaureate-granting institutions became selective, while community colleges remained open admissions.

In summary, Massachusetts’ higher education access policies included both public and private institutions. The state maintains a strong commitment to providing "access with choice." Most of the state’s policies focus on the price of tuition and state financial aid programs. In the 1980’s, the major factor that prohibits access to higher education is the states selective admissions standards at baccalaureate-granting institutions.
### Table 11. Summary of Changes in Massachusetts' Policies

<table>
<thead>
<tr>
<th></th>
<th>1969</th>
<th>1979</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Admissions</strong></td>
<td>Public Four-Year Institutions had selective admissions standards.</td>
<td>Most public institutions had non-selective admissions standards.</td>
<td>Access to a level and institution to match their interest, ability, and preparedness. All public four-year institutions became selective.</td>
</tr>
<tr>
<td><strong>Tuition</strong></td>
<td>Low tuition policy at public institutions to assure access to higher education.</td>
<td>&quot;Access with Choice&quot;- students should have access to institutions of their choice and not be limited by socioeconomic background.</td>
<td>New Tuition Policy adopted. Students should be expect to pay their fair share of the cost of education (30 percent).</td>
</tr>
<tr>
<td><strong>Geographic</strong></td>
<td>State adopted a master plan to develop community college within commuting distance of 95 percent of the population.</td>
<td>The state closed one of the two state colleges in Boston.</td>
<td>Regents adopted a Regional Planning Strategy for educational effectiveness and operational efficiency.</td>
</tr>
</tbody>
</table>

**South Dakota Case Study**

Two recurring themes serve as the foundation for South Dakota's higher education policies. The first theme is that the state has too many public institutions. Studies of higher education dating back to 1918 recommended the consolidation of programs, if not institutions. These studies claimed that the primary problem of...
higher education in the South Dakota is "too many colleges and universities for the state's population" (Hoagland, 1989). The second theme is the limited financial resources available for higher education in South Dakota. The state's struggling agricultural economy has resulted in financial difficulties for both public and private institutions. These two recurring themes often lead to institutions facing closure because of lack of funds or the system's desire to streamline to be more efficient. Lack of financial resources and the number of public institutions are themes that have influenced South Dakota's higher education policies.

State Profile

The upper Missouri River Basin splits South Dakota into two equal parts: the East-river region, a fertile area of prairie plain, and the west-river region, a land of mesas and canyons (Kane, 1989). Most of the population in South Dakota lives east of the Missouri River, where the land is used for agriculture. Agricultural production and related activities dominate the state's economy. South Dakota is among the leading states in the production of beef cattle, calves, hogs, sheep, and lambs. Wheat is the state's most productive crop. Mining production can be found in the western part of the state; South Dakota is the number one producer of gold in the United States. This heavy dependence on agriculture has made the state's economy extremely vulnerable to agricultural price swings (Collier, 1989). During the 1970's, farmers borrowed heavily to modernize their operations and expand production when the price of farm products was high. In the early 1980's agricultural prices fell, and many farmers went into debt and were forced to foreclose on their family farms (Collier, 1990). At the beginning of the 1990's, the state's agriculture- and-mining based economy remains in a slump. Higher education officials complain that the state's farming interest directs too much money toward
agricultural-related research at the expense of life science, engineering, and physical science programs—all of which could contribute to the diversification of the state’s economy (The Chronicle of Higher Education Almanac, 1990).

South Dakota is the 16th largest state in United States, but the state ranks only 45th in population. The average per capita personal income in 1986 was $11,850 compared to the national average of $14,641. Most of the state’s population lives in rural areas (53.6 percent). Native Americans, predominately Sioux, constitute just under seven percent of the state’s population (Collier’s, 1990). A majority of the Native Americans live on eight reservations. Since World War II, many Native Americans have moved to urban centers, particularly Rapid City in Western South Dakota. Less than 1 percent of the state’s population is African-American or Hispanic.

Background

Under the constitution of the State of South Dakota, the governance and control of public higher education is vested in the Board of Regents. Since statehood in 1889, the Board of Regents has had full power, responsibility, and authority to supervise, coordinate, manage, and control public higher education in South Dakota (South Dakota, 1987). The Board of Regents consists of nine members appointed by the governor and approved by the legislator. Three members are appointed every two years, each for a six-year term. The state’s constitution outline some specific qualifications for members of the Board of Regents. No two members may be residents of the same county, and not more than six regents shall be members of the same political party. Until a constitutional amendment in 1986, no member of the Board of Regents could be a resident in a county in which any higher education
institution existed. In July 1988, one position on the Board was designated for a student regent with full voting rights.

The Regents have the authority to establish departments and courses of study in all public institutions. The constitution also grants the Regents' authority "to determine what textbooks shall be used, what requirements for admissions and graduation must be met by students" (South Dakota Constitution 13-53-1). The Regents also set the price of tuition and fees to be paid by students. The Board of Regents is an independent body. They are insulated from the direct authority of the Governor and even from undue influence of the legislature--beyond its lawmaking and appropriation powers (Hoagland, 1989).

The Board of Regents has the authority over all state educational institutions, which includes two state universities, the School of Mines and Technology, three state colleges, and the state's School for the Deaf and the state's School for the Visually Handicapped. The federal government finances five tribally controlled colleges for the state's Native American population. Five small church-related colleges provide private higher education to the state. Unlike the private colleges in the east, private colleges in South Dakota were established after most of the public institutions in the state. State legislatures do not view private colleges as playing a major role in providing higher education in South Dakota. Sister Jacqueline Ernster (personal communication, March 22, 1991), President of Mount Marty College and chair of the state's Independent College Association, claims the public system is over-built and under-utilized; therefore, the state does not need any spaces provided by private college. Sister Jacqueline Ernster also explains that because the independent colleges are church related, legislators have been reluctant
to mix church and state by providing student financial aid to the state’s private colleges.

In summary, public higher education struggles because of the number of institutions that the state supports on limited resources. The state’s policies and funding of higher education did not include the education of American Indians or the resources of the state’s private institutions.

Decade of the 1970’s

In 1969, the state had seven public institutions. The four state teachers colleges were accessible based on their tuition and admissions standards. The two state universities and the School of Mines and Technology were inaccessible because of their high tuition price. Five of the state institutions were located on the eastern part of the state where most of the state’s population lives. Black Hills State College and the School of Mines and Technology were located in the western part of the state. The private colleges in the state were located in eastern South Dakota. These private church-related colleges were all inaccessible because of high tuition price, and two institutions also had selective admissions standards. There were two private church-related junior colleges that were inaccessible because of high tuition price. During the 1970’s, public higher education became more accessible. In 1979, the price of tuition and the admissions standards were accessible at all seven public institutions. Although the admissions standards become more accessible at private institutions, price of tuition remained inaccessible.

In 1968, the state legislature created the position of Commissioner of Higher Education. Dr. Richard Gibb was selected as South Dakota’s first Commissioner of
Higher Education. Gibb's first task was to develop a master plan for public higher education in South Dakota. In developing the Master Plan, Gibb created seven working committees of faculty members from the state's colleges and universities. Each committee had a faculty representative from a private college and one lay member. These committees were responsible for studying a diversity of issues ranging from admissions and retention to governing structure. The committees were to make recommendations to the Commissioner and his staff, who in turn would write the Master Plan. Besides the seven committees, four advisory committees were formed: one representing students, faculty, college presidents, and citizens. Gibb stated his intent was for the seven study committees to meet and develop recommendations that would be reviewed by the four advisory committees. Both the committees and the advisory boards would prepare a final report to the Commissioner to help him in preparing his report.

The two primary recommendations in the Master Plan were similar to prior studies. The committee stated that the major problem with public higher education in South Dakota was that there were too many colleges and universities. The other problem was too many programs with low enrollments and questionable quality. In 1970, South Dakota was a state with a population of 700,000 people and seven public institutions: which translates into more state colleges and universities per 100,000 population than all but 2 or 3 other states. Gibb points out there is some geographic advantage in having several institutions in a state the size of South Dakota. However, the cost of supporting seven institutions was the basis for the financial problems of public higher education in South Dakota.

Several recommendations in the Master Plan called for decreasing the number of institutions or programs. It was recommended that the number of state colleges
and universities be decreased from seven to four by closing Dakota State College and Southern State College and converting Black Hill State College into a junior college of the South Dakota School of Mines and Technology. Gibb (South Dakota, 1970) stated, that if it was too impractical to close any of the campuses, then he recommended that Dakota State College should become a junior college of South Dakota State University and Southern State University become a junior and technical college of the University of South Dakota.

Besides closing institutions, it was also recommended that programs be consolidated as a financial savings for the state. In consolidating programs, it was recommended that institutions develop uniqueness and be exceptionally strong in certain areas (South Dakota, 1970). Gibb’s (South Dakota, 1970) rationale for the consolidation was too many programs had ten or fewer students enrolled, and too much money was spent adding new programs instead of strengthening existing ones. He also felt that too much money was being spent on graduate programs. Based on the consolidation recommendation, the following changes in programs were outlined in the Master Plan. South Dakota State University should be primarily a small land-grant institution with primary emphasis in the areas of Agriculture, Sciences, and Applied Sciences. The University of South Dakota’s primary role should be that of a small liberal arts university which would provide programs in the Liberal Arts and Sciences, Law, Business, and School Administration. The South Dakota School of Mines and Technology’s mission should be that of a comprehensive state college for Western South Dakota. Gibb called for all Ph.D. programs at South Dakota State University, University of South Dakota, and the School of Mines and Technology to be rejustified to the Regents, and if the programs could not be rejustified, the programs would be dropped. Under Gibb’s Master Plan, South Dakota State
University lost two-thirds of its Ph.D programs (Miller, 1989). The same call for rejustification was also made for masters programs at Northern State College and Black Hills State College.

Gibb (South Dakota, 1970) recognized that there would be resistance to changes that were recommended in the Master Plan, but he claimed the Plan was not designed exclusively for students, faculty or administrators but instead was a plan for the people of South Dakota. Gibb explained that there would be three types of pressures against the implementation of this Master Plan. The first type was institutional pressures. It was natural for the personnel on any one campus to be not in favor of losing a program that has been in existence for a long time, though the program may no longer be in the best interest of the state as a whole. Campus administrators will be very reluctant to recommend closing any program because of the great pressure exerted by students, faculty, and other administrators. Gibb cites the second sort of pressure can come from alumni. Most institutions of higher education have alumni associations, some of which are extremely influential. Many alumni may recognize the need for changes in the best interest of the state, unless the changes are at their alma mater. Gibb cites the third type of pressure which comes from the Chambers of Commerce and residents in a town which a college is located. For economic reasons, business and townspeople are reluctant to see changes that may decrease the number of student-consumers.

Gibb’s Master Plan had 64 recommendations; thirty-nine recommendations were enacted, and twenty-five were not. Most the recommendations that dealt with reducing the number of institutions and eliminating low demand programs were not enacted. The irony is that the Regents have engaged in numerous studies and plans since 1970 which derived the same recommendations to reduce the number of
institutions and low demand programs that Gibb's proposed (M. Hillman, personal communication, March 8, 1991). Betty Redfield, who served as a Regent from 1977 to 1983, explains "they (South Dakotans) almost ran the man (Gibb) out of the state. He was a very bright person, and very capable. But South Dakota is not in line for big changes." (Hoover, 1989, p. 116).

Admissions Policies

The admissions policies for state colleges and universities were outlined in the 1970 Master Plan. Students ranking in the upper two-thirds of their high school class or who have achieved satisfactory ACT test scores were to be admitted to the state's colleges or universities. Those students not meeting this requirement were to be admitted to one of the proposed junior college divisions or one of the state colleges on a deferred basis. Junior Colleges were never established.

Tuition and Financial Aid Policies

The establishment of a State Grant-In-Aid Program for economically disadvantaged students was recommended in the Master Plan, but there were no recommendations or even references to policies for setting tuition and fee prices for public higher education. South Dakota's public and private institutions received federal aid, but limited state support. The state provided no financial assistance to students attending private institutions, and only certain classes of students attending public institutions receive a tuition waiver. Students receiving tuition waivers include veterans, orphans of veterans, blind persons, and a limited number of American Indians. The Master Plan recommended the development of two new state financial aid programs: a Grant-In-Aid program to supplement the under-funded
Federal Educational Opportunity Grant Program and a substantial increase in the part-time student work budgets for institutions (South Dakota, 1970).

In 1977, a tuition reciprocity agreement was made with Minnesota to help to provide educational opportunities that South Dakota’s taxpayers could not otherwise afford. This reciprocal attendance agreement between South Dakota and Minnesota enables any resident of South Dakota to attend any public institution of higher education in Minnesota or any resident of Minnesota to attend any public institution in South Dakota without being required to pay out-of-state tuition and fees. Former Regent Redfield explained that the worth of the tuition reciprocity agreement cannot be measured by the exchange of dollars, but by the value the programs have to South Dakota since the state does not need to establish additional programs (Hoover, 1989).

In the mid-1970's, there were several attempts by the Regents to restructure the governance structure of higher education into a single university system. Dakota State College and Southern State College were placed under the jurisdiction of the University of South Dakota. The University of South Dakota was directed to operate a combined administrative budget for all three campuses. However, other attempts to combine the rest of the state colleges and universities into one single University of South Dakota system were never approved by the state legislature.

During 1978, the state legislature tried, through a series of resolutions, to encourage state colleges and universities to reallocate their resources. Resolution 1 called for presidents of each public institution to prepare a list of their institution’s academic programs in order of their importance in fulfilling the educational needs of the state. The legislature’s Resolution 16 requested the Regents develop a plan for defining costs and evaluating the priorities of the public institutions of higher
education. The final Resolution 21 required institutions to identify programmatic cuts of 15 percent of their total budget which could be reallocated from low priorities to those of a higher priority.

Another major change in higher education for South Dakota was the development of Tribally Controlled Colleges. The development of these colleges occurred completely independent from the state. The movement to establish Tribal Colleges began in the 1950's; however, the then-current policy of the federal government was to move American Indians off the reservations. In the late 1960's, young American Indians who left the reservation for a college education returned and were influential in helping to establish higher education opportunities on the reservations. Murray (1989) claims the American Indians wanted a college that reflected their ideals and values of their culture. The tribal leaders also felt that if they had control of these colleges, they could assure their success. Beginning early in the 1970's, college courses were being offered on Indian Reservations throughout South Dakota by existing public colleges and universities. Even though enrollment in these extension courses exceed projected estimates, the development of Tribal Colleges did not proceed smoothly. Tribal Colleges lacked ongoing funding for the development and operation of these institutions. Murray (1989) explains the option by which most state colleges came into existence--founding by state legislatures--was not available to the Tribal College. State funding was not available because the education of American Indians was considered a federal, not a state, responsibility.

The establishment of the Navajo Community College on July 17, 1968 at Many Farms, Arizona was significant for American Indians in South Dakota. The Navajos had successfully gained federal legislation, called the Navajo Community College Act, that authorized the establishment of a college and provided for annual
appropriations to be granted by the United States Congress. Murray (1989) explains that Congress did not anticipate that the Navajo Community College Act would lead to a national movement to establish Tribally Controlled Colleges throughout the United States.

College representatives from the Rosebud and Pine Ridge Reservation in South Dakota began to make trips to Washington D.C. to learn how to obtain federal funds to support their college. Helen Schierback, a Lumbee Indian working in the Office of Education, provided encouragement and knowledge on how to approach federal officials for funding. Schierback convened a meeting of people interested in forming a national organization to promote higher education on American Indian Reservations. The first action of this group was to form an organization called the American Indian Higher Education Consortium (AIHEC). The second action was to pursue Title III funding for the organization. In June 1973, AIHEC received notification that Title III funding was to be granted to their organization. AIHEC was then incorporated as a non-profit organization and a national office was set up in Denver. Between 1973 and 1978, AIHEC went about the formidable task of gaining federal legislation and authorization into establishing Tribally Controlled Colleges and securing appropriation funding from Congress (Murray, 1989).

Tribally Controlled Colleges exist on five reservations in South Dakota. Sinte Gleska College, located on the Rosebud Sioux Reservation, was established in 1971 and accredited as a four-year college in 1983 by North Central Accreditation. Oglala Lakota College was established on the Pine Ridge Reservation and was accredited for associate degrees by North Central Accreditation in 1983. Standing Rock Community College was accredited in 1984. Sisseton-Wahpeton Community
College and Cheyenne River Community College are in the candidacy status for accreditation.

Murray (1989) claims there were several reasons why these Tribally Controlled Colleges are one the most successful and least known stories in education. For one reason, although the colleges did not exclude non-Indians, these colleges do exist primarily to serve the residents of the American Indian community. Another reason is that these colleges belong to their National Organization, the American Indian Higher Education Consortium. A third reason is the historic policy that the needs of American Indians are deemed to be a federal, rather than a state, responsibility. Tribal Colleges are public institutions but are not a part of South Dakota's Higher Education System. Joseph McFadden (1989), former president of the University of South Dakota, explains that the Regents never demonstrated an interest in the education of American Indians, and therefore there was not any pressure on public institutions to admit more American Indians. McFadden claims that Tribally Controlled Colleges have been very successful in educating American Indians. He states that many graduates from Tribal Community College have enrolled and successfully completed vocational and professional programs at the University of South Dakota. The final reason that these colleges are successful is that they provide and sponsor a number of community services for the reservation and, therefore, there is a commitment from the Tribes to support the efforts of the colleges.

In summary, Gibb's Master Plan was the focus point for higher education in South Dakota during the 1970's. Although many of Gibb's recommendations were not implemented, these recommendations serve as an agenda for future policy decisions. Also during the 1970's, the tribally controlled colleges were established
without support or involvement of the state. The tribally controlled colleges are a valuable resource to South Dakota, but neither the Regents nor the State Legislature considered these colleges part of the higher education system of South Dakota.

Decade of the 1980's

During the 1980's, public higher education in South Dakota became inaccessible because of the rising price of tuition. Along with rising tuition prices, agricultural prices fell and many families' incomes decreased. One state college was closed and a second state college changed its mission from a comprehensive institution to a computer science-based curriculum. The private colleges in the state remained inaccessible because of their high tuition rates. One of the two private junior colleges in the state closed in 1986 due to financial reasons.

During the administration of Governor William Janklow (1979-1987), the Board of Regents surrendered its authority on two occasions to the Governor (Hoover, 1989). In these two occasions, the Governor proposed the closing of University of South Dakota at Springfield and changing the mission of Dakota State College. Although these changes had been suggested several times by the Regents, this time the Regents stepped aside and let the Governor fight it out with the legislature (Hoover, 1989).

For years there had been recommendations that the state reduce the number of public institutions. Both South Dakota University at Springfield and Dakota State College were two institutions frequently recommended for closing. Hillman (personal communication, March 8, 1991) explains it is very difficult to close an institution for educational reasons, but it is especially difficult when the community is economically dependent on the institution. Janklow was able to close the college
in Springfield because he turned the college into a state prison. Turning the college into a prison helped maintain the economic vitality of the community. McFadden (personal communication, March 18, 1991), former President of the University of South Dakota, expressed concern about the loss of geographic access to higher education. There were 800 students enrolled at Springfield when it closed, McFadden (personal communication, March 18, 1991) explains; 600 students transferred to the University of South Dakota and the remaining 200 students dropped out of higher education.

It had also been recommended several times that Dakota State College be closed, but instead, Governor Janklow proposed a change in the mission for the institution. The Governor proposed that Dakota State College dedicate itself to preparing graduates for jobs in the rapidly growing field of information and financial service industry. Dakota State College was to provide instruction in computer management, computer information systems, electronic data processing, and other related undergraduate programs. Two-year and one-year courses would be developed for application and systems training. A major boost was given to the Governor's proposal when Richard McCrossen, President of Citibank, offered the full support of his corporation. In 1980, Citibank relocated its credit card division to Sioux Falls. After the battle over Springfield, the legislature did not want to close another institution; therefore, they were willing to accept the Governor's proposal to change the mission of Dakota State College. The college was exempted from the normal formula-based funding for a period of three years, and 10 million dollars were allocated by the legislature to implement the first year of the new mission. Faculty who intended to stay received retraining in computer science (Janke, 1989). Dakota State College does not have the enrollment demand expected and some
legislators still question if the change was for the best, but enrollment is rising slowly (M. Hillman, personal communication, March 8, 1991).

Geographic Access

Since the closing of Springfield and the mission change at Dakota State College, the Regents and the State Legislature have been reluctant to make additional major changes to the system. Hillman (personal communication, March 8, 1991) claims that the increased demand for higher education from non-traditional students has given more importance to geographic access. Non-traditional students cannot pick up their lives and move to another part of the state to attend higher education. He adds the current distribution of public higher education serves the residents well, except for Sioux Falls. Sioux Falls is the largest metropolitan city in the state, population 87,776 (1980). Historically, Sioux Falls has had two of the largest church-related private colleges in the state. The Regents have not wanted to infringe upon the private institutions, but as the population in Sioux Falls increases, so has the demand for public higher education. The Regents have responded by providing graduate and medical programs in Sioux Falls sponsored by the University of South Dakota and South Dakota State University. Recently, the Regents have consolidated these programs into one location. Beginning in 1992, Dakota State College will begin to offer computer science courses in Sioux Falls. The Regents also have been sponsoring nursing programs in Sioux Falls' hospitals. Students are required to take their general education and prerequisite courses at one of the private institutions, and then students could complete their education through state-supported courses offered in the city's hospitals. However, students complain about having to pay the higher tuition to take their prerequisite courses at a private institution. Hillman (personal
communication, March 8, 1991) claims there will be increasing pressure on the state to establish a public institution in Sioux Falls in the near future.

The Regents have also responded to the demand for more geographic access to graduate-level programs. Regent Leburn (personal communication, April 1, 1991) said that the Regents are committed to providing accredited programs wherever they are needed. The Regents have developed a rotating system where a graduate program, such as an MBA, would be offered in one county for five years and then moved to another county. Leburn points out the advantage of a rotating program is that as the demand decreased in one location, the program can be discontinued and moved to an area with higher demand.

Admissions

The Regents maintain the authority to set admissions standards (South Dakota Regents, 1987). The basic admissions criteria is completion of a college preparatory curriculum in high school with a "C" or better grade point average. The college preparatory curriculum includes four years of English, two years of mathematics, two years of a laboratory science, three years of social studies, a half-year of computer science, and a half-year of fine arts. The Regents wanted to include a foreign language requirement as part of the preparatory curriculum for college, but the state legislature did not want to spend the money to hire language teachers in the high schools (J. McFadden, personal communication, March 18, 1991). Students who have not achieved a "C" average or better in the college preparatory curriculum must meet additional criteria. To be accepted to one of the state's universities, students must meet one of the following criteria:
To be accepted to one of the state colleges, students must meet one of the following criteria:

1. A student ranks in the top two-thirds of their high school graduating class, or
2. Has an ACT composite score of 20 (enhanced) or above.

Individual institutions may adopt more specific admissions criteria to assure that students are adequately prepared for certain courses of study. Institutional admissions criteria must be approved by the Board of Regents (South Dakota Regents, 1987).

Tuition and Financial Policies

The Board of Regents set the tuition and fee rate based on the total cost of higher education, not just instructional cost. Historically, the policy of the Regents has been set to tuition and fee charges at a level that will not deprive any person with ability and interest from acquiring a college education because of cost. Funding for higher education is viewed by the Regents as a dual effort: ideally, the state pays 2/3 and the student 1/3 of the cost (P. Leburn, personal communication, April 1, 1991). South Dakota has a law that states the price of tuition and fees for higher education cannot go up more than the HIP index. This policy serves as a ceiling. In 1990, the HIP index went up five percent, so tuition could only go up five percent.
The state legislature determines the price of tuition, and state institutions are viewed as state revenue generating operations. The Regents are responsible for predicting the enrollment for the next year, and the state legislature then uses the prediction to determine how much revenue public institutions need to collect. All tuition revenue goes into the state's general fund and then is allocated to individual institutions based on their enrollment. Legislators refer to this practice as meeting the obligation to the state's general fund. If an institution does not meet its obligation to the general fund, it will not receive its full state allocation. All tuition charges are set on a credit-hour basis. During the 1980's, the rising price of tuition outpaced the increase in family income. Surprisingly, students and their families do not complain about the rising price of tuition. McFadden (personal communication, March 18, 1991) explains that the price of tuition is not a political issue in South Dakota. He claims that the citizens have not complained about the price of tuition and, as a result, the price of tuition continues to increase.

Two state-supported financial aid programs are funded by South Dakota. The State Student Incentive Grant Award (SSIGA) is a need-based grant. Students' eligibility for the SSIGA is determined from the Federal Government's Pell Grant Index. The maximum award for the SSIGA is $600 per year. Students who qualify for both a Pell Grant and SSIGA can only accept one of the two grants. Financial aid award decisions are made at the institutional level to give institutions the flexibility to award aid to their neediest students (R. Stillman, personal communication, March 15, 1991). Both public and private institutions in the state are given an allocation of funds to use for SSIGA based on a formula. Students do not need to be enrolled full-time to receive the SSIGA.
The other program is the Tuition Equalization Grant (TEG). The purpose of TEG is to help equalize the tuition difference between public and private institutions in the state. The maximum grant is $250 per year. South Dakotans attending private colleges in the state generally receive a $250 TEG and $250 SSIGA, for a total of $500 financial aid grant from the state (Stillman, 1991). Private colleges have been lobbying the state legislature to increase the amount of the TEG award to meet the rising cost of private education (M. Hillman, personal communication, March 8, 1991).

South Dakota's public institutions are still experiencing low enrollment and inadequate funding to support most programs. Accreditation teams have remarked that programs in South Dakota have real potential, but the state needs to be willing to spend the money in increasing the quality of the programs it offers (J. McFadden, personal communication, March 18, 1991). McFadden (personal communication, March 18, 1991) believes the problem with public higher education in South Dakota is that the legislature and citizens are more concerned with providing the opportunity of higher education than with the quality of the opportunity. As stated in Gibb's 1970 Master Plan and many plans since, South Dakotan will continue to have to make difficult decisions to provide accessible and quality higher education.

Conclusion

Two recurring themes serve as the foundation for South Dakota's higher education policies. Studies dating back to 1918 claim the primary problem in higher education is that there are "too many colleges and universities for the state's population." The second theme is the state's struggling agricultural economy which results in financial difficulties for both public and private institutions. During the
1970's, farmers borrowed heavily to modernize their operations and expand production when the price of farm products was high. In the 1980's, agricultural prices fell, and many farmers went into debt. It was during this agricultural downturn that the price of tuition became inaccessible because of decrease in the median family income and the state decreased its appropriations to higher education (Table 12). However unlike Ohio and Massachusetts, South Dakota residents did not complain about the rising price of tuition and as a result the price continues to increase.

The state legislators do not view private colleges as playing a major role in providing higher education in the state. Because of the perception that the public system if over built and under utilized, the state does not need any spaces provided by private colleges. Also all the private colleges are church related, legislators have been reluctant to mix church and state relations by providing state financial aid to the state’s private colleges.
Table 12. Summary of Changes in South Dakota’s Policies

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<thead>
<tr>
<th></th>
<th>1969</th>
<th>1979</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions</td>
<td>Non-selective-student’s ranking in the upper two-thirds of their high school class.</td>
<td>No change in policy</td>
<td>College preparatory curriculum with a “C” or better average.</td>
</tr>
<tr>
<td>Tuition</td>
<td>Tuition reciprocity agreement with Minnesota to help to provide more educational opportunities.</td>
<td>State pays two-thirds of the cost and students pay one-third of the cost.</td>
<td></td>
</tr>
<tr>
<td>Geographic</td>
<td>Master Plan recommended decreasing the number of institutions and programs.</td>
<td>No change in policy.</td>
<td>The state closed one of its four-year institutions.</td>
</tr>
</tbody>
</table>
quantitative analysis and case studies examined the same three variables: selectivity, price of tuition, and geographic access. The second challenge is how to integrate the two data sources into a single narrative without obscuring the very complexity one worked hard to document. By presenting the findings from the quantitative analysis in section 1 and the case studies in section 2, the researcher was then able to integrate the findings in section 3 without obscuring the findings from either method.

Selectivity

The admissions standards in all three states were more accessible in 1979 than 1969 and 1989, based on the quantitative analysis. Private institutions were more selective than public institutions, and two-year institutions were more accessible than four-year. Ohio and South Dakota had a greater percentage of their public institutions with accessible admissions standards than did Massachusetts.

The case study revealed that all three states increased their admissions standards during the 1980's in response to the growing number of students who were entering college unprepared to handle college-level work. Ohio and South Dakota increased admissions standards by requiring students to complete a college preparatory curriculum in high school. This new curriculum requirement helped students to be better prepared for college without limiting the accessibility of admission standards. In contrast, Massachusetts increased its admissions standards which resulted in limiting the accessibility of higher education in the state. In the 1980's, Massachusetts instituted a predictive index to be used to evaluate a student's interest, ability, and preparedness for admissions at the state's public four-year
institutions. Each institution developed an admissions process based on a combination of predictive indexes of achievement and potential. The accessibility admissions standards at Massachusetts's four-year institutions decreased from 86 percent in 1979 to 46 percent in 1989. The irony is that increasing the admission standards at Massachusetts' four-year institutions did not help to make students better prepared, but instead allowed institutions to be more selective. Another reason for the change in admissions standards at four-year institutions was the Regents requested that state colleges set minimum admissions standards, so they did not compete with community colleges for students who were better qualified to attend two-year institutions.

In summary, Ohio and South Dakota responded differently than Massachusetts to the growing number of students entering college unprepared for college-level work. Ohio and South Dakota required a college preparatory curriculum for admissions. This new curriculum requirement help to prepare students for college without limiting access. Massachusetts raised admissions standards at public four-year institutions which limited their accessibility.

Tuition and Financial Aid

Although these three states have similar policies related to geographic access and admissions standards, there was greater discrepancy between the states regarding tuition and financial aid policies. Two opposing doctrines provide the underlying principles that influence how tuition policies are made at the state level. One doctrine holds that higher education is a "public good" which benefits the entire state; therefore, the state should assume most of the cost of providing higher education from tax resources. The other doctrine asserts that the individual is the greatest
beneficiary of higher education and, therefore, higher education is a private investment: the individual should pay the majority of the cost of higher education.

Massachusetts's tuition policies have traditionally been based on a "public good" doctrine. The quantitative analysis showed that most public institutions had an accessible tuition price in 1969, 1979, and 1989. The state's tuition policy has been to keep the price of tuition low to provide access to public higher education. However, during the state's boom-bust economy in the 1980's, the Massachusetts Board of Regents has undergone two tuition policy revisions and is currently conducting a third. During the economic boom in 1984, a tuition policy was developed based on the assumption that the state had the primary responsibility for providing an accessible, diverse, and academically sound education to its residents. As a result, the Regents adopted the policy that residents would pay a maximum of 33 percent of the cost of higher education, and they stressed that this was a cap, not a target. In addition, the Regents set 15 percent as the maximum tuition increase that would be allowed per year.

The Massachusetts Board of Regents reevaluated their tuition policy in 1988 during the beginning of the state's economic downturn. The Regents began to question the low-tuition policy because the net effect of such a policy was to provide substantial subsidy for everyone attending a public college or university, regardless of income. The Regents decided to take a different policy stance: students who can afford to pay, should pay a stated amount for the benefits they receive from their education. As a result of the change in the Regents' philosophy, a new tuition policy was established that students should be responsible for 30 percent of the cost of their education at public four-year institutions and 25 percent at two-year institutions. This percentage is still lower than either Ohio or South Dakota.
Although the Massachusetts' Board of Regents developed an accessible tuition policy, its public institutions increased student fees dramatically during the economic recessions in the late 1980's. Public institutions used fees to cover their expenses when state appropriations were cut and tuition increases did not keep pace with the cost of instruction. During the 1980's, fees had increased six times as fast as tuition (Mitchell and Dars, 1988). However despite the fee increases, the quantitative analysis reveals that 88 percent of the public institutions in the state had accessible tuition in 1989. In the 1990's, the state is in another economic recession in which state appropriations have been cut and tuition price held constant. State colleges and universities have resorted again to increasing student fees to meet their operating costs. Although Massachusetts had maintained a low-tuition policy, the state has not always provided the necessary financial resources needed by state colleges and universities. The state's financial support has been directly related to the state's economic boom or bust cycles.

Massachusetts' low-tuition policy for public institutions has also created the largest tuition differential between public and private institutions found in any state. In the late 1970's, the middle-income families lobbied successfully to expand the definition of access to include "access with choice." Based on this expanded definition of access, the state created a matching scholarship program in which the state would match scholarship aid given by private institutions to state residents. Expanding the state's access policy to include the concept of students should have access to the institution of their choice impacted how the state developed its need-based financial aid programs. Massachusetts' commitment to student financial aid programs grew 234 percent during the state's economic boom in the early 1980's.
In contrast to Massachusetts, Ohio has a high tuition policy. In Ohio, the primary responsibility for paying for higher education falls on the student and the student's family. Only when the student's resources are inadequate is it appropriate and necessary to supplement the student's resources with federal and state funds. The average cost of tuition and fees in 1990 at four-year state-assisted institutions in Ohio was $2,432 compared to the national average of $1,694 (Chronicle, 1990). Based on the quantitative analysis, only 25 percent of Ohio's state-assisted institutions had accessible tuition in 1989. Students attending public institutions pay 40 percent of the total cost of education, compared to the national average of 33 percent. Unlike Massachusetts and South Dakota, Ohio's individual institutions have the authority to set the price of their tuition, and all tuition revenues are retained by the institutions. When state appropriations do not meet what the institutions have requested, public institutions increase their students' tuition and fees. A reoccurring theme in Ohio's Master Plans is the recommendation to make higher education more affordable through reducing the student's share of the cost of higher education.

The Ohio Instructional Grant Program (OIG) is the state's major financial aid program. Grants are awarded based on the family's income. Because of the low ceiling on family income, the program has been less effective for many students from low-income families and has essentially taken middle-income families out of the program entirely. As Christman (personal communication January 17, 1991) explains, the current award system prohibits many students whose families are below the federal poverty level from receiving the maximum grant award.

South Dakota's struggling agricultural economy has resulted in financial difficulties for both public and private institutions. Historically, the policy of the
Regents has been to set tuition and fee charges at a level that will not deprive any person with ability and interest from acquiring a college education because of cost. The Regents view funding of higher education as a dual effort, ideally with the state paying 2/3 and the students paying 1/3. However, it is the state's legislature that determines the price of tuition and the reallocation of tuition revenue back to institutions from the state's general fund. During the 1980's, the rising price of tuition outpaced the increases in family income in South Dakota. In 1989, none of the state's public institutions had accessible tuition. However, unlike students and families in Ohio and Massachusetts, students and their families in South Dakota did not complain to the Regents or to the Legislature about the rising price of tuition. McFadden (personal communication, March 18, 1991), former president of two state universities in South Dakota, explains that the price of tuition is not a political issue in South Dakota. He claims that the citizens have not complained about the price of tuition, and as a result, the price of tuition continues to increase. The state also does not financially support its five tribally controlled colleges, because the education of American Indians is considered a federal, not a state responsibility, as stated by policymakers in South Dakota.

The high price of tuition at private institutions in each state limited the accessibility of private higher education in all three years. In response to high tuition at private institutions, many states have developed non-need-based grant programs to increase the accessibility of private institutions. All three states provide state-funded grants to residents who attend independent colleges and universities within the state.

Massachusetts has had the Matching Scholarship Programs with private institutions since 1970. The state will match scholarship aid given by private
institutions to state residents up to the amount that it would cost to educate the student in the public sector. The average state grant in 1990 was $2,200. Massachusetts' decision to provide financial aid to students attending private institutions is based on the policy objective of "access with choice." Also in 1983, Ohio's General Assembly established a Student Choice Grant Program to ensure "genuine choice" for Ohioans seeking higher education within the state by partially equalizing the difference in price of attending a state-assisted four-year institution and an independent non-profit institution. The state's statute allows students attending an independent institution a grant equivalent to 25 percent of the average public university instructional subsidy for the preceding biennium. Based on this formula, students attending independent institutions in 1989-1990 should have received a $764 grant from the state, but the state only allocated enough dollars to fund the grant $590 (L. Christman, personal communication, January 17, 1991). The reasoning behind Ohio's Choice Grant Program was to encourage Ohioans to stay in state for their higher education with the expectation that these students would remain in Ohio after graduation, continuing to contribute to the state's well being as educated taxpayers (AICUO, 1990). South Dakota developed a Tuition Equalization Grant program in 1983. Residents attending independent colleges in the state can receive a grant of $250 per year. Private colleges in South Dakota have been unsuccessful in lobbying to increase the amount of the grant. The state also has the tuition reciprocity agreement with Minnesota to provide educational opportunities to residents that its taxpayers could not otherwise afford. Residents in either state can attend college in the neighboring state for the in-state tuition price.

In summary, individual state tuition policies determine price of tuition at state institutions. In Massachusetts, the policy has been that the state has the primary
responsibility to pay for higher education. Therefore, public institutions have had low tuition. In Ohio, the primary responsibility for paying for higher education is on the student. Ohio has a history of high tuition at state institutions. South Dakota views paying for higher education as a dual effort, with, ideally, the state paying 2/3 and the student 1/3. All three states have developed state financial aid programs to assist economically disadvantaged students, although these programs in Ohio and South Dakota have not always been adequately funded. In addition to the need-based financial aid programs, each state has developed a non-need-based grant program for residents to increase the accessibility of the state's independent institutions.

Although the quantitative analysis documented changes in the price of tuition, the individual case studies provided greater insights into how and why the price of tuition changed in each state. Each state had an underlying principle that influenced how tuition decisions were made. Identifying these principles provided more insights into the state's policies on tuition than what the quantitative analysis could provide.

Geographic Access

Geographic access was a priority for states during the 1960's. In the 1960's, Ohio and Massachusetts responded to the increase demand for higher education by adopting policies to increase the geographic access to their public higher education. Ohio, in particular, had the greatest geographic access of the three states. In the 1960's the state adopted the policy to locate a two-year campus within thirty miles of every person in the state, and to locate a four-year institution in all eight major urban centers of the state. In Massachusetts, independent institutions were unable and unwilling to absorb the increase of students during the 1960's. As a result, the
state decided to establish a community college system with a policy objective to locate a community college within commuting distance of 95 percent of the population. South Dakota did not experience the same increase in demand for higher education during the 1960's. In fact, the major policy issue in the state has been that there are too many colleges in the state for the size of the state's population. In 1986, the state actually closed one of its four-year institutions and turned it into a prison.

During the 1980s, the geographic access became limited not because of a lack of institutions, but a lack of institutions with accessible admissions standards or accessible tuition. Lack of geographic access was a particular problem in urban areas. Massachusetts and South Dakota both the lack of geographic access to higher education in their major urban centers. Boston, the largest city in Massachusetts (population 562,994) has only one public, four-year institution and only one community college. There are no public institutions located in Sioux Falls (population 81,343), the major metropolitan center in South Dakota. When state policymakers were asked in the interviews, why there was a lack of access to public institutions in urban centers the response was consistent in both states. Public policymakers did not want to compete with existing independent colleges and universities by establishing public colleges in these urban cities.

Summary

Changes in access to higher education were different in the each state. In Ohio, the change was the price of tuition. Ohio had a tradition of open admissions standards and wide geographic access, but the high price of tuition was the variable that decreased the accessibility of higher education. Similarly in South Dakota, the
high price of tuition limits the accessibility of higher education. The change in Massachusetts was related to increase admissions standards at the public four-year institutions. Overall, access to higher education was more accessible in 1979, than in 1969 and 1989.
Chapter V contains the summary of the findings on how access to higher education has changed and the implications for policy makers and further research. Section 1 summarizes how access to higher education has changed as indicated by changes in selectivity, price of tuition, and geographic access. Section 2 compares the findings of the current study with the findings from Willingham's and Ferrin's studies. Section 3 discusses the implications of this study for policy makers and further research.

Section One

Summary of the Findings

Higher education was more accessible in 1979, than either 1969 or 1989 in each state. During the 1970's, accessibility of all three variables in this study (admissions standards, price of tuition, and geographic access) were at their highest. In the 1960's, Ohio and Massachusetts had geographically expanded their public systems of higher education within commuting distances of most residents. The economic conditions in each state were better in the 1970's than either 1960's or 1980's, which help to make the price of tuition more accessible. Institutions also had less selective admissions standards during the 1970's than either 1960's or 1980's. During the 1980's access to higher education changed. However, how access to higher education changed was different for each state. Price of tuition was
the variable that changed in Ohio and South Dakota. In Massachusetts, the change was increased admissions standards at public four-year institutions. What these three states did have in common was changes in access to higher education occurred in their public sector institutions, not their private sector institutions. Most private institutions in each state were inaccessible in 1969, and remained inaccessible in 1979 and 1989.

Changes in admissions standards in the three state parallel the findings in the literature. During the 1970's, public colleges and universities modified their admissions standards to increase access to higher education. The policy objective was to provide an opportunity for every high school graduate to enroll in a college or university (Millet, 1984). In the 1980's, governing boards and educators began to question the adequacy of their admissions policies. The open admissions policy resulted in many high school graduates being admitted to public institutions unprepared for college because they did not take an adequate college preparatory curriculum. As these students entered college, the scope and cost of remedial services for colleges increased, and many college freshmen experienced academic problems (Goertz and Johnson, 1985). During the 1980's, the three states changed their admissions standards in responds to students being unprepared for college-level work. Ohio and South Dakota increased the required number of college preparatory courses which did not limit their accessibility. The new curriculum requirement helped students to be better prepared for college without limiting accessibility of admissions standards. In contrast, Massachusetts increased its admissions standards which resulted in limiting the accessibility of higher education in the state. The accessibility of admissions standards at Massachusetts' four-year institutions decreased from 86 percent in 1979 to 46 percent in 1989. The irony is that
increasing the admissions standards at Massachusetts' four-year institutions did not help to make students better prepared, but instead allowed institutions to be more selective. Massachusetts did maintain an open enrollment policy at its community colleges.

Tuition was the variable in which the three states produced the greatest differences regarding accessibility and state policies. Massachusetts has had a tradition of keeping the price of tuition low to provide affordable public higher education. Most of the state's public two-year and four-year institutions had accessible tuition in 1969, 1979, and 1989. The state also financially supports a matching grant program with private institutions for residents attending private colleges. This grant program exists because of the state's commitment to provide "access with choice." The choice policy is based on the assumption that residents should have access to the institution of their choice, and not be limited by their socio-economic status to an institution they can afford. In comparison to Massachusetts, Ohio is a high-tuition state. Based on the quantitative analysis, only 25 percent of the state-assisted institutions had accessible tuition in 1989. The state's tuition and financial aid policies are based on the philosophy that the primary responsibility for paying for higher education falls on the student and the student's family. Only when the student's resources are inadequate is it appropriate and necessary to supplement the student's resources with federal and state funds. Similar to Massachusetts, Ohio has a Student Choice Grant Program to ensure "genuine choice" by partially equalizing the difference in price of attending a state-assisted four-year institution and an independent non-profit institution in Ohio. The reasoning behind the Ohio's Choice Grant is different from Massachusetts. Ohio's Choice Grant Program is intended to encourage residents to stay in-state for their
higher education with the expectation that they will remain in Ohio after graduation. South Dakota's tuition policy was to set tuition and fees at a level not to deprive any person with ability and interest, from acquiring a college education because of cost. Yet in 1989, none of the state's public institutions had accessible tuition. The state also does not financially support its five tribally control colleges because state policy makers consider the education of Native American a federal, not a state responsibility. States' tuition policies were influenced by two factors. One factors was the state's underlying philosophy of who had the primary responsibility for paying for higher education, the state or the student. The second factor was the economic condition of the state's economy. Massachusetts assumed the primary responsibility for funding higher education by maintaining a low-tuition policy and a strong financial aid program. Ohio's philosophy is that students have the primary responsibility to pay for their higher education. As a result, Ohio has a history of high tuition. These findings on tuition policies support Curry's (1988) research that the traditions and the environment of each state play a major role in shaping the policies that affect a state's tuition and financial aid policies. During economic downturns, the three states decreased their appropriations to higher education. When state appropriations decreased, institutions responded by increasing tuition. Wittstruck and Braggs (1988) found that other states responded in the same manner, reducing appropriations during economic recessions. They explained when state appropriations did not meet the institution's expectations, institutions increased the price of tuition. On the state-level, there is little coordination of decision making regarding state appropriations, setting the price of tuition, and the amount of financial aid that is available.
Geographic access did not change dramatically between 1969 and 1989. However, the geographic access of higher education is dependent on the accessibility of admissions standards and price of tuition. During the 1960's, Ohio and Massachusetts responded to increased demand for higher education by establishing two-year institutions with commuting distance of the majority of the state's population. Because of South Dakota's large geographic size and small population, the state's major policy issue was not to expand geographic access, but to reduce the number of institutions. During the 1980's geographic access has become more limited not because of lack of institutions, but because of a lack of institutions with accessible admissions standards and tuition. Lack of geographic access is particular a concern in urban areas. South Dakota and Massachusetts both lack geographic access to higher education in their major urban areas. In both states, their urban areas are dominated by private institutions whose admissions standards and tuition make these institutions inaccessible. When public policy makers were questioned about the lack of geographic access in urban areas, their response was the same. Public officials did not want to compete with existing independent colleges by establishing more public institutions in these urban areas. Previous studies have stated that the existence of a college in the immediate vicinity positively influenced a student's decision to attend college because of the lower expense of attending a local college (e.g., Anderson, Bowman, and Tinto, 1972). Based on the current study, the researcher would conclude that geographic access is dependent on geographically accessible institutions with low tuition and non-selective admissions standards. The demographic studies predict an increase demand for access to higher education from non-traditional students. Many of these non-traditional students live
in urban areas. In the future, states will need to provide better access to higher education in urban areas.

Section 2

Comparing Research Findings to Previous Studies

Most of the professional literature on access to higher education is written from an institutional perspective, focusing on admissions standards and price of tuition. Willingham (1970) conducted a study that focused on the availability of higher education on a state by state basis. His study documented the accessibility of admissions standards, price of tuition, and geographic access of each institution in a state to determine the overall accessibility of higher education in that state. Willingham found that both selectivity and price of tuition contributed to the inaccessibility of higher education. He also found that two-year institutions were more accessible than four-year institutions and that public institutions were more accessible than private institutions. One limitation of Willingham’s study was that it was an analysis of the availability of higher education at one time. From his analysis, one cannot judge whether access to higher education had increased or decreased. Ferrin extended Willingham’s study by employing a retrospective analysis of the accessibility of higher education in 1959 and then compared his findings with Willingham’s to determine to what extent access to higher education had changed over the decade from 1959 to 1969. A key finding in Ferrin’s study was that selectivity, not price, was the crucial factor that attributed to institutions being inaccessible in 1969 compared to 1959. The greatest change in selectivity occurred at the public research universities. Ferrin (1970) explains that as
community colleges developed in the 1950's, senior public colleges and universities concluded that it was the responsibility of community colleges to provide mass postsecondary education while the four-year colleges admit only those students with superior academic credentials. In the present study, changes in access to higher education were different for each state. Price of tuition was the variable that changed in Ohio and South Dakota. Admissions standards was the variable that changed in Massachusetts.

Based on the findings from the current study, the researcher would criticize Willingham's and Ferrin's quantitative analysis of the accessibility of tuition. Willingham (1970) and Ferrin (1970) did not take into account the economic differences among the states. When they calculated the factor of tuition, they used the United States Median Family Income as opposed to calculating the accessibility of tuition based on the state's median family income. In the current study, the United State Median Family Income did not accurately reflect a state median family income. The median family income in Massachusetts was above the United States Median Family Income for all three years. South Dakota was below the United States Median Family Income for all three years. When the researcher used the United State Median Family Income to calculate the accessibility of tuition, it overestimated the number of institutions with accessible tuition in South Dakota and under-estimated the number of institutions with accessible tuition in Massachusetts.

In the review of the literature on state funding of higher education, the researcher found that many of the national studies and annual reports did not acknowledge the difference in economic conditions among states. States comparisons or rankings neither recognized the difference of a state's financial ability to support higher education nor an individual student's ability to pay the price of tuition.
Researchers and state policy makers must use caution in making generalizations or state comparisons without recognizing the differences in economic conditions between states.

The researcher also found that by conducting a case study analysis she was able to provide a more in-depth interpretation of how access to higher education had changed in each state than could be interpreted from Willingham's or Ferrin's quantitative analysis. An example would be the differences in the states' philosophy and policies related to determining the price of tuition. The quantitative analysis of access to higher education can be useful in identifying what variables are inhibiting access to higher education, but decision makers must also understand the social, political, and economic factors which contribute to or inhibit access to higher education in their state.

Section 3

Implications for Policy Makers

The findings from this study have some implications for state policy makers and higher education leaders. One implication is the need to better coordinate fiscal decision making regarding higher education. Another implication is to examine the distinction between public and private sector higher education at the state-level. The final implication is the importance for higher education leaders to develop effective strategies to buffer the economic boom-bust cycles in their state's economy.

Every fiscal year state policy makers make three sets of decisions. One decision is the amount of state appropriations allocated to public higher education. Another decision involves the setting of tuition rates at public institutions. The third
decision is the amount money a state will provide for financial aid. These three
decisions impact each other, but rarely is there a policy mechanism in a state that
links these three critical financial decisions in any formal or systematic way.
Instead, each decision is made independently without consideration of the impact on
the other decisions. For example, the difference between what it costs to educate
a student in the public sector and the price of tuition determines how many
taxpayer's dollars are needed from the state to support public higher education.
Another example, the tuition level in both the public and private sector should be a
key factor in determining the amount of financial aid needed by students attending
college in the state; as tuition increases so should the amount of financial aid. States
should establish mechanisms which coordinate the decision making processes for
deciding on appropriations, price of tuition, and the amount of student financial aid
available.

State policy makers need to re-examine the distinction between public and
private institutions of higher education. As state appropriations decrease, public
institutions are becoming more dependent on tuition and private funding raising to
meet their budgets. At the same time, private institutions are becoming more
dependent on public dollars to meet their financial needs. States are giving private
institutions tax credits, providing non-need based grants to residents attending private
institutions, and some states are subsidizing programs at private institutions not
offered in the public sector. It is time for state policy makers and state governing
boards to expand their traditional concept of public/private higher education to
develop a more comprehensive and inclusive system of providing higher education
to the citizens in their state. State policy makers need to examine all of the higher
educational resources in their state to more effectively and efficiently provide access
to higher education. Massachusetts' "access with choice" policy allows the state to expand access to higher education beyond the limitations of its public institutions. More states need to examine their relationship with the private institutions in their state and how access to higher education can be increased through cooperation of the two sectors.

Higher education has been highly sensitive to the boom-bust cycles of state's economic conditions. The challenge for state higher education leaders will be to develop strategies and long range plans to buffer higher education institutions for economic cycles. One strategy that has been effective is to develop initiatives and programs that directly support the economic growth of the state. Higher education has become a key policy issue in many states during the 1980's. In 1985, 38 state-of-the state addresses by governors cited economic development as the state's top priority, and in every case governors linked the economic development of their state to the quality on their system of higher education (Newman, 1987). State higher education leaders need to take advantage of opportunity to make higher education central to the state's economic growth and vitality.

Implications for Further Research

Access to higher education is a complex issue that should be analyzed from multiple perspectives: the individual applicant, the institution, and the state. Extensive literature exists on how applicants choose colleges (Willingham, 1970). Most of the professional literature on the issue of access is written from an institutional perspective. There is a lack of research how states provide access to higher education. More research should be directed to studying higher education at the state-level. Although national studies are informative for general information,
there is a need for more specific research as it relates to the social, political and economic environment in individual states. The following are suggestions for such research.

(1) Multiple methods should be used to study how states provide access to higher education. Quantitative methods identify changes and trends, and qualitative methods provide the social, political, and economic context which is specific to each state. Using different methods can provide a more in-depth interpretation of how access to higher education has changed.

(2) More longitudinal research should be done to identify changes and trends in a state's higher education policies as they relate to changes in its economic conditions.

(3) The accessibility of tuition should be assessed based on the economic indicators of a particular state and not on national economic indicators. National economic indicators or national norms did not account for the economic differences among states.

(4) More research should be focused on the changing dynamics between public and private institutions and their relationship with the state.

(5) More research is needed on how education leaders can buffer their institutions from economic cycles.


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