

USING HUMAN CAPITAL THEORY TO DEVELOP A POLICY APPROACH  
TOWARDS COLLEGE STUDENT MIGRATION IN ILLINOIS

Ryan Lee Smith, Ph.D.  
College of Education  
University of Illinois at Urbana-Champaign, 2006  
Dr. Kern Alexander, Adviser

The purpose of this study was to use human capital theory to develop a policy approach towards college student migration in Illinois. A rate of return analysis revealed the social rate of return for college student migrants who return to Illinois and the private rate of return was 15.95%. It was estimated that due to college student migration in Fall 2000, Illinois lost 4,781 college graduate residents. The economic impact of this in terms of lost lifetime tax dollars to the State of Illinois from college student migration was estimated to be \$776,400,930. Policy recommendations included mission differentiation, incentives for residents and non-residents to enroll at Illinois institutions, and encouraging college graduate residence in Illinois.

© 2006 by Ryan Lee Smith. All rights reserved.

**CERTIFICATE OF COMMITTEE APPROVAL**

*University of Illinois at Urbana-Champaign  
Graduate College*

February 15, 2006

*We hereby recommend that the thesis by:*

**Ryan Lee Smith**

*Entitled:*

**USING HUMAN CAPITAL THEORY TO DEVELOP A POLICY APPROACH  
TOWARDS COLLEGE STUDENT MIGRATION IN ILLINOIS**

*Be accepted in partial fulfillment of the requirements for the degree of:*

**Doctor of Philosophy**

*Signatures:*

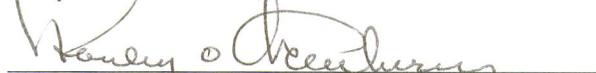
  
Director of Research - Dr. Kern Alexander

  
Head of Department - Dr. Carolyn Shields

Committee on Final Examination\*

  
Chairperson - Dr. Kern Alexander

  
Committee Member - Dr. Richard Hunter

  
Committee Member - Dr. Stanley Ikenberry

  
Committee Member - Dr. Randy Kangas

Committee Member -

Committee Member -

\* Required for doctoral degree but not for master's degree

USING HUMAN CAPITAL THEORY TO DEVELOP A POLICY APPROACH  
TOWARDS COLLEGE STUDENT MIGRATION IN ILLINOIS

BY

RYAN LEE SMITH

A.B., University of Missouri Columbia, 1994  
M.S., Drake University, 1998

DISSERTATION

Submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy in Education  
in the Graduate College of the  
University of Illinois at Urbana-Champaign, 2006

Urbana, Illinois

## ABSTRACT

The purpose of this study was to use human capital theory to develop a policy approach towards college student migration in Illinois. A rate of return analysis revealed the social rate of return for college student migrants who return to Illinois and the private rate of return was 15.95%. It was estimated that due to college student migration in Fall 2000, Illinois lost 4,781 college graduate residents. The economic impact of this in terms of lost lifetime tax dollars to the State of Illinois from college student migration was estimated to be \$776,400,930. Policy recommendations included mission differentiation, incentives for residents and non-residents to enroll at Illinois institutions, and encouraging college graduate residence in Illinois.

*This dissertation is dedicated to my wife, Angela, my parents, and my daughter, Jenna. Throughout the years of our marriage, my wife's support of my goals has been unwavering. Without her support, patience, and encouragement, this dissertation's contribution to the field of education research would not had been possible. Reflecting on my educational career, I am appreciative of my parents wisdom, support, and encouragement. My daughter is my inspiration. She motivates me to work hard in ensuring that children receive a quality education, making the world a better place for all of them.*

## ACKNOWLEDGMENTS

My thanks and appreciation to Dr. Kern Alexander and Dr. King Alexander, my two program advisers. Their support, advice, and contribution to my education will extend well beyond my graduate school years. I would also like to acknowledge Dr. Randy Kangas, who served on the committee, provided advice and direction for my dissertation research, provided me with the opportunity to gain valuable experience as a graduate assistant in the University of Illinois Office for Planning and Budgeting, and continues to provide valuable career advice. Dr. Richard Hunter and Dr. Stan Ikenberry, the other two members of my committee, provided thought-provoking insight and clarity to my dissertation. I would also like to acknowledge Dr. M. Christopher Brown, who always encouraged and challenged me. Dr. Brown provided support for several professional development opportunities and mentored me throughout my experience in the program.

I have been fortunate to have several excellent instructors and professional staff who stood out while enrolled at the University of Illinois. Dr. Orlo Austin gave me the opportunity to work as a graduate assistant in the Office of Student Financial Aid. Dr. Jim Ward provided direction while I was formulating research questions and methods. I was awarded the Dr. Richard and Dr. Patricia Justice Fellowship while enrolled at the University of Illinois. I am grateful to the Justice family for not only the fellowship, but also for their support of the Higher Education program. The Education Organization and Leadership support staff, including Becky Grady, Tracee Palmer, and Cynthia Reiter, assisted greatly in the completion of my program. Selena Douglass completed the final edit for this dissertation and provided indispensable assistance in its completion.

## TABLE OF CONTENTS

LIST OF TABLES .....	viii
LIST OF FIGURES .....	x
CHAPTER I INTRODUCTION.....	1
Statement of Problem.....	2
Background.....	3
Statement of Purpose .....	10
Research Orientation.....	11
Research Questions.....	12
Definition of Terms.....	12
Limitations .....	14
Assumptions.....	15
Review of Literature .....	16
Methodology.....	17
Organization of the Dissertation.....	18
CHAPTER II REVIEW OF LITERATURE .....	19
Human Capital and Migration Theory .....	19
College Student Migration.....	21
Social Rate of Return .....	26
Conceptual Framework.....	28
CHAPTER III METHODOLOGY .....	30
Population .....	31
Data Collection .....	32
Data Analysis.....	35
Significance of the Study .....	36
CHAPTER IV RESULTS.....	39
College Student Migration.....	39
Social Rate of Return .....	49
Estimated Impact of College Student Migration on the Stock of College Graduates.....	56
Estimated Economic Impact .....	58
CHAPTER V DISCUSSION.....	61
Summary of Findings.....	61
Human Capital Development and College Student Migration .....	63
Policy Recommendations.....	65
Recommendations for Further Research.....	93

REFERENCES .....	96
APPENDIX A COLLEGE STUDENT MIGRATION FROM ILLINOIS BY STATE AND SECTOR.....	119
APPENDIX B COLLEGE STUDENT MIGRATION FROM ILLINOIS TO FOUR-YEAR PUBLIC INSTITUTIONS .....	123
APPENDIX C COLLEGE STUDENT MIGRATION FROM ILLINOIS TO FOUR-YEAR PRIVATE INSTITUTIONS .....	145
APPENDIX D COLLEGE STUDENT MIGRATION FROM ILLINOIS TO TWO-YEAR PUBLIC INSTITUTIONS.....	182
APPENDIX E COLLEGE STUDENT MIGRATION FROM ILLINOIS TO TWO-YEAR PRIVATE INSTITUTIONS .....	195
APPENDIX F COLLEGE STUDENT MIGRATION FROM ILLINOIS TO FOR-PROFIT INSTITUTIONS .....	199
APPENDIX G COLLEGE STUDENT IN-MIGRATION TO ILLINOIS FOUR-YEAR PUBLIC INSTITUTIONS .....	211
APPENDIX H COLLEGE STUDENT IN-MIGRATION TO ILLINOIS FOUR-YEAR PRIVATE INSTITUTIONS .....	213
APPENDIX I COLLEGE STUDENT IN-MIGRATION TO ILLINOIS TWO-YEAR PUBLIC INSTITUTIONS.....	218
APPENDIX J COLLEGE STUDENT IN-MIGRATION TO ILLINOIS TWO-YEAR PRIVATE INSTITUTIONS .....	222
APPENDIX K COLLEGE STUDENT IN-MIGRATION TO ILLINOIS FOR-PROFIT INSTITUTIONS .....	224
AUTHOR’S BIOGRAPHY .....	227

## LIST OF TABLES

Table	Page
1 <i>Net Migration of College Student Migrants for Illinois by Sector, Fall 2000</i> .....	39
2 <i>Net Migration of College Student Migrants From Illinois by State and Sector, Fall 2000</i> .....	40
3 <i>Top 50 Institutional Destinations for Illinois College Student Migrants, Fall 2000</i> .....	45
4 <i>Net Educational Premium, Fall 2000</i> .....	50
5 <i>Net Price for College Student Migrants From Illinois, Fall 2000</i> .....	52
6 <i>Net Costs and Benefits of Higher Education</i> .....	53
7 <i>Estimated Stock of College Graduates Living in Illinois Due to College Student Migration in Fall 2000</i> .....	56
8 <i>Estimated Economic Impact of College Student Migration on the State of Illinois</i> .....	59
9 <i>Future Plans of Spring 1999 Illinois High School Seniors</i> .....	69
10 <i>Net In-Migration of College Students Into Illinois Colleges and Universities by Sector, Fall 2000</i> .....	82
11 <i>Net Migration Into Illinois by Age and Educational Attainment, 1995-2000</i> .....	87
12 <i>Net Migration of Young, Single, and College Educated in Illinois, 1995-2000</i> .....	88
13 <i>Summary of Policy Recommendations for College Student Migration in Illinois</i> .....	91
A1 <i>Migration of Illinois College Students for All Sectors by State, Fall 2000</i> .....	120
B1 <i>Migration of Illinois College Students to Four-Year Public Institutions by State and in Order of Illinois Resident Enrollment, Fall 2000</i> .....	124

Table	Page
C1 <i>Migration of Illinois College Students to Four-Year Non-Profit Private Institutions by State and in Order of Illinois Resident Enrollment, Fall 2000</i> .....	146
D1 <i>Migration of Illinois College Students to Two-Year Public Institutions by State and in Order of Illinois Resident Enrollment, Fall 2000</i> .....	183
E1 <i>Migration of Illinois College Students to Two-Year Non-Profit Private Institutions by State and in Order of Illinois Resident Enrollment, Fall 2000</i> .....	196
F1 <i>Migration of Illinois College Students to For-Profit Institutions by State and in Order of Illinois Resident Enrollment, Fall 2000</i> .....	200
G1 <i>College Student In-Migration to Illinois Four-Year Public Institutions in Order of Non-Resident Enrollment, Fall 2000</i> .....	212
H1 <i>College Student In-Migration to Illinois Four-Year Non-Profit Private Institutions in Order of Non-Resident Enrollment, Fall 2000</i> .....	214
I1 <i>College Student In-Migration to Illinois Two-Year Non-Profit Public Institutions in Order of Non-Resident Enrollment, Fall 2000</i> .....	219
J1 <i>College Student In-Migration to Illinois Two-Year Non-Profit Private Institutions in Order of Non-Resident Enrollment, Fall 2000</i> .....	223
K1 <i>College Student In-Migration to Illinois For-Profit Institutions in Order of Non-Resident Enrollment, Fall 2000</i> .....	225

## LIST OF FIGURES

Figure		Page
1	Where college students who attend out-of-state colleges live after college graduation.....	24
2	Where college students who attend in-state institutions live after college graduation.....	25
3	Investment in higher education and returns over the life cycle .....	29
4	Destinations of Illinois college student migrants to four-year public institutions by state, Fall 2000 .....	44
5	Destinations of Illinois college student migrants to four-year private institutions by state, Fall 2000 .....	44

## CHAPTER I

### INTRODUCTION

With social and private rates of return as high as 13%, state governments go to great lengths to insure returns on investments in education (Kangas, 1996; Leslie & Brinkman, 1998). When skilled intellectual or technical labor moves to other regions, however, state governments lose on their investments in people made through training and education. This phenomenon is known as “brain drain.” Brain drain is closely related to college student migration or the movement of the residents from one state to another for the purposes of attending college. This is because when a college student, an integral part of any skilled intellectual or technical labor force, migrates they are less likely to return to their native state upon graduation (King, 1986; Perry, 2001; Tornatzkey, Gray, Tarant, & Zimmer, 2001). Even if a college student migrant does return to their native state following college graduation, they are more likely to migrate again (Da Vanzo, 1976; King, 1986; Lee, 1974; Perry, 2001).

Many economists assert one of the greatest fiscal challenges state governments will face is the maintenance of current levels of service in the face of lower tax revenues (Boyd, 2002; Hovey, 1999; Selingo, 2003a; Symonds, 2003). It is surprising, then, that many states, including Illinois, have accomplished little in examining why so many of their residents enroll at colleges in other states. Projected economic and demographic changes in Illinois highlight the importance of retaining college students.

## Statement of Problem

Since the 1960's, the State of Illinois has been the second highest net negative exporter of college students in the United States (American Association of Collegiate Registrars and Admissions Officers, 1960; Barbett, 1998; Calvert, Drews, & Wade, 1971; Froehlich & Carey, 1970; National Center for Education Statistics [NCES], 1982; NCES, 1998; Smith, 1979). In the 1990's, between 18,000 to 22,000 first-time, first-year college students from the State of Illinois annually migrated to colleges in other states (NCES, 2004). Today, Illinois is one of only six states with net out-migration rates for college students and college graduates (Presley, 2003). While exporting many of its college students to other states, Illinois imports relatively few out-of-state students, ranking 47th in the percentage of first-time, first-year college students whose native residence is in other states (Presley, 2003).

High college student migration rates in Illinois are problematic for two reasons. First, over 50% of all Illinois college student migrants enroll at public colleges and universities, much higher than the national average of about 33% (NCES, 2004). The fact that about half of all college student migrants enroll at public institutions rather than attend lower priced in-state public colleges could mean Illinois residents feel the returns gained from private investments in human capital are higher from attending an out-of-state public college than an in-state public college. Others may question the perceived quality of public colleges and universities. Or, the market structure or mission differentiation in Illinois may not meet resident expectations (Mortensen, 1995). Secondly, research indicates that once a state resident migrates to another state to attend college, they are less likely to return upon graduation (Kodrzycki, 2001; Perry, 2001).

This means Illinois could be losing on its investment in human capital through higher education.

College student migration, then, is a major public policy issue extending into political, economic, education, and social contexts. As Fenske, Scott, and Carmody (1972) note, "if non-migrating and interstate migrating student profiles become even more clearly differentiated, then American higher education may become sharply stratified purely on socioeconomic bases, a trend that has always been counter to democratic ideologies" (p. 21).

### Background

Every state government should take notice of migration. Human capital theory suggests a state should be specifically concerned about college student migration for several reasons. First, the economic premium of a college degree has increased significantly in the past 20 years (Cipollone, 1995; Day & Newburger, 2002; Heller, 2001; Leslie & Brinkman, 1988). This means that states and individuals can expect monetary and non-monetary returns on investments made in higher education (Alexander, 1976; Bowman, 1970; Carnoy, 1995a; Cohn & Geske, 1992; Kangas, 1996; Leslie & Brinkman, 1988; Monks, 2000; Mortensen, 1998a; Mortensen, 2002a).

The number of college graduates living in a state is also positively correlated with higher incomes, employment rates, and other externalities in a region, even for those who do not possess college degrees (Institute for Higher Education Policy, [IHEP], 1998; IHEP, 1999;). Research indicates that urban areas with higher stocks of college graduates have lower unemployment rates, while college graduates create spillover benefits for

other workers, including higher wages and lower high school dropout rates (Glaeser & Saiz, 2004; Moretti, 2004).

Part of the reason the economic premium has increased in the past 30 years is due to a shift from a goods-based to a service-based economy in the United States. Not only will citizens need an education relevant in the global economy, today's college graduates will need to be prepared to work with individuals from a variety of backgrounds, ethnicities, and countries. While economic returns are certainly important, higher education also plays a significant role in contributing to the non-monetary goals of society (Baum & Payea, 2004; Bowen, 1977; Leslie & Brinkman, 1998; Wolfe, 1995). So, states will need to address funding and access in terms of producing a civilized society concerned with the maintenance of economic, political, and social stability.

Secondly, states are finding it difficult to collect revenues on goods consumers purchase and from corporations and individuals that continue to find ways to avoid paying them (Gleckman, 2002). At the same time, states are struggling to meet higher demands for entitlements like Medicaid, corrections, and welfare (Roherty, 1997). Zumeta (2004) notes "while some have attributed much of (the decline in state support for higher education) to the rise of political and cultural elements critical of higher education, a more compelling explanation lies in the structure of state budgets and the growth of powerful claims by elements with stronger positions in this structure" (p. 83).

Third, a global and increasingly interconnected environment is quickly replacing a regional and disconnected one, blurring artificial borders and lines that demarcate nations and states and facilitating the movement of individuals and capital over long distances. While governments, markets, and societies still design socio-economic

structures in a state or regional context, the ability of individuals to cross borders and economies to work outside and in spite of them has increased dramatically. As Duderstadt (2000) notes, "It is no longer relevant to speak of the health of regional economies or the competitiveness of American industry...a truly domestic United States economy has ceased to exist" (p. 18).

Fourth, governments are increasingly looking towards all sectors of higher education to "augment learning skills and improve workers' ability to develop and use technology, enhancing productivity and strengthening (a) state's economic position" (Alexander, 2000, p. 412). This is based on correlations between educational attainment rates and positive economic and external benefits accrued through investments in higher education (Mortensen, 1998a). In response to federal concerns about quality, accreditation agencies have become more involved with quality initiatives at the institutional level, while many state governments have invested resources on examining program review, assessment of student learning, and cost-effectiveness (Burke, 2004). Burke (2004) asserts that contemporary accountability initiatives are merely mechanisms for balancing market, academic, and public demands for higher education, with the eventual goal of creating colleges and universities that are responsive to all three areas. Zumeta (2004) called the challenge to maintain quality "harder than ever now as the world and the knowledge and the skills needed to prepare students for it change at a breathtaking pace" (p. 83). Prepared state governments recognize this and respond with increased funding and quality initiatives.

As a result of these changes, college student migration should be a concern for any state preparing for human capital and economic development. Sparse research does

suggest states that are negative exporters of college students and graduates report significant financial losses as a result of college student migration. It is estimated the State of Wisconsin annually loses approximately \$7 billion (Miller, 2000). A 1992 study indicated that New Jersey loses about \$1.8 billion annually because of college student migration (Prospero, 2001). Mortensen (1998b) estimated Illinois loses approximately \$220 million annually through the net loss of college student migrants who receive Pell Grants. The Illinois Board of Higher Education (IBHE) concedes Illinois loses revenue because of students attending colleges in other states, but believes the financial impact is difficult to measure (Prospero, 2001).

Fueled by concerns about brain drain, many states have begun to look more closely at college student migration. New Jersey, historically the largest net exporter of college students in the nation, has conducted studies for decades in an attempt to understand college student migration (Heyboer, 2000; New Jersey Commission on Higher Education, 1998; New Jersey Department of Higher Education, 1983; Rubin & Seneca, 1992). Other states and regions have chartered commissions or coordinated studies (Alanen, 1973; Arney, 2003; Brannon & McGee, 2001; Chami, 2001; Cohen, 2003; Gurney, 2001; Hooper, 2003; Indiana Commission for Higher Education, 1995; Kodrzycki, 1999; Leong, 1999; Lonetree, 2003; MacGillis, 2002; Murabito & Steffey, 1996; South Dakota board of regents, 1998; Tornatzkey, Gray, Tarant, & Zimmer, 2001).

Retaining college graduates, then, has the potential to ameliorate revenue problems by increasing state funds because those with higher earnings pay more in taxes (Kangas, 1996). It is clearly in a state's best interest to increase the number of college graduates who reside in their state because those with college degrees not only provide

private economic spillovers through multiplier effects, but also externalities that reduce government costs (Baum & Payea, 2004). Mortensen (2002a) states “a priori, we would expect state economic welfare to be related to statewide measures of educational attainment of each state’s adult population.”

A review of policies and research reveals little coordination or effort in the way of examining college student migration in the State of Illinois. One by the Illinois Board of Higher Education (IBHE) found that 40% of graduates in information technology move out of Illinois, compared to 10% of graduates in all fields (IBHE, 2001a; IBHE, 2001b; Peddle & Trot, 2001). Another asked high school seniors about their plans for college and found that 25% of seniors planned on enrolling at out-of-state institutions, one-half were undecided about whether they will work in Illinois following graduation, and that students who plan to migrate have higher ACT scores (IBHE, 1999a).

Besides these studies, a review of research reveals little examining college student migration in Illinois. Unlike many states, the future scenarios Illinois is likely to encounter will be unique, particularly when compared to other states in the Midwest. This is not only because of a changing economic and social environment, but also because Illinois is losing more U.S. citizens than it can replace through interstate migration, with lost populations projected to be replaced by individuals with lower incomes and skills (Franklin, 2003a).

Illinois is and will continue to be a net exporter of residents through migration. Between 1985 and 1990, about 342,000 more residents moved out of Illinois than moved in, the second most in the United States behind New York (U.S. Census, 1990). Between 1995 and 2000, only the states of California and New York lost more residents than

Illinois (Franklin, 2003a). In just a little over one year alone—April 2000 and July 2001—Illinois lost over 110,000 residents than it imported, again the second most in the United States behind New York (U.S. Census, 2002b). Between 1995 and 2000, Illinois resident migration was largely concentrated in several states, especially Indiana, Wisconsin, and Missouri (Perry, 2003; U.S. Census, 2003). Evidence suggests population losses through migration will continue, as the State of Illinois is projected to witness a flat or slow population growth in the next 25 years. Between 2000 and 2025, the population of Illinois is expected to grow only 4.9%, compared to an 8.2% national growth rate (U.S. Census, 2002a). Only eight states (Indiana, Kentucky, New York, Iowa, Michigan, Ohio, Pennsylvania, and West Virginia) will likely see slower growth rates (U.S. Census, 2002a). Campbell (1997) projects Illinois will lose about 1.7 million residents than it imports through migration between 1995 and 2025.

The only reason Illinois is projected to not witness losses in population is because of large growth in new populations through international immigration and natural population growth among those groups. This is important because research suggests language is a component of human capital, that isolation from native communities can blunt its development (Pendakur & Pendakur, 2002), and that large-scale immigration of linguistic and ethnic minorities into a region can “increase the pool of less-skilled workers (and lead to) wage inequality(ies)” (Jordan & Duvell, 2002, p. 61). Illinois is projected to have the third highest rate of natural increase in population than any other state east of the Mississippi, behind Georgia and New York (Campbell, 1997).

While the white and African-American population in Illinois is projected to stabilize in the next 25 years, the Latino and Asian population is projected to witness

substantial growth. It is projected the number of individuals of Latino/a origin in the state of Illinois alone will nearly double by 2025 (Herring, 2002). In fact, by 2025, the U.S. Census Bureau (2002a) projects that more people of Latino origin will live in the State of Illinois than in the States of Arizona or New Mexico. Growth will also be fueled by international immigration, as Illinois currently ranks 6th in the United States in foreign immigration (McKibben & Faust, 1999).

As a result of demographic changes, more historically underrepresented groups will likely be attending and graduating from Illinois high schools. According to the Illinois State Board of Education (ISBE) (2002), the number of high school students in Illinois is projected to increase by a modest 7% between 2001 and 2011. While Latino students make up about 16% of high school enrollment in Illinois in 2001, in just 10 years they are projected to make up nearly 25% (ISBE, 2002). By the fall 2020, half of all high school graduates in the state of Illinois will likely come from minority populations (ISBE, 2002). Because overall enrollment in higher education is projected to be slow between 1998 and 2020, Illinois will need to find ways to accommodate more minority and low-income students (IBHE, 1999b). IBHE (1999b) characterizes the future of higher education in Illinois as “increased part-time and interrupted participation, attending multiple institutions, more diverse educational objectives, and new educational providers” (p. 13).

Demographic changes could have a significant impact on higher education in Illinois, particularly if it is the academically prepared, motivated, and upper-income students who are migrating and low-income and minority students staying in Illinois. Mortensen (1998b) states this is important because the poor are geographically immobile

and less likely to move. In light of the changing economic and demographic changes Illinois will likely face, attention should be paid to college student migration. Yet, a review of past policies and literature has not revealed one prominent study or commission specifically addressing the issue. A review of articles, news stories, government documents, legislative initiatives or state policies that specifically aim to provide incentives for Illinois high school graduates to attend in-state colleges reveals little to no concern for the matter. Whether this indifference is because of a reluctance to deal with a problematic issue, a perception that the State of Illinois somehow benefits from college student migration, or because of a lack of data and information remains unanswered.

To adjust to the new demographic and economic realities of the future, the State of Illinois will need to develop the human capital of all its citizens if it is to witness economic growth and remain competitive with other states. A clear policy towards college student migration is one step in planning for future economic growth. As Duderstadt (2000) writes, “we are entering a new age in which the key strategic resource necessary for prosperity has become knowledge itself, educated people and their ideas” (p. 14).

#### Statement of Purpose

The purpose of this policy research study is to use human capital theory to define a policy towards college student migration in the State of Illinois. The intended audience is policy makers. The research orientation will be pragmatic. This study will utilize a social rate of return analysis to examine the rate of return to Illinois from college student migration and calculate the estimated lost tax revenues to the State of Illinois through

college student migration. Results will be used to posit one or several policy approaches towards college student migration in the State of Illinois.

### Research Orientation

This study is about developing a policy approach towards college student migration in the State of Illinois. Hanson (1999) defines policy research as “the design, collection, analysis, and dissemination of data or information for the purpose of creating or modifying educational policy” (p. 47). Policy research is oriented towards action and fundamental purposes, as opposed to policy analysis, which is more focused on the decision making process (Gill & Saunders, 1992), or basic social research, which is generally more focused on methodological design (Majchrzak, 1984). Policy research is also different from evaluation, which seeks to judge the utility of a particular social program (Hanson, 1999).

Majchrzak (1984) outlines the theoretical underpinnings of policy research. First, policy research is multidimensional and interdisciplinary (Etzioni, 1971; Heatwole, Keller, & Wamsley, 1976). Second, policy research uses an empirico-inductive approach, attempting to “empirically induce concepts and causal theories as the study of the social problem progresses” (Majchrzak, 1984, p. 18).

Third, policy research is pragmatic (Ford, 1977). Many researchers have called for pragmatism in social and policy research (Tashakkori & Teddlie, 1998). Pragmatism is more a philosophy about utilizing the method that best address the research question in a particular study (Tashakkori & Teddlie, 1998). While a researcher who utilizes quantitative or qualitative methods may undergo deductive or inductive reasoning in

determining their research problem, both or one line of reasoning can be employed in the pragmatic research orientation. Thus, the pragmatist philosophy dictates researchers utilize whatever methodological device works best in answering a question (Tashakkori & Teddlie, 1998). Finally, policy research overtly incorporates the researcher's and societal values (Etzioni, 1971; Majchrzak, 1984). Hence, policy research is almost always conducted in the context of varied and incompatible social, economic, ethical, political, and personal values. Social rate of return analyses are well suited for policy research. As Psacharopoulos (1996) notes, "research in the economics of education takes place in order to guide fundamental policy decisions that transcend levels of economic development" (p. 339).

#### Research Questions

1. Where and how many first-time, first-year native Illinois residents migrated to other states for the purposes of attending college in the Fall 2000 semester?
2. What is the social rate of return to college student migration in Illinois?
3. What is the estimated lost tax revenue to the State of Illinois from college student migration?
4. What policy approach or approaches should the State of Illinois develop towards college student migration?

#### Definition of Terms

##### *College Student Migrant*

A college student migrant is defined as a student living and enrolled in a college outside of their native state. Because different studies have used different terms to describe college student migration, college student emigration will refer to high-school

graduates who leave their native state for the purposes of attending college in another state. A college student migrant is different from a college graduate migrant, or an individual who graduated from a high school and college in the same state, and then emigrated to another state. This study is concerned with college student migrants.

Additionally, this study will focus only on the migration of first-time, first-year college students. This is because they are the only group tracked through the database used in this study. Thus, college student migrants will only be discussed in the context of first-time, first-year college students.

### *College Student Migration*

The literature refers to college student migration as the interstate movement of individuals for the purposes of attending college. An individual who lives in one state and drives over a state border to take classes at a college in another state is generally not considered a college student migrant because they do not physically reside in the state where they attend college.

### *First-time, First-year College Student*

Because migration data is only collected for first-time, first-year college students, they will be the primary focus of this study. NCES (2003) defines a first-time, first-year college student as “a student attending any institution for the first time at the undergraduate level. Includes students enrolled in the fall term who attended college for the first time in the prior summer term. Also includes students who entered with advanced standing (college credits earned before graduation from high school).”

Throughout this study, all college student migrants will be assumed to be first-time, first-year college students unless noted otherwise.

## Limitations

This study will utilize a large national data set, the Integrated Postsecondary Education Data System (IPEDS). National data sets have many advantages, but limitations are associated with using large data sets and secondary data in general (Hilton, 1992; Stewart & Kamis, 1993). Even small amounts of coverage, measurement, non-response, and imputation error are bound to occur in surveys, particularly surveys as large and as comprehensive as IPEDS. For example, individuals who attend out-of-state institutions, but do not physically live in the state where they attend college, may be defined in the data as college student migrants.

There are also limitations associated with social rate of return analyses. A limitation in using social rate of return analyses is that it is very difficult to measure the entirety costs and benefits involved. Another problem is differentiating between public and private costs (Leslie & Brinkman, 1988). Others question the use of education as an explanatory variable of earnings, asserting “innate” abilities, social status, or control of labor markets are better explanations of economic growth and, in regard to internal rate of return analyses, the variables of experience and on-the-job training may be difficult to capture (Griliches, 1977).

One problem with past and current research on college student migration is the data (Ewell, Schild, & Paulson, 2003). As a member of the New Jersey Commission on Higher Education noted, “The data is not very well defined and it’s not giving us a very concrete picture” (as quoted in Heyboer, 2000). Kodrzycki (personal communication, February 25, 2003) echoed the statement, pointing out that “in general, tracking the location of people before, after, and during college is extremely difficult. For one thing,

not many longitudinal datasets exist and, of these, most have too small a sample size to say much about individual states.” Thus, tracking entering, transferring, and graduating college students is complex and, without a consistent, large national data base, forces the researcher to rely on previous research and the triangulation of data sources.

A delimitation of this study is that it focuses on investments in postsecondary education only. While it is recognized the State of Illinois could fail to capture returns on investments in elementary and secondary education through college student migration, the potential loss or gain in investments made in these sectors is not within the scope of this study.

Another limitation is that it is not possible to track the retention or graduation rates of college student migrants. This study will assume all graduate. Gong and Presley (2006), for instance, estimated that about 90% of Illinois residents that started at four-year public colleges and universities were still enrolled in college three years later. In light of the difficulty involved in tracking students, this study will assume most of the migrants completed a Bachelor’s degree. In light of the fact that many of the college student migrants will complete, it is hoped this factor will significantly impact the results.

### Assumptions

A assumption of the study is that the State of Illinois provides a socially optimal level of higher education; in other words, that the marginal cost to the State of Illinois in educating an additional college student equals the marginal revenue. Theoretically, as the number of residents who participate in higher education rise, so do the costs (although because of economies of scale, this is not necessarily the actual case). Furthermore,

higher enrollments also theoretically mean that as benefits become more spread out, there are less benefits for everyone (Bedard, 2001). Low enrollments, on the other hand, theoretically translate into low state costs. Benefits, however, would also be low as only a few individuals participate. Archibald (2002) points out the point of equilibrium represents "the ideal mix of students and institutions would be one in which marginal costs and benefits are in perfect balance" (p. 76).

This assumption is important because research shows that developing human capital through investments in higher education and providing incentives to keep students in-state (and induce out-of-state students) produces positive returns. It is important because if the State of Illinois is not efficiently allocating the social costs and benefits of higher education, then the assumption that public investments in higher education have positive rates of return is suspect.

Another assumption is that the act of migration has an impact on future migration and residence decisions. The assumption is important because individual college student migration decisions could have an impact on how states develop human capital policies based on the college student and graduate migration patterns of its residents.

### Review of Literature

This study's literature review will be divided into four parts. First, the review will define human capital and its relation to higher education. Next, correlates of college student migration will be reviewed. Third, a review of social rate of return analyses will be conducted. Finally, information gained from the literature will be summarized,

providing information on how a state might consider developing policy approaches towards college student migration.

### Methodology

This study will employ exploratory data analysis techniques to not only organize college student migration patterns in Illinois, but also to look for any trends or revealing patterns in the data. Exploratory data analysis is a method that “seeks to reveal structure, or simple descriptions, in data. (It is about looking) at numbers or graphs and trying to find patterns. Leads are pursued as suggested by background information, imagination, patterns perceived, and experience with other data analyses” (Disaconis, 1985, p. 1). Typically, exploratory data analysis techniques are applied as an aid in organizing data, constructing visual displays, examining distributional assumptions, and studying dependencies before other analyses are conducted (Hartwig & Dearing, 1979; Tukey, 1977).

Next, a social rate of return analysis will be conducted to analyze how college student migration impacts investments the State of Illinois makes in human capital. Carnoy (1995a) defines rate of return as “a measure of the future net economic payoff to an individual or society of increasing the amount of education taken” (p. 364). It should be noted there are also numerous non-monetary, or external, social returns from investments in education that typically are not captured in social rate of return analyses (IHEP, 1998; IHEP, 1999; Kangas, 1996; McMahon, 1995).

Following the social rate of return analysis, the estimated lost tax revenues to the State of Illinois will be calculated. This will be accomplished using a method for

estimating the contribution of college graduates to a state's economy developed by Kangas (1996) and utilized later by Des Jardins (2001). Using college student migration data, the social rate of return analysis, and estimated lost tax revenues to the State of Illinois from college student migration, policy recommendations will then be considered.

### Organization of the Dissertation

This dissertation will contain five chapters. Chapter 1 will introduce the study, provide a background, introduce the problem and significance of the study, present the research questions, and briefly describe the methodology. Chapter 2 will present a theoretical framework for the study by reviewing existing research concerning human capital and migration theory, college student migration correlates, and social rates of return analyses as they relate to higher education. Chapter 3 will describe the methods utilized to answer the research questions. Chapter 4 will outline the results of the study and Chapter 5 will provide a summary of results, set of policy recommendations, and recommendations for further study.

## CHAPTER II

### REVIEW OF LITERATURE

This literature review is divided into four parts. The first section defines human capital theory and discusses migration correlates and theory as a utility maximization, or private, and social investment activity. The second section discusses college student migration research and its correlates. The third section will review social rate of return studies. The final section will provide a conceptual framework for the study.

#### Human Capital and Migration Theory

Rosen (1999) states human capital is an investment "that people make in themselves to increase their productivity" (p. 381). Most people do not have the resources to fully invest in their own human capital, so governments usually intervene with subsidies. As private investments in human capital through education have shown to be positive, so have public investments in human capital (Kangas, 1996; Leslie & Brinkman, 1988).

A relatively modern concept, Adam Smith was the pioneer in the development of human capital theory, noting the "skill, dexterity, and judgment of labor as one of the two great determinants of the wealth of nations" (Leslie & Brinkman, 1988, p. 5). Human capital came onto the scene after World War II and, according to Leslie and Brinkman (1988), was the "vehicle upon which economics rode to prominence in education policy making" (p. 6). In the 1950's, economists discovered that income growth was rising faster than the "traditional" inputs of land, machinery, or labor hours and concluded that rising investments in human capital must be the reason (Salamon, 1991). Schultz (1970),

for instance, found that 36% to 70% of unexplained increases in income were attributable to education. Based on these observations, researchers concluded that increased levels of investment in education and training resulted in a higher quality labor force (Denison, 1962; Schultz, 1961).

Today, state governments recognize “the concurrent growth and diffusion of human capital appear(s) to be necessary to ensure sustained economic growth” (Mincer, 1984, p. 204). In fact, “human capital theory is the dominant theoretical explanation of the relation between earnings and economics” (Monk-Turner, 1998, p. 15). It is widely recognized throughout the world that “the wealth of nations is highly dependent on the extensiveness of the knowledge of its people. Today, education reform is at the head of national priorities in virtually all countries, both developed and underdeveloped. Education is no longer treated as a consumer good but rather as a productive asset” (Alexander & Salmon, 1995, p. 74).

Human capital theory asserts that individuals consciously choose to invest in themselves through various activities (Woodhall, 1995). Usually, this is through education and training, but can also be done through migration (Bowles, 1970; Gallaway, Gilbert, & Smith, 1967; Schwartz, 1973; Sjaasted, 1962). As Schultz (1971) notes, "economic growth requires much internal migration of workers to adjust to changing job opportunities. This makes sense when one recognizes that the costs of such migration are a form of human investment" (p. 29). Simply put, “workers choose between varying amounts of work-related income and leisure that may be obtained at differing locations” (Gallaway, Gilbert, & Smith, 1967, p. 211). Since most migrants assume the costs of

migration exceed the benefits, "movements of manpower among regions imply a transfer of human capital" (Bodenhofer, 1967, p. 446).

Ravenstein (1885) was the first to discuss migration in the context of economics, formulating the "laws of migration" to predict and explain the mobility of people. The "laws of migration," as outlined by Ravenstein (1885), stipulate that migrants will only travel great distances if there are "great centers of commerce and industry," with the gaps left behind being filled by groups from even more remote areas (Ravenstein, 1885, p. 199). Contemporary researchers like Lee (1966) has identified four broad variables that impact the decision to migrate: factors associated with the area of origin (pull factors), factors associated with the area of destination (push factors), intervening obstacles, and personal factors.

### College Student Migration

The first analyses of college student migration were conducted by Lewis Kalbach, president chief clerk of the federal United States Bureau of Education (USBE), in 1893-94 and 1896-97, followed by another study 26 years later under the direction of George Zook, head of the Department of Interior and later president of the American Council on Education (ACE). Until the 1970's, college student migration data was collected by a variety of entities, including USBE, the American Association of Collegiate Registrars and Admissions Officers (1960), the American College Testing Program, and various government organizations and researchers (Groat, 1964).

As the economic premium of a college degree began to rise significantly in the 1970's, states began to look more closely at college student migration. Coincident with

the rise of human capital as a subfield of economics in the 1960's and 1970's, many researchers began to go beyond descriptive statistics and to examine the impact of college student migration on society, variables associated with college student migration, and why college students migrate. Some of these variables include climate (Mixon, 1992; Tuckman, 1970); characteristics of the region where the college is located (Fenske, Scott, & Carmody, 1972; Lewis, 1964; McHugh & Morgan, 1984; Sewell, 1964); institutional control, type, or sector (Garcia, 1983; Kyung, 1996; Lyons, 1974; Mixon & Hsing, 1994); distance (Ferriss, 1965; Fryman, 1988; Gossman, et al., 1968); curriculum (Fryman, 1990); student academic or personal characteristics (Mortensen, 2003); price and financial aid (Fenske, Scott, & Carmody, 1972; Giegerich, 2002; More Americans pick Canadian universities, 2002; Opatz, 2003); perceived quality of native colleges and area of destination colleges (Dotterweich, 2001; Garcia, 1983); enrollment size (Garcia, 1983; Strand, 1967); and even prominent athletic programs (Selingo, 1997).

Of primary interest to policy makers is the likelihood of a college graduate establishing permanent residence in a state upon graduation. The U.S. Census Bureau tracks the migration and residence patterns of a population it defines as young, single, and college educated between the ages of 25 and 39 (Franklin, 2003b). This data, however, does not identify where the student attended high school or college, rendering it useful only a measure of how many college graduates a region attracts, but not how postsecondary policies or college student migration may impact the number of college graduates living within its borders.

No comprehensive database exists to track the permanent residence of college students and graduates, but two come close. NCES' longitudinal survey, Baccalaureate

and Beyond (B&B), tracks a sample of 1993 college graduates. Sample sizes are too small to make definitive statements about individual states, but one can examine regional migration patterns. Perry (2001) used B&B to summarize the residence of college graduates in a 2001 report, *Where College Students Live after They Graduate*. According to Perry's (2001) analysis, about 50% of college students who attend and graduate from out-of-state colleges reside in their native state four years after college graduation, compared to about 80% of college graduates who graduated high school and college in the same state.

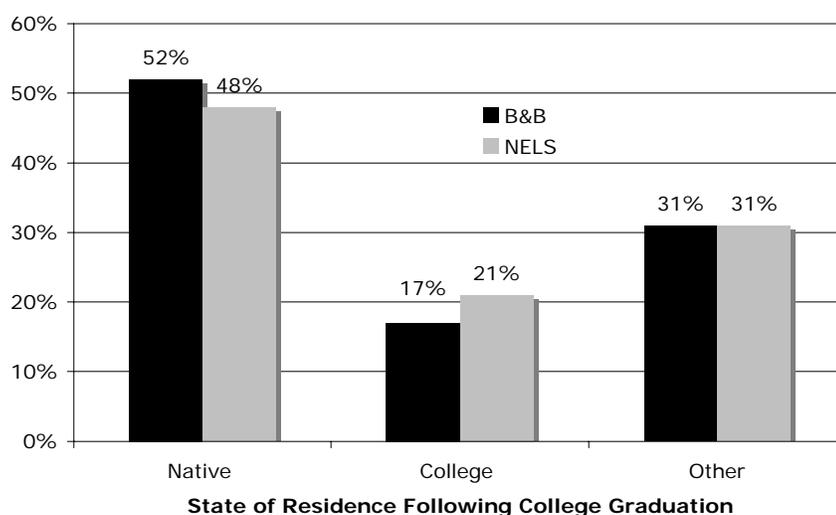
Adelman (2004) examined the academic histories of college students at three different points using the National Education Longitudinal Study (NELS): high school graduation in 1992, geographic location of first college attended, and state of residence in 2000. The author found 80% of 1992 high school graduates' first college was in-state, while 20% migrated to a college in another state. Of the 20% of 1992 college student migrants, about 48% were living in their native state in 2000. For students who graduated from a college in their native state, about 83% continued residency.

As shown in Figures 1 and 2, what stands out about the two datasets is their consistency. Basically, they indicate that states can expect about 50% of their college student migrants to return upon graduation, compared to an approximate 80% retention rate for students who attend in-state colleges and universities. States that import college students can expect about 20% to stay upon graduation.

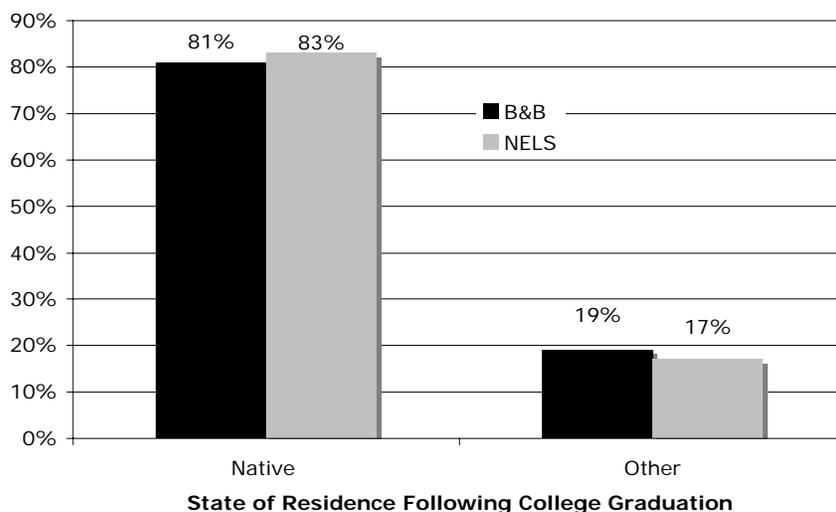
Researchers have also looked at college student migration patterns by race, institutional selectivity, and income. National data suggests Latinos are the most likely ethnic group to attend an in-state institution, while African-Americans were the most

likely college student migrant to continue residence in the state where they graduated college (Adelman, 2004). For students who attend in-state colleges, however, Whites and Asians are the most likely to continue residence in their home state following graduation, while African-Americans and Latinos were more likely to migrate to another state following graduation (Adelman, 2004).

Perhaps not surprisingly, low-income and first-generation students are more likely to attend an in-state college (Kentucky Long-term Policy Research Center, 2001; Mortensen, 1996). Mortensen (1998b) notes that for families with incomes below \$20,000, the average distance between a student's home and their college was 45 miles; for students from family incomes above \$200,000, the average distance was 258 miles. For students whose father possessed a high school diploma, a bachelor's degree, and graduate degree, the average respective distances were 49, 91, and 185 miles.



*Figure 1.* Where college students who attend out-of-state colleges live after college graduation. Adapted from “Principal indicators of student academic histories in postsecondary education, 1972-2000,” by C. Adelman, 2004, Washington, DC: Department of Education; “Where college students live after they graduate,” by K. K. Perry, ERIC Document Reproduction Service No. ED43739.



*Figure 2.* Where college students who attend in-state institutions live after college graduation. Adapted from “Principal indicators of student academic histories in postsecondary education, 1972-2000,” by C. Adelman, 2004, Washington, DC: Department of Education; “Where college students live after they graduate,” by K. K. Perry, ERIC Document Reproduction Service No. ED43739.

Institutional selectivity also plays a role in the migration of college students and graduates. In Adelman’s (2004) analysis of NELS data, students who graduate from high school and attend a very selective in-state institution are much less likely to continue residence in their native state following graduation. College students who attend very selective out-of-state institutions, however, are more likely to remain in the state they migrated to following graduation. Students who attend non-selective institutions, on the other hand, are much more likely to continue living in their native state following college graduation. Since institutional selectivity is still largely tied to income, with institutional selectivity positively correlated with income (Mortensen, 2005), the migration of individuals by institutional selectivity could be more a function of the increased ability of higher-income people to move and take advantage of more lucrative opportunities further from home.

This data suggests students who start out at non-selective institutions in their own state are more likely to maintain residence, while students who start out at very selective in-state institutions are more likely to eventually migrate after graduation are more mobile in general. It also suggests that states with very selective institutions, particularly in major metropolitan areas, will receive large numbers of college student migrants.

### Social Rate of Return

Social rate of return analyses measure the monetary returns to individuals or society from increases in educational attainment. Rate of return studies measure the return to investments in education by subtracting the costs from increased earnings associated with it. Coincident with the rise of human capital research, rate of return studies found growth in national income growth could not be solely accounted for by investments made in physical capital. Therefore, researchers concluded rises in the educational attainment citizens must account for rises in national income growth (Denison, 1974). From the middle 1960's through the early 1970's, researchers focused on whether social and even private investments in higher education could not provide higher returns in other sectors (Douglass, 1996). Through the late 1970's, research focused on isolating education as an explanation for economic growth separate from other variables (Douglass, 1996). Since the 1980's, the results of social rate of return studies have widely been used to justify increased or continuing levels of revenue streams.

Just as individuals choose to invest in education, foregoing a variety of other investments because they expect a positive return, governments also choose to invest in

human capital through education for two reasons (Rizzo, 2004): Higher education has a net positive social benefit and net social returns from investments in higher education generally exceed competing investments at the margin. Hundreds of studies have shown that private investments in higher education exceed the costs (Alexander & Salmon, 1996; Blaug, 1968; Bowen, 1997; Leslie & Brinkman, 1988; McMahon, 1974; McMahon, 1999).

Similarly, many national and international studies have shown positive social rates of return (Leslie & Brinkman, 1988; Liberman, 1979; McMahon, 1991; McMahon & Wagner, 1982; Paulsen, 1998). In a review of rate of return studies, Cohn and Geske (1986), Alexander and Salmon (1995), Johns, Morphet, and Alexander (1983), and Leslie and Brinkman (1988) report rates of return generally between 10% and 15%. Rates were unusually low in the late 1960's and early 1970's, but rose substantially in the late 1970's through 1990's (Heller, 2001). Rizzo (2004) notes that "many economists would agree (rate of return) studies represent a lower bound on the returns to higher education investments" (p. 13).

Many studies have focused on the social rate of return from investments in higher education in Illinois alone. Kangas (1996) found individuals can expect a 7.49% private rate of return on their investment in a bachelor's degree from the University of Illinois. In a 1980 study, Turiciano (1980) and the Illinois Community College Board (1980) found "a large economic impact upon six districts, especially upon total business volume created by the college's expenditures" (p. iv). A study conducted by the Illinois Community College Trustees Association detailed positive returns on investments in higher education through increased graduate incomes and reduced crime, welfare,

unemployment and health care expenses (Begalka, 2000; Christophersen & Robison, 2002). Other studies have detailed the impact of universities on specific regions of Illinois (Billingsley, 1984; Bryce, 1975; Chizmar & MacDonald, 1970; Elliott, Levin, & Meisel, 1988; Goldman, 1986; Meier, 1983).

A major difference between the individual and government investment in human capital is that when an individual invests in themselves, their supply of capital stays with them the rest of their lives. State governments, on the other hand, invest in human capital on faith. An educated and skilled individual is generally free to move across state lines or could even be enticed to migrate to another area. If they never return, a state government and its citizens forever lose the investment they made in the individual.

Using human capital theory and the findings of previous research, a review of the literature surrounding college student migration reveals that states that receive large numbers of college student immigrants are going to be better prepared and more economically competitive than those states that lose college students to other states. Conversely, states that continue to lose large numbers of college students to other states increase their chances of being less prepared for future economic growth.

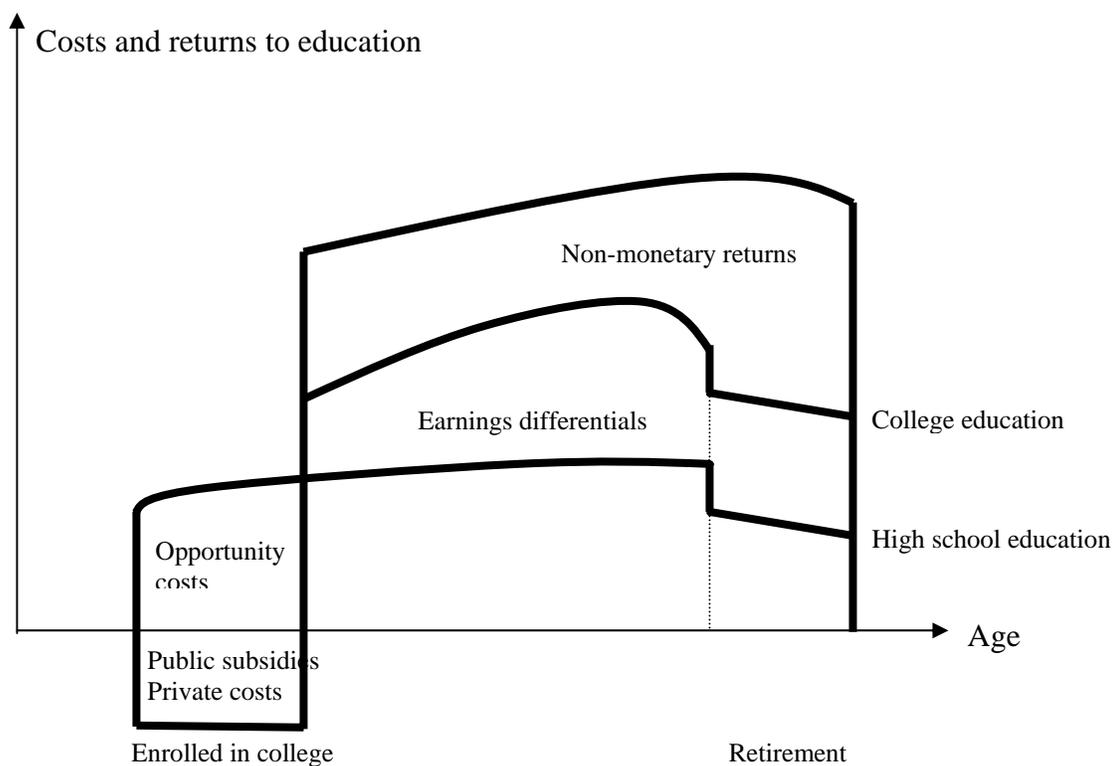
### Conceptual Framework

Several authors (Carnoy, 1995b; Douglass, 1996; Johns, Morphet, & Alexander, 1983; Kangas, 1996; McMahon and Wagner, 1979; Psacharopoulos, 1976) have provided a model, shown in Figure 3, conceptualizing the costs and benefits of education.

The vertical axis represents the age of an individual, birth through retirement. The horizontal axis represents the returns to education. Social and private costs include

foregone earnings, tuition, fees, books, and other miscellaneous costs. Also included are state subsidies for higher education, including capital, operating, and financial aid costs. The net educational premium is the differential between those with college degrees and those without.

McMahon and Wagner (1979) describe the non-monetary returns to higher education as “those accruing later to the student following the investment made during the college years and consumption benefits enjoyed while attending college” (p. 5). To the individual, these may include a longer life, consumption-efficiency, and greater use of leisure time. For society, these benefits include lower crime rates, less reliance on corrections, lower health care costs, and less dollars spent on unemployment and welfare.



*Figure 3.* Investment in higher education and returns over the life cycle. Adapted from “Two essays in finance: Market response to catastrophic events on the insurance industry and return on investment of a land grant university,” by W. R. Kangas, 1996, Unpublished doctoral dissertation, University of Illinois, Urbana.

## CHAPTER III

### METHODOLOGY

The methodology for this study will consist of four steps. First, the number of first-time, first-year college students who migrated from Illinois in Fall 2000 will be collected. College student migration patterns will be organized using exploratory data analysis techniques. Exploratory data analysis techniques were chosen as the organizational tool of the college student migration data for several reasons: its compatibility with large, secondary data sets, efficiency in organizing and summarizing data; its usefulness in defining problems, refining questions, and identifying relevant problems; and its efficiency in the re-expression of data (Hartwig & Dearing, 1979; Yancey, 1988).

Next, a social rate of return analysis will be conducted. The purpose of using a social rate of return analysis is to provide a depiction of the economic impact of college student migration on the State of Illinois. The method for conducting a social rate of return analysis involves three steps. First, the “stream of net monetary benefits attributable to higher education back to its present value and set(ting) it equal to the stream of discounted investment costs” is calculated (McMahon & Wagner, 1979).

The second step involves calculating the social costs, including subsidies to institutions, financial aid, capital expenditures and private costs, like foregone earnings and tuition (Johns, Morphet, & Alexander, 1983). Third, the social benefits, as measured as the difference between the pretax earnings of high school graduates and college graduates, are measured.

Third, the net stock of college graduates living in Illinois due to college student migration will be estimated. This will be accomplished using Adelman's (2004) analysis of the residency patterns of college students and graduates and triangulating it with actual college student migration rates for Illinois. By using the national percent of college graduates who live in a state based on where they attended college from Adelman (2004) and applying it to actual college student migration data from Illinois, one can obtain an estimate of the post-graduate patterns of Illinois migrants and immigrants into Illinois.

Finally, the estimated lost tax revenues resulting from college student migration in Illinois will be estimated. This will be accomplished by first calculating the amount of state tax revenues a college graduate contributes to the State of Illinois using Kangas' (1996) methodology and applying it to the net loss of college graduates due to college student migration.

### Population

This study will include all postsecondary institutions outside the state of Illinois and in the United States that received at least one first-time, first-year college student who is a resident of the state of Illinois during the Fall 2000 semester. Because the population of institutions is limited to those in the IPEDS database, only postsecondary institutions that receive federal funds and enroll at least one first-time, first-year Illinois resident college student will be included. Nearly every postsecondary institution in the United States receives federal funds, so it is likely only a few students will not be included in the dataset.

## Data Collection

This section will outline the data collection sources used for this dissertation. Data will be collected in three stages: college student migration data, benefits (as measured through income), and costs.

### *College Student Migration Data*

IPEDS is one of 6 postsecondary surveys conducted under the auspices of NCES and was specifically designed to collect comprehensive data on all postsecondary institutions. All postsecondary institutions that receive federal funds under Title IV of the Higher Education Act must submit information to IPEDS. The IPEDS system currently includes about 9,500 postsecondary private, public, and for-profit two-year and four-year institutions (Thurgood, et al., 2003).

Data about postsecondary institutions and students can be obtained through the IPEDS Peer Analysis System (PAS). PAS is a web-based system that allows the researcher to generate reports using a variety of variables of interest. Once the variables and desired results are defined, PAS allows the researcher to view descriptive statistics in real time. Results can be viewed on screen or downloaded in excel or text format. As Schuh (2002) points out, “about the only limit for studies using the IPEDS system are the creativity and ingenuity of the investigator” (p. 30). Through PAS, the name, city, state, and IPEDS six-digit institutional identification number (ID) will be downloaded in spreadsheet format and converted into Microsoft Excel. Also included in the PAS collection will be the number for first-time, first-year college students from the State of Illinois.

### *Benefits*

The second collection source will deal with the social benefits of higher education as measured through the earnings of high school and college graduates by age. Benefits are usually expressed through the Net Educational Premium (NEP), or the difference between what a high school graduate and college graduate earns. The U.S. Census Bureau (2004) regularly collects income information through the Current Population Survey (CPS). The U.S. Census (2004) links income to a wide variety of social indicators, like age, race, or educational attainment, to name a few. Income data is available in text format or can be easily downloaded in spreadsheet format.

Several authors have noted that one must take into account income tax and the multiplier effect of income and sales taxes when calculating the benefits of a social rate of return. First, state income tax must be removed from income rates. Illinois has a flat tax of 3%, meaning that calculating pretax earnings will be a matter of subtracting 3% from an individual's income. One must also consider sales tax and marginal propensity to consume (MPC). The rationale for including sales tax is that individuals are not only taxed on their income, but also on things they buy. Kangas (1996) puts the State of Illinois general sales tax at 6.25%, with 5.0% for the State, 1% cities, and .25% for local counties. Because not all items carry sales tax, MPC is basically the percent of items people buy that carry a sales tax. Several authors have used .50 as the MPC, which will be employed in this study (Kangas, 1996).

A second consideration is the multiplier effect of dollars spent in the economy. The multiplier effect occurs when spending in one area or sector results in increased income and consumption in others. For instance, when additional income earned by a

college graduate is spent, suppliers of products and services use the income for capital and operating expenditures, creating a multiplier effect. The Bureau of Economic Analysis (2004) uses the Input-Output (I-O) model to measure “how industries interact; specifically, they show how industries provide input to, and use output from, each other to produce Gross Domestic Product” by region and sector. In 1996 the multiplier effect for Illinois in the service sector was 2.27 (Kangas, 1996). However, as Des Jardins (2001) notes, “not all of the educational premium is available for spending” (p. 11). Hence, one must also consider the impact of taxes on the multiplier effect. Kangas (1996) and Des Jardins (2001) assumed a reduction in the multiplier effect of income tax of 30%, using 70% as a measure of the amount that labor contributes to the economy.

#### *Costs*

The third data collection area will deal with the private costs associated with higher education. These costs involve tuition and opportunity costs. Opportunity costs involve the income a student loses while enrolled in college from not working, which can be collected from the U.S. Census Bureau. The other private cost is tuition minus financial aid. For Illinois college student migrants, price will be expressed as the average tuition charged to out-of-state residents at all four-year public and private colleges minus financial aid. Average tuition and financial aid for the 2001 fiscal year will be obtained from PAS. Social costs will not be collected because the State of Illinois does not subsidize the educational costs of students who attend out-of-state colleges and universities.

## Data Analysis

The data analysis part of the dissertation will take place in three stages. First, college student migration data will be explored using exploratory data analysis techniques. Since this stage is exploratory, analysis may already start during the data collection stage.

The second stage will calculate a social rate of return. The social rate of return will be calculated by selecting an appropriate discount rate that sets the value of costs and benefits over time to zero. Leslie and Brinkman (1988) state the discount rate is the value that sets “the earnings value equal to the cost value” (Leslie & Brinkman, 1988, pp. 45-46).

The third stage will define a population to calculate the total social rate of return for all college student migrants. This will be a matter of calculating the theoretical stock of college graduates living in Illinois due to college student migration using Adelman’s (2004) analysis of NELS data. The analysis will then be replicated using Perry’s (2001) analysis of B & B data. The rationale for using these two datasets is twofold. First, sample sizes are too small to use state individual state-level data. Second, using two datasets will provide an estimated range, adding validity to the results.

With the total stock of college graduates living in Illinois due to college student migration estimated, the net lost or gained tax revenue per college graduate over the course of his or her lifetime will be estimated. Using this result, the total dollar amount the State of Illinois loses due to college student migration will be estimated. This will be accomplished by multiplying the estimated stock of college graduates living in Illinois by the estimated lost or gained tax revenues.

### Significance of the Study

Past research on college student migration and migration patterns in general has been limited through focuses on outcomes and predictors. Most studies on college student migration either employ regression analyses to identify predictors of migration (Fenske, Scott, & Carmody, 1972; Ferriss, 1965; Garcia, 1983; Lee, 1987; Tuckman, 1970), develop complex theoretical models that make it difficult to translate policy into practice (Dyer, 1972), or simply describe college student migration patterns with little consideration for economic policy or planning (Groat, 1963; Wade, 1970). This study, on the other hand, will use college student migration data to define a social rate of return and economic impact of college student migration in an effort to provide policy makers with information that can be used to when developing a policy towards college student migration in Illinois.

All too often, it is easy for policy makers and university leaders to make short-sighted decisions based more on anecdote than evidence about the role of college student migration in developing human capital in their state. A listing of just one policy area related to college student migration—non-resident students—illustrates this.

A University of Arizona regent stated “I am opposed to students’ leaving their parents in their home state, where they pay taxes, and coming here to school because this is a great place to winter. It’s costing us millions of dollars every time we give residency status to out-of-state students” (Mercer, 1993). The University of Washington recently initiative placed stricter limits on non-resident enrollments on the basis that non-residents students were not “paying their fair share” (Wells, 2003). A North Carolina representative attempted to pass a bill that would require non-residents to pay the full

costs of their education, stating “we are obviously subsidizing their tuition, and that’s money that could be used to make the University of North Carolina system more free (for in-state students)” (Dyer, 2003).

The results of these types of policies can result in problems for states and institutions. When the State of Pennsylvania raised non-resident tuition much faster than in-state tuition between 1991 and 1993, it witnessed a 40% drop in non-resident enrollment (Noorbakhsh & Culp, 2002). In the early 1970’s, Murray State University made a conscious decision to limit non-resident enrollment, resulting in significant enrollment decreases. By 1974, however, the institution rectified the situation and began offering a Residence Hall Scholarship to students from selected counties outside Kentucky. Offering free room and board for two years, the university and region witnessed increased revenues without comprising equity (Julian, 1987).

These comments and actions reflect short-sighted, revenue-generating, commutative, and political purpose for higher education, ignoring its role in human capital development and in accomplishing broad state economic, equity, and social goals.

Practically, it is hoped this study will raise awareness about the magnitude of college student migration. In order to address college student migration, state policy makers need evidence of its impact. Schmidt (2003a) noted:

the debate over (brain drain) plans is complicated by the paucity of data on state brain drains. Little is known about the causes and effects of state brain drains, much less how to stop them. Many policy analysts . . . warn that lawmakers (could) risk wasting millions on programs (to staunch brain drain) that are ineffective or that offer few real economic and educational benefits in the long term. (p. A36)

It is hoped this study will be significant in three ways. First, in light of future economic and demographic trends, college student migration should be a concern to the

state of Illinois. Secondly, college student migration has received almost no attention at the state policy or institution level, even though Illinois has been the second largest net exporter of college students in the nation since the 1950's. Third, research from other studies suggests a need for every state to closely monitor college student migration and view it as an integral part of plans that in developing human capital (Kodrzycki, 2002). As Astin (1991) notes, "the real state interest in formulating higher education policy" is to facilitate the development of human capital (p. 218).

## CHAPTER IV

## RESULTS

This chapter will describe and analyze the data collected for this study. It is divided into four sections: an exploration of how many and where Illinois college students migrate, a rate of return analysis, an estimation of the impact of college student migration on the stock of college graduates living in Illinois, and an estimate of the economic impact of college student migration through lost tax revenues.

## College Student Migration

*College Student Migration by Sector*

Table 1 outlines the college student immigration and emigration rates for the State of Illinois for Fall 2000 by sector and control. Two things stand out about the table.

Table 1

*Net Migration of College Student Migrants for Illinois by Sector, Fall 2000*

Institutional type	Number of institutions	Migration		
		Out	In	Net
4-Year Private	632	8,913	6,164	-2,749
4-Year Public	337	9,180	1,221	-7,959
2-Year Private	23	288	15	-273
2-Year Public	184	1,494	855	-639
For-Profit	148	1,342	1,148	-194
Total	1,324	21,217	9,403	-11,814

*Note.* Migration of first-time, first-year college students only. Out refers to the outflow from Illinois and in to the inflow of students into Illinois. Net-migration represents out-migration subtracted from in-migration.

First, Illinois residents migrated to nearly 300 more four-year private institutions than public four-year institutions. However, more students migrated to four-year public institutions than private ones. This is largely the result of larger concentrations of Illinois residents migrating to a smaller number of public institutions.

Second, Illinois exported nearly 12,000 more students to other states than they imported. The main reason for this is migration to four-year colleges and universities. Illinois exported 10,700 more students to private and public four-year institutions than it imported and 11,800 to all postsecondary institutions. Over half of students who migrated to four-year institutions migrated to public institutions, much higher than the national average of about 33%. The net migration rate alone for four-year public institutions was about -7,959. Clearly, large numbers of Illinois residents chose to enroll in public institutions outside the State of Illinois while relatively few non-residents enroll in Illinois four-year public universities.

#### *College Student Migration by Four-Year Sector and State*

Table 2 shows the migration of Illinois college students in Fall 2000 to four-year institutions by state, control, and in order of total out migration from Illinois. As the table illustrates, Illinois exports more college students than it imports to nearly every state, with the only major exceptions being California, Texas, and Maryland.

Table 2

#### *Net Migration of College Student Migrants From Illinois by State and Sector, Fall 2000*

State	All four-year			Four-year public			Four-year private		
	Out	In	Net	Out	In	Net	Out	In	Net
Indiana	2,680	642	-2,038	1,619	51	-1,568	1,061	591	-470
Iowa	2,330	319	-2,011	1,461	88	-1,373	869	231	-638

*(table continues)*

Table 2 (*continued*)

State	All four-year			Four-year public			Four-year private		
	Out	In	Net	Out	In	Net	Out	In	Net
Wisconsin	2,280	526	-1,754	881	64	-817	1,399	462	-937
Missouri	1,734	735	-999	794	295	-499	940	440	-500
Michigan	1,206	599	-607	921	36	-885	285	563	278
Ohio	826	502	-324	402	68	-334	424	434	10
New York	546	341	-205	95	33	-62	451	308	-143
Colorado	462	145	-317	357	12	-345	105	133	28
Minnesota	456	315	-141	185	29	-156	271	286	15
Massachusetts	431	145	-286	13	13	0	418	132	-286
Florida	418	281	-137	168	54	-114	250	227	-23
Arizona	379	77	-302	372	13	-359	7	64	57
California	365	480	115	95	75	-20	270	405	135
Tennessee	336	95	-241	114	21	-93	222	74	-148
Pennsylvania	268	196	-72	52	20	-32	216	176	-40
Kentucky	249	120	-129	205	24	-181	44	96	52
Georgia	238	86	-152	42	16	-26	196	70	-126
Kansas	228	104	-124	209	21	-188	19	83	64
Mississippi	199	9	-190	126	4	-122	73	5	-68
Louisiana	198	37	-161	58	13	-45	140	24	-116
Texas	192	281	89	67	23	-44	125	258	133
D.C.	187	17	-170	3	2	-1	184	15	-169
Alabama	174	28	-146	117	8	-109	57	20	-37
N. Carolina	166	61	-105	56	17	-39	110	44	-66

*(table continues)*

Table 2 (continued)

State	All four-year			Four-year public			Four-year private		
	Out	In	Net	Out	In	Net	Out	In	Net
Virginia	164	112	-52	77	26	-51	87	86	-1
Oklahoma	117	47	-70	76	14	-62	41	33	-8
Maryland	116	153	37	77	23	-54	39	130	91
S. Carolina	114	19	-95	71	2	-69	43	17	-26
Connecticut	111	107	-4	16	15	-1	95	92	-3
Utah	110	7	-103	55	1	-54	55	6	-49
Nebraska	103	88	-15	40	15	-25	63	73	10
Arkansas	89	24	-65	55	6	-49	34	18	-16
Rhode Island	87	18	-69	7	4	-3	80	14	-66
New Jersey	69	193	124	15	39	24	54	154	100
Oregon	65	71	6	34	6	-28	31	65	34
Vermont	57	15	-42	36	0	-36	21	15	-6
Montana	55	16	-39	52	1	-51	3	15	12
N. Hampshire	50	26	-24	10	1	-9	40	25	-15
Washington	44	129	85	22	17	-5	22	112	90
Maine	39	26	-13	8	4	-4	31	22	-9
New Mexico	31	33	2	22	6	-16	9	27	18
W. Virginia	27	8	-19	15	3	-12	12	5	-7
Hawaii	22	39	17	8	12	4	14	27	13
N. Dakota	21	12	-9	21	5	-16	0	7	7
Nevada	21	19	-2	21	6	-15	0	13	13
S. Dakota	9	19	10	7	1	-6	2	18	16
Wyoming	8	7	-1	8	1	-7	0	6	6

(table continues)

Table 2 (*continued*)

State	All four-year			Four-year public			Four-year private		
	Out	In	Net	Out	In	Net	Out	In	Net
Idaho	8	17	9	8	5	-3	0	12	12
Alaska	5	26	21	4	7	3	1	19	18
Delaware	3	13	10	3	1	-2	0	12	12

*Note.* Migration of first-time, first-year college students only. Out refers to the outflow from Illinois and in to the inflow of students into Illinois. Net-migration represents out-migration subtracted from in-migration.

By looking at the migration by sector, it is interesting to note that some states, like Iowa, Indiana, Michigan, Colorado, Arizona, Kentucky, and Kansas, import more Illinois residents into their public sector than private sector. Colorado and Arizona also received relatively large numbers of college student migrants from Illinois to community colleges (see Appendix A). On the other hand, Wisconsin, Missouri, New York, Massachusetts, Florida, Minnesota, Pennsylvania, and California import relatively more Illinois residents into their four-year private sector.

When looking at the geography of the migration patterns, several patterns emerge. First, states in the Northeast import many more Illinois residents into private institutions. Second, Illinois residents are willing to migrate long distances to attend public institutions in distant states like Colorado, Arizona, and Kansas.

The maps in Figures 4 and 5 illustrate this phenomenon. They show that migration to private institutions outside of the immediate border states are largely concentrated in the Northeast and California, while migration to public institutions is more spread out, with large numbers of Illinois residents attending public institutions in Colorado, Arizona, Kansas, and other Western and Southeastern states.

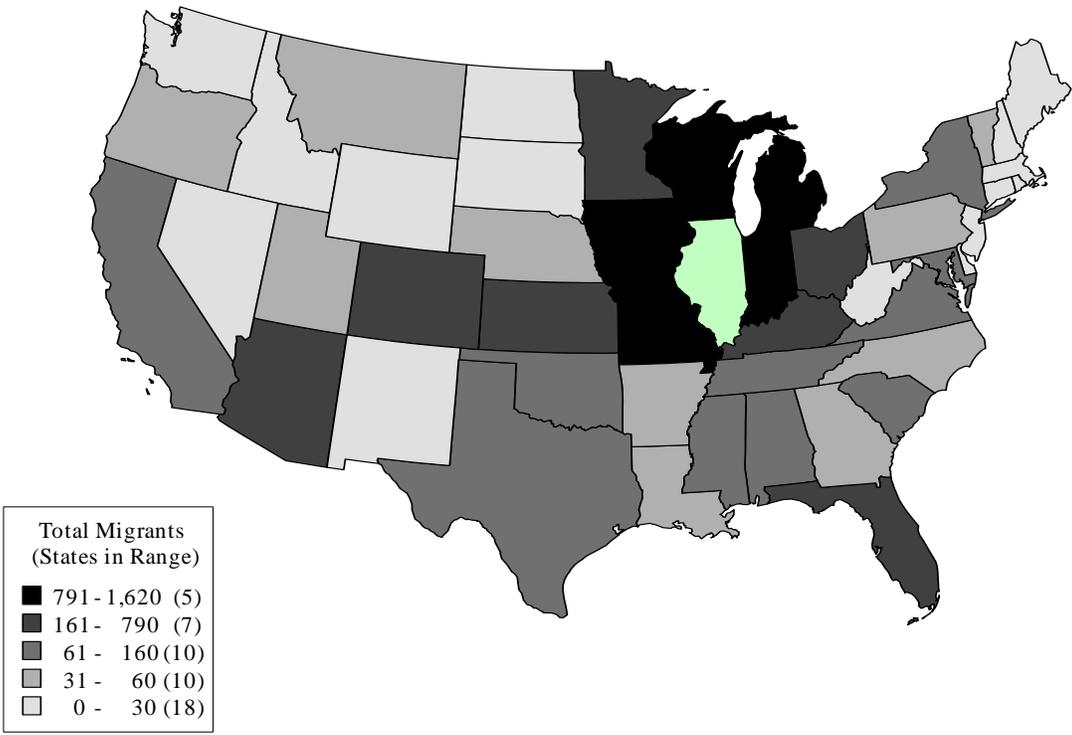


Figure 4. Destinations of Illinois college student migrants to four-year public institutions by state, Fall 2000.

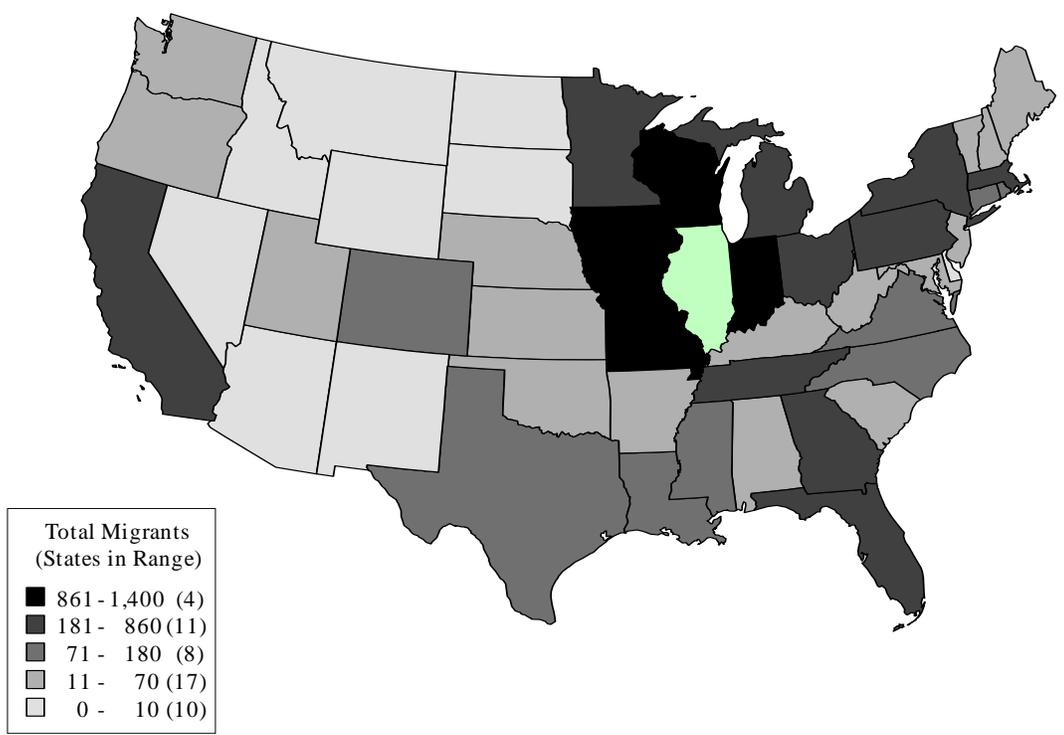


Figure 5. Destinations of Illinois college student migrants to four-year private institutions by state, Fall 2000.

*College Student Migration by Institution*

Table 3 shows the top 50 four-year public and private four-year college destinations for Illinois college student migrants in Fall 2000. It also shows the percent of students who are residents of Illinois at each institution. 54% of all Illinois college students who migrated to four-year institutions migrated to the colleges and universities in Table 3.

Table 3

*Top 50 Institutional Destinations for Illinois College Student Migrants, Fall 2000*

Institution	Location	Control	Enrollment	%
University of Iowa	Iowa City, IA	Public	1,098	29
Purdue University	West Lafayette, IN	Public	728	11
Indiana University	Bloomington, IN	Public	609	9
Marquette University	Milwaukee, WI	Private	534	32
St. Louis University	St. Louis, MO	Private	322	23
Iowa State University	Ames, IA	Public	312	7
University of Missouri	Columbia, MO	Public	272	6
University of Michigan	Ann Arbor, MI	Public	244	5
Carthage College	Kenosha, WI	Private	241	47
Arizona State University	Tempe, AZ	Public	214	4
University of Notre Dame	Notre Dame, IN	Private	201	10
Miami University	Oxford, OH	Public	195	6
Valparaiso University	Valparaiso, IN	Private	194	26
University of Kansas	Lawrence, KS	Public	189	4
University of Colorado	Boulder, CO	Public	187	4

*(table continues)*

Table 3 (*continued*)

Institution	Location	Control	Enrollment	%
Western Michigan University	Kalamazoo, MI	Public	186	4
Michigan State University	East Lansing, MI	Public	178	3
Washington University	St. Louis, MO	Private	177	12
Truman State University	Kirksville, MO	Public	176	13
St. Ambrose University	Davenport, IA	Private	154	42
Southeast Missouri State University	Cape Girardeau, MO	Public	153	10
University of Dayton	Dayton, OH	Private	150	8
Loras College	Dubuque, IA	Private	146	38
Northern Michigan University	Marquette, MI	Public	135	8
University of Arizona	Tucson, AZ	Public	128	2
University of Wisconsin	Whitewater, WI	Public	124	6
Butler University	Indianapolis, IN	Private	123	14
St. Norbert College	De Pere, WI	Private	123	22
Winona State University	Winona, MN	Private	117	8
Murray State University	Murray, KY	Public	106	8
Drake University	Des Moines, IA	Private	99	16
Ball State University	Muncie, IN	Public	96	3
Indiana State University	Terre Haute, IN	Public	91	4
Ohio State University	Columbus, OH	Public	88	2
Milwaukee School of Engineering	Milwaukee, WI	Private	88	17
Taylor University	Upland, IN	Private	83	17
Calvin College	Grand Rapids, MI	Private	79	8

*(table continues)*

Table 3 (*continued*)

Institution	Location	Control	Enrollment	%
New York University	New York, NY	Private	79	2
Vanderbilt University	Nashville, TN	Private	79	5
Howard University	Washington, DC	Private	75	5
Carroll College	Waukesha, WI	Private	75	15
Grand Valley State University	Allendale, MN	Public	72	3
Beloit College	Beloit, WI	Private	72	24
Boston University	Boston, MA	Private	70	2
St. Louis College of Pharmacy	St. Louis, MO	Private	70	48
University of Wisconsin	Parkside, WI	Public	67	8
University of Southern California	Los Angeles, CA	Private	66	2
Clark Atlanta University	Atlanta, GA	Private	66	6
Culver Stockton College	Canton, MO	Private	66	31
Tennessee State University	Nashville, TN	Public	65	5

*Note.* Migration of first-time, first-year college students only. Enrollment refers to first-time, first-year students from Illinois. % refers to the percent of first-time, first-year students enrolled at the institution who are residents of Illinois.

Perhaps the most significant thing that stands out about Table 3 is the large number of Illinois residents who migrate to public research universities with large enrollments and prominent athletic programs, like the Universities of Indiana, Iowa, Purdue, Iowa State, Missouri, Kansas, Colorado, Arizona State, Michigan State, and Ohio State. In fact, 24% of Illinois four-year migrants enrolled at these 10 institutions alone. A sizeable number of migrants also attended public liberal arts institutions with smaller enrollments, like Truman State, Miami, Ball State, Northern Michigan, Murray State, and Grand Valley State Universities (see Appendix B).

Illinois migrants generally attend four types of private institutions. First, border private institutions with large numbers of commuter students and whose enrollment base is primarily local. It is probable that many of the Illinois migrants who attend these institutions physically reside in Illinois while enrolled. This can be noticed by looking at the migration rates to four-year private institutions shown in Appendix C.

A second type is the selective private institution also close to the Illinois border, but whose enrollment base is based on a more national scale. These include institutions like the University of Notre Dame, Washington University, or New York University.

A third type is the selective, private liberal arts institution whose enrollment base is primarily regional, or Midwestern, in nature. These include institutions like Marquette University, St. Louis University, or Drake University.

A fourth type are religious institutions. Institutions must designate a religious affiliation when reporting data to IPEDS. When queried, it was shown that 4,212 Illinois residents migrated to 245 four-private institutions that indicated a religious affiliation. Students migrating to four-year private religious institutions constituted 47% of all migration to four-year private colleges and universities.

Illinois college student migrants enrolled in the following denominations: Roman Catholic (2,596 Illinois college student migrants); Lutheran (638); Baptist (333); Methodist (128); Latter Day's Saints (69); Jewish (21); and other (205). A significant number of students also enrolled in seminaries, theological institutes, and bible colleges (see Appendices B, E, and F).

Another type of institution also merits mention. An analysis of the college student migration data also showed that large numbers of Illinois residents migrated to

Historically Black Colleges and Universities (HBCUs). In Fall 2000, 1,025 Illinois residents migrated to 68 HBCUs. The states that received the most Illinois college student migrants were Mississippi (166), Alabama (122), Georgia (114), Tennessee (99), and Louisiana (95). The HBCUs that received the most Illinois college student migrants were Howard University (75), Clark Atlanta University (65), Tennessee State University (65), Jackson State University (58), and Alabama A & M University (55).

### Social Rate of Return

This section is the second part of Chapter 4. The goal of this section is to conduct a social rate of return analysis. It is divided into four parts: the benefits of education as measured through the net educational premium (NEP), the costs of higher education as measured through direct and indirect costs, a social rate of return analysis, and the estimated potential lost tax revenues.

#### *Benefits*

In order to conduct the rate of return analysis, the benefits, as measured through the NEP, were collected from the U.S. Census Bureau (2004). Table 4 shows the income of a high school and college graduate in 2000 in the first two columns. The next two columns show the difference between the incomes. The annual premium is the NEP for each year, while the cumulative premium is the running total of the annual premiums. The total NEP, about \$1.4 million, is shown in the last row of Table 4.

Table 4

*Net Educational Premium, 2000*

Age	High school graduate	College graduate	Annual premium	Cumulative premium
18-24	14,824	23,930	9,106	-52,822
25-29	23,329	39,649	16,320	81,600
30-34	26,669	49,217	22,548	112,740
35-39	28,138	61,745	33,607	168,035
40-44	29,806	62,922	33,116	165,580
45-49	30,357	64,577	34,220	171,100
50-54	30,399	62,592	32,193	160,965
55-59	30,953	67,728	36,775	183,875
60-64	27,531	62,936	35,405	177,025
65-69	19,241	48,815	29,574	147,870
70-74	16,947	40,110	23,163	115,815
TOTAL	1,431,783			

*Note.* Adapted from “Income,” by U.S. Census Bureau, 2004, Washington, DC: Author, Retrieved on-line from <http://www.census.gov/hhes/www/income.html>. Income shown in this table is for the U.S. Census data indicates Illinois income is higher than the national average, so the income estimates used in this study are conservative. Figures in US dollars (\$).

*Costs*

The costs were measured through direct costs—tuition and fees—and indirect costs, or assumed lost wages from not working. The income data in Table 4 show the average high school graduate in 2000 earned \$14,824. This is the amount a college student foregoes by deciding to enroll in college. Assuming the average full-time college

student is enrolled in college for four years, the opportunity costs for attending college in 2000 was \$59,296.

Direct costs were collected using the IPEDS Peer Analysis System. 970 four-year public and private institutions were in the dataset. Out of the 970 institutions, 942 reported tuition and fees information to IPEDS in Fall 2000. Average out-of-state tuition and fees for these institutions was \$13,015. Taking the average for all institutions is misleading and may not accurately represent what all Illinois college student migrants pay. For instance, low numbers of Illinois residents at institutions charging higher or lower tuition may skew the average. Thus, the weighted average of non-resident tuition and fees Illinois residents paid was \$13,399—close to the overall average of \$13,015.

When looking at institutional cost, net price has to be taken into account. Rarely do students actually pay the posted tuition due to grants, scholarships, and other forms of financial aid. Thus, when analyzing the direct costs, the net price of attendance was calculated by taking into account federal and institutional aid. Because non-residents do not generally receive state based financial aid, it was not included in the social costs. In order to calculate net price, the weighted average of total revenues from federal student aid and expenditures for institutional aid were subtracted from total tuition and fees revenues. In order to control for differential credit hour enrollment of students, this amount was divided by FTE. The average price of \$5,211 is shown in Table 5.

Table 5

*Net Price for College Student Migrants From Illinois, Fall 2000*

Fees/Revenue	Amount
FY 2001 average tuition & fees revenue	\$42,586,514
FY 2001 average Pell grant	(\$2,818,263)
FY 2001 average other federal student aid	(\$988,164)
FY 2001 average institutional aid	(\$8,702,938)
Net revenues minus financial aid	\$30,077,149
FY 2001 average FTE enrollment	\$5,772
FY net price	\$5,211

*Note.* Net price is calculated by dividing the net revenues minus financial aid by FTE enrollment.

*Rate of Return*

Knowing the costs and benefits, the rate of return was calculated. Before calculating the social rate of return, however, the impact of income taxes, state taxes, and the marginal propensity to consume (MPC) were considered. Table 6 shows the costs and benefits of higher education, along with adjustments made for income and sales tax. As stated in chapter three, the NEP must be adjusted for income and sales tax. Thus, 3% was removed from the NEP for Illinois state income tax and 3.125% for sales tax. After adjusting the NEP for income and sales tax, a net cash flow, or actual total benefits, was calculated. After adjusting for taxes, the rate of return was found to be 15.95%.

Table 6

*Net Costs and Benefits of Higher Education*

Age	Costs	Benefits	NEP	(Income tax)	(Sales tax)	Net cash flow
18	20,035	0	-20,035	(0)	(0)	-20,035
19	20,035	0	-20,035	(0)	(0)	-20,035
20	20,035	0	-20,035	(0)	(0)	-20,035
21	20,035	0	-20,035	(0)	(0)	-20,035
22	0	9,106	9,106	(273)	(284)	8,548
23	0	9,106	9,106	(273)	(284)	8,548
24	0	9,106	9,106	(273)	(284)	8,548
25	0	16,320	16,320	(490)	(510)	15,320
26	0	16,320	16,320	(490)	(510)	15,320
27	0	16,320	16,320	(490)	(510)	15,320
28	0	16,320	16,320	(490)	(510)	15,320
29	0	16,320	16,320	(490)	(510)	15,320
30	0	22,548	22,548	(676)	(704)	21,117
31	0	22,548	22,548	(676)	(704)	21,117
32	0	22,548	22,548	(676)	(704)	21,117
33	0	22,548	22,548	(676)	(704)	21,117
34	0	22,548	22,548	(676)	(704)	21,117
35	0	33,607	33,607	(1,008)	(1,050)	31,549
36	0	33,607	33,607	(1,008)	(1,050)	31,549
37	0	33,607	33,607	(1,008)	(1,050)	31,549
38	0	33,607	33,607	(1,008)	(1,050)	31,549

*(table continues)*

Table 6 (*continued*)

Age	Costs	Benefits	NEP	(Income tax)	(Sales tax)	Net cash flow
39	0	33,607	33,607	(1,008)	(1,050)	31,549
40	0	33,116	33,116	(993)	(1,035)	31,088
41	0	33,116	33,116	(993)	(1,035)	31,088
42	0	33,116	33,116	(993)	(1,035)	31,088
43	0	33,116	33,116	(993)	(1,035)	31,088
44	0	33,116	33,116	(993)	(1,035)	31,088
45	0	34,220	34,220	(1,027)	(1,069)	32,124
46	0	34,220	34,220	(1,027)	(1,069)	32,124
47	0	34,220	34,220	(1,027)	(1,069)	32,124
48	0	34,220	34,220	(1,027)	(1,069)	32,124
49	0	34,220	34,220	(1,027)	(1,069)	32,124
50	0	32,193	32,193	(966)	(1,006)	30,221
51	0	32,193	32,193	(966)	(1,006)	30,221
52	0	32,193	32,193	(966)	(1,006)	30,221
53	0	32,193	32,193	(966)	(1,006)	30,221
54	0	32,193	32,193	(966)	(1,006)	30,221
55	0	36,775	36,775	(1,103)	(1,103)	34,523
56	0	36,775	36,775	(1,103)	(1,103)	34,523
57	0	36,775	36,775	(1,103)	(1,103)	34,523
58	0	36,775	36,775	(1,103)	(1,103)	34,523
59	0	36,775	36,775	(1,103)	(1,103)	34,523
60	0	35,405	35,405	(1,062)	(1,106)	33,236

*(table continues)*

Table 6 (continued)

Age	Costs	Benefits	NEP	(Income tax)	(Sales tax)	Net cash flow
61	0	35,405	35,405	(1,062)	(1,106)	33,236
62	0	35,405	35,405	(1,062)	(1,106)	33,236
63	0	35,405	35,405	(1,062)	(1,106)	33,236
64	0	35,405	35,405	(1,062)	(1,106)	33,236
65	0	29,574	29,574	(887)	(924)	27,763
66	0	29,574	29,574	(887)	(924)	27,763
67	0	29,574	29,574	(887)	(924)	27,763
68	0	29,574	29,574	(887)	(924)	27,763
69	0	29,574	29,574	(887)	(924)	27,763
70	0	23,163	23,163	(695)	(723)	21,744
71	0	23,163	23,163	(695)	(723)	21,744
72	0	23,163	23,163	(695)	(723)	21,744
73	0	23,163	23,163	(695)	(723)	21,744
74	0	23,163	23,163	(695)	(723)	21,744
Total	80,140	1,511,923	1,431,783	(45,358)	(47,248)	1,339,178

*Note.* The NEP is expressed as benefits in this table. The benefits are negative the first four years due to the assumption a college student does not work and have an income. The costs include tuition and fees plus opportunity costs, or the average amount an individual with a high school diploma earns. Net cash flow is the cash flow after subtracting income and sales tax. Figures in US dollars (\$).

The rate of return in this analysis is the social and the private rate of return. With the exception of the inclusion of social costs, private and public rate of return analyses are conducted in the same way. Social costs are direct subsidies to institutions and allocations for direct student aid. Thus, social rate of returns are generally lower than private of return analyses. However, the State of Illinois does not subsidize the education

of college student migrants nor, of course, provide subsidies for postsecondary institutions in other states. Thus, for the average college student migrant in the dataset, the private rate of return was 15.95%. This was also the social rate of return for college student migrants who returned to Illinois upon graduation.

Estimated Impact of College Student Migration  
on the Stock of College Graduates

Table 7 estimates the stock of college graduates living in Illinois due to college student migration. It should be noted the stock of college graduates is for four-year public and private college student migrants only. The stock of college graduates living in Illinois due to migration to two-year public and private and for-profit institutions is not considered in this analysis. In the first row, the table shows the actual number of Illinois residents who migrated to four-year institutions in Fall 2000.

Table 7

*Estimated Stock of College Graduates Living in Illinois Due to College Student Migration in Fall 2000*

Row	Calculation and variable	Migrants
1	Actual number of migrants	18,093
2	Estimated number of migrants who return to Illinois following graduation	8,685
3	Estimated number of migrants who would have resided in Illinois had they attended an Illinois institution	15,017
4	Loss due to college student migration	-6,332

*(table continues)*

Table 7 (continued)

Row	Calculation and Variable	Migrants
5	Estimated number of college student migrants who attended Illinois institutions and continued residency in Illinois following graduation	1,551
6	Total stock of college graduates living in Illinois due to college student migration	-4,781

*Note.* Row 2 = 18,093 \* .48; Row 3 = 18,093 \* .83; Row 4 = 8,685 – 15,017; Row 5 = 7,385 \* .21; Row 6 = -6,332 + 1,551

In the second row of Table 7, the estimated number of migrants who returned to Illinois following graduation is shown. This was calculated by using the NELS data, which shows that 48% of college student migrants return to their native state following graduation from an out-of-state college. Thus, it was assumed that 8,685 college student migrants from Illinois in Fall 2000 returned to Illinois and established residency.

The third row estimated the number of Illinois migrants who would have established residency in Illinois had they attended an in-state college. The NELS data shows that 83% of college students who attend in-state institutions establish residency in their home state upon graduation. By taking the number of actual college student migrants in Fall 2000 times 83%, the number of college student migrants who would have established residency in Illinois had they attended an Illinois college or university was estimated to be 15,017.

The loss of college graduates living in Illinois due to college student migration was then estimated in the fourth row. The difference between the estimated number of college student migrants who return to Illinois following graduation and the number who would have resided in Illinois had they attended an in-state college was estimated to be -6,332.

In order to obtain the net stock of college graduates living in Illinois due to college student migration, the number of college student immigrants into Illinois institutions and establish residency in Illinois following graduation was estimated in row five. The NELS data shows 21% of college student migrants will live in the state where they graduated college (Adelman, 2004). In Fall 2000, 7,385 college students immigrated to Illinois to attend four-year public and private institutions. Thus, out of the 7,385 actual non-residents who attended Illinois institutions in Fall 2000, an estimated 1,551 will continue to live in Illinois following graduation.

Adding the number of college graduate residents Illinois gains to the number of college graduates Illinois loses due to college student migration provided a net stock of -4,781 college graduates living in Illinois due to college student migration, as shown in row six. Replicating this analysis with B & B data gave a net stock of -4,844.

### Estimated Economic Impact

#### *State Income Tax*

Lost income tax revenues were found by multiplying the net educational premium in Table 3 times the State of Illinois income tax rate of 3%. This amount equals \$42,953 and represents the amount the State of Illinois will gain from each college graduate in state income tax. It also represents the amount the State of Illinois fails to capture for each college student migrant who does not return to Illinois following graduation.

#### *Induced State Income Tax*

As stated in Chapter 3, the multiplier effect of dollars spent in the economy must be taken into consideration when looking at lost tax dollars. While \$42,953 represents the estimated loss in potential state income tax dollars, there are multiplier effects throughout

the economy. Thus, not only does Illinois stand to lose income tax dollars, but also the impact income has on the rest of the economy. Kangas (1996) used 2.27 as the multiplier effect for the service sector in Illinois. Multiplying the net educational premium of \$1,431,783 times the multiplier effect of 2.27 equals \$3,250,147.

Not all of the multiplier effect is available through spending in the economy due to income taxes and the amount that labor contributes to the economy. Des Jardins (2001) assumed a 70% reduction through the amount that labor contributes to the economy. After considering the impact of State of Illinois income tax, this amount equals \$38,186. The calculation for this is shown in Table 8.

Table 8

*Estimated Economic Impact of College Student Migration on the State of Illinois*

Variable	Amount
State income taxes	
Net educational premium	\$1,431,783
Lost income taxes (3%)	\$42,953
Induced state income taxes	
Multiplier effect	\$3,250,147
Less net educational premium	(\$1,431,783)
Total multiplier effect	\$1,818,364
Amount labor contributes to the economy (70%)	\$1,272,855
State income tax (3%)	\$38,186
State sales taxes	
Multiplier effect	\$3,250,147
Marginal propensity to consume (50%)	\$1,625,074
State sales tax (5%)	\$81,254
Total tax revenues	\$162,393

*Note.* Lost income taxes =  $1,431,783 * .03$ ; Induced state income taxes =  $(3,250,147 - 1,818,364) * .70 * .03$ ; State sales taxes =  $3,250,147 * .50 * .05$ ; Total tax revenues =  $42,953 + 38,186 + 81,254$ .

### *Induced Sales Tax Revenues*

Another consideration is lost sales tax. As stated previously, not all items a person purchases carry sales tax. The marginal propensity to consume represents the percent of spending that does carry a sales tax. Kangas (1996) used .50 for the marginal propensity to consume. Thus, the marginal propensity to consume basically cuts the multiplier effect in half. With a state sales tax rate of 5%, the net induced lost sales tax revenues equal \$81,254, as shown in Table 8.

### *Economic Impact of College Student Migration*

As Table 8 shows, the State of Illinois will gain an additional \$162,393 in income and state tax revenues over the course of a college graduate's lifetime. Thus, this is the estimated amount the State of Illinois stands to lose for each college student migrant who does not return to Illinois following college graduation from their out-of-state college. It is also the estimated amount Illinois stands to gain for each college student migrant who returns to Illinois following graduation.

The State of Illinois lost an estimated 4,781 college graduate residents due to college student migration in Illinois. Taking the lost state income and sales tax revenues times the lost number of college graduates means the State of Illinois will lose an estimated \$776,400,930 due to college student migration in Fall 2000. The equation for this total was  $(4,781 * \$162,393)$ . Replicating this analysis with B & B data produced a result of \$786,631,690.

## CHAPTER V

### DISCUSSION

The chapter evaluates and interprets the results of this study and their implications. The first part of this chapter will summarize the major findings from this study, with an emphasis on college student migration rates from Illinois, rate of return, and estimated economic impact. Next, the problem and research questions stated in chapter one will be addressed followed by implications for higher education policy in Illinois. The study will conclude by offering recommendations for further research.

#### Summary of Findings

1. In Fall 2000, 21,217 college students migrated from Illinois to postsecondary institutions in other states. According to NCES (2003), only New York and New Jersey exported more college students to other states in Fall 2000. A majority of these students, or 18,093, migrated to four-year public and private colleges and universities.
2. In Fall 2000, 9,403 residents from other states migrated into Illinois to attend college. 7,385 of these students immigrated to Illinois to attend four-year colleges and universities. This means that Illinois exported 10,708 more students to four-year public and private institutions than it imported.
3. There were major differences by region in terms of the type of institution Illinois students migrated to in Fall 2000. Migration to border states in the Midwest, Southeast, and West (except California) was primarily concentrated in the four-year public sector, while Illinois college student migration to the Northeast and California was concentrated in the four-year private sector.
4. Illinois college student migration to border states was largely concentrated at four-year public research institutions with large enrollments and prominent athletic programs, although similar types of institutions in distant states like Arizona and Colorado also received large numbers of Illinois residents. By contrast, Illinois imported relatively few students into its four-year public sector. In fact, Illinois exported 5,476 more students to four-year public institutions in just six states than it imported (Indiana, Iowa, Wisconsin, Missouri, Michigan, and Ohio). Besides large four-year public institutions, Illinois also exported large numbers of students to moderately selective four-

year public institutions with smaller enrollments and that focus on a liberal arts curriculum.

5. The net college student migration for four-year private institutions in Illinois, -2,749, was much lower than for four-year public institutions, -7,959. The role of four-year private institutions in large towns very near the Illinois border towns like Dubuque, IA, Kenosha, WI, Davenport, IA, or St. Louis, MO may play a significant role in this. A better classification for students attending these institutions could possibly be commuter instead of migrant.
6. Over 1,000 students migrated from Illinois to HBCUs. This could be a phenomenon of the re-migration of African-Americans to the South (Morgan, 1983).
7. After adjusting for taxes, the social rate of return for Illinois to college student migration was 15.95%. This figure is in line with rates of return found by other researchers (Leslie & Brinkman, 1987; McMahon & Wagner, 1982). Because this rate of return was calculated in the context of college student migration, it represents two things:
  - a. The social rate of return for the State of Illinois for college student migrants who return to Illinois. That is because social costs were not included in the analysis.
  - b. The private rate of return for college student migrants. Normally, the social rate of return is lower than the private rate of return. However, because the State of Illinois is absolved of subsidizing the education of college student migrants, the social and private rates of return are the same.
8. Of primary interest to policy makers is the impact of college student migration on the number of people with Bachelor's Degrees living in their state or region. This study estimated the State of Illinois with lose an estimated 4,781 college graduates due to college student migration to four-year public and private institutions.
9. The total economic impact of college student migration to four-year public and private institutions in Fall 2000 was found to be \$162,393 over the course of each college graduate lost due to college student migration, for a total annual economic loss in state income and sales tax revenues of \$776,400,393.

## Human Capital Development and College Student Migration

Dyer (1972) states “the migration of college students from one defined region to another can be viewed as the framework of demand for education subject to supply considerations...a potential or actual student migrant can be viewed as responding to the institutional and economic environment confronting him (or her)” (p. 47). Quigley and Rubinfeld (1993) expand this definition to include not only student college choice and institutional market structure, but also “legislative choices” (p. 260).

On the demand side, a college student migrant must weigh non-economic costs, like homesickness and making new friends, and economic costs like non-resident tuition, increased travel, moving and other costs associated with being far from home. Under investment theory, it can be assumed a college student migrant believes the value of the benefits of attending a higher-priced and more distant college has an equal or higher yield than an in-state and less expensive college. As college choice theory models show, the benefits may not necessarily even be economic (Chapman, 1981; Hossler & Gallagher, 1987; Hossler, Schmit, & Vesper, 1999; Manski & Wise, 1983; Paulsen, 1990).

Hossler, Schmit, and Vesper (1999) define four kinds of college choice models: economic, status-attainment, information-processing, and hybrids. The economic model is compatible with the human capital model of college choice in that students weigh the costs and benefits of college attendance and choose the alternative that minimizes costs and maximizes benefits. The question of whether the decision to attend college is a cultural phenomenon or if students somehow calculate the rate of return through the selection of an appropriate discount rate is unresolved, but evidence does show that rate

of return does play a role in college choice (Botelho & Pinto, 2004; McMahon & Wagner, 1981; Webbink & Hartog, 2004).

From the supply side, Quigley and Rubinfeld (1993) note enrollments are positively related to quality and perceived benefits. There also consequences for societies from college student migration. Brown and Heaney (1997) outline three of them. First, college educated people are more likely to migrate because they have more opportunities to enhance their geographic and occupational mobility (Franklin, 2003b).

The first consequence leads to the second—if a state increases the chances a person will move through investing in them, it needs to create a favorable economic environment to ensure that residents and people from other regions live in the state. A University of Maine study noted,

if Maine does nothing more than beef up support of its higher education system, the likely result may be an acceleration of its export trade of bright people. The policy implication for the state is that it needs to devote significant effort and expenditures in building a technology-based economy. (Tornatsky, Gray, Tarant, & Howe, 2002, Conclusions and Recommendations section, ¶ 4)

Third, a state needs to examine investments in human capital in the context of migration movements. Brown and Heaney (1997) detail the experiences of two states, California and Massachusetts. Despite ranking last in expenditures for higher education in the early 1980's, California experienced the immigration of significant numbers of college graduates from other states in response to burgeoning industries, particularly in defense and technology. Massachusetts, ranking fifth in spending on higher education during the same period, saw significant out-flows of college graduates. It is possible, then, that “the actual and potential effects of migration mitigate the ability of any state

exclusively to capture the benefits of increased skill levels” (Brown & Heaney, 1997, p. 236).

### Policy Recommendations

From an economic perspective, then, states invest in public and private higher education under the premise it will develop human capital within its borders and that state residents who attend in-state institutions will graduate and eventually contribute to the economy of the state. So, state governments hope the costs they incur in educating an individual who attends an out-of-state college will be recouped in one of three ways: (a) return migration, (b) college student immigrants from other states, or (c) college graduate immigrants from other states. Mortensen (2002c) notes that states can benefit from college student migration in each of these three areas. Public four-year immigrants bring in \$6.8 billion to state economies and private four-year immigrants \$10.2 billion, while college student migrants save state economies about \$1.9 billion (Mortensen, 2002c).

The third part of this chapter will explore policy alternatives for Illinois around five policy recommendations. After a discussion of the policy recommendations, a resource model will be developed using St. John’s (1991) model for state resource allocation for higher education. The purpose of these recommendations is to use the results of this study, research from other studies, and human capital theory to recommend five non-exclusive policies towards college student migration. It should be noted these policy recommendations are not intended to supplant or change current policies, but only should be considered in light of high college student migration rates. The recommendations are also not intended to be considered in isolation, but holistically as

part of state planning goals for equity, quality, and human capital development. The five policy areas discussed in this chapter are:

1. Mission differentiation and quality.
2. Incentives for Illinois residents to enroll at Illinois institutions.
3. Role of historically black colleges and universities.
4. Non-resident students at Illinois institutions.
5. College graduate recruitment and free riding.

#### *Mission Differentiation and Quality*

As the migration data show, Illinois residents generally migrate to four-year institutions that either resemble the University of Illinois at Urbana-Champaign in market-niche or moderately selective liberal arts institutions with smaller enrollments. Because so many students migrate to these types of institutions, the State of Illinois should consider how public four-year institutional missions align with not only state economic and social goals, but also citizen needs and perceived quality. This recommendation is not based on the premise that the current governance structure or missions of four-year public institutions are not serving state needs or any evidence of high or low quality, but only that issues of perceived institutional quality and mission differentiation could impact the migration decisions of high school graduates in Illinois.

The main purpose of mission differentiation is to establish a link between institutional and state goals for higher education. General consensus exists that a state's economic and social needs can be balanced with higher education's performance and structure through mission differentiation and quality enhancements, although there is debate on the ability of these efforts to do this alone (Hines, 1988; MacTaggart, 1996).

Some researchers advocate mission differentiation as an effective strategy for aligning higher education governance with state goals (Birnbaum, 1983). According to the Briggs (2003), “meaningful definitions of public purposes must be multifaceted and mature as well as clear. A one-size-fits-all approach to education precludes access to distinctiveness and value. The public is best served by an array of colleges and universities that are rich in variety and high in value” (p. 23). Hearn and Holdsworth (2002) point out that if institutions are vague or non-specific about their missions or self-select their own missions and goals without regard for state learning or economic needs, there could be negative learning consequences. Jones and Ewell (1993) stated that through mission differentiation, states can assign specific institutions the roles of learning, excellence, and innovation and can “encourage the development of institutional mission statements that emphasize undergraduate education and student outcomes” (p. 23). Gardner (1961) called for the need for “institutional diversity” and saw it as the means of “achieving quality within a framework of quantity” (p. 84). Stadtman (1980) noted the following benefits of institutional diversity:

1. Increases range of options and choices available to learners.
2. Enables institutions to define their own missions in the context of larger state and societal goals for higher education.
3. Is responsive to state and societal demands that are inherently diverse and complex.

State governments can have a significant impact on the missions and quality of institutions in its borders. Neave (1979) pointed out that institutional mission formation is not “merely an institutional phenomenon. It is also a reflection of the original policy decision and the way that decision was carried out” (p. 144). Richardson, Bracco, Callan,

and Finney (1999) assert “it is urgent that state leaders carefully assess the current and prospective performance of their higher education systems against their state’s needs and policy goals” (p. 201).

Other researchers, however, have expressed caution about mission differentiation, particularly in regard to equity and efficiency. Gumport and Bastedo (2003) point out “the consequences of policies that promote (mission) differentiation warrant scrutiny, especially for the ways in which they limit access. Indeed, an ongoing tension exists between the twin principles of access and differentiation in the design of public (higher education) systems” (p. 342).

Thus, it is unlikely mission differentiation by itself will automatically result in actual improvements or increased perceived quality. As Robert Berdahl notes, “there’s a temptation to tinker with the structure instead of addressing those other issues, and states that change their systems for such reasons may find their governance and the underlying problems of the system unresolved” (as quoted in Hines, 1988, p. 75).

Large college student migration rates could be indicative of citizen perceptions about higher education quality. The Kentucky Long-term Policy Research Center (2001) found that college student migrants often form impressions about postsecondary attendance as early as elementary school and that those perceptions are driven mainly by perceived quality. Mortensen (1998b) noted the top reasons college students migrate are perceived quality and academic reputation. Mortensen (2002c) also asserted that:

students speak loudly to higher education about what they want from college. (College student migration) is a market feedback loop to states about how well they are serving or not serving the needs and expectations of state citizens. A signal that stands out is that (college student migrants) bypass the benefits of in-state enrollment for something different and maybe better.

Despite, Illinois residents report satisfaction levels with Illinois colleges and universities that are similar to other states. A survey conducted by Immerwahr (2000) found that 57% of Illinois residents were satisfied with four-year institutions, compared to a 55% national average. Illinois residents report being more satisfied with community colleges, with 56% of Illinois citizens reported being satisfied, compared to a 50% national average (Immerwahr, 2000).

Research also suggests the most important factor Illinois residents look for in a postsecondary institution, and in particular college student migrants, is institutional quality. A survey of the future plans of high school seniors in Illinois shows significant differences between high school seniors who planned to attend in-state and out-of-state colleges, with college student migrants in general possessing higher ACT scores, higher educational attainment expectations, and reported being less likely to live and work in Illinois following college graduation (IBHE, 1999a). Illinois high school seniors also reported “quality of academic programs” as the most important reason for attending a particular college (IBHE, 1999a). Table 9 outlines the results of the study relevant to college student migration.

Table 9

*Future Plans of Spring 1999 Illinois High School Seniors*

Postsecondary enrollment plans	In-state	Out-of-state
Enroll in four-year institution	64%	96%
Enroll in community college	35	3
Enroll in vocational/trade school	1	1

*(table continues)*

Table 9 (*continued*)

Postsecondary enrollment plans	In-state	Out-of-state
Average ACT	22	25
Ultimate educational goals:		
Associate degree	5%	2%
Bachelor's degree	34	30
Post-bachelor's degree	52	60
Post-baccalaureate plans		
Live and work in Illinois	42%	23%
Live and work in another state	10	19
Undecided	49	58

*Note.* Adapted from “Post graduation plans of spring 1999 Illinois high school graduates, “by the Illinois Board of Higher Education, 1999, Springfield, IL. Some columns may not add up to 100% due to rounding.

The results of both of the satisfaction and future plans surveys indicate is that while Illinois residents are generally satisfied with higher education, a large number of them feel better institutions exist outside of the state; in other words, that Illinois postsecondary institutions are good for society and Illinois, but not the best alternative for them as individuals.

What is clear from this analysis is that college student migrants from Illinois are enrolling at public four-year institutions either not available in Illinois, are available but not articulated well to the public, or are not meeting current college student migrant demands in terms of perceived quality. Additionally, students who have the economic

means are probably looking for and enrolling at institutions with higher perceived quality look outside the state.

Thus, developing new market segments through the differentiation of four-year public institutions and articulating quality initiatives and learning outcomes could go a long way in making Illinois institutions more attractive to all Illinois residents. Illinois could use its current structure or differentiate missions through three types of institutions: a university specializing on specific social and academic needs, liberal-arts institution, and community colleges.

Because over 5,000 students migrated to four-year public research universities with large enrollments, Illinois could consider the role of large, flagship universities similar to the Universities of Illinois at Urbana-Champaign, Iowa, Purdue, Indiana, Wisconsin, Iowa State, or Missouri play in college student migration and perceived institutional quality. Alternatively, with the national prestige and selectivity of the University of Illinois at Urbana-Champaign in science and technology programs and high migration rates to flagship universities with prominent regional engineering programs, like Purdue, Missouri, or Iowa State, Illinois could consider giving the role of one university with a regional enrollment base a focus on science, technology, and industry-specific needs. The American Association of State Colleges and Universities (AASCU) (1986) notes “these types of specialized institutions (provide) a much closer linkage with technology and stronger role in research and technology transfer (and) can readily use this base to forge new roles appropriate in today’s economy” (p. 38).

More states have experience with and more research exists on the transformation of local, non-selective institutions into selective, liberal arts institutions. By designating

an institution as a premiere liberal arts institution, Illinois could shift the focus of a public institution from regional to state and potentially retain migrants who prefer these types of institutions. Many states possess institutions of this type, including Miami University in Ohio, College of New Jersey, Truman State University in Missouri, and Murray State University in Kentucky. Miami University even charges the same tuition to Ohio residents and non-residents, providing targeted scholarships for students based on their residency (Miami University, 2005).

Trenton State University in New Jersey changed its mission from a local teachers college to a moderately selective liberal arts institution, in the process keeping students in state and raising institutional quality (Finder, 2005). It also changed its name to the College of New Jersey. As part of the state's strategic plan for higher education, Northeast Missouri State University changed its name to Truman State University, increasing the selectivity of its student body, the number of students from out-of-state, and the number of students who possess high academic achievement from in state (Missouri State Coordinating Board for Higher Education, [MSCBHE], 1998; MSCBHE, 2000). In Fall 2004, the average entering student ACT score at Truman State University was 27.3, the highest for a public university in the state (MSCBHE, 2005).

Because students who initially enroll in community colleges are more likely to remain in-state following graduation from two and four-year institutions (Adelman, 2004), Illinois should consider the role of community colleges in college student migration (Curtis, 2002). A lack of articulation agreements or confusing transfer programs could induce Illinois residents to attend out-of-state institutions. An analysis by the State of Iowa, for instance, found that a lack of technical credit transfer pacts with

four-year public and private institutions may have induced students to migrate to institutions in other states (Myers, 2002).

Investing in community college quality initiatives, enhancing articulation agreements, and creating seamless transitions between two and four-year public institutions could provide more incentives for students whose eventual goal is to obtain a bachelor's degree could have an impact on inducing college student migrants to begin initial enrollment at two-year public institutions. Recent research shows community colleges have a significant upward impact on educational aspirations, impart no income penalty on its students, and produce the same learning outcomes as four-year institutions (Adelman, 2004; Adelman, 2005; Leigh & Gill, 2003; Leigh & Gill, 2004; Pascarella & Terenzini, 2004) and that community college students transfer to higher quality four-year institutions than they would have had they started out at a four-year college (Hilmer, 1997). Historical research, however, indicates that community colleges can have a negative impact on bachelor's degree attainment (Dougherty, 2002). So, investing in community college quality could have the dual impact of enhancing student attainment and retaining students after graduation.

#### *Incentives for Illinois Residents to Enroll at Illinois Institutions*

Many states have implemented or recommended a variety of incentives to induce high school students to remain in-state following graduation, including financial aid incentives, merit based financial aid, student-loan forgiveness programs, pre-paid tuition plans and tuition tax credits (Burcum, 2003; College fees will prevent brain drain, 2002; Cover, 2003; Groen, 2003; Hupp, 2002; Joling, 2003; Kanengiser, 2003; KEES to the future, 2003; Kenning, 2003; Kent, 2003; Kentucky Long-term Policy Research Center,

2001; Mangan, 1989; McGinnis, 1999; McLaughlin, 1999; Okamoto, 2001; Plugging the brain drain, 2003; Seewer, 2000; Smetanka, 2003; Smetanka, 2004; Some tuition waivers suggested, 1999; Swift, 2001; U. of Alaska, 1998; Wells, 2003).

Little research exists on the impact of incentives on inducing state residents to attend in-state colleges and universities. A report from the American Association of State Colleges and Universities stated the “evidence of (incentive) programs’ effectiveness in (keeping students in-state) is inconclusive at best” (Schmidt, 2000). Kane (1998) noted that savings plans incentives “do little to encourage college enrollment” (p. 609). Even many popular prepaid tuition and other 529 tax incentive plans instituted in the 1990’s witnessed significant funding shortfalls and were criticized for their complexity and impact on determining eligibility for need-based aid (Ifill & McPherson, 2004; Schmidt, 2003b). Hence, there is little evidence that incentives are effective at keeping students in-state.

One of the most popular recent college student retention incentives has been the use of financial aid and in particular merit-based aid. Merit-based aid is one of the most controversial funding strategies in higher education, but as state governments have become more responsive to middle and upper-income student concerns and institutions find themselves operating in a more market-based environment, the use of merit-based scholarships has increased (Creech & Davis, 1999; Kane, 1999; McPherson & Schapiro, 1998). Evidence does show that merit-aid does a much better job at subsidizing the education of those who need the least financial assistance (Baum & Schwartz, 1988; Mortensen, 2002b; Singell, 2004). Between 1986 and 2001, for instance, the percent of

federal and state financial aid awarded on the basis of need fell from 86% to 50% and 91% to 76%, respectively (Mortensen, 2002b).

In terms of keeping students in-state, however, research suggests merit aid might be an effective strategy for retaining students. An analysis by Tornatzkey, Gray, Tarant, & Zimmer (2001) found that merit-based aid for science and engineering resident and non-resident students can be effective in retaining a technologically sophisticated workforce. Cornwell and Mustard (2001) found that migration to the top 20 out-of-state destinations for Georgia residents dropped 20% after the inception of the HOPE scholarship in 1993, with the largest decrease being in migration rates to HBCUs. In another study, Cornwell, Mustard, and Sridhar (2005) noted the HOPE scholarship induced 560 students to choose Georgia institutions over out-of-state institutions.

Although not endorsing the HOPE scholarship because of its disparate impact on equity, the authors concede HOPE does provide incentives for academically talented students to remain in-state. Dynarski (2000) also found the HOPE scholarship raised the number of Georgia residents choosing Georgia institutions. Another study by Dynarski (2004) found similar results and noted that merit aid has the potential to shift enrollment from four-year public to two-year public colleges. Another study by Heller and Rogers (2003), however, found that students who attend colleges in states that rely on merit-aid may be less likely to continue residence in their state following graduation, suggesting that merit-aid could merely delay the migration of some individuals who were planning to leave all along.

If evidence suggests merit aid works in retaining academically talented students, then it is important states design merit-aid programs that are equitable. While tempting to design merit-aid programs at the expense of need-based programs, research suggests this

strategy will amount to middle and upper-income students merely changing the colleges they enroll in, but will effectively raise prices for low-income students and discourage their enrollment. Unfortunately, many states have given into temptation and focused on politically popular mechanisms based on market and efficiency rationales (Des Jardins, 2002; St. John, 2004; St. John & Parsons, 2004). Des Jardins (2002) calls recent contemporary equity models “desert-based theories” in that they seek to reward people for hard work and motivation because of their “contribution to the social product” (p. 182).

Several authors have advocated different types of equity models when developing programs and implementing policy, including economic and political resource theory, social welfare theory, or restitution (Des Jardins, 2002). Perhaps the most prevalent model is Rawls’ Theory of Justice (Alexander, 1982; Des Jardins, 2002; St. John, 2004). Rawls’ (1971) theory of distributive justice is based on two principles (p. 266):

1. Priority of liberty principle: Each person has an equal claim to a totally adequate system of basic liberties.
2. Difference principle: Social and economic inequalities should be arranged to the greatest benefit of the disadvantaged and attached to positions open to all under the condition of fair equality and opportunity.

Rawls’ model is an ideal one for insuring equity in higher education policy. First, it is concerned with absolute position over relative position (Des Jardins, 2002). Second, Rawls’ theory also considers efficiency in that it takes into account the welfare of society and encourages a state allocate resources in terms of the utility for all its citizens. Under this model, the most efficient and most equitable way to distribute public funds are to

those who possess the most need; in other words, those who are the most disadvantaged in economic or social conditions.

Using the moral and philosophical underpinnings of Rawls' theory of justice, St. John and Chung (2004) propose a balanced access model. The balanced access model recognizes how family income, access, affordability, and college enrollment are linked by looking at how family income impacts ability to pay, perceptions of college prices, perceptions about ability to succeed in college, and feelings about socialization along the linear choice process (Berkner & Chavez, 1997).

Goggin (1999) proposed a "merit-aware index," where standardized test scores and other merit criteria are adjusted to the quality of a high school a student attends. Whereas the HOPE scholarship has been shown to have substantial disparate impacts on students by race (Dee & Jackson, 1999; Dynarski, 2000; Heller, 2002), this approach could help achieve racial balance in higher education.

An example of a merit-based scholarship that takes into account equity is the Indiana Twenty-first Century Scholars Program, a financial aid program that was explicitly founded to enhance the educational aspirations of low-income students in Indiana (State Student Assistance Commission of Indiana [SSACI], 2005). The scholarship is available for students who participate in the federal Free and Reduced Lunch program, are residents of Indiana, enroll at an Indiana institution, and maintain a 2.0 grade point average. In fact, students are automatically awarded the scholarship by merely completing a Free Application for Federal Student Aid (FAFSA) (SSACI, 2005). An evaluation of the program found that scholarship recipients who attended public

institutions were twice as likely to persist through their first year of college (St. John & Chung, 2004).

Another approach could be adapted from contemporary proposals to front-load the Pell Grant (Kane, 1999). Front-loading state merit scholarships could have a larger impact on students undecided in their choice between an out-of-state or in-state institution, rooting students at in-state institutions and reducing motivation to migrate. Ehrenberg (2005) suggests financial incentives for four-year public universities to enroll and graduate students from low-income families through “per completer” payments.

A merit-aware scholarship could provide incentives for college student migrants to enroll at Illinois institutions while at the same time ensuring equity for state residents. In the current state and federal fiscal environment, a perception exists that efficiency and equity are incompatible in higher education; that any gained efficiencies must be made at the expense of equity; that the only acceptable and reasonable compromise between efficiency and equity are market remedies; and that programs focusing on assisting low-income students will be inefficient and politically unpopular. Gardner (1961) called this equity or efficiency notion “anachronistic...we must seek excellence in a context of concern for all. A democracy, no less than any other form of society, must foster excellence if it is to survive” (p. 77). A dichotomy between the two is unnecessary.

#### *Historically Black Colleges and Universities*

After over 100 years of high migration rates to the north, large numbers of African-Americans are re-migrating to the South (New York Public Library, 2005; U. S. Library of Congress, 2005). While all migration movements imply a movement of human capital, this recent migration is different in that large numbers of highly educated and

middle-class African-Americans are re-migrating to the South (Patillo-McCoy, 2000; Schachter, 2003). Between 1995 and 2000, 680,000 African-Americans migrated to the South and 334,000 left, for a net migration of 346,000 (Schachter, 2003). Illinois alone exported 55,000 more African-Americans than it imported during the same time period, the third highest net negative number of exports behind New York and California (Schachter, 2003).

Thus, large numbers of college student migrants to HBCUs from Illinois and other northern states could be part of larger migrations to the South on the part of African-Americans (Morgan, 1983). This would seem to suggest that states like Illinois, which export many college students to HBCUs and southern states, could be subsidizing the economic development of states that receive large numbers of African-American college students to HBCUs like Georgia, Florida, and North Carolina (Smith & Wall, 2005).

It would appear, then, that Illinois' college student migration policies should look at the roles of HBCUs and the students who presumably enroll in them, African-Americans. One difficulty with the IPEDS college student migration database is that the race of the migrant cannot be identified. Thus, one cannot assume that all of the individuals from Illinois who migrated to HBCUs in Fall 2000 were African-American. This study, however, will assume a majority of the college student migrants were.

Brown and Davis (2001) call HBCUs "purveyors of social capital" (p. 40) in that they serve as vehicles for networking and transmitting knowledge from local and familial sources into broader environmental contexts. Thus, HBCUs serve a broader role than just providing a destination for college student migrants. While there is little difference in the

background of students who choose an HBCU or predominately white institutions (PWI), there are differences between why students choose an HBCU or a PWI. African-Americans who choose HBCUs tend to do so to follow relative urgings and advice, low price and financial assistance, desire to reconnect with cultural roots and develop increased awareness of one's own culture, and specific or special programs (Astin & Cross, 1981; Freeman & Thomas, 2002). Astin & Cross (1981) noted the most cited reason was college reputation. The high ranking of reputation and quality was also noted by other researchers (Hayden, 2000). This does not suggest that African-Americans who attend PWIs are not concerned with these characteristics, but that the decision to attend an HBCU is heavily influenced perceptions of quality and peer, family, or relative advice.

Migration rates to HBCUs could have a significant economic on Illinois (Smith & Wall, 2005). In fact, in Fall 2002 an estimated 13% of all African-American graduating high school seniors from Illinois migrated to HBCUs in other states (Smith & Wall, 2005). For reasons of human capital development and quality, Illinois should consider ways of retaining African-American college student migrants in Illinois.

The first step is developing an understanding about institutional context. As with all colleges and universities, a great deal of diversity in mission, enrollment, racial makeup, selectivity, and resource allocations exists within all HBCUs. What does make HBCUs similar is their unique historical mission in developing the human capital of African-Americans. That being said, Illinois policies in higher education should encourage, foster, and market an environment that is supportive of and encourages African-American enrollment in public institutions. Although difference do exist, many

students who enroll at HBCUs look for the same institutional qualities as other students: quality and academic reputation.

Not only do African-Americans who attend HBCUs cite quality and academic reputation as the most significant reason for choosing an HBCU—as do most college student migrants—but also cite campus climate and a desire to enroll at racially and culturally diverse institutions (Ingels, Planty, & Bozick, 2005). Policy initiatives that recognize diversity as an integral part of quality could have a significant impact on retaining students in Illinois institutions who would have otherwise migrated to HBCUs.

#### *Enrolling Non-Resident Students*

Many researchers have noted a tension state governments face when enrolling non-resident students (Chamberlain & Strand, 1967; Hearn & Holdsworth, 2002; Rizzo & Ehrenberg, 2003). Groen and White (2004) note that a state's main interest in funding higher education is to encourage economic development and are thus very interested in where postsecondary students come from and where they go after graduation.

Universities' main interests, however, are in "attracting high-ability students, maximizing revenue from tuition and donations, and/or having graduates who are rich and famous, but have little interest in where students come from or where they go after graduation" (p. 1,814).

Table 10 shows the number of immigrants into Illinois institutions in Fall 2000 along with the percent of non-resident enrollment at Illinois institutions by sector. The table shows that 29% of first-time, first-year enrollment at Illinois four-year private institutions was made up of non-residents, compared to just 5% at four-year public

institution enrollment (See Appendices G, H, I, J, and K for in-migration of college students into Illinois for Fall 2000).

Table 10

*Net In-Migration of College Students Into Illinois Colleges and Universities by Sector, Fall 2000*

Sector	Illinois enrollment	Non-resident enrollment	%
4-year private	21,512	6,164	28.7
4-year public	23,299	1,221	5.2
2-year private	308	15	4.8
2-year public	55,340	855	1.5
For-profit	12,111	1,148	9.5
Total	112,570	9,403	8.4

*Note.* % is the percent of first-time, full-time enrollment made up of non-resident students.

Appendix G shows the in-migration rates of college students to four-year public institutions in Illinois. The percent of students who are non-residents is very low in comparison to the percent of Illinois residents alone who enrolled at four-year public institutions like the University of Iowa (29%), Purdue University (11%), Indiana University (9%), Iowa State University (7%), or the University of Missouri (6%). Of the 1,221 immigrants into Illinois four-year public institutions, 72% immigrated to just three institutions: the University of Illinois at Urbana-Champaign, Southern Illinois University at Carbondale and Southern Illinois University at Edwardsville. After removing these institutions, non-resident first-time, full-time students made up just 2.5% of total enrollment at four-year public institutions in Illinois.

Low immigration to Illinois could also be part of larger migration movements. Between 1995 and 2000, Illinois imported 665,122 and exported 1,007,738 residents, for a net migration rate of -342,616, the third highest negative net migration rate in the nation behind California and New York (Franklin, 2003a). While more people moved out of California, New York, Florida, and Texas than Illinois during the time period, only Florida and Texas received enough immigrants to make up for the out-migration of its residents (Franklin, 2003a).

The migration of Illinois residents between 1995 and 2000 was concentrated in Florida, Indiana, Wisconsin, California, Texas, and Missouri, all of which received at 60,000 Illinois residents (Perry, 2003). For the states of Indiana, Iowa, and Wisconsin, the largest inflow of new residents from any state was from Illinois (Perry, 2003). In fact, for states that received at least 20,000 Illinois residents between 1995 and 2000, only one—New York—exported more residents to Illinois than it imported (U.S. Census Bureau, 2003).

It is uncertain why Illinois imports so few non-resident college students, but what the NELS and B & B data show is that states can expect about 20% of college student migrants to live in their state upon graduation from college. The results of this study and others show that by providing incentives for non-residents to attend college in Illinois, while paying attention to issues of equity, access, and capacity, Illinois could witness large returns with little to no investments.

Groen and White (2004) found that “states have an interest in using universities to attract and retain high-ability individuals because they pay higher taxes and contribute more to economic development” (p. 1,812). In fact, the authors found that states have

more to gain in future revenue from admitting marginal non-resident students than from in-state students, noting that marginal non-resident students may often have better standardized test scores because public colleges and universities usually set higher admissions standards for non-resident students (Groen & White, 2004). Specifically, the authors found that non-resident students who remain in state following graduation will pay 23% more in lifetime taxes than in-state students (Groen & White, 2004). The authors conclude their study by asserting that states almost always gain by increasing the number of non-resident students in their state (Groen & White, 2004).

Another study by Smith and Bissonnette (1989) examined the economic impact of non-resident students on the economy of West Virginia and noted that non-residents contributed \$72 million to the economy and that for every \$1 the state invested in non-resident students, they witnessed a return of \$3.02.

Many states have offered promises of incentives in the future for non-resident students to stay in state upon graduation, including lower tuition and fees, future tax breaks, and student loan forgiveness (Changes urged in nonresident tuition rules, 2003; Eskenazi, 2002; Kabler, 2004; N.C. looks for teachers in W. Va., 2003; State will offer college bargains, 2003; Van Leer & Parkinson, 2003). The University of North Carolina, for instance, recently raised the cap on out-of-state enrollment from 18% to 22% (Selingo, 2003b). Officials at several rural universities in Kansas proposed tuition discounts for non-resident students, asserting that “reduced rates will attract new students, boost revenues, and attract workers to areas where populations are declining (Rombeck, 2002). A member of the Kentucky Council on Postsecondary Education coined the term “reverse brain drain,” when suggesting Kentucky should waive non-

resident tuition on the basis that attracting non-resident students is an investment and a way of “building a workforce that goes hand-in-glove with the kinds of industries and jobs (Kentucky needs)” (Some tuition waivers suggested, 1999). A group of University of Mississippi presidents advocated eliminating non-resident tuition. The Alcorn State University president noted “this is a serious economic development issue. We can’t have thick walls” (Kanengiser, 2003).

Another incentive Illinois could consider in attracting non-residents is tuition reciprocity. While the impact on retaining potential college student migrants in Illinois is unlikely, lowering the price for students from other states could induce increased enrollment (Morgan, 1983). Several states have had success with tuition reciprocity and a “regional tuition” idea. The results of these studies suggest that even if Illinois is unable to staunch the outflow of college students, tuition reciprocity agreements could at least increase the number of college immigrants into the state, increasing the net stock of college graduates living in its borders.

The State of Minnesota has a tuition reciprocity agreement with several bordering states and in a study of 1997-98 graduates found that 60% of students who attended tuition reciprocity institutions had returned to Minnesota, compared to a 48% national average (Adelman, 2004; State of Minnesota Office of the Legislative Auditor, [SMOLA], 2003). Additionally, 47% of tuition reciprocity students who graduated from the flagship institution, University of Minnesota, and 35% of tuition reciprocity students who graduate from Minnesota State institutions still lived in Minnesota, compared to the 21% national average (Adelman, 2004; SMOLA, 2003).

Clearly, states have a lot to gain in terms of human capital from non-resident students. Many public institutions enroll non-residents on the basis of quality and diversity, asserting that academically talented non-residents enhance institutional quality and expose residents to geographic diversity (Carbone, 1973; Chamberlain & Strand, 1967; Groen & White, 2004; Williams, 1964). It would appear, then, that perhaps postsecondary institutions and state governments best interests could both be served by enrolling more non-resident students. As Morgan (1983) noted:

if college student migration (is positively associated with) migration of the population as a whole, an argument in favor of low nonresident tuition can be made based on the proposition that such a policy will build up the pool of highly trained manpower in a state. (p. 194)

#### *College Graduate Mobility and Migration*

Data on college graduates comes from two sources. The U.S. Census Bureau tracks the migration patterns of single, unmarried people between the ages of 25 and 39 and the National Center for Higher Education Management Systems (NCHEMS), using U.S. Census data, provides information on the migration patterns of college graduates by degree and age between 1995 and 2000.

For people between 22 and 29 years old, NCHEMS (2005) data show that Illinois imports and exports the fourth most people with Bachelor's degrees in the nation, for a net positive college graduate migration of 29,827. Table 11 shows the migration rates for Illinois for people between 22 and 29 years old and for people over 30 years old. As the table illustrates, Illinois possesses net positive migration rates for younger people and net negative migration rates for people over 30 years old.

According to the U.S. Census Bureau's analysis of single, unmarried people between 25 and 39, Illinois imported 69,250 college graduates between 1995 and 2000,

the third highest in the nation behind California and New York (Franklin, 2003b). Illinois also exported 65,416 college graduates during the same time period—again the third largest amount in the United State behind California and New York—for a net college graduate migration rate of 3,834, for the 16th highest net migration rate in the nation (Franklin, 2003b).

Table 11

*Net Migration Into Illinois by Age and Educational Attainment, 1995-2000*

Area	In-migrants	Out-migrants	Net migration
<b>22-29 Years Old</b>			
Less than high school	47,511	19,125	28,386
High school diploma or less	43,694	33,544	10,150
Some college/associate's degree	62,104	62,308	-204
Bachelor's degree	97,324	67,497	29,827
Graduate and professional	31,849	17,839	14,010
<b>30 and Over Years Old</b>			
Less than high school	88,390	68,832	19,558
High school diploma	89,780	112,003	-22,223
Some college/associate's degree	83,049	118,787	-35,738
Bachelor's degree	106,857	123,935	-17,078
Graduate and professional	31,049	38,999	-7,950
All ages with college degrees	267,079	248,270	18,809

*Note.* Adapted from "Migration of the young, single, and college educated: 1995 to 2000," by R. S. Franklin, 2003, Washington, DC: U.S. Census Bureau.

As Table 12 shows, Chicago is the only metropolitan area in Illinois with a net positive migration rate of college graduates. These suggests that due to the presence of the Chicago metropolitan area, Illinois might be muting some of the impact of college student migration through return migration or the importation of college graduates who have never resided in or attending an Illinois institution. In the Midwest, many major metropolitan and larger cities have witnessed large increases in the number of college graduates, including Kansas City, Missouri, Indianapolis, Indiana, Milwaukee, Wisconsin, and Minneapolis-St. Paul, Minnesota (Franklin, 2003b). Clearly, then, metropolitan areas play a significant role in the migration of college graduates into a region. Also included in the table are the net migration rates of college graduates for Illinois and states that receive large numbers of college student migrants from Illinois.

Table 12

*Net Migration of Young, Single, and College Educated in Illinois, 1995-2000*

Area	In-migrants	Out-migrants	Net migration	Rate
By city				
Bloomington-Normal	1,502	3,277	-1,775	-315.2
Champaign-Urbana	3,081	8,243	-5,162	-459.4
Chicago	70,971	52,221	18,750	73.1
Decatur	473	840	-367	-232.2
Peoria	1,708	2,233	-525	-102.9
Rockford	1,373	1,689	-316	-69.4
Springfield	1,724	1,856	-132	-28.6

*(table continues)*

Table 12 (*continued*)

Area	In-migrants	Out-migrants	Net migration	Rate
By state				
Illinois	69,350	65,416	3,834	12.4
Indiana	17,379	31,713	-14,334	-142.3
Iowa	9,100	20,791	-11,691	-220.1
Missouri	23,259	27,945	-4,686	-47.0
Wisconsin	17,004	28,228	-11,224	-107.7

*Note.* From “Migration rates by state, age, group, and degree level,” by the National Center for Higher Education Management Systems, 2005, Boulder, CO: Author.

By looking at the migration rates of college graduates, what stands out is that Illinois imports more young college graduates than it exports, but older college graduates are much more likely to leave the state. It is difficult to link the college graduate migration patterns for Illinois to the college student migration patterns, not only because the data definitions, but also because the graduate residency data does not taken into account where the individual graduated high school or college.

It is possible, then, that Illinois could be acting as a free rider. Rosen (1999) defines a free rider as an “incentive to let other people pay while you enjoy the benefits” (p. 68). The free rider strategy is the most efficient human capital development approach a region can take because it allows a region to capitalize on the benefits of higher education with no costs. By adopting a free rider strategy, Illinois could be minimizing some of the negative impacts of college student migration.

The free rider strategy, however, is risky at best. Kodrzycki (2002) examined two possibilities for states, “growing their own” human capital or importing it from other

areas. On the importing side, Kodrzycki (2001) notes that if states that have limited abilities to attract college student migrants, they might be able to create conditions favorable to college graduates. The author concludes that, when controlling for personal characteristics, college graduates are likely to avoid states with low employment growth and lower incomes, but are more attracted to areas with higher pay, low housing costs (but not for recent college graduates), and better amenities (Kodrzycki, 2001; McHugh & Morgan, 1984).

Several states and postsecondary institutions have developed partnerships that not only provide incentives for in-state enrollment, but also for continued residency after graduation. Bradley University and the city of Peoria, Illinois created an Engineers for Tomorrow program that aims to provide opportunities for local students and incentives for continued residency in the region after graduation (Brown, 2003). Students are responsible for only one-third of their costs, with local businesses and participating communities and Bradley University subsidizing the other two-thirds (Brown, 2003). The Northeast Ohio Council on Higher Education (2005), a consortium of 15 public and private four-year and two-year institutions developed an Enroll, Engage, and Employ program for the purpose of explicitly linking students with community development and companies throughout the region.

Metropolitan areas have capitalized on their attractiveness to young college graduates. In partnership with the University of Wisconsin, the city of Milwaukee created the Milwaukee Idea, a project focused on retaining talent in Milwaukee through an economic development consortium focused on linking students and faculty with local businesses and service to the community (Durhams, 2000). After a study of brain drain in

the metropolitan Boston area, the Boston Chamber of Commerce implemented programs to enhance housing affordability and link college students with local businesses through internships and service programs (Lewis, 2003).

*Summary of Policy Recommendations*

The policy recommendations advocated in this study are built around three human capital development strategies: the retention of Illinois students in Illinois colleges and universities, the enrollment of non-resident students in Illinois institutions, and the migration of college graduates into Illinois.

Several authors have provided a framework for the implementation of higher education policies (Des Jardins, 2002; St. John, 1991). In St. John's (1991) model, it is asserted that a state's explicit goals for higher education should be built around equity, quality, and economic development. These goals provide a framework for constructing a policy approach to college student migration in Illinois. Using this model, recommendations are summarized in Table 13.

Table 13

*Summary of Policy Recommendations for College Student Migration in Illinois*

Goal	Objective	Strategies
Equity	Resident retention	Merit-aware aid and proportionality; quality enhancements in community colleges; equal access
Quality	Resident retention	Mission differentiation and quality enhancements in public higher education; merit-aware aid and proportionality

*(table continues)*

Table 13 (*continued*)

Goal	Objective	Strategies
<i>Quality (continued)</i>		
	College student immigration	Mission differentiation and quality enhancements; tuition reciprocity; low non-resident tuition
Economic development	Resident retention	“Grow your own”
	College student immigration	Mission differentiation and quality enhancements; connecting non-residents to employment
	College graduate immigration	Favorable economic and social & return migration environment; increased enrollment of college student emigrants; free rider; role of metropolitan areas

The main message in Table 13 is that the number of college graduates living in a state is not only impacted by college student migration, but also by a variety of variables, including the real and perceived quality of postsecondary institutions in a state, the economic and social environment, cost of living, employment and wages, and amenities (Kodrzycki, 2002).

State activism in these areas is not inconsequential. State policies need to recognize two things. First, as the results of this study and other studies have shown, managing college student migration can be an effective way of developing human capital in a state. Second, the development of human capital must not only consider notions of economic efficiency, but also quality and equity.

### Recommendations for Further Research

It is hoped this study will foster additional research in the area of college student migration. Recommendations include examinations into why college students from Illinois migrate; examining the price sensitivity of college student migrants; a trend analysis on the particular characteristics associated with college student migration for Illinois students; and longitudinal research on the movements of college graduates and their native and college states.

#### *Why College Students Migrate*

Most college student migration studies only examine the variables associated with enrollment at out-of-state institutions. While this provides valuable information, it is difficult to ascertain and differentiate between the rational and seemingly irrational college choice decisions of college student migrants. Examining why college students migrate from Illinois in that it would provide information on who is migrating. Currently, information from IPEDS can only be gained about a college student migrant's home state and nothing about the migrant's gender, income, race, city, or high school from the IPEDS database.

Another area where there is a lack of research is the curriculum patterns of college student migrants. Further research could examine if large numbers of college student migrants migrate to engineering or liberal arts programs, telling policy makers there is a lack of capacity, demand, or issues of perceived quality with in-state institutions or their programs.

### *Price Sensitivity*

Because so many college student migrants from Illinois are by-passing less expensive Illinois public institutions in favor of more expensive public out-of-state colleges and universities, it would appear they are less sensitive to price and perhaps basing their decision on perceived quality or other factors. A study that examines the price sensitivity of college students who migrate to public institutions could let policy makers know if market niche or pricing strategies could be an effective way to retain college students in-state or attract non-residents.

### *Trend Analysis*

While the descriptive analysis presented in this study shed light on the types of institutions Illinois college students migrated to, a trend analysis using multiple regression could examine the specific institutional characteristics associated with college student migration. Since the IPEDS database possesses literally hundreds of variables concerning the characteristics of nearly every postsecondary institution in the United States, this analysis could provide valuable insight into the detailed institutional characteristics associated with college student migration.

### *Longitudinal Research on the Movements of College Student Migrants and Graduates*

Postsecondary students are notoriously difficult to track. Because of multiple databases and a lack of data-sharing agreements between states or a federal tracking database, different databases lose students at certain transition points. A longitudinal database, and in particular data-sharing agreements with border states, could help Illinois and other states identify the transfer and program enrollments of transfers across state

borders, implementing programs and policies that not only aim to stem college student migration, but also assist students as they navigate through multiple institutions.

Another advantage of a longitudinal database is that researchers could track students through their native state, college state, and current state of residency. The only current longitudinal databases that examine people throughout their entire educational experience are administered through NCES. While providing valuable information, the sample sizes are too small to make definitive evaluations of the data by state.

The potential disadvantages of a longitudinal database are privacy and the political unpopularity of longitudinal tracking databases. In the past year, the U.S. Department of Education proposed the collection of student data for the IPEDS database at the individual student record level, as opposed to the summative data level now in use. While still examining the feasibility of collecting, administering, and reporting such data, many constituencies have expressed concerns regarding privacy and confidentiality (Association for Institutional Research, 2004).

## REFERENCES

- Adelman, C. (2004). *Principal indicators of student academic histories in postsecondary education, 1972-2000*. Washington, DC: U.S. Department of Education.
- Adelman, C. (2005). *Moving into town and moving on: The community college in the lives of traditional aged students*. Washington, DC: U.S. Department of Education.
- Alanen, A. R. (1973). *College student migration: Implications for higher educational planning in Minnesota*. Unpublished doctoral dissertation, University of Minnesota, Minneapolis-St. Paul.
- Alexander, K. (1976). The value of an education. *Journal of Education Finance*, 1, 429-467.
- Alexander, K. (1982). Concepts of equity. In W. W. McMahon & T. G. Geske (Eds.), *Financing education: Overcoming inefficiency and inequity* (pp. 193-214). Urbana, IL: University of Illinois.
- Alexander, K., & Salmon, R. G. (1995). *Public school finance*. Boston: Allyn & Bacon.
- Alexander, F. K. (2000). The changing face of accountability. *Journal of Higher Education*, 71, 411- 431.
- American Association of Collegiate Registrars & Admissions Officers. (1960). *The home state and migration of American college students: Fall 1958*. Washington, DC: Author.
- American Association of State Colleges and Universities. (1986). *The higher education-economic development connection: Emerging roles for public colleges and universities in a changing economy*. Washington, DC: Author.
- Archibald, R. B. (2002). *Redesigning the financial aid system: Why colleges and universities should switch roles with the federal government*. Baltimore: Johns Hopkins University.
- Arney, J. (2003, August 23). City promoters begin push to keep college students after graduation. *Baltimore Sun*. Retrieved August 22, 2003, from <http://www.sunspot.com/>
- Association for Institutional Research. (2004, November). Feasibility study: Proposed IPEDS student unit record collection. *AIR Update*, 26.
- Astin, A. (1991). *Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education*. New York: MacMillan.

- Astin, H. S., & Cross, P. H. (1981). Black students in black and white institutions. In G. E. Thomas (Ed.), *Black students in higher education: Conditions and experiences in the 1970s* (pp. 11-17). Westport, CT: Greenwood.
- Barbett, S. (1998, March). *Residence and migration of first-time freshmen enrolled at degree granting institutions: Fall 1996*. Washington, DC: National Center for Education Statistics.
- Baum, S., & Payea, K. (2004). *Education pays 2004*. New York: College Board.
- Baum, S., & Schwartz, S. (1988). Merit aid to college students. *Economics of Education Review*, 7, 127- 134.
- Bedard, K. (2001). Human capital versus signaling models: University access and high school dropout. *Journal of Political Economy*, 109, 749-775.
- Begalka, K. (2000, November 5). Study: MCC provides benefits for all county residents. *Crystal Lake Northwest Herald*, p. 3.
- Berkner, L., & Chavez, L. (1997). *Access to postsecondary education for the 1992 high school graduates*. Washington, DC: National Center for Education Statistics.
- Billingsley, D. (1984). *The economic impact of Western Illinois University on McDonough County, 1984*. Macomb, IL: Western Illinois University Center for Business and Economic Research.
- Birnbaum, R. (1983). *Maintaining diversity in higher education*. San Francisco: Jossey Bass.
- Blaug, M. (Ed.). (1968). *The economics of education*. Middlesex, England: Penguin.
- Bodenhofer, H. (1967). The mobility of labor and the theory of human capital. *Journal of Human Resources*, 2, 431-448.
- Botelho, A., & Pinto, L. C. (2004). Students' expectations of the economic returns to college education: Results of a controlled experiment. *Economics of Education Review*, 23, 645-653.
- Bowen, H. K. (Ed.). (1997). *Investment in learning*. Baltimore: Johns Hopkins University.
- Bowles, S. (1970). Migration as investment: Empirical tests of the human investment approach to geographic mobility. *Review of Economics and Statistics*, 52, 356-362.

- Bowman, M. J. (1970). Education and economic growth. In R. L. Johns, I. J. Goffman, K. Alexander, & D. H. Stollar (Eds.), *Economic factors affecting the financing of education* (pp. 83-120). Gainesville, FL: National educational finance project.
- Boyd, D. (2002, October). *State spending for higher education in the coming decade* [Electronic version]. Boulder, CO: National Center for Higher Education Management Systems.
- Brannon, I., & McGee, K. (2001). *Wisconsin's brain drain: Where are the grads going?* Oshkosh, WI: University of Wisconsin Center for Community Partnerships.
- Briggs, S. (2003, February). The importance of mission differentiation. In National Center for Public Policy and Higher Education (Ed.), *Purposes, policies, performance: Higher education and the fulfillment a state's public agenda*. Washington, DC: Author.
- Brown, D. R. (2003, June 2). Bradley recruits, retains engineers. *Peoria-Journal Star*. Retrieved June 2, 2003, from <http://www.pjstar.com>
- Brown, K. H., & Heaney, M. T. (1997). A note on measuring the economic impact of institutions of higher education. *Research in Higher Education*, 38, 229-240.
- Brown, M. C., & Davis, J. E. (2001). The historically black college as social contract, social capital, and social equalizer. *Peabody Journal of Education*, 76, 31-49.
- Bryce, R. A. (1975). *Economic impact of Eastern Illinois University on Charleston, Illinois*. Charleston, IL: Eastern Illinois University School of Business.
- Burcum, J. (2003, July 13). Calling all former Iowans: state says it wants you to come home. *Minnesota Star-Tribune*. Retrieved July 23, 2003, from <http://www.startribune.com>
- Bureau of Economic Analysis. (2004). *Input-output accounts*. Available from the Bureau of Economic Analysis Web site, <http://www.bea.doc.gov/>
- Burke, J. C. (Ed.). (2004). *Achieving accountability in higher education: Balancing public, academic, and market demands*. San Francisco: Jossey Bass.
- Calvert, R., Drews, T. H., & Wade, G. H. (1971). College student migration: A review of 1968 data and implications. *College and University*, 47, 36-47.
- Campbell, P. (1997, May). *Population projections, states: 1995-2025*. Washington, DC: U.S. Census Bureau.
- Carbone, R. F. (1973). *Students and state borders: Fiscal and legal issues affecting nonresident students*. Iowa City, IA: American College Testing Program.

- Carnoy, M. (1995a). Education and productivity. In M. Carnoy (Ed.), *International encyclopedia of economics of education* (pp. 125-130). Oxford: Pergamon.
- Carnoy, M. (1995b). Rates of return to education. In M. Carnoy (Ed.), *International encyclopedia of economics of education* (pp. 364-379). Oxford: Pergamon.
- Chamberlain, P. C., & Strand, D. A. (1967). The role of out-of-state students in public higher education. *Bulletin of the School of Education at the University of Indiana*, 43.
- Chami, Y. (2001, October 4). Commission to fight brain drain: Magazine highlights businesses and industries in Indiana. *Indiana University Daily Student*. Retrieved October 4, 2001 from <http://idsnews.com>
- Changes urged in nonresident tuition rules. (2003, February 1). *Utah Desert News*. Retrieved February 1, 2003, from <http://www.desertnews.com>
- Chapman, D. W. (1981). A model of student college choice. *Journal of Higher Education*, 52, 490-505.
- Chizmar, J. F., & MacDonald, D. J. (1970). *The economic impact of Illinois State University on the Bloomington-Normal community*. Normal, IL: Illinois State University.
- Christophersen, K. A., & Robison, M. H. (2002, June). *The socioeconomic benefits generated by 39 community college districts in Illinois*. Springfield, IL: Illinois Community College Trustees Association.
- Cipollone, P. (1995). Education and earnings. In M. Carnoy (Ed.), *International encyclopedia of economics of education* (pp. 145-149). Oxford: Pergamon.
- Cohen, R. E. (2003, May 10). Maine's export, college students: Exodus hurts work force. *Bangor Daily News*. Retrieved May 10, 2003 from <http://www.bangornews.com>
- Cohn, E., & Geske, T. G. (1986). Benefit-costs analysis of investment in higher education. In M. P. McKeown & K. Alexander (Eds.), *Values in conflict: Funding priorities in higher education* (pp. 183-216). Cambridge, MA: Ballinger.
- Cohn, E., & Geske, T. G. (1992). Private non-monetary returns to investment in higher education. In W. E. Becker & D. R. Lewis (Eds.), *The economics of American universities* (pp. 173-195). Boston: Kluwer.
- College fees will prevent brain drain. (2002, December 7). *Arizona Daily Wildcat*. Retrieved December 7, 2002, <http://wildcat.arizona.edu>

- Cornwell, C., & Mustard, D. B. (2001). Race and the effects of Georgia's hope scholarship. In D. E. Heller & P. Mann (Eds.), *Who should we help? The negative consequences of merit scholarships*. Cambridge, MA: Civil Rights On-line Project. Retrieved October 23, 2002 from <http://www.civilrightsproject.harvard.edu/>
- Cornwell, C., & Mustard, D. B., & Sridhar, D. J. (2005). *The enrollment effects of merit-based financial aid: Evidence from Georgia's hope scholarship*. Retrieved September 15, 2005 from <http://www.terry.uga.edu/hope/hope.enrollments.pdf>
- Cover, S. M. (2003, July 22). Luring Maine's brightest: Goal of task force to lure best students to stay in state. *Portland Press Herald*. Retrieved July 22, 2003, from <http://www.centralmaine.com/>
- Creech, S. K., Carpenter, S., & Davis, E. J. (1994). The direct economic impact of Texas' appropriations to higher education. *Review of Higher Education*, 17, 125-141.
- Curtis, S. M. (2002, November 29). Turn 'brain drain' into 'brain gain': Community colleges can prepare the workforce for growing industries in Pennsylvania. *Philadelphia Inquirer*. Retrieved June 10, 2003 from <http://www.philly.com>
- Da Vanzo, J. (1976). Differences between return and nonreturn migration: An econometric analysis. *International Migration Review*, 10, 13-27.
- Day, J. C., & Newburger, E. C. (2002, July). *The big payoff: Educational attainment and synthetic estimates of work-life earnings* [Electronic version]. Washington, DC: U.S. Census Bureau.
- Dee, T. S., & Jackson, L. A. (1999). Who loses hope? Attrition from Georgia's college scholarship program. *Southern Economic Journal*, 66, 379-290.
- Denison, E. F. (1962). *The sources of economic growth in the United States and the alternatives before us*. New York: Committee for Economic Development.
- Denison, E. F. (1974). *Accounting for U.S. economic growth, 1929-1969*. Washington, DC: Brookings Institute.
- Des Jardins, S. L. (2001). *The monetary returns to instruction of a University of Minnesota education*. Iowa City, IA: University of Iowa, Department of Educational Policy and Leadership Studies.
- Des Jardins, S. L. (2002). Understanding and using efficiency and equity criteria in the study of higher education policy. In J. C. Smart (Ed.), *Higher education handbook of theory and research, volume 17* (pp. 173-219). New York: Agathon.

- Diaconis, P. (1985). Theories of data analysis: From magical thinking through classical statistics. In D. C. Hoaglin, F. Mosteller, & J. W. Tukey (Eds.), *Exploring data tables, trends, and shapes* (pp. 1- 36). New York: John Wiley.
- Dougherty, K. J. (2002). The evolving role of the community college: Policy issues and research questions. In J. C. Smart (Ed.), *Higher education handbook of theory and research, volume 17* (pp. 295-348). New York: Agathon.
- Douglass, G.K. (1996). Economic returns on investments in higher education. In H.R. Bowen (Ed.), *Investment in learning: The individual and social value of American higher education* (pp. 359- 367). New Brunswick, NJ: Transaction.
- Dotterweich, D. A. (2001). Student migration: Do significant factors vary by region? *Education Economics*, 9, 269.
- Duderstadt, J. J. (2000). *A university for the 21<sup>st</sup> century*. Ann Arbor, MI: University of Michigan.
- Durhams, S. (2000, February 17). UWM leader pushes Milwaukee initiative. *Milwaukee Journal Sentinel*. Retrieved February 17, 2000 from <http://www.jsonline.com/>
- Dyer, C. L. (1972). *College and university student migration*. Unpublished doctoral dissertation, North Carolina State University, Raleigh.
- Dyer, E. (2003, April 28). Looking for money beyond the state line. *News & Record*.
- Dynarski, S. (2000). Hope for whom? Financial aid for the middle class and its impact on college attendance. *National Tax Journal*, 53, 629-651.
- Dynarski, S. (2004). The new merit aid. In C. M. Hoxby (Ed.), *College choice: The economics of where to go, when to go, and how to pay for it* (pp. 63-100). Chicago: University of Chicago.
- Ehrenberg, R. G. (2005). Reducing inequality in higher education: Where do we go from here? *Cornell Higher Education Research Institute (Working Paper No. 79)*. Ithaca, NY: Cornell Higher Education Research Institute.
- Elliott, D. S., Levin, S. L., & Meisel, J. B. (1987). *The economic impact of Southern Illinois University at Edwardsville on the St. Louis metro area: 1986*. Edwardsville, IL: Southern Illinois University at Edwardsville, Department of Economics.
- Eskenazi, S. (2002, August 10). UW will take orientation on the road to Hawaii. *Seattle Times*. Retrieved August 11, 2002 from <http://www.seattletimes.com>
- Etzioni, A. (1971). Policy research. *American Sociologist*, 6, 8-13.

- Ewell, P. T., Schild, P. R., & Paulson, K. (2003, April). *Following the mobile student: Can we develop the capacity for a comprehensive database to assess student progression?* Indianapolis, IN: Lumina Foundation.
- Fenske, R. H., Scott, C. S., & Carmody, J. F. (1972). *College student migration* (ACT Research Report No. 54). Iowa City, IA: American Testing Program.
- Ferriss, A. L. (1965). Predicting graduate student migration. *Social Forces*, 43, 310-319.
- Finder, A. (2005, August 11). To woo students, colleges choose names that sell. *New York Times*. Retrieved August 11, 2005 from <http://www.nytimes.com>
- Ford, T. R. (1977). The production of social knowledge for public use. *Social Forces*, 56, 504-518.
- Franklin, R. S. (2003a, August). *Domestic migration across regions, divisions, and states: 1995 to 2000*. Washington, DC: U.S. Census Bureau.
- Franklin, R. S. (2003b, November). *Migration of the young, single, and college educated: 1995 to 2000*. Washington, DC: U.S. Census Bureau.
- Freeman, K., & Thomas, G. E. (2002). Black colleges and college choice: Characteristics of students who choose HBCUs. *Review of Higher Education*, 25, 349-358.
- Froehlich, G. J., & Carey, R. C. (1970). *Migration of college students: Midwest region fall 1968*. Urbana, IL: University of Illinois.
- Fryman, J. F. (1988). Factors in the interstate migration of college students. *College and University*, 63, 234-247.
- Fryman, J. F. (1990). Interstate migration of students to professional schools. *Gamma Theta Upsilon*, 32, 89-99.
- Gallaway, L. E., Gilbert, R. F., & Smith, P. E. (1967). The economics of labor mobility: An empirical analysis. *Western Economic Journal*, 5, 211-223.
- Garcia, S. C. (1983). *A study of college student interstate migration: An empirical predictability model*. Unpublished doctoral dissertation, George Washington University, District of Columbia.
- Gardner, J. (1961). *Excellence: Can we be excellent and equal too?* New York: Harper and Brothers.
- Giegerich, S. (2002, November 10). U.S. students trek to Canada for its colleges. *Chicago Tribune*. Retrieved November 10, 2002, from <http://www.chicagotribune.com>

- Glaser, E. L., & Saiz, A. (2003). The rise of the skilled city. *National Bureau of Economic Research* (Working Paper 10191). Cambridge, MA: National Bureau of Economic Research.
- Gleckman, H. (2002, June 17). States: A rebound won't end red ink. *Business Week*, pp. 60-61.
- Goggin, W. J. (1999). A "merit-aware" model for college admissions and affirmative action. *Postsecondary Opportunity*, 83.
- Goldman, S. (1986). *The economic impact of Southern Illinois University at Carbondale upon nine counties in the southern Illinois region*. Carbondale, IL: Southern Illinois University, Office of Regional Research and Service.
- Gong, Y., & Presley, J. B. (2006). *The demographics and academics of college going in Illinois*. [Electronic version]. Edwardsville, IL: Illinois Education Research Council.
- Gossman, C. S., Nobbe, C. E., Patricelli, T. J., Schmid, C. F., & Steahr, T. E. (1968). *Migration of college and university students in the United States*. Seattle: University of Washington.
- Griliches, Z. (1977). Estimating the returns to schooling: Some economic problems. *Econometrica*, 45, 1-22.
- Groat, H. T. (1963). The efficiency of college student migration. *College and University*, 39, 51-58.
- Groat, H. T. (1964). Internal migration patterns of a population subgroup of college students, 1887- 1958. *American Journal of Sociology*, 69, 383-394.
- Groen, J. A. (2003, April). *The effect of college location on the migration of college educated labor*. Ithaca, NY: Cornell Higher Education Research Institute.
- Groen, J. A., & White, M. J. (2004). In-state versus out-of-state students: The divergence of interest between public universities and state governments. *Journal of Public Economics*, 88, 1,793-1,814.
- Gumport, P.J., & Bastedo, M.N. (2003). Access to what? Mission differentiation and academic stratification in u.s. public higher education. *Higher Education*, 46, 341-359.
- Gurney, K. (2001, March 24). College leaders talk of ways to reduce state 'brain drain.' *Philadelphia Inquirer*, p. B3.

- Hanson, G. (1999). Policy analysis research: A new role for student affairs research. In G. D. Malaney (Ed.), *New directions for student services (no. 85): Student affairs research, evaluation, & assessment* (pp. 47-59). San Francisco: Jossey Bass.
- Hartwig, F., & Dearing, B. E. (1979). *Exploratory data analysis*. Beverly Hills, CA: Sage.
- Hayden, M. L. (2000). *Factors that influence the college choice process for African-American students*. Unpublished master's thesis. Virginia Polytechnic Institute and State University, Blacksburg.
- Hearn, J.C., & Holdsworth, J.M. (2002). Influences on state level policies and practices on college students' learning. *Peabody Journal of Education*, 77, 6-39.
- Heatwole, C. G., Keller, L. F., & Wamsley, G. L. (1976). Action research and public policy analysis: Sharpening the political perspectives of public policy research. *Western Political Quarterly*, 29, 597-609.
- Heller, D. E. (2001). Trends in affordability of public colleges and universities: The contradiction of increasing prices and increasing enrollment. In D. E. Heller (Ed.), *The states and public higher education policy: Affordability, access, and accountability* (pp. 11-38). Baltimore: Johns Hopkins University.
- Heller, D. E. (2002). Is merit-based student aid really trumping need-based aid? *Change*, 34, 6-8.
- Heller, D. E., & Rogers, K. (2003, November). *Stanching the brain drain: Merit scholarships and post baccalaureate migration patterns*. Paper presented at the meeting of the Association for the Study of Higher Education, Portland, OR.
- Herring, C. (2002). *The growing diversity of the Illinois population, 1990-2020* [Electronic version]. Urbana, IL: Institute of Government and Public Affairs.
- Heyboer, K. (2000, February 26). Jersey to take a hard look at why college students go out of state. *Newark Star-Ledger*. Retrieved August 14, 2002, from <http://www.starledger.com/>
- Hilmer, M. J. (1997). Does community college attendance provide a strategic path to a higher quality education? *Economics of Education Review*, 16, 59-68.
- Hilton, T. L. (Ed.). (1992). *Using national data bases in education research*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Hines, E. R. (1988). *Higher education and state governments: Renewed partnership, cooperation, or competition?* Washington, DC: George Washington University.

- Hooper, K. L. (2003, April 20). Indiana sees drain of brightest teen brains: Out-of-state colleges are luring away a number of state's academic all-stars. *Indianapolis Star*. Retrieved April 20, 2003, <http://www.indystar.com/>
- Hossler, D., & Gallagher, K. S. (1987). Studying college choice: A three phase model and the implications for policy makers. *College and University*, 63, 207-221.
- Hossler, D., Schmit, J., & Vesper, N. (1999). *Going to college: How social, economic, and educational factors influence the decisions students make*. Baltimore, MD: Johns Hopkins University.
- Hovey, H.A. (1999, July). *State spending for higher education: The battle to sustain current support*. Washington DC: National Center for Public Policy and Higher Education.
- Hupp, S. (2002, December 29). New ISU program aims to keep students in Iowa. *Des Moines Register*. Retrieved December 29, 2002, from <http://www.dmregister.com/>
- Ifill, R. M., & McPherson, M. S. (2004). *When saving means losing: Weighing the benefits of college savings plans*. Indianapolis, IN: Lumina Foundation.
- Illinois Community College Board. (1980, March). *A study of the economic impact of six community colleges in Illinois*. Springfield, IL: Author.
- Illinois Board of Higher Education. (1999a, October). *Post graduation plans of spring 1999 Illinois high school graduate*. Springfield, IL: Author.
- Illinois Board of Higher Education. (1999b, August). *Future demand and the capacity of Illinois higher education*. Springfield, IL: Author.
- Illinois Board of Higher Education. (2001a, May 30). *Study finds high-tech worker exodus exceeds other fields*. Springfield, IL: Author.
- Illinois Board of Higher Education. (2001b, June). *Does Illinois retain its information technology majors upon baccalaureate completion?* Springfield, IL: Author.
- Illinois State Board of Education. (2002, May). *Illinois public school enrollment projections: 2002-2003 to 2010-2011*. Springfield, IL: Author.
- Immerwahr, J. (2000). *Great expectations: How Illinois residents view higher education*. Washington, DC: National Center for Public Policy and Higher Education.
- Indiana Commission for Higher Education. (1995, November). *Mobility of graduates from Indiana public postsecondary education*. Indianapolis, IN: Author.

- Ingels, S. J., Planty, M., & Bozick, R. (2005, October). *A profile of the American high school senior in 2004: A first look*. Washington, DC: National Center for Education Statistics.
- Institute for Higher Education Policy. (1998, March). *Reaping the benefits: Defining the public and private value of going to college*. Washington, DC: Author.
- Institute for Higher Education Policy. (1999, July). *Contributing to the civic good: Assessing and accounting for the civic contributions of higher education*. Washington, DC: Author.
- Johns, R. L., Morphet, E. L., & Alexander, K. (1983). *The economics and financing of education*. Englewood Cliffs, NJ: Prentice Hall.
- Joling, D. (2003, April 11). UA president warns budget cuts could injure university: Scholarships to keep Alaska's brightest in state for college would suffer. *Juneau Empire*. Retrieved April 11, 2003 from <http://juneauempire.com/>
- Jones, D. P., & Ewell, P. (1993). *The effect of state policy on undergraduate education: State policy and college learning*. Boulder, CO: Education Commission of the States.
- Jordan, B., & Duvell, F. (2002). *Irregular migration: The dilemmas of transnational mobility*. Cheltenham, UK: Edward Elgar.
- Julian, F. H. (1987). One perspective on the regional tuition concept. *College and University*, 62, 259- 264.
- Kabler, P. (2004, February 10). Out-of-state students could be boon for economy, chancellor says. *West Virginia Gazette*. Retrieved February 10, 2004 from <http://wvgazette.com>
- Kane, T. (1998). Savings incentives for higher education. *National Tax Journal*, 51, 609-650.
- Kane, T. (1999). *The price of admission: Rethinking how Americans pay for college*. Washington, DC: Brookings Institution.
- Kanengiser, A. (2003, July 21). University heads: Waiving fees will attract out-of-state students. *Jackson Clarion-Ledger*. Retrieved July 21, 2003, from <http://www.clarionledger.com/>
- Kangas, W. R. (1996). *Two essays in finance: Market response to catastrophic events on the insurance industry and return on investment of a land grant university*. Unpublished doctoral dissertation, University of Illinois, Urbana.

- KEES to the future. (2003, July 3). *Kentucky Post*. Retrieved July 23, 2003 from <http://www.kypost.com/>
- Kenning, C. (2003, July 18). Program attracts teachers to Louisville. *Louisville Courier-Journal*. Retrieved July 23, 2003, from <http://www.courier-journal.com/>
- Kent, R. (2003, June 29). If they lead will it be here? Making communities more appealing to young vital to stopping brain drain. *Mansfield News Journal*. Retrieved July 23, 2003, <http://www.mansfieldnewsjournal.com/index.html>
- Kentucky Long-term Policy Research Center. (2001, June). *Kentucky's brain drain unplugged* [Electronic version]. Frankfort, KY: Author.
- King, R. (Ed.). (1986). *Return migration and regional economic problems*. London: Croom Helm.
- Kodrzycki, Y. K. (1999). Geographic shifts in higher education. *New England Economic Review (Federal Reserve Bank of Boston)*, July/August, 27-47.
- Kodrzycki, Y. K. (2001). Migration of recent college graduates: Evidence from the national longitudinal survey of youth. *New England Economic Review (Federal Reserve Bank of Boston)*, January/February, 13-34.
- Kodrzycki, Y. K. (2002, November). *Issues and strategies for improving the regional workforce: Fighting brain drain*. Paper presented at the conference Assessing the Midwest workforce: Strategies for developing the region's human capital, Chicago, IL.
- Kyung, W. (1996). In-migration of college students to the state of New York. *Journal of Higher Education*, 67, 349-358.
- Lee, A. S. (1974). Return migration in the United States. *International Migration Review*, 8, 283-300.
- Lee, E. S. (1966). The theory of migration. *Demography*, 3, 47-57.
- Lee, E. Y. (1987). *Factors affecting migration of college students*. Unpublished doctoral dissertation, Ohio State University, Columbus.
- Leigh, D. E., & Gill, A. M. (2003). Do community colleges really divert students from earning bachelor's degrees? *Economics of Education Review*, 22, 25-30.
- Leigh, D. E., & Gill, A. M. (2004). The effect of community colleges on changing students' educational aspirations. *Economics of Education Review*, 23, 95-102.

- Leong, L. (1999, March 24). Hawaii's brain drain: Isles lose many of 'the best and brightest.' *Honolulu Star-Bulletin*. Retrieved July 17, 2002 from <http://starbulletin.com/>
- Leslie, L., & Brinkman, D. (1988). *The economic value of higher education*. San Francisco: Jossey Bass.
- Lewis, D. E. (2003, October 22). Fearing brain drain: Reports say Boston area needs to retain more grads. *Boston Globe*. Retrieved October 22, 2003 from <http://www.boston.com>
- Lewis, R. S. (1964). *Migration of college students: Midwest region fall 1963*. Chicago: Council of State Governments.
- Lieberman, J. (1979). *The rate of return to schooling: 1958-1976* (Faculty Working Paper). Urbana, IL: University of Illinois at Urbana-Champaign, Department of Commerce and Business Administration.
- Lonetree, A. (2003, March 6). Bruinks fears loss of top students as budget worsens. *Minnesota Star Tribune*. Retrieved March 6, 2003, <http://www.startribune.com>
- Lyons, J. E. (1974). A survey of black Connecticut high school graduates attending out-of-state college and universities. *Journal of Negro Education*, 43, 506-511.
- MacGillis, A. (2002, July 23). More state residents selecting colleges in Maryland, report finds. *Baltimore Sun*. Retrieved July 23, 2002, from <http://www.sunspot.net>
- MacTaggart, T. J. (1996). Lessons for leaders. In T. J. MacTaggart (Ed.), *Restructuring higher education: What works and what doesn't in reorganizing governing systems* (pp. 230-246). San Francisco: Jossey Bass.
- Majchrzak, A. (1984). *Methods for policy research*. Beverley Hills, CA: Sage.
- Mangan, K. S. (1989, October 11). Fighting a brain drain [Electronic version]. *Chronicle of Higher Education*.
- Manski, C. F., & Wise, D. A. (1983). *College choice in America*. Cambridge, MA: Harvard University.
- McGinnis, M. (1999, December 9). UB leads effort to reverse local brain drain. *University of Buffalo Reporter*. Retrieved July 26, 2003, <http://www.boston.edu/reporter>
- McHugh, R., & Morgan, J. N. (1984). The determinants of interstate student migration: A place-to-place analysis. *Economics of Education Review*, 3, 269-278.

- McKibbin, J. N., & Faust, K. A. (1999). The boomlet goes to college. *American Demographics*, 21. Retrieved August 15, 2002, from <http://www.demographics.com>
- McLaughlin, A. (1999, December 29). Midwest vies to keep its eggheads home. *Christian Science Monitor*. Retrieved June 11, 2002, from <http://www.csmonitor.com>
- McMahon, W. W. (1974). *Investment in higher education*. Lexington, MA: Lexington.
- McMahon, W. W. (1991). Relative returns to human and physical capital in the U.S. and efficient investment strategies. *Economics of Education Review*, 10, 283-296.
- McMahon, W. W. (1995). Consumption benefits of higher education. In M. Carnoy (Ed.), *International encyclopedia of economics of education* (pp. 168-172). Oxford: Pergamon.
- McMahon, W. W. (1999). *Education and development: Measuring the social benefits*. New York: Oxford University.
- McMahon, W. W., & Wagner, A. P. (1979). *The monetary returns to higher education: Are they worth the investment costs?* (Faculty Working Paper No. 619). Urbana, IL: University of Illinois at Urbana-Champaign, Department of Commerce and Business Administration.
- McMahon, W. W., & Wagner, A. P. (1981). Expected returns to investment in higher education. *Journal of Human Resources*, 16, 274-285.
- McMahon, W. W., & Wagner, A. P. (1982). The monetary returns to education as partial social efficiency criteria. In J. C. Hoy & M. H. Bernstein (Eds.), *Financing higher education: The public investment*. Boston: Auburn House.
- McPherson, M. S., & Schapiro, M. O. (1996). *The student aid game: Meeting need and rewarding talent in American higher education*. Princeton, NJ: Princeton University.
- Meier, R. E. (1983). *The economic impact of Eastern Illinois University on Charleston and Mattoon*. Charleston, IL: Eastern Illinois University School of Business.
- Mercer, J. (1993, June 2). States get tough on charges to non-residents. *Chronicle of Higher Education*. Retrieved August 13, 2002, from <http://www.chronicle.com>
- Miami University. (2005). *Miami's innovative tuition and scholarship program*. Retrieved November 8, 2005, from <http://www.miami.muohio.edu/tuitionplan/qa.cfm>

- Miller, C. (2000, June 14). Task force told of state's need for brain gain. *Appleton Post Crescent*. Retrieved June 8, 2002, from <http://www.lafollette.wisc.edu/>
- Mincer, J. (1984). Human capital and economic growth. *Economics of education review*, 3, 195-205.
- Missouri Coordinating Board for Higher Education. (1998). *Integrated strategic plan*. Jefferson City, MO: Author.
- Missouri Coordinating Board for Higher Education. (2000). *Building one system: 2000 annual report*. Jefferson City, MO: Author.
- Missouri Coordinating Board for Higher Education. (2005). *Statistical summary: 2004-2005*. Jefferson City, MO: Author. Retrieved November 2, 2005 from <http://www.dhe.mo.gov/statsum.shtml>
- Mixon, F. G. (1992). Factors affecting college student migration across states. *International Journal of Manpower*, 13, 25-32.
- Mixon, F. G., & Hsing, Y. (1994). The determinants of out-of-state enrollments in higher education: A tobit analysis. *Economics of Education Review*, 13, 329-335.
- Monks, J. (2000). The returns to individual and college characteristics: Evidence from the national longitudinal survey of youth. *Economics of Education Review*, 19, 279-289.
- Monk-Turner, E. (1998). *Community college education and its impact on socioeconomic status attainment*. Lewiston, NY: Edwin Mellen.
- More Americans pick Canadian universities. (2002, December 3). *Daily Illini*, p. 2.
- Moretti, E. (2004). Estimating the social return to higher education. *Journal of Econometrics*, 121, 175- 212.
- Morgan, J. N. (1983). Tuition policy and the interstate migration of college students. *Research in Higher Education*, 19, 183-195.
- Mortensen, T. (1995, January). Net interstate migration of pell grant recipients: 1978-1979 to 1992 1993. *Postsecondary Opportunity*, 31.
- Mortensen, T. (1996, August). Freshmen enrolling in college farther away from home, but who can afford to go so far away? *Postsecondary Opportunity*, 50.
- Mortensen, T. (1998a, June). Educational attainment in the states: Status and importance to state economic welfare. *Postsecondary Opportunity*, 72.

- Mortensen, T. (1998b, April). Interstate migration of college undergraduates. *Postsecondary Opportunity*, 70.
- Mortensen, T. (2002a, February). Educational attainment and state economic welfare, 1989 to 2000. *Postsecondary Opportunity*, 116.
- Mortensen, T. (2002b, May). Need-based student financial aid, 1964-2001. *Postsecondary Opportunity*, 119.
- Mortensen, T. (2002c, October). Interstate migration of college freshmen, 1986 to 2000. *Postsecondary Opportunity*, 124.
- Mortensen, T. (2003, April). Interstate migration and geographic mobility of college graduates. *Postsecondary Opportunity*, 130.
- Mortensen, T. (2005, October). Segregation of higher education enrollment by family income and race/ethnicity: 1980 to 2004. *Postsecondary Opportunity*, 160.
- Murabito, W. J., & Steffey, S. W. (1996, October). *Student migration and the state university: Analysis, strategies, recommendations*. Buffalo, NY: State University of New York Board of Trustees.
- Myers, M. (2002, June 30). Lack of tech-credit transfer pacts could send students out of Iowa. *Des Moines Register*. Retrieved August 15, 2003 from <http://www.dmregister.com>
- National Center for Education Statistics. (1982). *Residence and migration of college students: Fall 1981*. Washington, DC: Author.
- National Center for Education Statistics. (1998). *Digest of Education Statistics*. Washington, DC: Author.
- National Center for Education Statistics. (2003). *Digest of Education Statistics*. Washington, DC: Author.
- National Center for Education Statistics. (2004). *Integrated postsecondary education data system* [Data files]. Available from the Integrated Postsecondary Education Data System Peer Analysis System Web site, <http://nces.ed.gov/ipeds/pas/>
- National Center for Higher Education Management Systems. (2005). *Migration rates by state, age group, and degree level, 1995-2000* [Data file]. Available from the National Center for Higher Education Management Systems Higher Education Info Web site, <http://www.higheredinfo.org/>
- Neave, G. (1979). Academic drift: Some views from Europe. *Studies in Higher Education*, 4, 143-159.

- N.C. looks for teachers in W. Va. (2003, March 29). *Winston-Salem Journal*. Retrieved March 30, 2003 from <http://www.journalnow.com/>
- New Jersey Commission on Higher Education. (1998, April). *The capacity of New Jersey's higher education system: A report to the governor and legislature*. Trenton, NJ: Author.
- New Jersey Department of Higher Education. (1983, December). *Out-migration of college bound freshmen: New Jersey's special dilemma*. Trenton: Author.
- New York Public Library. (2005). *In motion: The African-American migration experience*. New York: Author. Retrieved May 11, 2005 from <http://www.inmotioname.org>
- Noorbakhsh, A., & Culp, D. (2002). The demand for higher education: Pennsylvania's nonresident tuition experience. *Economics of Education Review*, 21, 277-286.
- Northeast Ohio Council on Higher Education. (2005). *Putting a plug on the regional brain drain*. Retrieved October 13, 2005 from <http://www.noche.org/neo/neo.html>
- Okamoto, L. (2001). Vilsack plans tax credit to curb 'brain drain.' *Des Moines Register*. Retrieved October 20, 2001, from <http://www.dmregister.com/>
- Opatz, J. P. (2003). *Assessing the value of non-resident tuition policies in the face of state workforce development needs: A Minnesota perspective*. St. Paul, MN: Minnesota House of Representatives.
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research*. San Francisco: Jossey Bass.
- Patillo-McCoy, M. (2000). The limits of out-migration for the black middle class. *Journal of Urban Affairs*, 22, 225-241.
- Paulsen, M. B. (1990). *College choice: Understanding student enrollment behavior* (ERIC-ASHE Higher Education Report No. 6). Washington, DC: George Washington University.
- Paulsen, M. B. (1998). Recent research on the economics of attending college: Returns on investment and responsiveness to price. *Research in Higher Education*, 39, 471-489.
- Peddle, M. T., & Trott, C. E. (2001, May). *Does Illinois retain its IT majors upon baccalaureate completion? An analysis of multiple survey results*. Dekalb, IL: Center for Governmental Studies.
- Pendakur, K., & Pendakur, R. (2002). Language as both human capital and ethnicity. *International Migration Review*, 36, 147-177.

- Perry, K. K. (2001). *Where college students live after they graduate*. (ERIC Document Reproduction Service No. ED453739).
- Perry, M. J. (2003). *State-to-state migration flows: 1995 to 2000*. Washington, DC: U.S. Census Bureau.
- Plugging the brain drain. (2003, June 3). *Fort Wayne Journal Gazette*. Retrieved June 10, 2003 from <http://www.fortwayne.com>
- Presley, J. B. (2003, September). *Illinois higher education: A comparative analysis* [Electronic version]. Edwardsville, IL: Illinois Education Research Council.
- Prospero, L. (2001, May 8). Brain drain of students triggers state' concern. *San Diego Union Tribune*. Retrieved May 8, 2001, from <http://www.uniontrib.com/>
- Psacharopoulos, G. (1976). Investment in education and equality of opportunity. In K. Alexander & K. F. Jordan (Eds.), *Educational need in the public economy* (pp. 35-63). Gainesville, FL: University of Florida.
- Psacharopoulos, G. (1996). Economics of education: A research agenda. *Economics of Education Review*, 15, 339-344.
- Quigley, J. M., & Rubinfeld, D. L. (1993). Public choices in public higher education. In C. T. Clotfelter & M. Rothschild (Eds.), *Studies in supply and demand in higher education* (pp. 243-273). Chicago: University of Chicago.
- Ravenstein, E. G. (1885). The laws of migration. *Journal of the Statistical Society of London*, 48, 167- 235.
- Rawls, J. (1971). *A theory of justice*. Cambridge, MA: Harvard University.
- Richardson, R. C., Bracco, K. R., Callan, P. M., & Finney, J. E. (1999). *Designing state higher education systems for a new century*. Phoenix, AZ: Oryx.
- Rizzo, M. J. (2004). The public interest in higher education. *Cornell Higher Education Research Institute* (Working Paper No. 55). Ithaca, NY: Cornell Higher Education Research Institute.
- Rizzo, M. J., & Ehrenberg, R. G. (2003). *Resident and nonresident tuition and enrollment at flagship state universities*. Ithaca, NY: Cornell Higher Education Research Institute.
- Roherty, B. M. (1997). The price of passive resistance in financing higher education. In P. M. Callan & J. E. Finney (Eds.), *Public and private financing of higher education: Shaping public policy for the future* (pp. 3-29). Phoenix: Oryx.

- Rombeck, T. (2002, June 16). Colleges propose tuition discount. *Lawrence Journal World*. Retrieved June 20, 2002, from <http://www.ljworld.com>
- Rosen, H. S. (1999). *Public finance*. New York: McGraw-Hill.
- Rubin, J., & Seneca, J. J. (1992, August). *Out-migration of New Jersey college students: Causes and consequences*. New Brunswick, NJ: Rutgers University, Bureau of Economic Research.
- St. John, E. P. (2004). Policy research and political decisions. In E. P. St. John & M. D. Parsons (Eds.), *Public funding of higher education: Changing contexts and new rationales* (pp. 231-252). Baltimore: Johns Hopkins University.
- St. John, E. P., & Chung, C. (2004). Merit and equity. In E. P. St. John & M. D. Parsons (Eds.), *Public funding of higher education: Changing contexts and new rationales* (pp. 124-140). Baltimore: Johns Hopkins University.
- St. John, E. P., & Parsons, M. D. (2004). Introduction. In E. P. St. John & M. D. Parsons (Eds.), *Public funding of higher education: Changing contexts and new rationales* (pp. 1-16). Baltimore: Johns Hopkins University.
- Salamon, L. M. (1991). Why human capital? Why now? In D. W. Hornbeck & L. M. Salamon (Eds.), *Human capital and America's future* (pp. 1-39). Baltimore: Johns Hopkins University.
- Schachter, J. P. (2003). *Migration by race and Hispanic origin: 1995 to 2000*. Washington, DC: U. S. Census Bureau.
- Schmidt, P. (2000, February 4). States criticized for emphasis on merit scholarships. *Chronicle of Higher Education*, p. A38.
- Schmidt, P. (2003a). More states try to stanch 'brain drains' but some experts question the strategy. *Chronicle of Higher Education*, p. A36.
- Schmidt, P. (2003b). Prepaid tuition plans feel the pinch. *Chronicle of Higher Education*, p. A19.
- Schuh, J. H. (2002). The integrated postsecondary education data system. In B. B. Bender & J. H. Schuh (Eds.), *New directions for higher education (no. 118): Using benchmarking to inform practice in higher education* (pp. 29-38). San Francisco: Jossey Bass.
- Schultz, T. W. (1961). Investment in human capital. *American Economic Review*, 51, 1-17.

- Schultz, T. W. (1970). The human capital approach to education. In R. L. Johns, I. J. Goffman, K. Alexander, & D. H. Stollar (Eds.), *Economic factors affecting the financing of education* (pp. 29- 58). Gainesville, FL: National educational finance project.
- Schultz, T. W. (1971). *Investment in human capital*. New York: Free Press.
- Schwartz, A. (1973). Migration, age, and education. *Journal of Political Economy*, 84, 701-720.
- Seewer, J. (2000, February 27). Heartland battles brain drain. *Cincinnati Enquirer*. Retrieved June 11, 2002, from <http://enquirer.com>
- Selingo, J. (1997, October 31). In college sports, is bigger better? *Chronicle of Higher Education*, p. A55.
- Selingo, J. (2003a, February 28). The disappearing state in public higher education: When the recession ends, appropriations may not rebound. *Chronicle of Higher Education*, pp. A22-A24.
- Selingo, J. (2003b, September 26). U. of N.C. may raise out-of-state cap. *Chronicle of Higher Education*, p. A17.
- Sewell, W. H. (1964). Community of residence and college plans. *American Sociological Review*, 29, 24-38.
- Singell, L. (2004). Come and stay a while: Does financial aid effect retention conditioned on enrollment at a large public university? *Economics of Education Review*, 23, 459-471.
- Sjaastad, L.A. (1962). The costs and returns of human migration. *Journal of Political Economy*, 70, 80- 93.
- Smetanka, M. J. (2003, March 14). U admissions counselor to work full-time to recruit Chicagoans. *Minnesota Star-Tribune*. Retrieved March 17, 2003, from <http://www.startribune.com>
- Smetanka, M. J. (2004, March 12). Minnesota-Wisconsin tuition pact under review. *Minnesota Star Tribune*. Retrieved March 12, 2004, from <http://www.startribune.com>
- Smith, C. (1979). *Residence and migration of college students: Fall 1979*. Washington, DC: National Center for Education Statistics.
- Smith, E. R., & Bissonnette, K. K. (1989). The economic impact of nonresident students on west Virginia's economy. *Research in Higher Education*, 30, 229-238.

- Smith, R. L., & Wall, A. F. (2005, June). *Economic impact of college student migration from Illinois to historically black colleges and universities*. Paper presented at the meeting of the Walking the Walk of Diversity, Decatur, IL.
- Some tuition waivers suggested: Davies offers idea to reverse 'brain drain.' (1999, March 4). *Louisville Courier-Journal*. Retrieved June 10, 2003 from <http://www.courierjournal.com>
- South Dakota board of regents. (1998, May). *Student migration and its economic impact* [Electronic version]. Pierre, SD: Author.
- Stadtman, V. A. (1980). *Academic options*. San Francisco: Jossey Bass.
- State of Minnesota Office of the Legislative Auditor. (2003, September). *Higher education tuition reciprocity*. St. Paul, MN: Program Evaluation Division.
- State Student Assistance Commission of Indiana. (2005). *21st century scholars program*. Retrieved October 3, 2005 from <http://www.in.gov/ssaci/programs/21st/>
- State will offer college bargains: Out-of-state students to receive in-state rates in return for teaching (2003, January 28). *Charlotte Observer*. Retrieved January 28, 2003, from <http://www.charlotte.com>
- Stewart, D. W., & Kamins, M. A. (1993). *Secondary research: Information sources and methods*. Newbury Park, CA: Sage.
- Strand, D. A. (1967). *An analysis of undergraduate student migration in public colleges and universities in the United States*. Unpublished doctoral dissertation, Indiana University, Bloomington.
- Swift, R. B. (2001, June 22). Ridge initiative hopes to shift pa. brain drain to brain gain. *Sharon Herald*. Retrieved June 22, 2001, <http://www.sharon-herald.com/>
- Symonds, W. C. (2003, April 28). Colleges in crisis: As costs spin out of control, funding is in retreat and some fundamental changes lie ahead. *Business Week*, pp. 73-78.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.
- Thurgood, L., Walter, E., Carter, G., Henn, S., Huang, G., Nooter, D., et al. (2003, April). *NCES handbook of survey methods: Technical report*. Washington, DC: National Center for Education Statistics.

- Tornatzky, L. G., Gray, D. O., Tarant, S. A., & Zimmer, C. (2001). *Who will stay and who will leave: Individual, institutional, and state-level predictors of state retention of recent science and engineering graduates*. Research Triangle Park, NC: Southern Growth Policies Board.
- Tornatzky, L. G., Gray, D., Tarant, S. A., & Howe, J. (2002). Maine's science and engineering brain drain: How much and why? *Maine Review*, 7. Retrieved August 11, 2002 from <http://www.umaine.edu/mcsc/mpr/Vol7No1/BraDra.htm>
- Tuckman, H. P. (1970). Determinants of college student migration. *Southern Economic Journal*, 37, 184-189.
- Tukey, J. W. (1977). *Exploratory data analysis*. Reading, MA: Addison-Wesley.
- Turiciano, A. J. (1980). *Estimating the economic impact of the Illinois community college system, 1965 to 1978*. Unpublished doctoral dissertation, Illinois State University, Normal.
- U. of Alaska offers big scholarships to stanch brain drain. (1998, December 11). *Chronicle of Higher Education*, p. A45.
- U. S. Census Bureau. (1990). *Selected place of birth and migration*. Washington, DC: Author.
- U. S. Census Bureau. (2002a). *Population projections for states, by age, sex, race, and Hispanic Origin: 1995 to 2025*. Retrieved June 25, 2002, from <http://www.census.gov/population/projections/state/stpjpop.txt>
- U. S. Census Bureau. (2002b). *Estimated state demographic components of change* [Electronic version]. Retrieved June 25, 2002, from <http://eire.census.gov/popest/data/states/populartables/files/states02.pdf>
- U. S. Census Bureau. (2003). *State of residence in 2000 for the population five years and over by state of residence in 1995*. Retrieved August 14, 2003 from <http://www.census.gov/population/cen2000/phc-t22/tab03.pdf>
- U. S. Census Bureau. (2004). *Income* [Data files]. Available from the U. S. Census Bureau Web site, <http://www.census.gov/hhes/www/income.html>
- U.S. Library of Congress. (2005). *The African-American mosaic: Migration*. <http://www.loc.gov/exhibits/african/afam008.html>
- Van Leer, T., & Parkinson, J. (2003, February 27). 5-year cushion on out-of-state tuition advances. *Utah Desert News*. Retrieved March 2, 2003, from <http://www.desertnews.com>

- Wade, G. H. (1970, July). *Residence and migration of college students: Fall 1968 analytic report*. Washington, DC: Department of Health, Education, and Welfare.
- Webbink, D., & Hartog, J. (2004). Can students predict starting salaries? Yes! *Economics of Education Review*, 23, 103-113.
- Wells, R. M. (2003, January 29). UW puts strict limits on residency. *Seattle Times*. Retrieved February 2, 2003, <http://www.seattletimes.com>
- Williams, R. L. (1964). The nonresident student. *College and University*, 39, 161-169.
- Wolfe, B. L. (1995). External benefits of education. In M. Carnoy (Ed.), *International encyclopedia of economics of education* (pp. 159-164). Oxford: Pergamon.
- Woodhall, M. (1995). Human capital concepts. In M. Carnoy (Ed.), *International encyclopedia of economics of education* (pp. 24-28). Oxford: Pergamon.
- Yancey, B. D. (1988). Exploratory data analysis for institutional researchers. In B. D. Yancey (Ed.), *New directions for institutional research (no. 58): Applying statistics in institutional research* (pp. 97-110). San Francisco: Jossey Bass.
- Zook, G. F. (1926). *Residence and migration of college and university students, 1922-23* [Bureau of Education Bulletin No. 11]. Washington, DC: Department of the Interior.
- Zumeta, W. (2004). State higher education financing. In E. P. St. John & M. D. Parsons (Eds.), *Public financing of higher education: Changing contexts and new rationales* (pp. 79-107). Baltimore: John Hopkins University.

APPENDIX A

COLLEGE STUDENT MIGRATION FROM ILLINOIS  
BY STATE AND SECTOR

Table A1

*Migration of Illinois College Students for All Sectors by State, Fall 2000*

State	4-year			2-year			Profit	Grand Total
	Public	Private	Total	Public	Private	Total		
Alabama	117	57	174	225	4	229	0	403
Alaska	4	1	5	0	0	0	0	5
Arizona	372	7	379	28	0	28	173	580
Arkansas	55	34	89	1	0	1	1	91
California	95	270	365	0	2	2	40	407
Colorado	357	105	462	46	2	48	30	540
Connecticut	16	95	111	1	0	1	0	112
DC	3	184	187	0	0	0	0	187
Delaware	3	0	3	0	0	0	0	3
Florida	168	250	418	47	1	48	131	597
Georgia	42	196	238	15	1	16	5	259
Hawaii	8	14	22	2	0	2	0	24
Idaho	8	0	8	1	9	10	1	19
Indiana	1,619	1,061	2,680	282	26	308	194	3,182
Iowa	1,461	869	2,330	402	0	402	128	2,860
Kansas	209	19	228	30	10	40	0	268
Kentucky	205	44	249	60	0	60	14	323
Louisiana	58	140	198	2	0	2	0	200
Maine	8	31	39	0	0	0	0	39
Maryland	77	39	116	0	0	0	0	116
Mass.	13	418	431	1	0	1	0	432

*(table continues)*

Table A1 (*continued*)

State	4-year			2-year			Profit	Grand Total
	Public	Private	Total	Public	Private	Total		
Michigan	921	285	1,206	7	0	7	0	1,213
Minnesota	185	271	456	30	1	31	15	502
Mississippi	126	73	199	12	1	13	0	212
Missouri	794	940	1,734	107	199	306	374	2,414
Montana	52	3	55	0	0	0	0	55
Nebraska	40	63	103	0	0	0	1	104
Nevada	21	0	21	13	0	13	0	34
N. Hamp.	10	40	50	0	0	0	0	50
New Jersey	15	54	69	1	0	1	1	71
N. Mexico	22	9	31	10	0	10	0	41
New York	95	451	546	0	26	26	7	579
N. Carolina	56	110	166	57	0	57	1	224
N. Dakota	21	0	21	0	0	0	0	21
Ohio	402	424	826	12	0	12	3	841
Oklahoma	76	41	117	4	0	4	11	132
Oregon	34	31	65	2	0	2	8	75
Penn.	52	216	268	3	2	5	7	280
Rhode Is.	7	80	87	0	0	0	0	87
S. Carolina	71	43	114	10	0	10	2	126
S. Dakota	7	2	9	0	0	0	1	10
Tennessee	114	222	336	1	1	2	51	389
Texas	67	125	192	23	2	25	24	241

*(table continues)*

Table A1 (*continued*)

State	4-year			2-year			Profit	Grand Total
	Public	Private	Total	Public	Private	Total		
Utah	55	55	110	1	0	1	1	112
Vermont	36	21	57	0	1	1	7	65
Virginia	77	87	164	19	0	19	1	184
Wash.	22	22	44	4	0	4	4	52
W. Virginia	15	12	27	0	0	0	0	27
Wisconsin	881	1,399	2,280	32	0	32	30	2,342
Wyoming	8	0	8	3	0	3	76	87
Total	9,180	8,913	18,093	1,494	288	1,782	1,342	21,217

*Note.* Migration of first-time, first-year college students only.

APPENDIX B

COLLEGE STUDENT MIGRATION FROM ILLINOIS  
TO FOUR-YEAR PUBLIC INSTITUTIONS

Table B1

*Migration of Illinois College Students to Four-Year Public Institutions by State and in Order of Illinois Resident Enrollment, Fall 2000*

Institution	City	Enrollment		
		Illinois	Total	%
Alaska				
Univ. of Alaska	Fairbanks	4	836	0.5
Alabama				
Alabama A & M Univ.	Normal	55	1,082	5.1
Alabama St. Univ.	Montgomery	24	1,070	2.2
Auburn Univ.	Auburn	15	3,862	0.4
Univ. of Alabama	Tuscaloosa	9	2,956	0.3
Auburn Univ.	Montgomery	4	622	0.6
Univ. of Alabama	Huntsville	3	606	0.5
Univ. of Alabama	Birmingham	2	1,314	0.2
Univ. of West Alabama	Livingston	1	338	0.3
Univ. of Montevallo	Montevallo	1	510	0.2
Jacksonville St. Univ.	Jacksonville	1	995	0.1
Troy St. Univ.	Troy	1	1,071	0.1
Univ. of South Alabama	Mobile	1	1,401	0.1
Arkansas				
Univ. of Arkansas	Pine Bluff	39	642	6.1
Arkansas St. Univ.	State Univ.	6	1,663	0.4
Univ. of Arkansas	Fayetteville	3	2,283	0.1

*(table continued)*

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Arkansas (continued)</i>				
Henderson St. Univ.	Arkadelphia	2	661	0.3
Westark Coll.	Ft Smith	2	1,008	0.2
Univ. of Arkansas	Little Rock	1	919	0.1
Arkansas Tech Univ.	Russellville	1	1,157	0.1
Univ. of Central Arkansas	Conway	1	1,680	0.1
<i>Arizona</i>				
Arizona St. Univ.	Tempe	214	6,002	3.6
Univ. of Arizona	Tucson	128	5,694	2.2
Northern Arizona Univ.	Flagstaff	25	2,364	1.1
Arizona St. Univ. East	Mesa	4	100	4.0
Arizona St. Univ. West	Glendale	1	23	4.3
<i>California</i>				
Univ. of California	Berkeley	21	3,748	0.6
Univ. of California	Santa Cruz	13	2,915	0.4
Univ. of California	Los Angeles	13	4,203	0.3
Univ. of California	Santa Barbara	11	3,425	0.3
San Diego St. Univ.	San Diego	5	3,650	0.1
Univ. of California	Irvine	5	3,703	0.1
Humboldt St. Univ.	Arcata	4	779	0.5

(table continued)

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>California (continued)</i>				
Univ. of California	La Jolla	4	3,124	0.1
California St. Univ.	Sacramento	3	2,159	0.1
San Francisco St. Univ.	San Francisco	2	2,042	0.1
San Jose St. Univ.	San Jose	2	2,583	0.1
California St. Univ.	Northridge	2	2,842	0.1
Univ. of California	Davis	2	4,338	0.0
California Maritime Acad.	Vallejo	1	99	1.0
California St. Univ.	Hayward	1	710	0.1
Sonoma St. Univ.	Rohnert Park	1	1,093	0.1
California St. Univ.	Fresno	1	1,941	0.1
California St. Univ.	Chico	1	1,981	0.1
California St. Poly. Univ.	Pomona	1	2,769	0.0
California Poly. St. Univ.	San Luis Obispo	1	3,111	0.0
California St. Univ.	Long Beach	1	3,368	0.0
<i>Colorado</i>				
Univ. of Colorado	Boulder	187	5,114	3.7
Colorado St. Univ.	Fort Collins	57	3,337	1.7
U.S. Air Force Academy	USAFA	38	1,289	2.9
Fort Lewis Coll.	Durango	35	998	3.5

(table continued)

Table B1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Colorado (continued)</i>				
Western Coll. of Colorado	Gunnison	20	519	3.9
Univ. of Northern Colorado	Greeley	8	2,140	0.4
Univ. of Colorado	Colo. Springs	4	774	0.5
Univ. of Colorado	Denver	2	591	0.3
Colorado School of Mines	Golden	2	633	0.3
Adams St. Coll.	Alamosa	1	371	0.3
Univ. of Southern Colorado	Pueblo	1	666	0.2
Mesa St. Coll.	Grand Junction	1	1,189	0.1
Metropolitan St. Coll.	Denver	1	2,063	0.0
<i>Connecticut</i>				
U.S. Coast Guard Academy	New London	12	301	4.0
Univ. of Connecticut	Storrs	4	2,836	0.1
<i>District of Columbia</i>				
Univ. of District Columbia	Washington	3	946	0.3
<i>Delaware</i>				
Univ. of Delaware	Newark	2	3,464	0.1
Delaware St. Univ.	Dover	1	832	0.1
<i>Florida</i>				
Florida St. Univ.	Tallahassee	41	5,647	0.7

*(table continued)*

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Florida (continued)				
Florida A & M Univ.	Tallahassee	36	2,208	1.6
Univ. of Central Florida	Orlando	25	4,786	0.5
Univ. of Florida	Gainesville	22	6,952	0.3
Univ. of South Florida	Tampa	15	3,736	0.4
Florida Atlantic Univ.	Boca Raton	10	1,973	0.5
Univ. of North Florida	Jacksonville	7	1,684	0.4
Florida Gulf Coast Univ.	Ft Myers	4	478	0.8
Univ. of West Florida	Pensacola	4	798	0.5
Florida International Univ.	Miami	4	2,578	0.2
Georgia				
Georgia Inst. of Tech.	Atlanta	12	2,241	0.5
Univ. of Georgia	Athens	6	4,227	0.1
Valdosta St. Univ.	Valdosta	4	824	0.5
Georgia Southern Univ.	Statesboro	4	2,879	0.1
Armstrong Atlantic St. Univ.	Savannah	3	674	0.4
Macon St. Coll.	Macon	3	841	0.4
Clayton Coll. and St. Univ.	Morrow	2	733	0.3
Dalton St. Coll.	Dalton	2	862	0.2
Georgia St. Univ.	Atlanta	2	2,229	0.1

(table continued)

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Georgia (continued)</i>				
Fort Valley St. Univ.	Ft Valley	1	397	0.3
Albany St. Univ.	Albany	1	655	0.2
Georgia Coll. and St. Univ.	Milledgeville	1	817	0.1
Columbus St. Univ.	Columbus	1	905	0.1
<i>Hawaii</i>				
Univ. of Hawaii	Honolulu	8	1,607	0.5
<i>Iowa</i>				
Univ. of Iowa	Iowa City	1,098	3,736	29.4
Iowa St. Univ.	Ames	312	4,354	7.2
Univ. of Northern Iowa	Cedar Falls	51	2,263	2.3
<i>Idaho</i>				
Univ. of Idaho	Moscow	7	1,552	0.5
Boise St. Univ.	Boise	1	2,142	0.0
<i>Indiana</i>				
Purdue Univ.	W. Lafayette	728	6,498	11.2
Indiana Univ.	Bloomington	609	6,936	8.8
Ball St. Univ.	Muncie	96	3,740	2.6
Indiana St. Univ.	Terre Haute	91	2,170	4.2
Purdue Univ.	Hammond	45	1,259	3.6

(table continued)

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Indiana (continued)				
Univ. of Southern Indiana	Evansville	40	1,885	2.1
Indiana-Purdue Univ.	Indianapolis	6	3,200	0.2
Indiana Univ.	Gary	4	663	0.6
Kansas				
Univ. of Kansas	Lawrence	189	4,208	4.5
Kansas St. Univ.	Manhattan	11	3,588	0.3
Wichita St. Univ.	Wichita	5	1,270	0.4
Washburn Univ.	Topeka	3	614	0.5
Emporia St. Univ.	Emporia	1	802	0.1
Kentucky				
Murray St. Univ.	Murray	106	1,267	8.4
Univ. of Kentucky	Lexington	55	2,928	1.9
Kentucky St. Univ.	Frankfort	18	339	5.3
Univ. of Louisville	Louisville	9	2,410	0.4
Western Kentucky Univ.	Bowl. Green	6	2,565	0.2
Morehead St. Univ.	Morehead	5	1,501	0.3
Eastern Kentucky Univ.	Richmond	4	1,786	0.2
Northern Kentucky Univ.	Highland Heights	2	1,788	0.1

(table continued)

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Louisiana				
Grambling St. Univ.	Grambling	20	944	2.1
Louisiana St. Univ.	Baton Rouge	13	5,087	0.3
Southern Univ.	Baton Rouge	12	1,940	0.6
Louisiana Technical Univ.	Ruston	5	1,897	0.3
Univ. of New Orleans	New Orleans	4	2,078	0.2
Southeastern Louisiana Univ.	Hammond	2	2,326	0.1
Univ. of Louisiana	Monroe	1	1,268	0.1
McNeese St. Univ.	Lake Charles	1	1,345	0.1
Massachusetts				
Univ. of Massachusetts	Amherst	8	3,846	0.2
Univ. of Massachusetts	Lowell	2	1,013	0.2
Massachusetts Coll. of Art	Boston	1	235	0.4
Univ. of Massachusetts	Boston	1	706	0.1
Univ. of Massachusetts	Dartmouth	1	1,310	0.1
Maryland				
U.S. Naval Academy	Annapolis	44	1,148	3.8
Univ. of Maryland	College Park	19	3,977	0.5
Univ. of Maryland	Adelphi	5	725	0.7
Morgan St. Univ.	Baltimore	3	1,205	0.2

(table continued)

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Maryland (continued)				
Univ. of Maryland	Princess Anne	2	802	0.2
Towson Univ.	Towson	2	1,996	0.1
Salisbury Univ.	Salisbury	1	947	0.1
Univ. of Maryland	Baltimore	1	1,323	0.1
Maine				
Univ. of Maine	Orono	6	1,633	0.4
Univ. of Maine	Presque Isle,	1	217	0.5
Univ. of Maine	Farmington	1	477	0.2
Michigan				
Univ. of Michigan	Ann Arbor	244	5,418	4.5
Western Michigan Univ.	Kalamazoo	186	4,468	4.2
Michigan St. Univ.	East Lansing	178	6,979	2.6
Northern Michigan Univ.	Marquette	135	1,771	7.6
Grand Valley St. Univ.	Allendale	72	2,865	2.5
Ferris St. Univ.	Big Rapids	39	2,327	1.7
Central Michigan Univ.	Mt Pleasant	24	3,579	0.7
Michigan Technical Univ.	Houghton	23	1,275	1.8
Eastern Michigan Univ.	Ypsilanti	11	2,797	0.4
Oakland Univ.	Rochester Hills	6	1,888	0.3

(table continued)

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Michigan (continued)				
Wayne St. Univ.	Detroit	2	2,120	0.1
Univ. of Michigan	Flint	1	670	0.1
Minnesota				
Winona St. Univ.	Winona	117	1,451	8.1
Univ. of Minnesota	Minneapolis	39	4,957	0.8
Univ. of Minnesota	Morris	15	474	3.2
Minnesota St. Univ.	Moorhead	4	1,207	0.3
Univ. of Minnesota	Duluth	4	2,130	0.2
Saint Cloud St. Univ.	St. Cloud	3	2,193	0.1
Minnesota St. University	Mankato	2	2,089	0.1
Bemidji St. Univ.	Bemidji	1	5,82	0.2
Missouri				
Univ. of Missouri	Columbia	272	4,226	6.4
Truman St. Univ.	Kirksville	176	1,403	12.5
Southeast Missouri St. Univ.	Cape Girardeau	153	1,541	9.9
Univ. of Missouri	Rolla	54	680	7.9
Southwest Missouri St. Univ.	Springfield	42	2,578	1.6
Lincoln Univ.	Jefferson City	35	605	5.8
Univ. of Missouri	St Louis	19	620	3.1

(table continued)

Table B1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Missouri (continued)</i>				
Harris-Stowe St. Coll.	St Louis	12	177	6.8
Missouri Western St. Coll.	St Joseph	11	991	1.1
Univ. of Missouri	Kansas City	8	708	1.1
Central Missouri St. Univ.	Warrensburg	7	1,527	0.5
Northwest Missouri St. Univ.	Maryville	5	1,256	0.4
<i>Mississippi</i>				
Jackson St. Univ.	Jackson	58	946	6.1
Univ. of Mississippi	University	27	2,001	1.3
Alcorn St. Univ.	Alcorn State	26	506	5.1
Mississippi St. Univ.	Mississippi State	7	2,013	0.3
Mississippi Valley St. Univ.	Itta Bena	4	332	1.2
Univ. of South. Mississippi	Hattiesburg	3	1,433	0.2
Delta St. Univ.	Cleveland	1	472	0.2
<i>Montana</i>				
Univ. of Montana	Missoula	44	2,163	2.0
Montana St. Univ.	Bozeman	6	2,012	0.3
Univ. of Montana	Dillon	1	261	0.4
Montana St. Univ.	Billings	1	669	0.1

*(table continued)*

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
North Carolina				
Univ. of North Carolina	Chapel Hill	16	3,415	0.5
North Carolina St.	Greensboro	10	1,672	0.6
North Carolina St. Univ.	Raleigh	10	3,839	0.3
Univ. of North Carolina	Wilmington	4	1,673	0.2
Univ. of North Carolina	Asheville	3	502	0.6
Univ. of North Carolina	Charlotte	3	2,203	0.1
East Carolina Univ.	Greenville	3	3,112	0.1
Fayetteville St. Univ.	Fayetteville	2	546	0.4
North Carolina Central Univ.	Durham	2	740	0.3
Appalachian St. Univ.	Boone	2	2,556	0.1
Western Carolina Univ.	Cullowhee	1	1,214	0.1
North Dakota				
Univ. of North Dakota	Grand Forks	18	1,856	1.0
North Dakota St. Univ.	Fargo	2	1,804	0.1
Minot St. Univ.	Minot	1	522	0.2
Nebraska				
Univ. of Nebraska	Lincoln	34	3,667	0.9
Univ. of Nebraska	Omaha	4	1,655	0.2
Chadron St. Coll.	Chadron	1	448	0.2

(table continued)

Table B1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
Nebraska ( <i>continued</i> )				
Univ. of Nebraska	Kearney	1	1,125	0.1
New Hampshire				
Univ. of New Hampshire	Durham	8	2,692	0.3
Keene St. Coll.	Keene	2	943	0.2
New Jersey				
Rutgers Univ.	N. Brunswick	11	5,321	0.2
Ramapo Coll. of N.J.	Mahwah	1	642	0.2
New Jersey Inst. of Tech.	Newark	1	700	0.1
Rutgers Univ.	Newark	1	781	0.1
Montclair St. Univ.	Upper Montclair	1	1,481	0.1
New Mexico				
Univ. of New Mexico	Albuquerque	11	2,636	0.4
New Mexico St. Univ.	Las Cruces	4	2,021	0.2
Western New Mexico Univ.	Silver City	3	380	0.8
Eastern New Mexico Univ.	Portales	3	551	0.5
N. Mexico Highlands Univ.	Las Vegas	1	322	0.3
Nevada				
Univ. of Nevada	Las Vegas	19	2,314	0.8
Univ. of Nevada	Reno	2	1,986	0.1

*(table continued)*

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
New York				
U.S. Military Academy	West point	38	1,112	3.4
Cornell Univ.	Ithaca	27	1,193	2.3
U.S. Marine Academy	Kings Point	7	269	2.6
Fashion Inst. of Tech.	New York	7	1,052	0.7
State University of N.Y.	Purchase	4	638	0.6
N.Y. Coll. of Ceramics	Alfred	3	159	1.9
State University of N.Y.	Stony Brook	3	2,324	0.1
State University of N.Y.	Canton	1	662	0.2
State University of N.Y.	Fredonia	1	1,032	0.1
State University of N.Y.	Alfred	1	1,074	0.1
State University of N.Y.	Oswego	1	1,270	0.1
Hunter Coll.	New York	1	1,845	0.1
State University of N.Y.	Buffalo	1	3,083	0.0
Ohio				
Miami Univ.	Oxford	195	3,117	6.3
Ohio St. Univ.	Columbus	88	5,869	1.5
Ohio Univ.	Athens	32	3,657	0.9
Bowling Green St. Univ.	Bowling Green	29	3,390	0.9
Univ. of Cincinnati	Cincinnati	20	3,624	0.6

(table continued)

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Ohio (continued)				
Central St. Univ.	Wilberforce	14	310	4.5
Univ. of Toledo	Toledo	10	3,583	0.3
Kent St. Univ.	Kent	9	4,131	0.2
Ohio Univ.	Ironton	2	402	0.5
Univ. of Akron	Akron	2	2,916	0.1
Youngstown St. Univ.	Youngstown	1	2,056	0.0
Oklahoma				
Langston Univ.	Langston	47	701	6.7
Univ. of Oklahoma	Norman	14	3,332	0.4
Oklahoma St. Univ.	Stillwater	11	3,096	0.4
Univ. of Central Oklahoma	Edmond	2	2,045	0.1
Univ. of Science and Arts	Chickasha	1	247	0.4
S.W. Oklahoma St. Univ.	Weatherford	1	933	0.1
Oregon				
Univ. of Oregon	Eugene	26	2,876	0.9
Portland St. Univ.	Portland	4	1,049	0.4
Oregon St. Univ.	Corvallis	4	2,718	0.1
Pennsylvania				
Penn. St. Univ.	Univ. Park	29	5,633	0.5
Univ. of Pittsburgh	Pittsburgh	13	3,038	0.4

(table continued)

Table B1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
Pennsylvania ( <i>continued</i> )				
Penn. St. Univ.	Reading	2	843	0.2
Penn. St. Univ.	Erie	2	897	0.2
Temple Univ.	Philadelphia	2	3,077	0.1
Penn. St. Univ.	Fogelsville	1	171	0.6
Penn. St. Univ.	Monaca	1	331	0.3
Penn. St. Univ.	Mckeesport	1	343	0.3
East Stroudsburg Univ.	E. Strouds.	1	886	0.1
Rhode Island				
Univ. of Rhode Island	Kingston	7	2,245	0.3
South Carolina				
Clemson Univ.	Clemson	21	3,034	0.7
The Citadel	Charleston	13	553	2.4
Coll. of Charleston	Charleston	12	2,001	0.6
Univ. of South Carolina	Columbia	11	2,542	0.4
Coastal Carolina Univ.	Conway	9	792	1.1
Univ. of South Carolina	Aiken	2	543	0.4
South Carolina St. Univ.	Orangeburg	1	569	0.2
Univ. of South Carolina	Spartanburg	1	569	0.2
Winthrop Univ.	Rock Hill	1	906	0.1

*(table continued)*

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
South Dakota				
Univ. of South Dakota	Vermillion	3	1,033	0.3
South Dakota St. Univ.	Brookings	3	1,531	0.2
S.D. School of Mines	Rapid City	1	389	0.3
Tennessee				
Tennessee St. Univ.	Nashville	65	1,258	5.2
Univ. of Tennessee	Knoxville	22	3,833	0.6
Univ. of Tennessee	Martin	9	1,103	0.8
Univ. of Memphis	Memphis	5	1,856	0.3
Middle Tennessee St. Univ.	Murfreesboro	4	2,830	0.1
Austin Peay St. Univ.	Clarksville	3	1,121	0.3
Tennessee Technical Univ.	Cookeville	3	1,336	0.2
Univ. of Tennessee	Chattanooga	2	1,099	0.2
East Tennessee St. Univ.	Johnson City	1	1,540	0.1
Texas				
Univ. of Texas	Austin	15	7,686	0.2
Texas A & M Univ.	Galveston	7	431	1.6
Texas Southern Univ.	Houston	7	1,038	0.7
Univ. of Texas Pan Amer.	Edinburg	7	1,422	0.5
Texas A & M Univ.	Coll. Station	7	6,685	0.1

(table continued)

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Texas (continued)				
Prairie View A & M Univ.	Prairie View	6	1,237	0.5
Southwest Texas St. Univ.	San Marcos	4	2,626	0.2
Univ. of North Texas	Denton	4	3,191	0.1
Univ. of Texas	San Antonio	2	2,095	0.1
Texas A & M Univ.	Corpus Christi	1	814	0.1
Univ. of Texas	Richardson	1	839	0.1
Texas A & M Univ.	Kingsville	1	884	0.1
Lamar Univ.	Beaumont	1	1,668	0.1
Univ. of Texas	El Paso	1	2,178	0.0
Stephen F. Austin St. Univ.	Nacogdoches	1	2,299	0.0
Univ. of Houston	Houston	1	3,135	0.0
Texas Technical Univ.	Lubbock	1	4,137	0.0
Utah				
Utah St. Univ.	Logan	17	2,840	0.6
Univ. of Utah	Salt Lake city	14	2,249	0.6
Utah Valley St. Coll.	Orem	14	2,935	0.5
Dixie St. Coll.	St George	4	1,547	0.3
Weber St. Univ.	Ogden	4	2,927	0.1
Southern Utah Univ.	Cedar City	2	777	0.3

(table continued)

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Virginia				
Univ. of Virginia	Charlottesville	20	2,927	0.7
Coll. of William & Mary	Williamsburg	14	1,350	1.0
Virginia Poly. Inst.	Blacksburg	10	4,620	0.2
Virginia Military Inst.	Lexington	6	349	1.7
Norfolk St. Univ.	Norfolk	6	1,301	0.5
Old Dominion Univ.	Norfolk	5	1,455	0.3
James Madison Univ.	Harrisonburg	5	3,226	0.2
Virginia St. Univ.	Petersburg	4	888	0.5
Virginia Commonwealth	Richmond	4	2,729	0.1
Mary Washington Coll.	Fredericksburg	1	876	0.1
Longwood Coll.	Farmville	1	896	0.1
George Mason Univ.	Fairfax	1	2,169	0.0
Vermont				
Univ. of Vermont	Burlington	34	1,776	1.9
Lyndon St. Coll.	Lyndonville	1	292	0.3
Castleton St. Coll.	Castleton	1	336	0.3
Washington				
Univ. of Washington	Seattle	13	4,840	0.3
Evergreen St. Coll.	Olympia	8	483	1.7
Washington St. Univ.	Pullman	1	2,485	0.0

(table continued)

Table B1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Wisconsin				
Univ. of Wisconsin	Madison	527	5,736	9.2
Univ. of Wisconsin	Whitewater	124	2,077	6.0
Univ. of Wisconsin	Kenosha	67	822	8.2
Univ. of Wisconsin	Platteville	43	1,003	4.3
Univ. of Wisconsin	Milwaukee	32	2,977	1.1
Univ. of Wisconsin	La Crosse	27	1,614	1.7
Univ. of Wisconsin	Stevens Point	19	1,530	1.2
Univ. of Wisconsin	Oshkosh	17	1,652	1.0
Univ. of Wisconsin	Green Bay	13	996	1.3
Univ. of Wisconsin	Menomonie	4	1,322	0.3
Univ. of Wisconsin	River Falls	3	1,126	0.3
Univ. of Wisconsin	Eau Claire	3	2,094	0.1
Univ. of Wisconsin	Superior	2	422	0.5
West Virginia				
Marshall Univ.	Huntington	6	2,164	0.3
West Virginia Univ.	Morgantown	5	3,540	0.1
West Virginia St. Coll.	Institute	3	705	0.4
Shepherd Coll.	Shepherdstown	1	715	0.1

(table continued)

Table B1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
Wyoming				
Univ. of Wyoming	Laramie	8	1,352	0.6

*Note.* Migration of first-time, first-year college students only. % refers to the percent of first-time, first-year students enrolled at the institution who are residents of Illinois. Acad.=Academy, Coll.=College, Inst.=Institute, St.=State, Tech.=Technology, Univ.=University.

APPENDIX C

COLLEGE STUDENT MIGRATION FROM ILLINOIS TO FOUR-YEAR  
PRIVATE INSTITUTIONS

Table C1

*Migration of Illinois College Students to Four-Year Non-Profit Private Institutions by State and in Order of Illinois Resident Enrollment, Fall 2000*

Institution	City	Enrollment		
		Illinois	Total	%
Alaska				
Sheldon Jackson Coll.	Sitka	1	33	3.0
Alabama				
Tuskegee Univ.	Tuskegee	25	595	4.2
Spring Hill Coll.	Mobile	9	286	3.1
Oakwood Coll.	Huntsville	9	414	2.2
Miles Coll.	Fairfield	4	450	0.9
Samford Univ.	Birmingham	4	662	0.6
Talladega Coll.	Talladega	3	150	2.0
Concordia Coll.	Selma	2	243	0.8
Univ. of Mobile	Mobile	1	535	0.2
Arkansas				
Harding Univ.	Searcy	14	985	1.4
Philander Smith Coll.	Little Rock	8	129	6.2
John Brown Univ.	Siloam Springs	6	278	2.2
Hendrix Coll.	Conway	2	326	0.6
Ouachita Baptist Univ.	Arkadelphia	2	440	0.5
Central Baptist Univ.	Conway	1	128	0.8
Univ. of the Ozarks	Clarksville	1	169	0.6

*(table continues)*

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Arizona				
Grand Canyon Univ.	Phoenix	6	341	1.8
Prescott Coll.	Prescott	1	88	1.1
California				
Univ. of Southern California	Los Angeles	66	2,916	2.3
Stanford Univ.	Stanford	62	1,598	3.9
Pomona Univ.	Claremont	19	398	4.8
Pepperdine Univ.	Malibu	12	666	1.8
Pitzer Coll.	Claremont	11	218	5.0
Occidental Coll.	Los Angeles	11	498	2.2
Univ. of San Francisco	San Francisco	9	760	1.2
Claremont McKenna Coll.	Claremont	7	263	2.7
Scripps Coll.	Claremont	6	199	3.0
Univ. of San Diego	San Diego	6	1,026	0.6
Harvey Mudd Coll.	Claremont	5	190	2.6
Concordia Univ.	Irvine	5	295	1.7
Univ. of the Redlands	Redlands	5	484	1.0
Azusa Pacific Univ.	Azusa	5	754	0.7
Loyola Marymount Univ.	Los Angeles	5	1,205	0.4
Chapman Univ.	Orange	4	641	0.6

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>California (continued)</i>				
Master's Coll. and Seminary	Santa Clarita	3	202	1.5
California Inst. of Tech.	Pasadena	3	205	1.5
Univ. of the Pacific	Stockton	3	729	0.4
Santa Clara Univ.	Santa Clara	3	1,026	0.3
Yeshiva Seminary	Los Angeles	2	30	6.7
California Inst. of the Arts	Valencia	2	111	1.8
Pacific Union Coll.	Angwin	2	355	0.6
Westmont Coll.	Santa Barbara	2	373	0.5
Univ. of Judaism	Los Angeles	1	16	6.3
S. Cal. Inst. of Architecture	Los Angeles	1	18	5.6
San Francisco Art Inst.	San Francisco	1	34	2.9
Dominican Univ.	San Rafael	1	114	0.9
Christian Heritage Coll.	El Cajon	1	129	0.8
Cal. Coll. of Arts and Crafts	Oakland	1	130	0.8
Notre Dame Univ.	Belmont	1	138	0.7
Fresno Pacific Univ.	Fresno	1	170	0.6
California Baptist Univ.	Riverside	1	204	0.5
Univ. of La Verne	La Verne	1	284	0.4
Biola Univ.	La Mirada	1	603	0.2
St. Mary's Coll.	Moraga	1	616	0.2

*(table continues)*

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Colorado				
Univ. of Denver	Denver	47	951	4.9
Colorado Coll.	Colorado Springs	20	536	3.7
Regis Univ.	Denver	17	373	4.6
Johnson and Wales Univ.	Denver	10	241	4.1
Colorado Christian Univ.	Lakewood	9	357	2.5
Yeshiva Seminary	Denver	1	12	8.3
Nazarene Bible Coll.	Colorado Springs	1	32	3.1
Connecticut				
Yale Univ.	New Haven	41	1,354	3.0
Wesleyan Univ.	Middletown	15	721	2.1
Fairfield Univ.	Fairfield	11	1,008	1.1
Connecticut Coll.	New London	9	476	1.9
Trinity Coll.	Hartford	9	490	1.8
Univ. of Hartford	West Hartford	6	1,292	0.5
Holy Apostles Coll.	Cromwell	2	21	9.5
Mitchell Coll.	New London	1	236	0.4
Sacred Heart Univ.	Fairfield	1	875	0.1

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
District of Columbia				
Howard Univ.	Washington	75	1,438	5.2
Georgetown Univ.	Washington	38	1,493	2.5
George Washington Univ.	Washington	26	2,099	1.2
American Univ.	Washington	25	1,302	1.9
Gallaudet Univ.	Washington	12	235	5.1
Catholic Univ. of America	Washington	7	539	1.3
Trinity Coll.	Washington	1	126	0.8
Florida				
Univ. of Miami	Coral Gables	51	1,980	2.6
Univ. of Tampa	Tampa	34	739	4.6
Embry Riddle Univ.	Daytona Beach	33	1,267	2.6
Lynn Univ.	Boca Raton	20	428	4.7
Eckerd Coll.	St Petersburg	12	408	2.9
Florida Coll.	Temple Terrace	9	278	3.2
Clearwater Christian Coll.	Clearwater	8	192	4.2
Flagler Coll.	St Augustine	8	505	1.6
Florida Inst. of Tech.	Melbourne	8	531	1.5
Ringling School of Art	Sarasota	7	205	3.4

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Florida (continued)				
Rollins Coll.	Winter Park	7	433	1.6
Johnson and Wales Univ.	North Miami	7	519	1.3
Florida Southern Coll.	Lakeland	6	507	1.2
Bethune Cookman Coll.	Daytona Beach	6	840	0.7
Jacksonville Univ.	Jacksonville	5	415	1.2
Florida Memorial Coll.	Miami	5	584	0.9
S.E. Assemblies Coll.	Lakeland	4	269	1.5
Barry Univ.	Miami	4	413	1.0
Palm Beach Atlantic Coll.	West Palm Beach	4	452	0.9
Northwood Univ.	West Palm Beach	3	312	1.0
Webber International Univ.	Babson Park	2	79	2.5
Edward Waters Coll.	Jacksonville	2	339	0.6
Stetson Univ.	Deland	2	522	0.4
Beacon Coll.	Leesburg	1	17	5.9
Trinity Baptist Coll.	Jacksonville	1	86	1.2
St. Leo Univ.	St Leo	1	183	0.5
Georgia				
Clark Atlanta Univ.	Atlanta	66	1,077	6.1
Emory Univ.	Atlanta	42	1,529	2.7

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Georgia (continued)</i>				
Morehouse Coll.	Atlanta	23	718	3.2
Morris Brown Coll.	Atlanta	23	823	2.8
Savannah Coll. of Art	Savannah	21	898	2.3
Covenant Coll.	Lookout Mountain	8	210	3.8
Toccoa Falls Coll.	Toccoa Falls	5	212	2.4
Agnes Scott Coll.	Atlanta	3	256	1.2
Oglethorpe Coll.	Atlanta	1	188	0.5
Life Univ.	Marietta	1	314	0.3
Shorter Coll.	Rome	1	331	0.3
Berry Coll.	Mount Berry	1	488	0.2
Mercer Univ.	Macon	1	762	0.1
<i>Hawaii</i>				
Hawaii Pacific Univ.	Honolulu	13	761	1.7
Brigham Young Univ.	Laie	1	339	0.3
<i>Iowa</i>				
St. Ambrose Univ.	Davenport	154	364	42.3
Loras Coll.	Dubuque	146	385	37.9
Drake Univ.	Des Moines	99	626	15.8

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Iowa (continued)</i>				
Univ. of Dubuque	Dubuque	55	159	34.6
Cornell Coll.	Mt Vernon	55	268	20.5
Iowa Wesleyan Coll.	Mt Pleasant	45	131	34.4
Grinnell Coll.	Grinnell	43	365	11.8
Clarke Coll.	Dubuque	39	139	28.1
Mount St. Clare Coll.	Clinton	33	99	33.3
Luther Coll.	Decorah	29	662	4.4
Marycrest International Univ.	Davenport	28	117	23.9
Coe Coll.	Cedar Rapids	23	282	8.2
Wartburg Coll.	Waverly	19	491	3.9
Mt. Mercy Coll.	Cedar Rapids	14	164	8.5
Faith Baptist Bible Coll.	Ankeny	11	128	8.6
William Penn Univ.	Oskaloosa	10	188	5.3
Northwestern Coll.	Orange City	9	342	2.6
Dordt Coll.	Sioux Center	8	344	2.3
Central Coll.	Pella	8	369	2.2
Emmaus Bible Coll.	Dubuque	7	82	8.5
Upper Iowa Univ.	Fayette	7	185	3.8

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Iowa (continued)</i>				
Briar Cliff Univ.	Sioux City	7	195	3.6
Graceland Univ.	Lamoni	5	268	1.9
Grand View Coll.	Des Moines	3	155	1.9
Waldorf Coll.	Forest City	3	238	1.3
Simpson Coll.	Indianola	3	368	0.8
Palmer Coll.	Davenport	2	17	11.8
Morningside Coll.	Sioux City	2	208	1.0
Maharishi Univ.	Fairfield	1	59	1.7
Buena Vista Univ.	Storm Lake	1	328	0.3
<i>Indiana</i>				
Univ. of Notre Dame	Notre Dame	201	1,958	10.3
Valparaiso Univ.	Valparaiso	194	743	26.1
Butler Univ.	Indianapolis	123	870	14.1
Taylor Univ.	Upland	83	485	17.1
DePauw Univ.	Greencastle	59	610	9.7
St. Mary's Coll.	Notre Dame	58	438	13.2
Rose-Hulman Inst. of Tech.	Terre Haute	56	436	12.8
St. Joseph's Univ.	Rensselaer	52	271	19.2

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Indiana (continued)</i>				
Univ. of Evansville	Evansville	31	556	5.6
Indiana Wesleyan Univ.	Marion	23	966	2.4
Anderson Univ.	Anderson	22	549	4.0
Trinity Coll.	Newburgh	22	839	2.6
Bethel Coll.	Mishawaka	19	303	6.3
Univ. of Indianapolis	Indianapolis	17	660	2.6
Indiana Inst. of Tech.	Ft Wayne	13	407	3.2
Calumet Coll. of St. Joseph	Whiting	12	89	13.5
Earlham Coll.	Richmond	11	280	3.9
Oakland City Univ.	Oakland City	11	352	3.1
St. Mary's of the Woods Coll.	Terre Haute	8	80	10.0
Taylor Univ.	Ft Wayne	8	122	6.6
Goshen Coll.	Goshen	8	215	3.7
Huntington Coll.	Huntington	5	207	2.4
Grace Coll.	Winona Lake	5	212	2.4
Wabash Coll.	Crawfordsville	5	236	2.1
Tri-State Univ.	Angola	5	282	1.8
Franklin Coll.	Franklin	5	316	1.6

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Indiana (continued)				
Manchester Coll.	North Manchester	4	333	1.2
Marian Coll.	Indianapolis	1	225	0.4
Kansas				
Midamerica Univ.	Olathe	7	265	2.6
McPherson Coll.	Mcpherson	3	137	2.2
Benedictine Coll.	Atchison	3	218	1.4
Central Christian Coll.	Mcpherson	2	105	1.9
Bethel Coll.	North Newton	1	121	0.8
Bethany Coll.	Lindsborg	1	161	0.6
Newman Univ.	Wichita	1	187	0.5
Friends Univ.	Wichita	1	257	0.4
Kentucky				
Asbury Coll.	Wilmore	16	304	5.3
Bellarmino Univ.	Louisville	7	379	1.8
Kentucky Christian Coll.	Grayson	4	149	2.7
Centre Coll.	Danville	4	306	1.3
Mid-Continent Coll.	Mayfield	3	59	5.1
Linsey Wilson Coll.	Columbia	3	503	0.6

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Kentucky (continued)</i>				
Kentucky Wesleyan Coll.	Owensboro	2	159	1.3
Berea Coll.	Berea	2	421	0.5
Midway Coll.	Midway	1	160	0.6
Transylvania Coll.	Lexington	1	241	0.4
Thomas More Coll.	Crestview Hills	1	250	0.4
<i>Louisiana</i>				
Tulane Univ.	New Orleans	61	1,587	3.8
Xavier Univ.	New Orleans	46	834	5.5
Dillard Univ.	New Orleans	17	638	2.7
Loyola Univ.	New Orleans	15	849	1.8
Centenary Coll.	Shreveport	1	229	0.4
<i>Massachusetts</i>				
Boston Univ.	Boston	70	4,131	1.7
Boston Coll.	Chestnut Hill	61	2,097	2.9
Harvard Univ.	Cambridge	42	1,673	2.5
Massachusetts Inst. of Tech.	Cambridge	33	1,010	3.3
Tufts Univ.	Medford	31	1,191	2.6
Brandeis Univ.	Waltham	18	860	2.1
Coll. of the Holy Cross	Worcester	17	706	2.4

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Massachusetts (continued)				
Wellesley Coll.	Wellesley	16	592	2.7
Smith Coll.	Northampton	16	627	2.6
Williams Coll.	Williamstown	12	527	2.3
Berklee Coll.	Boston	11	632	1.7
Emerson Coll.	Boston	10	643	1.6
Gordon Coll.	Wenham	9	411	2.2
Amherst Coll.	Amherst	9	435	2.1
Hampshire Coll.	Amherst	8	349	2.3
Northeastern Univ.	Boston	8	3,457	0.2
Mount Holyoke Coll.	South Hadley	7	527	1.3
Dean Coll.	Franklin	5	663	0.8
Simons Rock Coll.	Great Barrington	3	162	1.9
Simmons Coll.	Boston	3	385	0.8
Babson Coll.	Wellesley	3	430	0.7
Curry Coll.	Milton	3	439	0.7
Merrimack Coll.	North Andover	3	536	0.6
Suffolk Coll.	Boston	3	659	0.5
New England Conservatory	Boston	2	103	1.9
Pine Manor Coll.	Chestnut Hill	2	127	1.6

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Massachusetts (continued)</i>				
Endicott Coll.	Beverly	2	412	0.5
Clark Univ.	Worcester	2	499	0.4
Stonehille Coll.	Easton	2	631	0.3
"Worcester Poly, Inst."	Worcester	2	694	0.3
Boston Architectural Center	Boston	1	101	1.0
Bay Path Coll.	Longmeadow	1	162	0.6
Regis Coll.	Weston	1	174	0.6
Mt. Ida Coll.	Newton Centre	1	452	0.2
Bentley Coll.	Waltham	1	940	0.1
<i>Maryland</i>				
Johns Hopkins Univ.	Baltimore	25	1,069	2.3
Loyola Univ.	Silver Spring	6	910	0.7
Maryland Inst. of Art	Baltimore	3	298	1.0
Goucher Coll.	Baltimore	2	365	0.5
St. John's Coll.	Annapolis	1	140	0.7
Columbia Union Coll.	Takoma Park	1	162	0.6
Washington Coll.	Chestertown	1	374	0.3

*(table continues)*

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Maine				
Colby Coll.	Waterville	15	469	3.2
Bates Coll.	Lewiston	9	471	1.9
Bowdoin Coll.	Brunswick	4	452	0.9
Coll. of the Atlantic	Bar Harbor	1	66	1.5
Maine Coll. of Art	Portland	1	102	1.0
Univ. of New England	Biddeford	1	296	0.3
Michigan				
Calvin Coll.	Grand Rapids	79	1,053	7.5
Hope Coll.	Holland	59	754	7.8
Andrews Univ.	Berrien Springs	24	309	7.8
Kettering Univ.	Flint	18	614	2.9
Olivet Coll.	Olivet	15	205	7.3
Kalamazoo Coll.	Kalamazoo	12	325	3.7
Cornerstone Univ.	Grand Rapids	12	397	3.0
Aquinas Coll.	Grand Rapids	9	362	2.5
Albion Coll.	Albion	9	408	2.2
Northwood Univ.	Midland	9	413	2.2
Coll. for Creative Studies	Detroit	5	198	2.5
Lawrence Technical Univ.	Southfield	5	705	0.7

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Michigan (continued)				
Univ. of Detroit	Detroit	4	429	0.9
Reformed Bible Coll.	Grand Rapids	3	51	5.9
Yeshiva Seminary	Oak Park	2	15	13.3
Finlandia Univ.	Hancock	2	86	2.3
Baker Coll.	Flint	2	111	1.8
Rochester Coll.	Rochester Hills	2	150	1.3
Siena Heights Coll.	Adrian	2	243	0.8
Alma Coll.	Alma	2	371	0.5
Baker Coll.	Owosso	2	542	0.4
Baker Coll.	Muskegon	2	783	0.3
Baker Coll.	Flint	2	977	0.2
Concordia Univ.	Ann Arbor	1	111	0.9
Davenport Univ.	Holland	1	114	0.9
David Wolcott Kendall	Grand Rapids	1	115	0.9
Adrian Coll.	Adrian	1	323	0.3
Minnesota				
St. Mary's Univ.	Winona	53	360	14.7
Bethel Coll.	St Paul	46	606	7.6
St. Olaf Coll.	Northfield	38	753	5.0

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Minnesota (continued)				
Carleton Coll.	Northfield	30	472	6.4
North Central Univ.	Minneapolis	19	308	6.2
Macalester Coll.	St Paul	17	454	3.7
Univ. of St. Thomas	St Paul	16	1,083	1.5
Gustavus Adolphus Coll.	St Peter	8	678	1.2
Martin Luther Coll.	New Ulm	7	275	2.5
Concordia Univ.	St Paul	6	219	2.7
Northwestern Coll.	St Paul	5	448	1.1
St. John's Univ.	Collinville	4	522	0.8
Crown Coll.	St Bonifacius	3	166	1.8
Augsburg Coll.	Minneapolis	3	351	0.9
Coll. of St. Scholastica	Duluth	3	374	0.8
Coll. of St. Benedict	St Joseph	3	514	0.6
Concordia Coll.	Moorhead	3	740	0.4
Hamline Univ.	St Paul	2	423	0.5
Apostolic Bible Inst.	St Paul	1	26	3.8
Oak Hills Christian Coll.	Bemidji	1	32	3.1
Minnesota Bible Coll.	Rochester	1	35	2.9
Minneapolis Coll. of Art	Minneapolis	1	105	1.0
Coll. of St. Catherine	St Paul	1	343	0.3

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Missouri				
St. Louis Univ.	St Louis	322	1,407	22.9
Washington Univ.	St Louis	177	1,422	12.4
St. Louis Coll. of Pharmacy	St Louis	70	147	47.6
Culver-Stockton Coll.	Canton	66	214	30.8
Webster Univ.	St Louis	40	474	8.4
Hannibal-LaGrange Univ.	Hannibal	29	145	20.0
Lindewood Univ.	St Charles	29	780	3.7
Maryville Univ.	St Louis	26	260	10.0
Southwest Baptist Univ.	Bolivar	21	491	4.3
Evangel Univ.	Springfield	18	355	5.1
Missouri Baptist Univ.	St Louis	16	171	9.4
Ozark Christian Coll.	Joplin	14	212	6.6
Fontbonne Coll.	St Louis	13	167	7.8
Missouri Valley Coll.	Marshall	13	436	3.0
Drury Univ.	Springfield	13	477	2.7
Baptist Bible Coll.	Springfield	8	297	2.7
St. Louis Christian Coll.	Florissant	7	22	31.8
Central Bible Coll.	Springfield	6	138	4.3
William Woods Univ.	Fulton	6	158	3.8

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Missouri (continued)</i>				
Westminster Coll.	Fulton	6	173	3.5
Columbia Coll.	Columbia	6	1,968	0.3
Central Christian Coll.	Moberly	5	36	13.9
Central Methodist Coll.	Fayette	5	220	2.3
Kansas City Art Inst.	Kansas City	4	83	4.8
Stephens Coll.	Columbia	4	135	3.0
Rockhurst Univ.	Kansas City	3	272	1.1
Calvary Bible Coll.	Kansas City	2	32	6.3
Avila Coll.	Kansas City	2	167	1.2
Coll. of the Ozarks	Point Lookout	2	298	0.7
William Jewel Coll.	Liberty	2	309	0.6
Midwestern Baptist Seminary	Kansas City	1	2	50.0
Jewish Coll. of Nursing	St Louis	1	12	8.3
Research Coll. of Nursing	Kansas City	1	12	8.3
Messenger Coll.	Joplin	1	21	4.8
Conception Seminary Coll.	Conception	1	25	4.0
<i>Mississippi</i>				
Rust Coll.	Holly Springs	45	213	21.1

*(table continues)*

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Mississippi (continued)				
Tougaloo Coll.	Tougaloo	26	231	11.3
Belhaven Coll.	Jackson	1	207	0.5
Millsaps Coll.	Jackson	1	293	0.3
Montana				
Rock Mountain Coll.	Billings	3	158	1.9
North Carolina				
Duke Univ.	Durham	44	1,587	2.8
Wake Forest Univ.	Winston Salem	16	1,023	1.6
Davidson Coll.	Davidson	9	465	1.9
Bennett Coll.	Greensboro	5	161	3.1
Warren Wilson Coll.	Swannanoa	4	174	2.3
Shaw Univ.	Raleigh	4	425	0.9
Johnson C. Smith Univ.	Charlotte	4	498	0.8
Mt. Olive Coll.	Mt Olive	3	142	2.1
Belmont Abbey Coll.	Belmont	3	249	1.2
Guilford Coll.	Greensboro	3	316	0.9
Elon Univ.	Elon	3	1,148	0.3
Livingstone Coll.	Salisbury	2	269	0.7
Meredith Coll.	Raleigh	2	437	0.5

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Montana (continued)</i>				
Campbell Univ.	Buies Creek	2	1,055	0.2
Barber-Scotia Coll.	Concord	1	148	0.7
Lees-McRae Coll.	Banner Elk	1	191	0.5
Barton Coll.	Wilson	1	271	0.4
St. Augustine's Coll.	Raleigh	1	351	0.3
Methodist Coll.	Fayetteville	1	425	0.2
High Point Univ.	High Point	1	469	0.2
<i>Nebraska</i>				
Creighton Univ.	Omaha	42	888	4.7
Concordia Univ.	Seward	13	328	4.0
Midland Lutheran Univ.	Fremont	3	281	1.1
Nebraska Christian Coll.	Norfolk	2	63	3.2
Union Coll.	Lincoln	2	144	1.4
Nebraska Wesleyan Univ.	Lincoln	1	423	0.2
<i>New Hampshire</i>				
Dartmouth Coll.	Hanover	33	1,081	3.1
New England Coll.	Henniker	3	250	1.2
St. Anselm Coll.	Manchester	3	532	0.6
South New Hampshire Univ.	Manchester	1	780	0.1

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
New Jersey				
Princeton Univ.	Princeton	34	1,158	2.9
Seton Hall Univ.	South Orange	7	1,135	0.6
Rabbi Jacob Joseph School	Edison	3	31	9.7
Rider Univ.	Lawrenceville	3	896	0.3
Rabbinical Coll. of America	Morristown	2	35	5.7
Centenary Coll.	Hackettstown	2	158	1.3
Talmudical Academy	Adelphia	1	10	10.0
Stevens Inst. of Tech.	Hoboken	1	376	0.3
Drew Univ.	Madison	1	420	0.2
New Mexico				
Coll. of Santa Fe	Santa Fe	5	183	2.7
St. John's Coll.	Santa Fe	4	99	4.0
New York				
New York Univ.	New York	79	3,867	2.0
Cornell Univ.	Ithaca	46	2,061	2.2
Syracuse Univ.	Syracuse	35	2,831	1.2
Yeshiva Univ.	New York	28	819	3.4
Columbia Univ.	New York	28	1,378	2.0
Fordham Univ.	Bronx	28	1,676	1.7

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
New York (continued)				
Colgate Univ.	Hamilton	21	713	2.9
Univ. of Rochester	Rochester	19	1,044	1.8
Vassar Coll.	Poughkeepsie	13	639	2.0
Ithaca Coll.	Ithaca	11	1,677	0.7
Barnard Coll.	New York	10	552	1.8
Union Coll.	Schenectady	10	559	1.8
Sarah Lawrence Coll.	Bronxville	9	292	3.1
Culinary Inst. of America	Hyde Park	9	502	1.8
New School Univ.	New York	9	636	1.4
Hamilton Coll.	Clinton	8	467	1.7
Cooper Union	New York	7	202	3.5
Bard Coll.	Annandale	7	345	2.0
Hofstra Coll.	Hempstead	7	1,963	0.4
Iona Coll.	New Rochelle	6	832	0.7
Rensselaer Poly. Inst.	Troy	6	1,304	0.5
The Julliard School	New York	5	117	4.3
Marymount Manhattan Coll.	New York	5	474	1.1
Hobard William Smith Coll.	Geneva	4	524	0.8
Touro Coll.	New York	4	1,336	0.3

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
New York (continued)				
Rabbinical Coll.	Long Beach	3	24	12.5
St. John's Univ.	Jamaica	3	2,882	0.1
Rabbinical Sem. of Amer.	Forest Hills	2	84	2.4
Alfred Univ.	Alfred	2	345	0.6
Houghton Coll.	Houghton	2	359	0.6
Manhattanville Coll.	Purchase	2	407	0.5
Le Moyne Coll.	Syracuse	2	511	0.4
St. Lawrence Univ.	Canton	2	613	0.3
Pratt Inst.	Brooklyn	2	638	0.3
Yeshiva of the Telshe	Riverdale	1	30	3.3
Practical Bible Coll.	Bible School Park	1	52	1.9
Central Yeshiva	Brooklyn	1	92	1.1
Albany Coll. of Pharmacy	Albany	1	112	0.9
Wells Coll.	Aurora	1	122	0.8
New York Inst. of Tech.	Central Islip	1	149	0.7
Long Island Univ.	Southampton	1	248	0.4
Dowling Coll.	Oakdale	1	360	0.3
Hartwick Coll.	Oneonta	1	399	0.3
Nyack Coll.	Nyack	1	437	0.2

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
New York (continued)				
Wagner Coll.	Staten Island	1	498	0.2
St. Bonaventure Coll.	St Bonaventure	1	585	0.2
Adelphi Univ.	Garden City	1	637	0.2
Niagara Univ.	Lewiston	1	640	0.2
Long Island Univ.	Brooklyn	1	966	0.1
Marist Coll.	Poughkeepsie	1	1,143	0.1
Rochester Inst. of Tech.	Rochester	1	2,092	0.0
Ohio				
Univ. of Dayton	Dayton	150	1,769	8.5
John Carrol Univ.	Cleveland	25	833	3.0
Wilberforce Univ.	Wilberforce	23	202	11.4
Denison Univ.	Granville	23	648	3.5
Wittenberg Univ.	Springfield	23	649	3.5
Oberlin Univ.	Oberlin	23	772	3.0
Cedarville Univ.	Cedarville	22	716	3.1
Xavier Univ.	Cincinnati	22	776	2.8
Kenyon Coll.	Gambier	18	436	4.1
Case Western Reserve Univ.	Cleveland	16	837	1.9
Ohio Wesleyan Univ.	Delaware	13	536	2.4

(table continues)

Table C1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Ohio (continued)</i>				
Coll. of Wooster	Wooster	9	498	1.8
Univ. of Northwester	Lima	7	1297	0.5
Franciscan Univ.	Steubenville	5	326	1.5
Univ. of Findlay	Findlay	5	905	0.6
Cleveland Inst. of Music	Cleveland	4	58	6.9
Antioch Coll.	Yellow Springs	4	124	3.2
Columbus Coll. of Art	Columbus	4	305	1.3
Marietta Coll.	Marietta	4	316	1.3
Otterbein Coll.	Westerville	4	644	0.6
God's Bible School and Coll.	Cincinnati	2	70	2.9
Cincinnati Bible Coll.	Cincinnati	2	134	1.5
Capital Univ.	Columbus	2	553	0.4
Baldwin-Wallace Coll.	Berea	2	754	0.3
Coll. of Mortuary Science	Cincinnati	1	11	9.1
Ursuline Coll.	Pepper Pike	1	72	1.4
Lake Erie Coll.	Painesville	1	86	1.2
Cleveland Inst. of Art	Cleveland	1	112	0.9
Bluffton Coll.	Bluffton	1	227	0.4
Urbana Univ.	Urbana	1	229	0.4

*(table continues)*

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Ohio (continued)</i>				
Tiffin Univ.	Tiffin	1	329	0.3
Mt. Vernon Nazarene Coll.	Mt Vernon	1	385	0.3
Walsh Univ.	North Canton	1	397	0.3
Muskingum Univ.	New Concord	1	408	0.2
Ashland Univ.	Ashland	1	458	0.2
Ohio Northern Univ.	Ada	1	576	0.2
<i>Oklahoma</i>				
Oral Roberts Univ.	Tulsa	25	719	3.50
Oklahoma Christian Univ.	Edmond	5	446	1.10
Univ. of Tulsa	Tulsa	3	627	0.50
Bacone Coll.	Muskogee	3	679	0.4
Oklahoma Wesleyan Univ.	Bartlesville	2	120	1.7
Oklahoma City Univ.	Oklahoma City	2	358	0.6
St. Gregory's Univ.	Shawnee	1	162	0.6
<i>Oregon</i>				
Reed Coll.	Portland	15	362	4.1
Lewis and Clark Coll.	Portland	9	429	2.1
Concordia Univ.	Portland	2	170	1.2

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Oregon (continued)</i>				
Pacific N.W. Coll. of Art	Portland	1	30	3.3
Multnomah Bible Coll.	Portland	1	103	1.0
Western Baptist Coll.	Salem	1	154	0.6
Willamette Coll.	Salem	1	506	0.2
Univ. of Portland	Portland	1	653	0.2
<i>Pennsylvania</i>				
Univ. of Pennsylvania	Philadelphia	47	2,751	1.7
Villanova Univ.	Villanova	35	1,599	2.2
Carnegie Mellon Univ.	Pittsburgh	18	1,329	1.4
Bucknell Univ.	Lewisburg	16	915	1.7
Lehigh Univ.	Bethlehem	15	1,129	1.3
Bryn Mawr Coll.	Bryn Mawr	10	359	2.8
Swarthmore Coll.	Swarthmore	9	367	2.5
Grove City Coll.	Grove City	5	630	0.8
Haverford Coll.	Haverford	4	334	1.2
Lafayette Coll.	Easton	4	559	0.7
Messiah Coll.	Grantham	4	741	0.5
Duquesne Univ.	Pittsburgh	4	1,265	0.3
Drexel Univ.	Philadelphia	4	2,298	0.2

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Pennsylvania (continued)				
Bryn Athyn Coll.	Bryn Athyn	3	59	5.1
Baptist Bible Coll.	Clarks Summit	3	171	1.8
Eastern Univ.	St Davids	3	403	0.7
Franklin and Marshall Coll.	Lancaster	3	510	0.6
Dickinson Coll.	Carlisle	3	594	0.5
St. Joseph's Univ.	Philadelphia	3	1,029	0.3
Talmud Yeshiva	Philadelphia	2	36	5.6
Philadelphia Biblical Univ.	Langhorne	2	156	1.3
Geneva Coll.	Beaver Falls	2	355	0.6
Univ. of the Arts	Philadelphia	2	498	0.4
Allegheny Coll.	Meadville	2	565	0.4
Gettysburg Coll.	Gettysburg	2	686	0.3
Univ. of Scranton	Scranton	2	845	0.2
Mercy Hurst Coll.	Erie	2	1,036	0.2
Chatham Coll.	Pittsburgh	1	139	0.7
La Roche Coll.	Pittsburgh	1	351	0.3
Delaware Valley Coll.	Doylestown	1	382	0.3
Point Park Coll.	Pittsburgh	1	405	0.2
Gannon Univ.	Erie	1	582	0.2

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Pennsylvania (continued)				
La Salle Univ.	Philadelphia	1	853	0.1
York Coll.	York	1	902	0.1
Rhode Island				
Brown Univ.	Providence	32	1428	2.2
Providence Coll.	Providence	16	930	1.7
Johnson and Wales Univ.	Providence	16	2,330	0.7
R.I. School of Design	Providence	6	387	1.6
Salve Regina Univ.	Newport	5	545	0.9
Roger Williams Univ.	Bristol	5	856	0.6
South Carolina				
Bob Jones Univ.	Greenville	24	894	2.7
Furman Univ.	Greenville	8	693	1.2
Columbia International Univ.	Columbia	3	111	2.7
Johnson and Wales Univ.	Charleston	2	308	0.6
Coker Coll.	Hartsville	1	186	0.5
Converse Coll.	Spartanburg	1	199	0.5
Columbia Coll.	Columbia	1	253	0.4
Wofford Coll.	Spartanburg	1	308	0.3
Presbyterian Coll.	Clinton	1	329	0.3
Benedict Coll.	Columbia	1	793	0.1

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
South Dakota				
Dakota Wesleyan Univ.	Mitchell	1	159	0.6
Univ. of Sioux Falls	Sioux Falls	1	233	0.4
Tennessee				
Vanderbilt Univ.	Nashville	79	1,643	4.8
Fisk Univ.	Nashville	21	272	7.7
Belmont Univ.	Nashville	19	469	4.1
Union Univ.	Jackson	17	455	3.7
Johnson Bible Coll.	Knoxville	14	152	9.2
Lane Coll.	Jackson	11	230	4.8
Southern Adventist Univ.	Collindale	9	571	1.6
Lee Univ.	Cleveland	7	629	1.1
Milligan Coll.	Milligan Coll.	6	198	3.0
David Lipscomb Univ.	Nashville	6	588	1.0
Freed-Hardeman Univ.	Henderson	5	360	1.4
Rhodes Coll.	Memphis	5	396	1.3
Free Will Baptist Coll.	Nashville	4	74	5.4
Tennessee Temple Univ.	Chattanooga	4	172	2.3
Univ. of the South	Sewanee	3	384	0.8
MeHarry Medical Coll.	Nashville	2	46	4.3

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Tennessee (continued)				
Bethel Coll.	Mckenzie	2	140	1.4
Trevecca Nazarene Univ.	Nashville	2	223	0.9
Christian Brothers Univ.	Memphis	2	239	0.8
Lambuth Univ.	Jackson	2	252	0.8
Bryan Coll.	Dayton	1	162	0.6
Tusculum Coll.	Greeneville	1	184	0.5
Texas				
Southern Methodist Univ.	Dallas	32	1,278	2.5
Baylor Univ.	Waco	20	2,832	0.7
Texas Christian Univ.	Ft Worth	12	1,493	0.8
Letourneau Univ.	Longview	9	286	3.1
Rice Univ.	Houston	9	626	1.4
Univ. of Dallas	Irving	7	280	2.5
Trinity Univ.	San Antonio	7	657	1.1
Texas Coll.	Tyler	4	92	4.3
Jarvis Christian Coll.	Hawkins	4	150	2.7
Southwestern Adventist Coll.	Keene	4	172	2.3
Abilene Christian Coll.	Abilene	4	1,029	0.4
Texas Wesleyan Univ.	Ft Worth	2	291	0.7

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Texas (continued)				
Lubbock Christian Univ.	Lubbock	2	326	0.6
Southwestern Christian Coll.	Terrell	1	88	1.1
Northwood Univ.	Cedar Hill	1	202	0.5
Our Lady of the Lake Univ.	San Antonio	1	273	0.4
Texas Lutheran Univ.	Seguin	1	331	0.3
Austin Coll.	Sherman	1	347	0.3
Southwestern Seminary	Georgetown	1	354	0.3
S.W. Assemblies of God	Waxahachie	1	367	0.3
St. Edward's Univ.	Austin	1	417	0.2
St. Mary's Univ.	San Antonio	1	660	0.2
Utah				
Brigham Young Univ.	Provo	54	4,322	1.2
Western Governor's Univ.	Salt Lake City	1	49	2.0
Virginia				
Hampton Univ.	Hampton	28	993	2.8
Univ. of Richmond	Richmond	17	713	2.4
Liberty Univ.	Lynchburg	13	1,378	0.9
Washington and Lee Univ.	Lexington	9	449	2.0
Randolph-Macon Women's	Lynchburg	4	216	1.9

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Virginia (continued)				
Southern Virginia Univ.	Buena Vista	3	258	1.2
Christendom Coll.	Front Royal	2	86	2.3
Eastern Mennonite Univ.	Harrisonburg	2	222	0.9
Shenandoah Univ.	Winchester	2	367	0.5
Lynchburg Coll.	Lynchburg	2	438	0.5
St. Paul's Coll.	Lawrenceville	1	86	1.2
Sweet Briar Coll.	Sweet Briar	1	164	0.6
Averett Coll.	Danville	1	236	0.4
Randolph-Macon Coll.	Ashland	1	339	0.3
Virginia Union Univ.	Richmond	1	450	0.2
Vermont				
Middlebury Coll.	Middlebury	8	563	1.4
Norwich Univ.	Northfield	6	523	1.1
Green Mountain Coll.	Poultney	3	209	1.4
Marlboro Coll.	Marlboro	2	67	3.0
Bennington Coll.	Bennington	1	161	0.6
St. Michael's Coll.	Colchester	1	525	0.2
Washington				
Univ. of Puget Sound	Tacoma	11	649	1.7

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Washington (continued)				
Seattle Pacific Univ.	Seattle	5	612	0.8
Seattle Univ.	Seattle	3	664	0.5
Gonzaga Univ.	Spokane	2	791	0.3
Pacific Lutheran Univ.	Tacoma	1	583	0.2
Wisconsin				
Marquette Univ.	Milwaukee	534	1,686	31.7
Carthage Coll.	Kenosha	241	513	47.0
St. Norbert Coll.	De Pere	123	549	22.4
Milwaukee Coll. of Eng.	Milwaukee	88	521	16.9
Carroll Coll.	Waukesha	75	513	14.6
Beloit Coll.	Beloit	72	304	23.7
Lawrence Univ.	Appleton	51	359	14.2
Ripon Coll.	Ripon	34	280	12.1
Marian Coll.	Fond Du lac	31	241	12.9
Concordia Univ.	Mequon	21	342	6.1
Milwaukee Inst. of Art	Milwaukee	20	171	11.7
Lakeland Coll.	Plymouth	20	173	11.6
Northland Coll.	Ashland	19	194	9.8
Maranatha Coll.	Watertown	18	208	8.7

(table continues)

Table C1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Wisconsin (continued)</i>				
Edgewood Coll.	Madison	14	282	5.0
Viterbo Coll.	La Crosse	10	330	3.0
Cardinal Stritch Univ.	Milwaukee	9	107	8.4
Wisconsin Lutheran Coll.	Milwaukee	7	196	3.6
Alverno Coll.	Milwaukee	6	194	3.1
Mount Mary Coll.	Milwaukee	4	97	4.1
Mount Senario Coll.	Ladysmith	2	110	1.8
<i>West Virginia</i>				
Wheeling Jesuit Univ.	Wheeling	5	267	1.9
Appalachian Bible Coll.	Bradley	2	70	2.9
Mountain State Univ.	Beckley	2	127	1.6
Salem International Univ.	Salem	1	86	1.2
Alderson Broaddus Coll.	Philippi	1	141	0.7
W. V. Wesleyan Coll.	Buckhannon	1	414	0.2

*Note.* Migration of first-time, first-year college students only. % refers to the percent of first-time, first-year students enrolled at the institution who are residents of Illinois. Cal.=California, Coll.=College, Inst.=Institute, St.=State, Tech.=Technology, Univ.=University.

APPENDIX D

COLLEGE STUDENT MIGRATION FROM ILLINOIS  
TO TWO-YEAR PUBLIC INSTITUTIONS

Table D1

*Migration of Illinois College Students to Two-Year Public Institutions by State and in Order of Illinois Resident Enrollment, Fall 2000*

Institution	City	Enrollment		
		Illinois	Total	%
Alabama				
Comm. Coll. of the Air Force	Montgomery	219	34,728	0.6
Lurleen B. Wallace Junior Coll.	Andalusia	2	282	0.7
Snead St. Comm. Coll.	Boaz	1	422	0.2
Southern Union St. Comm. Coll.	Wadley	3	1,015	0.3
Arkansas				
South Arkansas Comm. Coll.	El Dorado	1	460	0.2
Arizona				
Mesa Comm. Coll.	Mesa	12	1,314	0.9
Gateway Comm. Coll.	Phoenix	4	1,083	0.4
Glendale Comm. Coll.	Glendale	3	934	0.3
Yavapai Coll.	Prescott	3	610	0.5
Arizona Western Coll.	Yuma	2	797	0.3
Eastern Arizona Coll.	Thatcher	1	765	0.1
Northland Pioneer Coll.	Holbrook	1	394	0.3
Phoenix Coll.	Phoenix	1	850	0.1
Pima Comm. Coll.	Tucson	1	7,224	0.0

*(table continues)*

Table D1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Colorado				
Front Range Comm. Coll.	Westminster	15	3,091	0.5
Colorado Mountain Coll.	Glen. Springs	12	856	1.4
Aims Comm. Coll.	Greeley	5	328	1.5
Red Rocks Comm. Coll.	Lakewood	5	1,502	0.3
Arapahoe Comm. Coll.	Littleton	3	893	0.3
Pueblo Comm. Coll.	Pueblo	2	781	0.3
Comm. Coll. of Aurora	Aurora	1	957	0.1
Comm. Coll. of Denver	Denver	1	1,101	0.1
Northeastern Junior Coll.	Sterling	1	370	0.3
Otero Junior Coll.	La Junta	1	353	0.3
Connecticut				
Capital Comm. Coll.	Hartford	1	906	0.1
Florida				
Central Florida Comm. Coll.	Ocala	8	1,050	0.8
Edison Comm. Coll.	Ft Myers	6	1,319	0.5
Valencia Comm. Coll.	Orlando	6	4,840	0.1
Brevard Comm. Coll.	Cocoa	5	2,068	0.2
Santa Fe Comm. Coll.	Gainesville	5	1,927	0.3
Tallahassee Comm. Coll.	Tallahassee	5	1,746	0.3

(table continues)

Table D1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Florida (continued)				
Indian River Comm. Coll.	Ft Pierce	2	1,024	0.2
Palm Beach Comm. Coll.	Lake Worth	2	2,427	0.1
St. Petersburg Coll.	Pinellas Park	2	3,243	0.1
St. John's River Comm. Coll.	Palatka	2	865	0.2
Broward Comm. Coll.	Ft Lauderdale	1	4,654	0.0
Miami-Dade Comm. Coll.	Miami	1	7,600	0.0
Okaloosa-Walton Comm. Coll.	Niceville	1	984	0.1
Pensacola Junior Coll.	Pensacola	1	1,718	0.1
Georgia				
Atlanta Metro. Coll.	Atlanta	3	610	0.5
Floyd Coll.	Rome	3	656	0.5
Abraham Baldwin Coll.	Tifton	1	961	0.1
Darton Coll.	Albany	1	684	0.1
East Georgia Coll.	Swainsboro	1	490	0.2
Middle Georgia Technical Coll.	Warner Robin	1	817	0.1
Georgia Parameter Coll.	Decatur	5	2,433	0.2
Hawaii				
Honolulu Comm. Coll.	Honolulu	1	774	0.1
Kapiolani Comm. Coll.	Honolulu	1	1,111	0.1

(table continues)

Table D1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Iowa				
Eastern Iowa Comm. Coll.	Davenport	177	2,105	8.4
Southeastern Comm. Coll.	W. Burlington	134	999	13.4
Northeast Comm. Coll.	Calmar	32	1,054	3.0
Kirkwood Comm. Coll.	Cedar Rapids	24	2,571	0.9
Indian Hills Comm. Coll.	Ottumwa	14	1,544	0.9
Hawkeye Comm. Coll.	Waterloo	11	1,645	0.7
Iowa Western Comm. Coll.	Council Bluffs	3	1,024	0.3
Northwest Iowa Comm. Coll.	Sheldon	3	341	0.9
North Iowa Comm. Coll.	Mason City	2	950	0.2
Iowa Central Comm. Coll.	Ft Dodge	1	700	0.1
Southwestern Comm. Coll.	Creston	1	346	0.3
Idaho				
Coll. of Southern Idaho	Twin Falls	1	1,086	
Indiana				
Ivy Tech St. Coll.	Gary	157	793	19.8
Vincennes Univ.	Vincennes	60	3,550	1.7
Ivy Tech St. Coll.	Terre Haute	58	695	8.3
Ivy Tech St. Coll.	Evansville	5	463	1.1
Ivy Tech St. Coll.	Indianapolis	1	1,255	0.1
Ivy Tech St. Coll.	Muncie	1	777	0.1

(table continues)

Table D1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Kansas				
Dodge City Comm. Coll.	Dodge City	6	502	1.2
Fort Scott Comm. Coll.	Ft Scott	5	289	1.7
Independence Comm. Coll.	Independence	4	624	0.6
Garden City Comm. Coll.	Garden City	3	693	0.4
Neosho County Comm. Coll.	Chanute	3	265	1.1
Hutchinson Comm. Coll.	Hutchinson	2	1,183	0.2
Johnson County Comm. Coll.	Over. Park	2	1,860	0.1
Allen County Comm. Coll.	Iola	1	561	0.2
Barton County Comm. Coll.	Great Bend	1	1,002	0.1
Cloud County Comm. Coll.	Concordia	1	279	0.4
Highland Comm. Coll.	Highland	1	1,308	0.1
Pratt Comm. Coll.	Pratt	1	237	0.4
Kentucky				
West Kentucky Technical Coll.	Paducah	40	722	5.5
Paducah Comm. Coll.	Paducah	15	671	2.2
Lexington Comm. Coll.	Lexington	2	1,618	0.1
Henderson Comm. Coll.	Henderson	1	293	0.3
Jefferson Comm. Coll.	Louisville	1	2,248	0.0
Somerset Comm. Coll.	Somerset	1	618	0.2

(table continues)

Table D1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Louisiana				
Delgado Comm. Coll.	New Orleans	1	2,120	0.0
Louisiana Technical Coll.	Morgan City	1	507	0.2
Massachusetts				
Mount Wachusett Comm. Coll.	Gardner, MA	1	849	0.1
Michigan				
Grand Rapids Comm. Coll.	Grand Rapids	2	2,613	0.1
Muskegon Comm. Coll.	Muskegon	2	1,105	0.2
Jackson Comm. Coll.	Jackson	1	618	0.2
Lansing Comm. Coll.	Lansing	1	2,368	0.0
Northwestern Michigan Coll.	Traverse City	1	918	0.1
Minnesota				
Mesabi Range Comm. Coll.	Virginia	5	514	1.0
Northland Comm. Coll.	Thief River	4	493	0.8
Pine Technical Coll.	Pine City	3	324	0.9
Minnesota St. Coll.	Red Wing	3	467	0.6
Alexandria Technical Coll.	Alexandria	2	743	0.3
Hibbing Comm. Coll.	Hibbing	2	608	0.3
Minneapolis Comm. Coll.	Minneapolis	2	1,633	0.1

(table continues)

Table D1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Minnesota (continued)</i>				
St. Paul Technical Coll.	St Paul	2	1,155	0.2
Ridgewater Coll.	Willmar	2	1,171	0.2
Anoka-Ramsey Comm. Coll.	Coon Rapids	1	1,934	0.1
Central Lakes Coll.	Brainerd	1	1,012	0.1
Minnesota West Comm. Coll.	Granite Falls	1	974	0.1
North Hennepin Comm. Coll.	Brooklyn Park	1	1,608	0.1
Normandale Comm. Coll.	Bloomington	1	2,525	0.0
<i>Missouri</i>				
St. Louis Comm. Coll.	St Louis	55	1,074	5.1
St. Louis Comm. Coll.	Kirkwood	19	1,024	1.9
St. Louis Comm. Coll.	St Louis	19	802	2.4
Moberly Comm. Coll.	Moberly	4	680	0.6
Jefferson Coll.	Hillsboro	3	922	0.3
St. Fair Comm. Coll.	Sedalia	3	954	0.3
East Central Coll.	Union	1	500	0.2
Ozarks Technical Comm. Coll.	Springfield	1	1,276	0.1
Linn St. Technical Coll.	Linn	1	377	0.3
St. Charles Comm. Coll.	St Peters	1	734	0.1
<i>Mississippi</i>				
Coahoma Comm. Coll.	Clarksdale	6	277	2.2

(table continues)

Table D1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Mississippi (continued)</i>				
Hinds Comm. Coll.	Raymond	4	5,108	0.1
Jones County Junior Coll.	Ellisville	1	1,731	0.1
Northwest Mississippi Comm. Coll.	Senatobia	1	1,522	0.1
<i>North Carolina</i>				
Coastal Carolina Comm. Coll.	Jacksonville	24	927	2.6
Fayetteville Technical Comm. Coll.	Fayetteville	11	1,641	0.7
Craven Comm. Coll.	New Bern	8	645	1.2
Wayne Comm. Coll.	Goldsboro	5	579	0.9
Guilford Technical Comm. Coll.	Jamestown	3	2,317	0.1
Catawba Valley Comm. Coll.	Hickory	2	525	0.4
Cape Fear Comm. Coll.	Wilmington	1	897	0.1
Central Carolina Comm. Coll.	Sanford	1	925	0.1
Durham Technical Comm. Coll.	Durham	1	856	0.1
Robeson Comm. Coll.	Lumberton	1	356	0.3
<i>New Jersey</i>				
Ocean County Coll.	Toms River	1	1,580	0.1

*(table continues)*

Table D1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
New Mexico				
New Mexico Military Inst.	Roswell	5	274	1.8
San Juan Coll.	Farmington	2	685	0.3
New Mexico St. Univ.	Las Cruces	1	665	0.2
Clovis Comm. Coll.	Clovis	1	210	0.5
New Mexico Junior Coll.	Hobbs	1	909	0.1
Nevada				
Comm. Coll. of South Nevada	Las Vegas	13	2,598	0.5
Ohio				
Hocking Technical Coll.	Nelsonville	5	1,499	0.3
Sinclair Comm. Coll.	Dayton	3	2,349	0.1
Northeastern Oklahoma A & M	Miami	3	705	0.4
Lima Technical Coll.	Lima	1	466	0.2
Oklahoma				
Oklahoma St. Univ.	Okmulgee	2	1,177	0.2
Western Oklahoma St. Coll.	Altus	2	516	0.4
Southwestern Oregon Comm. Coll.	Coos Bay	2	427	0.5
Pennsylvania				
Northhampton County Comm. Coll.	Bethlehem	2	1,573	0.1

(table continues)

Table D1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
Pennsylvania ( <i>continued</i> )				
Comm. Coll. of Beaver County	Monaca	1	713	0.1
South Carolina				
Trident Technical Coll.	Charleston	4	1,507	0.3
Univ. of South Carolina	Beaufort	3	192	1.6
Tech. Coll. of the Low Country	Beaufort	1	442	0.2
Denmark Technical Coll.	Denmark	1	388	0.3
Piedmont Technical Coll.	Greenwood	1	713	0.1
Tennessee				
Nashville St. Technical Inst.	Nashville	1	608	0.2
Texas				
Collin County Comm. Coll.	Mckinney	4	2,195	0.2
McLennan Comm. Coll.	Waco	3	1,501	0.2
Brookhaven Coll.	Farmers Br.	2	964	0.2
North Harris Mont. Comm. Coll.	Houston	2	7,207	0.0
Tarrant County Coll.	Ft Worth	2	4,821	0.0
Blinn Coll.	Brenham	1	3,308	0.0
Del Mar Coll.	Corpus Christi	1	2,029	0.0
El Paso Comm. Coll.	El Paso	1	3,871	0.0

*(table continues)*

Table D1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Texas (continued)				
Frank Phillips Coll.	Borger	1	317	0.3
Grayson County Coll.	Denison	1	1,109	0.1
Laredo Comm. Coll.	Laredo	1	1,174	0.1
St. Phillips Coll.	San Antonio	1	1,408	0.1
Texas St. Technical Coll.	Waco	1	1,011	0.1
Tyler Junior Coll.	Tyler	1	2,272	0.0
Northwest Vista Coll.	San Antonio	1	422	0.2
Utah				
Salt Lake Comm. Coll.	Salt Lake city	1	2,991	0.0
Virginia				
Tidewater Comm. Coll.	Norfolk	13	2,871	0.5
Northern Virginia Comm. Coll.	Annandale	2	2,630	0.1
Thomas Nelson Comm. Coll.	Hampton	2	1,138	0.2
John Tyler Comm. Coll.	Chester	1	263	0.4
Richard Bland	Petersburg	1	372	0.3
Washington				
Columbia Basin Coll.	Pasco	2	882	0.2
Bellevue Comm. Coll.	Bellevue	1	276	0.4

(table continues)

Table D1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
Washington ( <i>continued</i> )				
Peninsula Coll.	Port Angeles	1	352	0.3
Wisconsin				
Gateway Technical Coll.	Kenosha	7	768	0.9
Milwaukee Technical Coll.	Milwaukee	7	2,307	0.3
Northeast Wisconsin Tech. Coll.	Green Bay	7	1,111	0.6
Moraine Park Technical Coll.	Fond Du lac	6	524	1.1
Univ. of Wisconsin Coll.	Madison	3	3,951	0.1
Blackhawk Technical Coll.	Janesville	1	563	0.2
Wisconsin Indianhead Technical Coll.	Shell Lake	1	1,690	0.1
Wyoming				
Northwest Comm. Coll.	Powell	3	367	0.8

*Note.* Migration of first-time, first-year college students only. % refers to the percent of first-time, first-year students enrolled at the institution who are residents of Illinois. Coll.=College, Inst.=Institute, St.=State, Tech.=Technology, Univ.=University.

APPENDIX E

COLLEGE STUDENT MIGRATION FROM ILLINOIS  
TO TWO-YEAR PRIVATE INSTITUTIONS

Table E1

*Migration of Illinois College Students to Two-Year Non-Profit Private Institutions by State and in Order of Illinois Resident Enrollment, Fall 2000*

Institution	City	Enrollment		
		Illinois	Total	%
Alabama				
Marion Military Inst.	Marion	4	130	3.1
California				
Mary Mount College	Rancho Palos	2	438	0.5
Colorado				
Boulder College	Boulder	2	60	3.3
Florida				
City College	Miami	1	232	0.4
Georgia				
Young Harris College	Young Harris	1	330	0.3
Idaho				
Brigham University	Rexburg	9	1,704	0.5
Indiana				
Holy Cross College	Notre Dame	25	204	12.3
St. Elizabeth College	Lafayette	1	23	4.3
Kansas				
Hesston College	Hesston	10	183	5.5

*(table continues)*

Table E1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
Minnesota				
Bethany Lutheran College	Mankato	1	199	0.5
Missouri				
Cottey College	Nevada	5	156	3.2
Ranken Technical Inst.	St Louis	194	576	3.7
Mississippi				
Mary Holmes College	West Point	1	81	1.2
New York				
American Music & Drama Acad.	New York	5	321	1.6
Circle in the Square School	New York	1	52	1.9
Neighborhood Playhouse	New York	1	80	1.3
Word of Life Bible Inst.	Pottersville	17	543	3.1
Lynn University	Old Forge	2	17	11.8
Pennsylvania				
Valley Forge Military Inst.	Wayne	2	116	1.7
Tennessee				
John A . Gupton College	Nashville	1	36	2.8
Texas				
Jacksonville College	Jacksonville	1	84	1.2
Lon Morris College	Jacksonville	1	144	0.7

(table continues)

Table E1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
Vermont				
Landmark College	Putney	1	52	1.9

*Note.* Migration of first-time, first-year college students only. % refers to the percent of first-time, first-year students enrolled at the institution who are residents of Illinois. Inst.=Institute. Acad.=Academy, Inst.=Institute.

APPENDIX F

COLLEGE STUDENT MIGRATION FROM ILLINOIS  
TO FOR-PROFIT INSTITUTIONS

Table F1

*Migration of Illinois College Students to For-Profit Institutions by State and in Order of Illinois Resident Enrollment, Fall 2000*

Institution	City	Enrollment		
		Illinois	Total	%
Arkansas				
Eastern Coll. of Health Vocations	Little Rock	1	292	0.3
Arizona				
Clinton Technical Inst.	Phoenix	78	1,503	5.2
Univ. of Phoenix	Phoenix	18	575	3.1
Collins. Coll.	Tempe	17	2,926	0.6
Universal Technical Inst.	Phoenix	17	2,091	0.8
High-Tech Inst.	Phoenix	13	1,467	0.9
Conservatory of Recording Arts	Tempe	9	225	4.0
Art Inst. of Colorado	Phoenix	6	268	2.2
DeVry Univ.	Phoenix	5	1,014	0.5
Univ. of Advancing Computer Technology	Tempe	3	276	1.1
Mundus Inst.	Phoenix	2	28	7.1
Scottsdale Culinary Inst.	Scottsdale	2	541	0.4
Desert Inst. of Healing Arts	Tucson	1	158	0.6
Roberto-Venn School of Luthiery	Phoenix	1	33	3.0

*(table continues)*

Table F1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Arizona (continued)</i>				
Scott Cole Academy	Scottsdale	1	44	2.3
<i>California</i>				
Coll. of Oceaneering	Wilmington	7	245	2.9
Brooks Coll.	Long Beach	5	1,018	0.5
California Culinary Acad.	San Francisco	5	954	0.5
Fashion Inst.	Los Angeles	4	709	0.6
Musicians Inst.	Hollywood	3	314	1.0
Acad. of Art Coll.	San Francisco	2	443	0.5
Sierra Academy of Aeronautics	Oakland	2	477	0.4
So. California Univ. of Professional Studies	Santa Ana	2	128	1.6
Travel and Trade Career Inst.	Long Beach	2	160	1.3
Computer Education Inst.	Lake Forest	1	506	0.2
DeVry Univ.	Long Beach	1	821	0.1
Intercoast Coll.	Santa Ana	1	238	0.4
Platt Coll.	San Diego	1	342	0.3
DeVry Univ.	Pomona	1	1,046	0.1
Art Inst. of Los Angeles	Santa Monica	1	699	0.1

*(table continues)*

Table F1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>California (continued)</i>				
Professional Golfers Career Coll.	Temecula	1	104	1.0
Universal Technical Inst.	R. Cucamonga	1	211	0.5
<i>Colorado</i>				
Westwood Coll.	Broomfield	13	1,188	1.1
Art Inst. of Colorado	Denver	4	477	0.8
Bel-Rea Inst. of Animal Tech.	Denver	4	135	3.0
Parks Coll.	Denver	2	129	1.6
Westwood Coll. of Tech.	Denver	2	869	0.2
Rocky Mountain Coll. of Art	Denver	1	72	1.4
Colorado School of Healing Arts	Lakewood	1	110	0.9
Heritage Coll.	Denver	1	271	0.4
Cambridge Coll.	Aurora	1	426	0.2
Denver Technical Coll.	Denver	1	32	3.1
<i>Florida</i>				
Full Sail Real World Education	Winter Park	51	1,910	2.7
Southeastern Acad.	Kissimmee	23	284	8.1

(table continues)

Table F1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
Florida ( <i>continued</i> )				
Clinton Technical Inst.	Orlando	16	854	1.9
Comair Academy	Sanford	15	404	3.7
American Motorcycle Inst.	Day. Beach	13	422	3.1
Art Inst. of Ft. Lauderdale	Ft Laud.	3	622	0.5
DeVry Univ.	Orlando	2	330	0.6
International Acad. of Design and Tech.	Tampa	1	249	0.4
The Academy	Lakeland	1	332	0.3
ITT	Jacksonville	1	206	0.5
Career Training Inst.	Orlando	1	215	0.5
New England Inst. of Tech.	W. Palm Bch.	1	419	0.2
Humanities Center of Allied Health	Pinellas Park	1	326	0.3
High-Tech Inst.	Orlando	1	453	0.2
Florida Coll. of Natural Health	Sarasota	1	33	3.0
Georgia				
Bauder Coll.	Atlanta	1	272	0.4
DeVry Univ.	Decatur	1	899	0.1
DeVry Univ. Keller School of Management	Decatur	1	0	0.0

*(table continues)*

Table F1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Georgia (continued)</i>				
Art Inst. of Atlanta	Atlanta	1	509	0.2
DeVry Univ.	Alpharetta	1	476	0.2
<i>Iowa</i>				
Kaplan Coll.	Davenport	37	128	28.9
Capri Coll.	Davenport	32	93	34.4
Hamilton Technical Coll.	Davenport	32	80	40.0
Capri Coll.	Dubuque	18	96	18.8
La James Coll. of Hairstyling	Davenport	6	31	19.4
Davenport Barber Coll.	Davenport	2	17	11.8
La James Coll. of Hairstyling	Iowa City	1	90	1.1
<i>Idaho</i>				
DBA Career Beauty Coll.	Rexburg	1	41	2.4
<i>Indiana</i>				
Lincoln Technical Inst.	Indianapolis	84	703	11.9
ITT	Indianapolis	37	350	10.6
Sawyer Coll.	Hammond	15	79	19.0
ITT	Newburgh	14	144	9.7
Don Roberts School of Hair Design	Munster	11	36	30.6

(table continues)

Table F1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
Indiana ( <i>continued</i> )				
Creative Hair Styling Acad.	Highland	10	63	15.9
Olympia Coll.	Merrillville	5	85	5.9
Coll. of Court Reporting	Hobart	3	21	14.3
J. Michael Harrold Beauty Acad.	Terre Haute	3	66	4.5
Commonwealth Business Coll.	Merrillville	3	87	3.4
Rogers Acad. of Hair Design	Evansville	3	78	3.8
Indiana Business Coll.	Evansville	2	44	4.5
Indiana Business Coll.	Terre Haute	1	68	1.5
International Business Coll.	Ft Wayne	1	330	0.3
ITT	Ft Wayne	1	215	0.5
Alexandria School of Scientific Therapeutics	Alexandria	1	79	1.3
Kentucky				
Paducah Technical Coll.	Paducah	14	98	14.3
Minnesota				
Aveda Inst.	Minneapolis	12	369	3.3
Art Inst. International of Minnesota	Minneapolis	1	249	0.4

*(table continues)*

Table F1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Minnesota (continued)</i>				
Model Coll. of Hair Design	St Cloud	1	90	1.1
Rasmussen Coll.	St Cloud	1	n/a	--
<i>Missouri</i>				
Hickey Coll.	St Louis	60	222	27.0
Missouri Coll.	St Louis	53	544	9.7
Vatterott Coll.	St Ann	44	337	13.1
ITT	Earth City	35	245	14.3
Vatterott Coll.	Sunset Hills	34	400	8.5
Sanford-Brown Coll.	Fenton	33	316	10.4
Sanford-Brown Coll..	Hazelwood	32	273	11.7
ITT	Arnold	24	203	11.8
Allied Medical Coll.	St Louis	15	406	3.7
Lutheran Medical Center Coll. of Nursing	St Louis	12	28	42.9
Deaconess Coll. of Nursing	St Louis	10	34	29.4
Patricia Stevens Coll.	St Louis	9	21	42.9
Sanford-Brown Coll.	St Charles	7	146	4.8
Midwest Inst.	Kirkwood	4	78	5.1
DeVry Univ.	Kansas City	1	663	0.2
Central Coll. of Cosmetology	St Robert	1	50	2.0

*(table continues)*

Table F1 (continued)

Institution	City	Enrollment		
		Illinois	Total	%
North Carolina				
School of Communication Arts	Raleigh	1	153	0.7
Nebraska				
Joseph's Coll. of Beauty	Lincoln	1	262	0.4
New Jersey				
Joe Kubert School of Graphic Arts	Dover	1	67	1.5
New York				
School of Visual Arts	New York	2	481	0.4
School for Film or Television	New York	1	24	4.2
Five Towns Coll.	Dix Hills	1	272	0.4
French Culinary Inst.	New York	1	80	1.3
Monroe Coll.	New Rochelle	1	291	0.3
DeVry Inst.	Long Island	1	841	0.1
Ohio				
Ohio Technical Coll.	Cleveland	2	346	0.6
DeVry Univ.	Columbus	1	949	0.1
Oklahoma				
Spartan School	Tulsa	8	312	2.6
Tulsa Wedding Coll.	Tulsa	3	327	0.9

(table continues)

Table F1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
Oregon				
Western Culinary Inst.	Portland	8	551	1.5
Pennsylvania				
Pennsylvania Culinary Inst.	Pittsburgh	3	1,599	0.2
Pittsburgh Technical Inst.	Pittsburgh	2	1,030	0.2
Douglas Education Center	Monessen	1	100	1.0
International Academy of Art	Pittsburgh	1	745	0.1
South Carolina				
Golf Academy of the Carolinas	Myrtle Beach	2	39	5.1
South Dakota				
Black Hills Beauty Coll.	Rapid City	1	55	1.8
Tennessee				
Nashville Auto Diesel Coll.	Nashville	50	1,298	3.9
North Central Inst.	Clarksville	1	88	1.1
Texas				
Universal Technical Inst.	Houston	16	1,625	1.0
School of Automotive Machinists	Houston	4	n/a	--
DeVry Univ.	Irving	2	1,028	0.2

*(table continues)*

Table F1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Texas (continued)</i>				
Ocean Corporation	Houston	1	124	0.8
Court Reporting Inst.	Dallas	1	122	0.8
<i>Utah</i>				
ITT	Murray	1	179	0.6
<i>Virginia</i>				
Stratford Univ.	Falls Church	1	630	0.2
<i>Vermont</i>				
New England Culinary Inst.	Montpelier	4	177	2.3
New England Culinary Inst.	Essex Junc.	3	160	1.9
<i>Washington</i>				
Divers Inst. of Tech.	Seattle	2	81	2.5
International Air Academy	Vancouver	1	250	0.4
Art Inst. of Seattle	Seattle	1	448	0.2
<i>Wisconsin</i>				
Madison Media Inst.	Madison	22	233	9.4
Meredith Manor Equestrian Center	Waverly	3	61	4.9
Wisconsin School of Professional Pet Grooming	Okauchee	3	44	6.8

*(table continues)*

Table F1 (*continued*)

Institution	City	Enrollment		
		Illinois	Total	%
<i>Wisconsin (continued)</i>				
Martins Coll. of Cosmetology	Appleton	1	65	1.5
ITT	Greenfield	1	147	0.7
<i>Wyoming</i>				
Wyoming Technical Inst.	Laramie	76	479	15.9

*Note.* Migration of first-time, first-year college students only. % refers to the percent of first-time, first-year students enrolled at the institution who are residents of Illinois. n/a% refers to institutions that did not report enrollment. Acad.=Academy, Coll.=College, Inst.=Institute, Tech.=Technology, Univ.=University.

APPENDIX G

COLLEGE STUDENT IN-MIGRATION TO ILLINOIS  
FOUR-YEAR PUBLIC INSTITUTIONS

Table G1

*College Student In-Migration to Illinois Four-Year Public Institutions in Order of Non-Resident Enrollment, Fall 2000*

Institution	Enrollment			
	Non-resident	Illinois	Total	%
Univ. of Illinois-Urbana	498	5,534	6,032	8.3
Southern Illinois Univ.-Carbondale	224	2,165	2,389	9.4
Southern Illinois Univ.-Edwardsville	163	1,358	1,521	10.7
Western Illinois Univ.	91	1,681	1,772	5.1
Northern Illinois Univ.	85	2,680	2,765	3.1
Univ. of Illinois-Chicago	70	2,748	2,818	2.5
Eastern Illinois Univ.	40	1,476	1,516	2.6
Illinois St. Univ.	32	3,223	3,255	1.0
Chicago St. Univ.	17	363	380	4.5
Northeastern Illinois Univ.	1	850	851	0.1
All four-year public	1,221	22,078	23,299	5.2

*Note.* Migration of first-time, first-year college students only. % refers to the percent of first-time, first-year students enrolled who are not residents of Illinois. Univ.=University.

APPENDIX H

COLLEGE STUDENT IN-MIGRATION TO ILLINOIS  
FOUR-YEAR PRIVATE INSTITUTIONS

Table H1

*College Student In-Migration to Illinois Four-Year Non-Profit Private Institutions in Order of Non-Resident Enrollment, Fall 2000*

Institution	Enrollment			
	Non-resident	Illinois	Total	%
Northwestern Univ.	1,335	423	1,758	75.9
Univ. of Chicago	714	225	939	76.0
Wheaton Coll.	440	107	547	80.4
DePaul Univ.	391	1,535	1,926	20.3
Loyola Univ. Chicago	328	538	866	37.9
Columbia Coll. Chicago	289	1,135	1,424	20.3
Olivet Nazarene Univ.	248	219	467	53.1
School of Art Inst. of Chicago	200	52	252	79.4
Bradley Univ.	180	888	1,068	16.9
Illinois Inst. of Tech.	178	158	336	53.0
Lake Forest College	178	127	305	58.4
North Park Univ.	158	188	346	45.7
Knox Coll.	131	141	272	48.2
Trinity Christian Coll.	130	95	225	57.8
Moody Bible Inst.	117	39	156	75.0
Principia Coll.	106	6	112	94.6

*(table continues)*

Table H1 (*continued*)

Institution	Enrollment			
	Non-resident	Illinois	Total	%
Millikin Univ.	100	478	578	17.3
Greenville Coll.	98	159	257	38.1
Trinity International Univ.	91	111	202	45.0
Concordia Univ.	90	148	238	37.8
North Central Coll.	63	364	427	14.8
MacMurray Coll.	62	136	198	31.3
Augustana Coll.	61	546	607	10.0
Hebrew Theological Coll.	59	70	129	45.7
Quincy Univ.	59	173	232	25.4
Illinois Wesleyan Univ.	55	474	529	10.4
McKendree Coll.	53	233	286	18.5
Elmhurst Coll.	48	253	301	15.9
Judson Coll.	46	124	170	27.1
Lincoln Christian Coll.	37	111	148	25.0
Lewis Univ.	31	400	431	7.2
Lincoln Coll.	25	463	488	5.1
Rockford Coll.	24	154	178	13.5

*(table continues)*

Table H1 (*continued*)

Institution	Enrollment			
	Non-resident	Illinois	Total	%
Aurora Univ.	23	176	199	11.6
Benedictine Univ.	18	257	275	6.5
Monmouth Coll.	18	265	283	6.4
Barat Coll.	16	97	113	14.2
Kendall Coll.	16	85	101	15.8
Illinois Inst. of Art at Schaumburg	16	105	121	13.2
Saint Xavier Univ.	15	347	362	4.1
Blackburn Coll.	14	174	188	7.4
Robert Morris Coll.	12	1663	1675	0.7
Dominican Univ.	11	168	179	6.1
Blessing Rieman Coll. of Nursing	8	9	17	47.1
Telshe Yeshiva	8	6	14	57.1
Vandercook Coll. of Music	8	12	20	40.0
Eureka Coll.	7	116	123	5.7
Illinois Coll.	7	231	238	2.9
Shimer Coll.	5	7	12	41.7

*(table continues)*

Table H1 (continued)

Institution	Enrollment			
	Non-resident	Illinois	Total	%
Lexington Coll.	4	18	22	18.2
Roosevelt Univ.	4	252	256	1.6
Univ. of St. Francis	4	187	191	2.1
National Univ. of Health Sci.	2	27	29	6.9
Christian Life Coll.	1	4	5	20.0
East-West Univ.	0	301	301	0.0
Illinois Baptist Coll.	0	5	5	0.0
Trinity Coll. of Nursing	0	3	3	0.0
National-Louis Univ.	0	173	173	0.0
All Four-Year Private	6,164	15,348	21,512	28.7

*Note.* Migration of first-time, first-year college students only. % refers to the percent of first-time, first-year students enrolled who are not residents of Illinois. Coll.=College, Inst.=Institute, Tech.=Technology, Univ.=University.

APPENDIX I

COLLEGE STUDENT IN-MIGRATION TO ILLINOIS  
TWO-YEAR PUBLIC INSTITUTIONS

Table I1

*College Student In-Migration to Illinois Two-Year Non-Profit Public Institutions in Order of Non-Resident Enrollment, Fall 2000*

Institution	Enrollment			
	Non-resident	Illinois	Total	%
John Wood Comm. Coll.	80	624	704	11.4
Shawnee Comm. Coll.	75	257	332	22.6
Danville Comm. Coll.	65	588	653	10.0
Illinois Eastern Comm. Coll.	52	1,675	1,727	3.0
Prairie State Coll.	50	889	939	5.3
Black Hawk Coll.	48	1,265	1,313	3.7
South Suburban Coll.	36	523	559	6.4
Coll. of Lake County	35	1,802	1,837	1.9
Southwestern Illinois Coll.	32	2,193	2,225	1.4
Parkland Coll.	26	1,994	2,020	1.3
Highland Comm. Coll.	25	570	595	4.2
Lake Land Coll.	23	1,642	1,665	1.4
Lewis and Clark Comm. Coll.	21	779	800	2.6
Illinois Central Coll.	12	2,060	2,072	0.6
Triton Coll.	10	2,600	2,610	0.4
Carl Sandburg Coll.	9	744	753	1.2

*(table continues)*

Table II (*continued*)

Institution	Enrollment			
	Non-resident	Illinois	Total	%
Southeastern Illinois Coll.	9	515	524	1.7
Coll. of DuPage	8	4,160	4,168	0.2
Kankakee Comm. Coll.	8	340	348	2.3
McHenry County Coll.	8	754	762	1.0
Rock Valley Coll.	6	414	420	1.4
Kaskaskia Coll.	5	814	819	0.6
Oakton Comm. Coll.	5	1,578	1,583	0.3
William Rainey Harper Coll.	5	2,977	2,982	0.2
Harold Washington Coll.	4	1,431	1,435	0.3
Joliet Jr. Coll.	4	2,082	2,086	0.2
Lincoln Land Comm. Coll.	4	1,525	1,529	0.3
Elgin Comm. Coll.	2	1,374	1,376	0.1
Spoon River Coll.	2	468	470	0.4
Kennedy-King Coll.	1	485	486	0.2
Malcolm X. Coll.	1	829	830	0.1
Olive-Harvey Coll.	1	534	535	0.2
Richard J. Daley Coll.	1	1,035	1,036	0.1

*(table continues)*

Table II (continued)

Institution	Enrollment			
	Non-resident	Illinois	Total	%
Illinois Valley Comm. Coll.	1	1,218	1,219	0.1
Moraine Valley Comm. Coll.	1	2,895	2,896	0.0
Morton Coll.	1	676	677	0.1
Heartland Comm. Coll.	1	1,442	1,443	0.1
Harry S. Truman Coll.	0	733	733	0.0
Wilbur Wright Coll.	0	1,244	1,244	0.0
John A. Logan Coll.	0	594	594	0.0
Kishwaukee Coll.	0	724	724	0.0
Rend Lake Coll.	0	986	986	0.0
Richland Comm. Coll.	0	684	684	0.0
Sauk Valley Comm. Coll.	0	504	504	0.0
Waubensee Comm. Coll.	0	1,138	1,138	0.0
All Two-Year Public	677	54358	55035	1.2

*Note.* Migration of first-time, first-year college students only. % refers to the percent of first-time, first-year students enrolled who are not residents of Illinois. Coll.=College, Comm.=Community.

APPENDIX J

COLLEGE STUDENT IN-MIGRATION TO ILLINOIS  
TWO-YEAR PRIVATE INSTITUTIONS

Table J1

*College Student In-Migration to Illinois Two-Year Non-Profit Private Institutions in Order of Non-Resident Enrollment, Fall 2000*

Institution	Enrollment			
	Non-resident	Illinois	Total	%
Springfield College	5	98	103	4.9
Blessing School of Radiologic Technology	3	6	9	33.3
Morrison Institute of Technology	3	46	49	6.1
Methodist Medical Center School of Nursing	1	2	3	33.3
College of Office Technology	0	13	13	0.0
MacCormac College	0	45	45	0.0
Spanish Coalition for Jobs	0	75	75	0.0
All Two-Year Private	12	285	297	4.0

*Note.* Migration of first-time, first-year college students only. % refers to the percent of first-time, first-year students enrolled who are not residents of Illinois.

APPENDIX K

COLLEGE STUDENT IN-MIGRATION TO ILLINOIS  
FOR-PROFIT INSTITUTIONS

Table K1

*College Student In-Migration to Illinois For-Profit Institutions in Order of Non-Resident Enrollment, Fall 2000*

Institution	Enrollment			
	Non-Resident	Illinois	Total	%
Universal Technical Inst.	724	678	1,402	51.6
Illinois Inst. of Art	138	411	549	25.1
DeVry Univ.	121	2,480	2,601	4.7
Lincoln Technical Inst.	59	307	366	16.1
International Acad. of Design and Tech.	28	572	600	4.7
American Acad. of Art	14	80	94	14.9
Cooking and Hospitality Inst.	14	82	96	14.6
Harrington Inst. of Interior Design	8	49	57	14.0
ITT	6	110	116	5.2
La James Coll. of Hairstyling	5	35	40	12.5
Gem City Coll.	5	9	14	35.7
Illinois Center for Broadcasting	5	13	18	27.8
Fox Coll.	4	137	141	2.8
Pivot Point Beauty School	6	236	242	2.5
Westwood Coll. of Tech.	4	138	142	2.8
Commonwealth Business Coll.	2	7	9	22.2

*(table continues)*

Table K1 (continued)

Institution	Enrollment			
	Non-Resident	Illinois	Total	%
Trend Setters Coll. of Cosmetology	1	57	58	1.7
Cameo Beauty Acad.	1	107	108	0.9
Coyne Inst.	1	494	495	0.2
Concept Coll. of Cosmetology	1	31	32	3.1
John Amico School of Hair Design	1	62	63	1.6
All For-Profit	1,148	10,963	12,111	9.5

*Note.* Migration of first-time, first-year college students only. % refers to the percent of first-time, first-year students enrolled who are not residents of Illinois. 50 for-profit Illinois institutions reported zero enrollment of non-residents and are not shown in this table. The sums for Illinois enrollment and total enrollment include the 50 institutions not shown in this table. The % reflects this adjustment. Acad.=Academy, Coll.=College, Inst.=Institute, Tech.=Technology, Univ.=University.

## AUTHOR'S BIOGRAPHY

Ryan Smith was born in Washington, Iowa in 1972 and grew up in Iowa and Missouri. He graduated from Kirksville Senior High School in 1990 and received a Bachelor's Degree in Art History & Archaeology from the University of Missouri at Columbia in 1994. In 1997, he married Angela Moroni and received a Master of Science in Education degree from Drake University in Des Moines, Iowa. Afterwards, he accepted a position as an admissions counselor at the University of Missouri at Kansas City. In Fall 1999, he enrolled at the University of Illinois at Urbana-Champaign, completing a Doctor of Philosophy in Education in 2006. In 2005, Ryan and Angela had a daughter, Jenna Elizabeth. He is currently employed as the Dean of Institutional Effectiveness at Joliet Junior College in Joliet, Illinois.