



**Survey of Current Practices
In Postsecondary Graduate Retention**

January 2000

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Foreword

The Indiana Human Capital Retention Project Series

Physical capital was dominant in the economic life of the nineteenth and early twentieth centuries. Machines “made things” and the economy of the United States became the largest and most successful precisely because of its ability to manufacture the products that could be sold around the world. In the last 40 years, economists have increasingly understood that human capital is important to the growth of a country’s economy. The education and experience of the labor force being utilized within a region’s economy makes a very significant difference in the rates of return on business investment and on the quality of life within the region. Human capital, therefore, represents a strategic advantage in the increasingly competitive international economy in which we all participate.

One measure of human capital is the educational attainment of a region, state, or nation, defined as the percentage of the population with a certain level of schooling. Indiana is a state with historically low educational attainment at the collegiate level. In 1970 Indiana ranked 44th among the 50 states in terms of population with a four-year college degree; by 1997 the state’s ranking had fallen to 48th. This statistic is even more troubling in a state like Indiana with higher education institutions that are generally regarded as excellent.

The stock of human capital within a state is difficult to affect. It is a function of the jobs within a state’s economy which is in turn affected by the human capital available to the investors who wish to locate new productive enterprises within that economy. The Indiana Human Capital Retention Project was formulated as a research response to Indiana’s perceived human capital problem. It consists of several research initiatives, each of which looks at a different part of the human capital issue.

The Indiana Human Capital Retention Project is funded by a grant from the Lilly Endowment, Inc. and receives additional funding from the Indiana Commission for Higher Education and the Indiana State Chamber of Commerce. The research for the project is being carried out by a number of experienced academic and independent researchers under the direction of the Indiana Fiscal Policy Institute.

Survey of Current Practices in Postsecondary Graduate Retention is the fourth report published in the Indiana Human Capital Retention Project Series. This report presents the findings from a survey of the practices of all fifty states in addressing the graduate retention issue. The survey was conducted by the Indiana Fiscal Policy Institute and focused on state-level policies and practices, leaving largely untouched graduate retention efforts being conducted by individual universities and localities. This study in the Human Capital Series helps to focus policymakers’ attention on those practices which may yield results and those that should be avoided.

Executive Summary

College graduates are growing in importance to the economies of individual states, and to the national economy. As policymakers seek to understand the patterns of development and retention of human capital within their states, they will need knowledge of the mobility of their states' college graduates. They also may choose to employ policy tools which can influence the development and retention of highly educated human capital.

This report captures the results of a nationwide survey of education officials and legislative staff on state graduate retention policies. Few states have conducted solid research into postsecondary graduate retention issues. Officials in only ten states reported having statewide statistics on college graduate retention. The reported data is usually based on either workforce development statistics or on university alumni survey results. While there is research value to both approaches, the studies completed to date are limited in scope, the period of time covered, and the reliability of the results.

No states have comprehensive policies in place to improve college graduate retention rates. Only one state, Nebraska, developed a comprehensive program aimed specifically at the graduate retention issue, and it did not pass the legislature.

State programs which affect graduate retention rates have rarely been designed exclusively for that purpose. Graduate retention efforts usually occur within the context of state economic development efforts or state initiatives to increase the general level of educational achievement within the population.

Successful workforce development is essential to successful economic development, especially as knowledge-based economies become more prevalent. Economic development programs often include a graduate retention component as a means of securing highly educated human capital for the state. Such programs focus on creating or expanding partnerships between new or existing industries and the state's higher education system. Businessmen and educators are brought together to forecast a state's need for college graduates and to design programs which will deliver the necessary knowledge and skills to those graduates. Within the economic development context, these same actors also develop methods, such as internships, for familiarizing students with the career opportunities available in-state. Economic development programs strong on graduate retention strategies were found to be especially important to states wishing to attract or to keep high-tech industries.

It is a common assumption that policies designed to influence high school graduates to attend college in-state will also affect a state's college graduate retention rate. This assumption leads policymakers to offer financial incentives designed to increase the access residents have to in-state colleges. The most common graduate retention incentives found in the survey are scholarships and grants, including both broadly available merit

scholarships (such as Georgia’s HOPE program) and more selective scholarships offered to “the best and the brightest” students. States also use forgivable loans to encourage graduates to remain in-state. Most forgivable loan programs are focused on specific professions like medicine and education; broadly available forgivable loan programs have been proposed, but have not been implemented as state graduate retention strategies.

Recognizing that a state's economic health depends on effective development and retention of human capital, policymakers should therefore:

- support existing graduate retention research efforts where possible; initiate research efforts where necessary,
- work to understand how graduate retention issues fit into the larger patterns of in-state human capital development and workforce demands, and
- explore how tools in other policy areas, tax credits for example, can affect in-state graduate retention patterns.

Postsecondary graduate retention is only one part of a complex of issues facing policymakers concerned with human capital development and retention. The funding of higher education, the delivery system for higher education, and the accessibility of higher education are all policies which must be considered at the state level in association with graduate retention if a state is to create or maintain consistent human capital policies. However, states wishing to develop their own pools of highly educated human capital must make graduate retention a priority.

Survey of Current Practices In Postsecondary Graduate Retention

I. Introduction

Highly educated persons are a critical element in the pool of human capital available to a state's economy. As the U. S. economy evolves from a manufacturing base to a knowledge base, graduates of two-year or four-year postsecondary institutions will gain even greater importance in the workforce. Recognition of the economic trends which favor college graduates has generated interest at the state level in the issue of postsecondary graduate retention.

The United States' higher education system is the largest supplier of highly educated human capital in the world. Each state through its public and private colleges and universities helps to finance and shape that flow of human capital. As states compete to grow their own economies, attempting to provide the number and kinds of jobs that each state's citizens desire, the flow of human capital coming from higher education institutions is a strategic resource. State policymakers want to be able to retain as much of that valuable resource as possible for their state economies.

The United States' higher education system is the largest supplier of highly educated human capital in the world.

They also know that their citizens want the freedom to choose jobs in other locations when it seems to be in their own interest to do so. The search by state policymakers to find the right tools to address this complex and often contradictory mix of policy outcomes is the subject of this report.

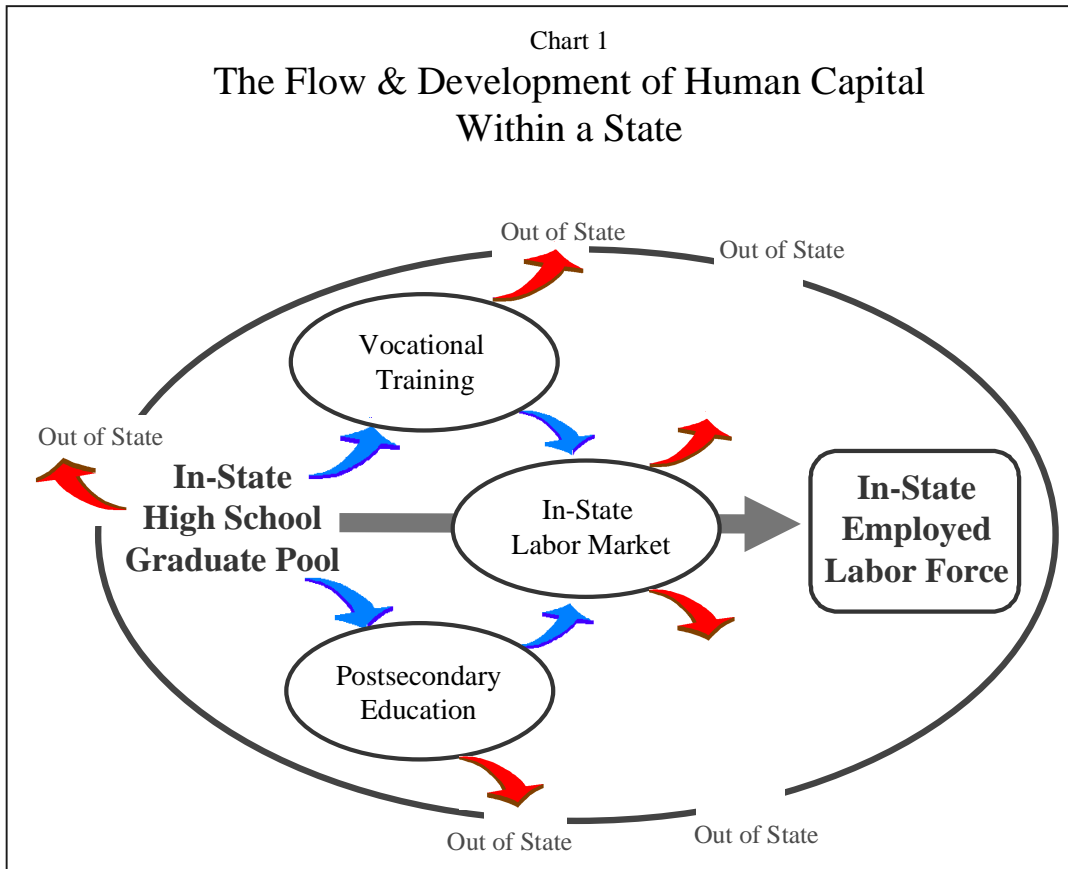
States are the policy center for higher education initiatives. The level of recognition of the graduate retention issue varies widely among states. At one end of a continuum are states which report no consideration of the issue. At the other end are states which have designed coherent programs to address the graduate retention problems they have identified.

A state’s internally developed pool of human capital is reflected in the state’s workforce. The pool is fed by three streams, each of which has its source in the state’s secondary education system. High school graduates move from a state’s secondary education institutions to the state’s workforce along three paths.

1. Directly into the workforce.
2. Through vocational training.
3. Through postsecondary education.

The key to successful postsecondary graduate retention programs is recognition that the programs work, not by restricting the movement of human capital, but by better preparing both employees and employers to thrive in a state’s economy. Thus, postsecondary graduate retention programs may allow policymakers to influence the development of their states’ human capital at two points in the process:

1. As graduates leave high school, policymakers may be able to divert more of their states’ human capital to the in-state postsecondary education path.
2. As postsecondary graduates enter the workforce, policymakers may be able to build better connections between the state’s colleges and universities, their graduates, and the potential employers in the state (particularly those employers with high demand for college graduates).



Graduate retention policies and programs based on economic development can give policymakers the means to affect the in-state flow of human capital. Well-designed partnerships between a state's institutions of higher education and its employers potentially increase the volume and the accuracy of the information carried by the labor market. An improved flow of information should enable colleges to better prepare the state's human capital for participation in the state's economy. Internships, for instance, can provide students with a realistic work experience while providing employers with a realistic view of the state's graduates. Efforts to forecast employers' personnel needs, or to modify curricula to meet those needs, can draw colleges and businesses together as they prepare future employees for success in the workplace.

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II. Scope of Report

This report contains the results of a survey of the fifty states conducted by the staff of the Indiana Fiscal Policy Institute. IFPI staff contacted officials in the offices of higher education and the legislature in each state. The survey was administered through telephone interviews and written materials. When necessary or clearly advantageous, the staff interviewed other state officials.¹

The survey covered public programs designed to respond to the flow of college graduates from a state. The focus of this report is on governmental policies rather than on programs initiated at the institutional level.² The report does not include efforts to develop a state's pool of highly educated human capital by encouraging in-migration to the state.³ It also excludes *intrastate* initiatives intended to influence the flow of human capital between competing regions of the same state. This report is an examination and analysis of the public policy options for postsecondary graduate retention currently available to state policymakers.

III. Findings

No state reported statewide programs aimed primarily or exclusively at increasing the general retention rate of college graduates for the state. States' efforts to address the issue of human capital through graduate retention occur in the context of other workforce retention or development issues. Many of the programs found in the survey were designed primarily as economic development efforts. Thirteen states identified graduate retention programs or policies as economic development related.

Other programs are initiated as efforts to increase enrollment in a state's own colleges, or to increase the likelihood of success of a state's residents at in-state postsecondary institutions. Another thirteen states identified programs of this type as having the effect of increasing graduate

¹ There were multiple contacts made in every state to ensure that this report is comprehensive; however, the accuracy of this report is based upon the responses to the interviews conducted by IFPI staff.

² Many institutions of higher education, whether part of the public university systems supported by the fifty states or one of the approximately sixteen hundred independent colleges and universities in the United States, conduct their own postsecondary graduate retention research and programs.

³ Public sector incentives designed to bring educated workers from outside a state's border normally fall under the general area of economic development and are associated with attempts to spur additional investment and job growth.

retention. Policymakers in each state determine whether to use either or both approaches to college graduate retention.

As an isolated issue then, postsecondary graduate retention receives little attention, and even when the issue is considered, officials don't always believe it can or should be addressed. Respondents in three states (Maine, West Virginia and Wyoming) said that retention is not perceived by the state as a problem, but only because the states' economies do not provide enough jobs which demand highly educated persons. One education representative commented that sixty percent of his state's public university's graduates leave the state because of a lack of available jobs.

Officials in nine states (Arizona, California, Colorado, Massachusetts, Minnesota, New Hampshire, Oregon, Texas, and Washington) reported that postsecondary graduate retention was not a problem because either booming economic conditions or other quality-of-life attractions (e.g., the environment) draw sufficient college graduates to meet the needs of each state.

. . . most existing programs are based on assumptions (not based on research) about both economic needs and student/graduate behavior.

Although graduate retention efforts at the state level currently are quite limited, the survey identified a growing number of states which are attempting to assess the extent to which graduate retention is a problem. Most existing programs are based on assumptions (not based on research) about both economic needs and student/graduate behavior.

<i>Characterizations of Postsecondary Graduate Retention</i>	
States reporting no discussions or no programs:	18
States which consider graduate retention an economic development issue:	13
States which consider graduate retention an in-state education issue:	13
States which consider graduate retention a function of both issues:	6

IV. Existing Data on Graduate Retention Rates

Sound public policy should be based on solid research. Unfortunately, research into the interstate flow of postsecondary graduates is slight. Forty states could not cite postsecondary graduation retention rates. Even in those states where efforts are in progress to study the retention of graduates, the projects are recent and the results often incomplete.⁴

Respondents in only eight states (Indiana, New Hampshire, North Carolina, North Dakota, Oklahoma, South Dakota, West Virginia, and Florida) were able to cite rates of postsecondary graduate retention. While officials in Texas are pursuing a study of retention rates, results were not yet available. The University System of Oregon has conducted a telephone alumni survey, but would not

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⁴ Although many colleges and universities conduct their own alumni research, the survey efforts are often focused on student satisfaction and institutional recruiting efforts.

release the results, citing variability in the data. Limitations in the group of studies prohibit drawing substantial conclusions. The studies use a variety of methodologies, and consequently depend on differing sources of data.

Other limitations of graduate migration studies:

- ✓ The studies cover only brief periods of time—no more than five years—and are, therefore, limited in their conclusiveness.
- ✓ The research sometimes relies on data, gathered for other purposes, which is not well suited for a study of graduate retention.
- ✓ The studies do not address causal or motivational factors.

Despite their limitations, the studies provide additional support for two findings often encountered in evaluating workforce migration issues. The first point is that the more highly educated the individual, the more mobile the individual. Demographic research on human capital has repeatedly demonstrated this finding to be correct.⁵ The second finding is that students who are residents of a state at matriculation are more likely to remain in that state following graduation. This point, while hardly controversial, is fundamental to the approach many states take to addressing the graduate retention issue.

. . . the more highly educated the individual, the more mobile the individual.

Postsecondary Graduate Retention Data

States reporting the use of employment-based retention data:	5
States reporting the use of other retention data:	5

Employment-based Data

One method of determining whether college graduates have remained in a state's economy is the examination of the data generated by the state's workforce development agencies. Researchers can use data combined with a graduate's social security number (and in some instances other data) to attempt to determine whether a graduate is still working in the state.

While providing a good general picture of the in-state labor market for college graduates, such systems may miss people who work in small establishments, some self-employed persons (including professionals such as physicians or lawyers), as well as people who have exited the workforce (stay-at-home spouses, for example), and federal government or railroad employees. Because of the limitations of workforce data, one researcher estimated that the actual number of

⁵ "Very high levels of education (college or university degrees) substantially increase the likelihood of migration." A. Borsch-Supan, "The Role of Education: Mobility Increasing or Mobility Impeding," National Bureau of Economic Research, Working Paper No. 2329, p. 12. For a list of possible reasons and additional reference works, see page 4.

graduates retained by his state may be ten percent higher than indicated by the results of his study. In addition, such systems can report on only those graduates who have remained in the state.

The FINDET system is designed to generate data:

- needed by officials to evaluate North Dakota's current graduate retention situation,
- useful for planning cooperative efforts between employers and educators,
- useful for curriculum development, and
- useful for student career planning.

North Dakota established the Follow-up Information on North Dakota Education and Training (FINDET) system about four years ago. FINDET is an example of a system based on employment (and other) data, and explicitly designed as a tool to study graduate retention (other states' systems may be used to study graduate retention, but other uses for the systems were also cited).

**North Dakota State Agencies
Cooperating to Develop the FINDET System:**

College Technical Education Council
Council on Vocational Education
Governor's Employment and Training Forum
Job Service North Dakota
N.D. Association of Placement Personnel
N.D. Department of Economic Development & Finance
N.D. Department of Human Services
N.D. Department of Labor
N.D. Department of Public Instruction
N.D. State College of Science
(Special Initiatives Project)
N.D. Tech Prep
N.D. University System
N.D. Workers Compensation Bureau
State Board for Vocational and Technical Education
State Occupational Information Coordinating Committee

Source: FINDET material

The system relies on social security numbers and workforce data to study graduates, and is the result of cooperation between “15 state agencies and organizations” to develop “an automated follow-up system for education and training . . .”⁶ FINDET includes safeguards “to protect the privacy and confidentiality of personal information,” and is based on the premise that “we follow up on programs, not individuals.”⁷

In support of the FINDET system, legislation was passed allowing researchers to use the necessary data, and requiring that the FINDET results be reported only in the aggregate. The on-going costs of the FINDET system are \$80,000-\$100,000 per year.

West Virginia, Oklahoma, and Florida also cited graduate retention figures generated from employment data. The State College and University System of West Virginia publishes a report card on its higher education system. The report card uses data from the state’s Bureau of Employment Programs to study retention of recipients of associates and bachelors degrees who were residents of the state when they received their degrees.⁸

The Oklahoma State Regents for Higher Education have published a one-time study entitled “General Degree Productivity and Retention of Oklahoma Graduates.” Researchers examined data from recipients of associates and bachelors degrees from Oklahoma universities from the 1991-92 academic year and the 1995-96 academic year. The objective was to determine whether those graduates remained in the state in August 1997.⁹ The Florida Education and Training Placement Information Program has been operating since the 1980s. Florida’s system for reporting on postsecondary graduates is part of a much larger public policy research effort which also studies other portions of the state’s population.

The survey found four statewide studies which addressed the question of graduate retention, but which were not based on employment data. These studies were either occasional or one-time efforts.

Other Studies

The survey found four statewide studies which addressed the question of graduate retention, but which were not based on employment data. A comprehensive look at the issue of human capital in Indiana, of which this report is a part, published two reports in early 1999.¹⁰ The Office of Legislative Services in New Hampshire provided follow-up data on associate degree recipients (from community colleges) who continue to work in New Hampshire. North Carolina’s Commission on Higher Education periodically conducts a survey of alumni of public universities who are one to one-and-a-half years post graduation. The Pennsylvania Independent College and University Research Center in 1996 surveyed 11,000 bachelor degree recipients from the class of 1990. Those surveyed graduated from forty-six of the state’s independent colleges, and nearly 7,000 responded to the survey. The

⁶ *Guidebook for the North Dakota University System, 1997 Legislative Session*, p. 35

⁷ State of North Dakota materials on FINDET

⁸ State College and University Systems of West Virginia, *West Virginia Higher Education Report Card 1997*, p. 98

⁹ Oklahoma State Regents for Higher Education, *The General Degree Productivity and Retention of Oklahoma Graduates*, 1998

¹⁰ This report on graduate retention is part of a larger project which has as its objective the analysis of Indiana’s development and retention of human capital. As part of this project, Indiana’s graduate retention patterns were analyzed through the mechanism of a statewide survey covering graduates from Indiana’s public and private institutions.

data collected from the project included information on the graduates' residency status, current location and employment status.¹¹

V. Economic Development as Graduate Retention

Economic development is often the engine which drives statewide graduate retention efforts. When asked about programs in postsecondary graduate retention, respondents in eighteen states either explained that their states' graduate retention efforts were focused on economic development, or treated economic/workforce development programs as synonymous with graduate retention programs.

Implicit in the economic development approach to graduate retention is the assumption that successful graduate retention is a function of providing desirable jobs for graduates. Successful state economies require an available pool of human capital. Since highly educated persons are also highly mobile, graduate retention becomes important to economic development as a means of securing human capital for the state.

Since highly educated persons are also highly mobile, graduate retention becomes important to economic development as a means of securing human capital for the state.

Recognizing the connection between human capital and economic development, Georgia recently developed its Intellectual Capital Partnership Program (ICAPP). ICAPP is described by the program's administrators as providing "one-stop entry to the intellectual capital of the University System of Georgia."¹² There are a number of individual programs under the umbrella of ICAPP. However all the ICAPP programs are part of an integrated policy initiative by Georgia's education officers directed at applying higher education resources to economic and workforce development. ICAPP is funded through a line item of approximately \$3,000,000 in the University System's budget.

Georgia's human capital development and higher education policies are based on an understanding that preparation for the future economy requires cooperation between the state's postsecondary institutions and the state's employers. According to the president of Georgia's Clayton College & State University, "Instead of the usual arms-length relationship with the private sector, we are being asked to work in harness with them."¹³

Use of Economic Development Tools in Graduate Retention Strategies (in place or proposed)

States reporting systems to forecast workforce needs:	2
States reporting industry partnerships:	2
States reporting placement programs or internships:	5
States reporting emphasis on high-tech development :	6

¹¹ The Pennsylvania study is included here because it reports on an extensive body of colleges rather than a single university. Note, however, that it is not a state-sponsored study.

¹² ICAAP, *Georgia's Intellectual Capital Partnership Program*, p. 1

¹³ Quoted in *Atlanta Journal-Constitution*, May 12, 1998, p. E3

Forecasting the Need for Graduates

The development of a successful graduate retention strategy within the context of economic development requires a method for connecting the production of graduates to available (or soon-to-be available) jobs. The demand for college graduates in various sectors of the economy must be measured. Since the recruitment and education of graduates is a multi-year process, workforce demands must also be anticipated. Utah and Georgia have developed programs to jointly forecast the skill sets or degrees needed by the states' employers and respond to the need with curricular adaptations.

Utah's effort to assess the need for graduates is centered within the Partnership for Education and Economic Development, a not-for-profit corporation with an associated foundation. The Partnership is a group of business leaders, educators, government officials, and economic development leaders who meet regularly to assess the means by which higher education can best serve the state. The Partnership's Executive Committee includes the Commissioner of Higher Education, the Superintendent of Public Instruction, representatives from the State Board of Education and the State Board of Regents, the Executive Director of the Department of Community and Economic Development, and senior executives representing major firms in Utah. The Partnership makes judgments about workforce needs, including calling for short-term programs to answer specific needs, as well as recommendations on long-term research and development needs. According to the Commissioner of Higher Education, the universities have been very responsive.

The Partnership receives state funds earmarked through the education, higher education, and economic development budgets, in addition to private funding. Half of the Partnership's funding comes from the state, while half comes from businesses' contributions.

Georgia's higher education strategy is informed by needs assessment studies which are performed as one of the subsets of ICAPP. Industry needs assessment studies are performed to determine the supply and demand for graduates of the University System, with a goal of "...match[ing] the programs of Georgia's colleges and universities with the needs of Georgia's current and prospective employers." The University System uses the studies to assess "the education and training needs for employees in high-quality, high-growth, knowledge-based industries, such as information technology."¹⁴

Studies completed by ICAPP include surveys of:¹⁵

- ◇ business leaders in the United States and abroad,
- ◇ human resources professionals,
- ◇ occupational employment and demand,
- ◇ information used by site selection firms,
- ◇ Georgia's software industry,
- ◇ Georgia's information technology needs,
- ◇ the needs of Georgia's regional industries, and
- ◇ the needs of Georgia's small businesses.

¹⁴ ICAPP, *Georgia's Intellectual Capital Partnership Program*, p. 4

¹⁵ ICAPP, *Georgia's Intellectual Capital Partnership Program*, p. 5

Industry Partnerships

In addition to assessing statewide workforce needs, states can also partner with specific companies or industries to develop programs which provide the education and training needed. Industry partnerships streamline the flow of labor market information between businesses and universities. Colleges or university systems which receive direct communication from industries are able to respond directly and quickly to a gap in the state's workforce.

The University of **Delaware** (representing the state) has recently developed a program called the Information Technology Partnership. The Partnership is a response to Delaware businesses' demand for greater MIS capacity in the state's workforce.

Delaware businesses were using a number of expensive strategies to cope with the crisis, including importing workers from other countries, [a strategy not unique to that state].

The Partnership is a response to Delaware businesses' demand for greater MIS capacity in the state's workforce. The state reports that the shortage of MIS skills is so severe that businesses are forced to import foreign workers to handle the crisis.

The Information Technology Partnership's objective is the development of a business curriculum featuring a heavy MIS concentration. The curriculum is to be developed in three phases:

1. Expand and revise the university's existing MIS minor.
2. Strengthen technology skills requirements for business majors.
3. Develop business education programs for non-business majors.

The state gave the University of Delaware \$1,000,000 in an operating appropriation and a \$500,000 bonding authorization for computer hardware as seed money for the program. No enabling legislation was necessary for the initiative; it was entered as a line item in the university's operating budget. State officials expect the two-year cost of the program to be approximately \$3,100,000.

The University of Delaware expects the program to draw 400-450 new students, and to result in the hiring of ten to twelve faculty to teach the courses. As of September, 1999, the university has hired seven faculty members plus four support staff for the program. The first classes were offered in the winter of 1998-1999, and the requirements for business majors have been revised. The number of students pursuing an MIS minor jumped from approximately 45 to approximately 110 in the first year of the program.

Georgia offers a program under ICAPP [called Advantage] to provide companies with a rapid workforce development capacity. According to the Project Director, Advantage is an attempt to apply "the vocational training model" to the traditional college situation. When an employer communicates a workforce need to the University System, the Advantage program can respond in weeks with curriculum changes designed to help "companies meet immediate human

resources needs.” Either employers new to the state or employers expanding in-state are eligible to participate in the program.¹⁶

Participants in the program are selected and sponsored by the employer (they must also meet the admissions requirements of the university offering the curriculum), and receive training in “knowledge areas” selected by the employer. Participants are guaranteed jobs upon successful completion of the curriculum, and may receive forgivable loans to cover the costs of tuition.

Participants in the program are selected and sponsored by the employer . . . and receive the training in “knowledge areas” selected by the employer.

The Advantage program originated as a method for addressing the need for computer programmers identified by TSYS, a large financial transaction processing company located in Columbus, Georgia and employing 3,200 people. Following a 1996 estimate by TSYS that the company would need “up to 500 new computer/business analysts per year over the next five years,” an analysis determined that the state of Georgia produced only 780 qualified graduates in the field per year.

Advantage offered an initiative led by Columbus State University which provided “an intensive six-month education using the same hardware and software used by TSYS.” In March 1997, the first eighty students completed the course of study, and all were offered jobs with TSYS. Within the next year, another 227 students graduated. Graduates of the program receive a “certificate of data processing” and fifty hours of credit. Graduates may continue to work toward a bachelors degree in computer science at Columbus State or may transfer the credits (following the state’s normal procedures) to an associates degree program. (Columbus State does not offer associates degrees; hence, the certificate of data processing.)¹⁷

Internship Programs as State Policy on Graduate Retention

Postsecondary internships have more potential in graduate retention policy than is generally recognized. Many observers view them as “just a summer job” for college students. Internships also offer a means of assisting students in paying the costs of their education, and of helping students understand the in-state career opportunities available to them. Successful internship programs will also be an asset to employers’ efforts to improve their workforces, and will build better relationships between colleges and the business community.¹⁸

Student interns usually receive a paycheck, and other financial assistance for education may be available. Of equal or greater importance is the practical work experience interns gain. The ability to work for an extended period in a selected career is highly valuable to a student. An intern has a chance to evaluate how much he enjoys the work, and the opportunities available in his profession and state. It also allows him to gauge the depth of his commitment to a particular career path.

¹⁶ ICAPP, *Georgia’s Intellectual Capital Partnership Program*, p. 2

¹⁷ ICAPP, *Georgia’s Intellectual Capital Partnership Program*, p. 3

¹⁸ W. Norton Grubb, *Working in the Middle: Strengthening Education and Training for the Mid-Skilled Labor Force*, (Josey-Bass; San Francisco, 1996) p. 197.

Benefits of Internship Programs

For students, internships provide:

- ✓ career-related experience,
- ✓ the opportunity to learn in the workplace,
- ✓ exposure to in-state career opportunities, and
- ✓ in some cases, financial rewards.

For employers, internships provide:

- ✓ interns who are potentially more educated employees,
- ✓ the opportunity to evaluate students in workplace conditions, and
- ✓ in some cases, the opportunity to influence curricular development.

For states, internships provide:

- ✓ a means of channeling educated workers into high priority occupations, and
- ✓ stronger relationships and better communication between higher education institutions and the business community.

Employers participating in an internship program get an early opportunity to evaluate students who will potentially become highly educated, valuable employees. The internship allows that evaluation to be based on actual performance in the workplace, rather than on academic records alone. Good interns will provide employers with a quality employee at a low cost. In some programs, employers are welcome to make suggestions regarding curriculum development in their fields.

State sponsored or coordinated internship programs provide a means of promoting the development of highly educated human capital in the state. The internships introduce students to in-state career opportunities, and encourage employers to look for an in-state solution to their human resource needs. Successful internship programs require employers and colleges to work together, and thus build stronger relationships between them. A sector-specific program promotes careers in those industries most important to the state's economy.

The state can play several roles in the successful operation of an internship program. The first is as a provider of subsidies either to students or to employers. The second is as a broker of opportunities to participate in the program. The former role is more common, but the latter role could be equally important to the success of a program.

The state may offer subsidies to participating students, or to employers or both. Subsidies to students are provided via additional financial assistance for the costs of higher education. Such assistance can take the form of scholarships or of forgivable loans. Subsidies to employers typically are based on supplementing or reimbursing funds spent on the program. The state may fund a portion of the intern's wages, or of other financial assistance offered to the intern by his employer. Because the cost of subsidies to a successful statewide internship program could be high, policymakers must consider how such expenditures would fit into the state's other appropriations for student assistance at the postsecondary level.

Because the cost of subsidies to a successful statewide internship program could be high, policymakers must consider how such expenditures would fit into the state's other appropriations for student assistance at the postsecondary level.

The state may also serve as a broker in establishing relationships between employers, interns and postsecondary institutions. Colleges and universities vary greatly in the quantity and quality of their contacts with the business community. In addition, the ability of employers to fund internships will vary with the size of the firm, and across different industries. Each relationship must therefore be tailored to the needs of the company and of the college. Although many large companies have developed their own relationships to find interns at particular colleges, issues of time and cost make it difficult for smaller firms to be involved.

There are problems mentioned regarding internship programs [usually at the university level]. Students display a lack of interest in the jobs available [i.e., the demand for internship related jobs seems weak]. Employers complain that participation takes too much time and overhead.

The resources of state offices involved in economic and workforce development could significantly expand the range of positions available to a college's students.

Several states have taken aim at these issues in developing their own statewide internship programs with varied success. In an industry specific approach, Maryland and Delaware have targeted information technology fields for more internships. Focusing programs on specific fields of study offers several advantages. Fewer internships mean lower costs for incentives offered by the state to students or to employers. A targeted program also means that the resources applied by the state are more concentrated in the most important sectors of the economy. However, the pool of available interns and participating companies will also be smaller, and the program will be less likely to have significant impact on the general issue of graduate retention.

Iowa took a different tack in developing its Certified School to Career Program, in 1998. In it, businesses partner with a high school, community college, or existing apprenticeship program to create a training curriculum that includes both classroom and worksite learning. A high school student in his junior year contracts with a business, and works for the company as an intern for minimum wage for three summers. Then, in return for "an agreement that the participant work for the business for at least two years after completion of the participant's postsecondary education," the company commits funds to assist the student in paying for his postsecondary

education.¹⁹ The state participates by refunding to the business up to 20% of the intern's wages, and up to 20% of the tuition assistance.

Iowa's program was developed with a high level of motivation by both the state and employers. From the government's perspective, the designers of Iowa's program understood the potential of internships as a graduate retention tool. Reportedly, the state's employers expressed strong interest in providing jobs for the interns. However, through late 1999 there were **no internships** available.

Iowa's experience demonstrates the importance of providing easy access to the program for employers. The paperwork for the program is cumbersome.

Iowa's example is instructive. The paperwork for the program is cumbersome. The refunding mechanism is complicated by a requirement that the funds committed to tuition assistance be deposited in an ERISA account. Finally, the state does not provide any brokering services. Having joined the program, the employer must still work individually with each school to locate potential interns. It would seem that both program design and implementation matter.

Tennessee has allocated funds to develop the "Tennessee Student Employment Incentive Program," through which the state would pay up to 35 percent of the wages for a student employed while attending an eligible postsecondary institution on at least a half-time basis. The intent of the program is to provide students with "more career-related work experience" and to allow private employers the opportunity to assist students in achieving their educational objectives. The program is open to both private for-profit and not-for-profit employers, and the legislation prohibits "the displacement of existing members of the private firm's workforce." Funds can be paid either directly to the student or to the employer. The legislature allocated \$50,000 to cover initial planning and implementation costs for the program, to be phased in over an unspecified period.²⁰ However, the legislature has not appropriated funds to cover the state's portion of the interns' wages as of September, 1999.

The intent of the program is to provide students with "more career-related work experience" and to allow private employers the opportunity to assist students in achieving their educational objectives.

Nebraska's "Brain Gain" bill (proposed but not passed in the spring of 1998) included a provision that students who received forgivable loans would have been required to complete a pre-determined number of hours of internship with an approved Nebraska business. The bill would have required the Department of Economic Development to establish the Quality Business Consortium. Member businesses of the Consortium, recruited by the Department, would "provide internships and pay an annual fee to be determined by a formula based on the number of internships and the number of employees." Businesses providing internships would have been responsible for monitoring and evaluating the intern, and explaining the results of the internship (e.g., whether the intern was offered a job or accepted an offered job upon completion of the internship).²¹

¹⁹ *Iowa's Certified School to Career Program*

²⁰ As specified in Tennessee Code § 49-7-2801 to 49-7-2806

²¹ *Status and Summaries for All Bills Referred to the Education Committee of the Nebraska Legislature, Ninety-fifth Legislature, Second Session, 1998*, p. 53-56

Indiana Examples of Private/Institutional Internships

This survey identified state-level internship programs, however, the vast majority of internships originate at the level of the public or private institution. Almost all colleges offer internships of some kind. Two programs from small independent colleges in Indiana, Evansville and Rose-Hulman, illustrate internship programs which are integral to the students' education and in which the colleges invest substantial administrative and faculty resources. The objective of such programs is to provide students with a structured, career-related work experience in the course of their education. For students to receive the desired work experience, the internships should be long-term (over a summer or a semester) and should receive diligent attention from faculty and staff. Private foundations provide the primary resources for both programs.

At the University of Evansville, internships are a significant factor in the school's experiential learning programs. The university's focus on experiential learning is an attempt to increase the percentage of graduates who stay in Indiana. In addition to traditional internships, the university offers students other forms of career-related education. Experiential learning opportunities include:

- ♦ practica,
- ♦ cooperative learning,
- ♦ clinical work, and
- ♦ externships,
- ♦ research opportunities,
- ♦ class service projects.

Prior to receiving funding for the initiative in 1996, approximately 48 percent of University of Evansville students participated in experiential learning, and approximately 46 percent of the university's graduates were employed in Indiana. The goal of the current program is to increase those numbers to 85 percent and 70 percent respectively.

All students at the Rose-Hulman Institute of Technology are expected to participate in either an internship or a cooperative learning experience. Rose-Hulman uses private funding to employ one staff person to recruit businesses to provide experiential learning opportunities for the institute's students. Since the institute received funding for the position in 1996, the rate of student participation in experiential learning has risen from approximately 50 percent to approximately 81 percent. The percentage of internships with Indiana companies has grown from 50 percent to 58 percent in the same period, while the percentage of cooperative learning opportunities with Indiana companies has grown from 59 percent to 70 percent.

In addition to traditional internships, Rose-Hulman offers the Entrepreneur Internship Program, a small program designed to:

- ✓ encourage students launching their careers to consider small, fast-growing companies, and
- ✓ provide students with the experience demanded by entrepreneurial-minded employers.

Private funding pays part of the salaries of participating students (currently twenty) who agree to intern with a small company (which otherwise might not be able to afford an engineering intern). Thirty students who completed the program have graduated; fifteen have accepted jobs with the companies which employed them as interns.

Other recent initiatives have included either plans or recommendations for internship programs. The University of **Delaware**'s new IT program strongly recommends "relevant work experience through internships, co-ops, and part-time or summer career-related jobs" for undergraduate business students, and proposes an evaluation of "the establishment of an experiential learning requirement for each [business] major."²² The MIS minor at the university also requires students to complete an internship, preferably in teams, but individually if necessary. The new Technology Partnership provides one professional to coordinate the internships, identify and screen new opportunities, and evaluate the interns' experience. Internships for both undergraduate and graduate IT students are included in **Maryland**'s Applied Information Technology Initiative (MAITI) as a means of improving cooperation between academia and private sector employers.²³

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Placement Programs

The survey identified no states with programs designed to coordinate the placement efforts of the state's institutions of higher education. In most states, student placement efforts are conducted by the individual universities and colleges. Many colleges and universities have become quite sophisticated in their placement techniques, including the use of Internet technology. Some individual institutions focus on placing graduates with businesses located in the same state; however, such efforts have not appeared at the state policy level.

Building a High-Tech Workforce

The issue of attraction of high-tech industries raises a public policy dilemma for officials concerned with human capital development. States which are attempting to diversify their economies to include high-tech industries must break out of a "vicious circle" formed by the human capital demands of high-tech industries. Before high-tech companies will locate in a state, the companies need some indication that their human capital needs will be satisfied. Before those high-tech companies arrive, however, the highly educated residents of the state may well move to another state to secure high-paying jobs. The state cannot diversify its economy until it builds a pool of available human capital; the state cannot retain its human capital until it diversifies its economy.

The state cannot diversify its economy until it builds a pool of available human capital; the state cannot retain its human capital until it diversifies its economy.

One study which addresses the issue of high-tech economic development is the Southern Technology Council's "Where Have All the Students Gone? Interstate Migration of Recent Science and Engineering Graduates." The researchers recommended, among other things, that "States and/or universities should benchmark measures of retention and net migration on an

²² *College of Business and Economics Proposal to Enhance the Integration of Business and Technology for Graduates of the University of Delaware* (April 27, 1998 Draft), p. 1, 6

²³ *A Proposal for the Establishment of the Maryland Applied Information Technology Initiative, 1998*, p. 120-121

ongoing basis,” and that “States should accelerate their efforts to build high-wage technology-based economies if they wish to retain their own best and brightest students and attract highly skilled people from elsewhere.”²⁴

Policymakers in states making the transition to a knowledge-based economy must identify the means to deliver the workforce needed by high-tech industries while simultaneously attracting jobs which will interest the state’s high-tech graduates. Resolving this dilemma will require close cooperation between colleges, economic developers and industries. Since the workforce must be readily available to support new industries, and educating high-tech workers is a lengthy process, multifaceted programs will be needed. Economic developers and education officials must be able to forecast the knowledge required for high-tech careers, and must be able to deliver it to students *who are willing to remain in the state.*

Policymakers in states making the transition to a knowledge-based economy must identify the means to deliver the workforce needed by high-tech industries while simultaneously attracting jobs which will interest the state’s high-tech graduates.

Officials in six states (Delaware, Georgia, Maine, Maryland, Virginia and Utah) discussed efforts to concentrate economic development activities on high-tech industries. Three of these states [Virginia, Maryland and Georgia] reported efforts specifically intended to break the “vicious circle” of high-tech workforce development and retention.

The State Council for Higher Education for **Virginia** published a report in December 1997 entitled “Study of the Demand for Computer Scientists, Engineers, and Other Technologically Skilled Workers in Virginia.” The report includes an estimate that Virginia will need “approximately 110,000 new technology workers over the next five years, which translates to 22,000 each year.” However, the number of engineering and computer science degrees awarded in the academic years 1992-93 to 1996-97 was just over 5,000 per year. While not all technology jobs require degrees, the study concluded, “there is undoubtedly some extent of shortfall.” The report recommends improved coordination between industries and educational institutions, financial and regulatory incentives aimed at tripling the number of technical graduates, cooperation rather than competition between educational institutions, introducing technological literacy to all fields of study, and partnerships for lifelong learning.²⁵

The report recommends improved coordination between industries and educational institutions, financial and regulatory incentives . . .

Seven Maryland universities have created the **Maryland** Applied Information Technology Initiative (MAITI), an alliance designed to advance Maryland’s position as a leader in information technology. The first objective of MAITI’s strategy is to double the number of IT students and graduates of Maryland’s universities within five years. One mechanism for achieving this goal is the forgivable loan program for science and technology students discussed

²⁴ Louis G. Tornatzky, Ph.D., et al, *Where Have All the Students Gone? Interstate Migration of Recent Science and Engineering Graduates: A Benchmarking Report of the Southern Technology Council*, Southern Growth Polices Board, 1998, p. 1-2.

²⁵ State Council of Higher Education for Virginia, *Study of the Demand for Computer Scientists, Engineers, and Other Technologically Skilled Workers in Virginia*, 1998, p. 10-12

below. In the long run, MAITI proposes to form a partnership between academia, industry, and government in support of Maryland's "technology-based economy."²⁶

The University System of **Georgia** intends to adapt its economic development strategies to include high-tech workforce development. Officials plan to expand upon existing ICAPP programs to develop a strategy for meeting the information technology needs of the state's employers. The strategy is to retain postsecondary graduates with degrees in non-technology fields and to encourage them to earn technology-related degrees. One government official was quoted in the *Atlanta Journal-Constitution*: "We want to take people with 'useless' degrees, such as journalism, English or history, yet who have some computer interest and abilities, and provide them with a second degree in computer science."²⁷

"We want to take people with 'useless' degrees, such as journalism, English or history, yet who have some computer interest and abilities, and provide them with a second degree in computer science."

VI. In-State Education as Graduate Retention

A common assumption is that the rate of postsecondary graduate retention will be improved if the state or its universities can influence a resident high school graduate to attend an in-state college. Programs based on this assumption typically have no features directly aimed at retaining graduates after college. Instead, they focus on persuading students that in-state colleges and universities are the best option.

In-state education programs affect graduate retention in two ways. State-sponsored programs such as scholarships and loans can give students a financial incentive to remain in-state through college and after graduation. In addition, students attending an in-state college are more likely to enter educational programs which match well with the economic interests of their home state.

The survey found that nineteen states view their college scholarship or loan programs (implemented or proposed) as postsecondary graduate retention programs. These states' retention strategies are based on expending their retention resources during students' transition from high school to college. The most common high school to college programs are broad, merit-based scholarships like the Georgia HOPE system [Help Outstanding Pupils Educationally]. Such programs are often categorized as graduate retention programs by state officials. The survey identified no state programs providing scholarships [as incentives] to out-of-state students.²⁸

Policymakers should be aware that using in-state education as a retention strategy will have consequences for the state's colleges and universities. Institutions have finite capacities which may be tested by increasing the number of students attending college.

...using in-state education as a retention strategy will have consequences for the state's colleges and universities.

²⁶ *A Proposal for the Establishment of the Maryland Applied Information Technology Initiative*, 1998

²⁷ Quoted in *Atlanta Journal-Constitution*, May 12, 1998, p. E3

²⁸ Many public and private colleges and universities offer scholarships for which out-of-state students are eligible. The purpose of such scholarships, however, is to attract the student to the institution, not to bring the student to the institution's state.

Policymakers will then be faced with the decision whether to increase the capacity of their state's colleges, or to limit the access of out-of-state students. The survey found four states (Colorado, Georgia, South Carolina and Idaho) already experiencing overcrowded colleges. Respondents from the first three states specifically mentioned the issue with regard to out-of-state students. In Georgia, the problem is the exploitation of the state's university system by out-of-state business and engineering students. In South Carolina, the assembly is exploring methods for restricting out-of-state enrollment.

***In-State Education Strategies as Graduate Retention Strategies
(in place or proposed)***

States reporting scholarships and grants:	12
States reporting mentoring programs:	2
States reporting financial incentives:	
Loan Forbearance:	33
Tax Incentives:	2

Scholarships and Grants

Scholarships and grants are the most common means of encouraging high school graduates to enroll in postsecondary education. States and colleges offer numerous scholarships and grants for a variety of reasons. Those reviewed here represent state-level policies implemented with the intent of affecting postsecondary graduate retention.

Georgia's HOPE (Helping Outstanding Pupils Educationally) grants are the prototype for broad, merit-based high school to college assistance. The HOPE program requirements and features are:

- ◆ Eligibility: residents of Georgia who graduated with at least a 3.0 (out of 4.0) grade point average.
- ◆ Grant coverage: tuition, approved mandatory fees, book allowance.
- ◆ Grants are renewable if the student maintains a 3.0 grade point average each year in college.

The popularity of the HOPE program is reflected in the establishment or proposal of similar programs in the following states:

- ◆ Kentucky: KEES (Kentucky Educational Excellence Scholarship)
- ◆ Louisiana: TOPS (Tuition Opportunity Program for Students)
- ◆ Florida: "Bright Futures"
- ◆ Alabama: proposed by both gubernatorial candidates.
- ◆ Idaho: proposed but did not pass in the legislature.

South Carolina offers LIFE (Legislative Incentives for Future Excellence) scholarships, which use many of the same criteria as the HOPE system, but which are limited to \$2,000 per year for students at a public or independent four-year institution, or \$1,000 per year at a public or independent two-year institution. (The same legislation also added a tuition tax credit for in-state students.)

Other state-sponsored scholarship programs rely on more selective criteria than the broad-based merit scholarships. The goal of such programs is to retain “the best and the brightest” high school graduates by encouraging them to attend in-state colleges.

Tennessee funds the Ned McWherter Scholars Program, which is illustrative of selective merit-based scholarships. The program’s objective is to improve Tennessee’s retention of the state’s most promising high school students by providing an incentive to attend an in-state college. Eligible students must have a high school grade point average of 3.5 and score in the top five percent on the ACT or SAT. To renew the scholarship each year, students must maintain a 3.2 grade point average overall while earning a 3.0 grade point average each term. Other states, such as **Missouri** and **Illinois**, offer in-state scholarships to students based on class ranking (3 percent and 2.5 percent respectively). Seventeen states offer programs with similar goals and criteria to their top scholars.

The **Maine** legislature considered a need-based scholarship program in its last session. The program would have offered scholarships equal to the tuition rate at the University of Maine (about \$3,000) to students with financial need who attend any of the state’s public colleges and maintained a 2.0 grade point average. The bill did not pass.

A Private Initiative In Graduate Retention

Privately sponsored programs can also enhance a state’s graduate retention efforts. If the assumption is correct that students who attend in-state colleges are more likely to remain in-state following graduation, then privately funded scholarships should be as effective as state-funded scholarships in promoting graduate retention.

In Indiana, the Lilly Endowment Community Scholarship Program has offered over 350 of the state’s most promising students financial aid to attend college in Indiana. For the first two years of the program, the Lilly Endowment, Inc., provided approximately \$17,200,000 to pay four years’ tuition and fees for 357 students.

The Independent Colleges of Indiana administers the program. Each county was initially eligible for at least one scholarship. For the Fall of 1999, each county can award at least two scholarships (counties may be eligible for more than two, depending on county populations). Scholarship recipients are selected by local community foundations throughout the state; each foundation determines its own selection criteria.

There is early evidence that the program can help keep students in-state for college. Of the 357 students who initially accepted the scholarships, fifty-three had planned to attend college outside the state. Since the recipients agree to report their progress for five years following graduation, more data on the success of the program will be available in coming years.

Mentoring Programs

While internships build links between students and a state's economy, mentoring exploits the existing links between students and a state (or part of a state). The assumption behind mentoring programs is that the best way to provide services to an underserved area is through people native to that area. Mentoring programs select people with a built-in bias toward retention and attempt to direct them toward the needed skills.

The assumption behind mentoring programs is that the best way to provide services to an underserved area is through people native to that area.

The study identified two states offering programs which encourage high-school students to enroll in postsecondary education with medicine as their field of study. Kentucky and Idaho develop relationships between in-state colleges and students during the high-school years by promoting mentoring programs. Both programs are designed to provide medical care to underserved areas. The survey uncovered no reason, however, why mentoring programs should be limited to the medical field.

In **Kentucky**, the Professional Education Preparation Program (PEPP) is administered by the Universities of Louisville and Kentucky. University representatives visit high schools in medically underserved areas. The representatives are looking for prospective dentists or physicians among the high school students. Targeted students receive mentoring and other assistance.

Idaho's Ambassador program, run by the Board of Education, promotes awareness of medical careers among high school students. Students who express interest in medical careers are assigned a trained volunteer mentor. Students from rural areas are assigned a mentor from a rural area, and are educated in-state with internships in rural settings.

VII. Financial Incentives for Retention

Another strategy for retention of postsecondary graduates is tying financial incentives for education to residence or work in the state following graduation.

Loan Forbearance

Forgivable (or "cancelable") loans are loans which are canceled upon the student meeting certain conditions. Typically, a graduate's loan is forgiven at a one-to-one rate, meaning that for each year the recipient works in the state following graduation, the loan amount for one year of schooling is forgiven.

Forgivable loans are often referred to as "scholarships" because a student who meets the forgiveness provisions never has to repay the funds. Such "scholarships," however, immediately become repayable loans should the recipient leave to work in another state prior to fulfilling his work commitment.

Forgivable loans are most commonly used to attract students to professional careers for which the state has a social need, such as medical services or teaching. The Federal government, the states and several private foundations offer loan forgiveness in specific medical fields in every state. These programs usually require service tenure in a specific economic environment or in a specific medical specialty for loan forgiveness. States use a variety of mechanisms to select loan

recipients and to deliver the loans to students. In some cases the respondents referred to such federal programs as a graduate retention program for the state. Respondents in twenty-six states mentioned forgivable loans for medical professionals, while respondents in twenty-two states mentioned forgivable loans for teachers.

The survey found that four states target forgivable loans on other industries. Maryland is using forgivable loans as an economic development tool, encouraging students to enter high-tech careers by providing such loans through the Maryland Science and Technology Scholarship Program. Missouri features a loan forgiveness program called “Advantage Missouri,” which allows a state education official to classify jobs as “high-demand.” Students preparing for employment in high-demand jobs are eligible for a forgivable loan of \$2,500 per year. (“Advantage Missouri” offers income tax credits for contributors who wish to support the program.) Alaska uses forgivable loans to promote employment in fisheries, and Pennsylvania offers forgivable loans for students intending to work on family farms.

Existing forgivable loan programs are designed to channel students into specific professions. Forgivable loans, offered more broadly, could also serve the dual purposes of inducing more of a state’s residents to attend college while also providing graduates with an economic incentive to remain in-state.

Existing forgivable loan programs are designed to channel students into specific professions. Forgivable loans, offered more broadly, could also serve the dual purposes of inducing more of a state’s residents to attend college while also providing graduates with an economic incentive to remain in-state. Broadly available programs offering forgivable loans have been proposed in two states, but no such programs are in place.

The Indiana Residency Higher Education Program was considered by the Indiana legislature in 1997. The program would have allowed Indiana students with a “B” grade average to obtain a loan to cover the costs of tuition at Indiana’s public or private institutions of higher education. Twenty percent of the loan would have been forgiven for each year of *residency* (not work, as in some other states’ programs) in Indiana.²⁹

The Nebraska legislature recently considered the Quality Work Force Academic Loan Program Act, more popularly known as the “Brain Gain” bill. This proposed legislation was the only policy initiative uncovered by the survey that had explicitly as its main purpose the retention of postsecondary graduates. The legislation was intended “to develop a plan to increase the number of Nebraska students and graduates who remain in the work force of Nebraska.” Further, the legislation was designed to “encourage students to seek education and training in fields which are essential to the economic development of the state,” and to “promote work force development, attraction, and retention in Nebraska.”³⁰

The program would have offered forgivable loans to Nebraska students enrolled at least part-time in participating institutions, and would have covered “no less than 25 percent of the student’s tuition and fees.” Loan recipients would have been selected by participating postsecondary institutions. Loans would have been given first to students demonstrating financial need, then to students based on academic merit. Students studying in “high-priority”

²⁹ Indiana House Bill No. 1792 (1997)

³⁰ Nebraska Legislative Bill 1176, Ninety-fifth Legislature, Second Session (1998)

fields were to receive preference. High-priority fields were to be “areas with a lack of qualified applicants having the highest employment growth rates,” as “identified using the Nebraska Career Information System, the U.S. Department of Labor, and the Bureau of Business Research of the University of Nebraska-Lincoln,” subject to a review “by the Executive Board.”³¹

To receive a loan, students would have had to sign a contract requiring the student “to work full time in Nebraska for three years after graduation and complete a designated number of hours of internship.” As the students fulfilled the terms of the contract, the loans would have been forgiven.³²

. . . students would have had to sign a contract . . . As the students fulfilled the terms of the contract, the loans would have been forgiven.

Funding for the loans was to be distributed to students through participating postsecondary institutions by the Coordinating Commission for Postsecondary Education. The legislature had been asked to appropriate \$2,000,000 plus administrative costs for 1998-1999 for the program.

The “Brain Gain” legislation was not as broad-based as the Indiana proposal nor as broad-based as merit scholarship programs, such as HOPE. The Nebraska legislation did not guarantee a loan to any student meeting established academic and residency requirements. Rather, it offered funds to the state’s educational institutions, and allowed the institutions to select the students eligible for the loans.

Tax Incentives

A more recent approach to financial incentives for higher education is to offer tax incentives to offset the cost of college tuition. Tax incentives are another means for states to address the graduate retention issue by easing access to in-state colleges.

Respondents in two states mentioned tax credits for college tuition in connection with graduate retention efforts. Note that neither program offers an incentive for the student to remain in the state following graduation. Like the merit scholarship programs discussed above, the tax incentives discussed are retention programs only if one assumes that in-state students are more likely than out-of-state students to remain after graduation.

Tax incentives are another means for states to address the graduate retention issue by easing access to in-state colleges.

South Carolina’s LIFE scholarship legislation included a tuition tax credit added to South Carolina’s tax code (\$850 per year for students at four-year institutions, \$350 per year for students at two-year institutions). The credit, which is refundable, is for students not receiving LIFE or other state scholarships. Either the student or the taxpayer who claims the student as a dependent can claim the credit. The program was passed by the legislature in 1998.

Indiana’s legislature considered, but did not pass, a tax credit program to promote college savings in 1997. A taxpayer would have received the lesser of a credit equal to 50 percent of the college savings deposited in a trust account, or a credit of \$250 per dependent.

³¹ *Status and Summaries for All Bills Referred to the Education Committee of the Nebraska Legislature, Ninety-fifth Legislature, Second Session, 1998, p. 54*

³² *Status and Summaries for All Bills Referred to the Education Committee of the Nebraska Legislature, Ninety-fifth Legislature, Second Session, 1998, p. 53*

VIII. Conclusion

Although not true everywhere, for state officials across much of the U.S., postsecondary graduate retention is an important policy concern. The absence of comprehensive statewide policies solely directed at graduate retention should not be taken as an indication to the contrary. Rather, the existence of so many programs which relate to graduate retention within other policy contexts indicates that policymakers have recognized that their states' economic health depends on effective development and retention of human capital.

However, policymakers seeking to address postsecondary graduate retention issues must overcome two obstacles. First, the policy issues surrounding graduate retention lack clarity. Second, policymakers lack the informational tools which could enable effective tracking of progress or the lack thereof in developing and retaining a highly educated workforce.

Policymakers should therefore:

1. support existing graduate retention research efforts where possible; initiate research efforts where necessary,
2. work to understand how graduate retention issues fit into the larger patterns of in-state human capital development and workforce demands, and
3. explore how tools in other policy areas, tax credits for example, can affect in-state graduate retention patterns.

Postsecondary graduate retention is only one part of a complex of issues facing policymakers concerned with human capital development and retention. The funding of higher education, the delivery system for higher education, and the accessibility of higher education are all policies which must be considered at the state level in association with graduate retention if a state is to create or maintain consistent human capital policies. However, states wishing to develop their own pools of highly educated human capital must make graduate retention a priority.

IX. Recommendations

1. The state of Indiana must recognize the importance of the graduate retention issue to its future economic development. As the economy becomes increasingly knowledge based, the state will have to produce and retain more highly educated human capital. Increasing production and retention of postsecondary graduates must be a consideration for state policymakers in education and workforce development. States which are giving these issues due attention are making progress in resolving them; the majority of states are ignoring these issues, and are rapidly falling behind.

States which develop effective graduate retention policies, such as Georgia, are also developing reputations for being very responsive to employers. This is especially important

in high technology industries, including advanced manufacturing, where rapid and flexible workforce solutions are often required.

2. Establish an ongoing system for regularly measuring the retention of postsecondary graduates in Indiana. The information currently available to the state is based on one-time studies, such as the Indiana Human Capital Retention Project. While the data collected provides a valuable basis for drawing conclusions now, further data will be needed to determine whether the state's graduate retention initiatives work.

It is important that the state construct a system which monitors the flow of its highly educated human capital, rather than simply conducting periodic checks of the data. Postsecondary graduates are an important component of a state's labor market, and information about that component is necessary for policymakers. North Dakota's FINDET and other such systems are part of more comprehensive efforts to develop reliable labor market information at the state level.

3. Develop a statewide policy on internships, including a plan for increasing the number of internships available to Indiana college students. Since there are significant benefits inherent in internships for both employers and interns, and since employers have expressed great interest in providing more internships, the state should not have to commit substantial resources to providing incentives for participation.
4. The state should focus its efforts on serving as a broker of internships. A statewide pool of opportunities and interested students should be developed, and the information should be made available over the Internet.

It is extremely important that access to the internship pool be simple and direct for both employers and students. Employer interest will fade quickly if the process is made cumbersome with paperwork or complicated procedures.

Responsibility for evaluating and maintaining the quality of internships should remain with the colleges. Each college should also retain control of the academic credit offered to interns for successful completion of their programs. The state should, however, strongly encourage colleges to offer significant credit for internships, and to devise programs which allow students to participate in internships without significantly increasing the time it takes to graduate.

5. Establish a broad-based program of financial incentives to encourage Indiana's high school graduates to pursue postsecondary education. Two possible options are broad-based merit scholarships like Georgia's HOPE scholarship program and forgivable loans that are based on continued employment in the state. Broad-based scholarships offer potential students easy access to the state's higher education system. While the HOPE system has not been in place long enough to reach solid conclusions regarding its impact on Georgia's workforce, it certainly has made the state's institutions more accessible to its citizens. Forgivable loans offer the state a mechanism for ensuring that its investment in higher education pays dividends in the form of more highly educated human capital available to its employers.

Financial assistance may not directly address the issue of graduate retention, but there must be human capital “in the pipeline” for the state’s more direct responses to be effective. Graduate retention is only part of the process of retaining highly educated human capital; production is also critical, and policymakers must address the historic reluctance of Indiana’s citizens to engage in postsecondary education.

6. Sector-specific targeting of graduate retention policies should focus Indiana’s resources on those areas of the economy most important to the state’s continued prosperity. Generally, higher levels of educational attainment are valuable to the state; this recommendation should not be interpreted as contradicting other recommendations for broad-based programs. However, policymakers will determine that certain sectors of the state economy have priority in the state’s planning. Those sectors would benefit from additional or enhanced programs. In the absence of broad-based initiatives, graduate retention programs should be designed to increase the amount and quality of human capital available to *at least* the high-priority sectors of the economy.

Appendix A

SCORECARD OF CURRENT PRACTICES IN POSTSECONDARY GRADUATE RETENTION

The scorecard in Appendix B summarizes the state-by-state responses to this survey. The twelve categories provide a quick view of states' attitudes toward graduate retention and of the prevalence of existing programs to improve graduate retention rates. Below are brief explanations for each of the categories in the scorecard.

QUALITATIVE ISSUES

ACTION	Respondents indicated that some <i>Action</i> , at least in part specifically aimed at graduate retention rates, had occurred in the state. This excludes typical programs such as medical care and teaching and follow-up of graduates.
ECONOMIC DEVELOPMENT	Respondents generally believe that any human capital retention problems are <i>Economic Development</i> issues.
QUALITY of LIFE	The respondents indicated the <i>Quality of Life</i> , either positive or negative, which resulted from the climate, geography, or overall attractiveness was the major factor in the presence or absence of any postsecondary graduate retention issues.

GENERAL PROGRAMS

SCHOLARSHIPS	This refers to the existence of a broad-based <i>Scholarship</i> or loan forgiveness program for which eligibility is more weighted to merit than to need or other criteria.
TAX	The state has discussed the use of tax policy as a postsecondary graduate retention strategy.
MENTOR	Formal <i>Mentoring</i> is a part of a program to further graduate retention.
FOLLOW-UP	A formal system to study postsecondary graduate retention is in effect.
INTERN	<i>Internships</i> with local organizations are explicitly used as part of a program to increase graduate retention.
SPECIAL	A <i>Special</i> program, not appropriately described in a category above, exists to further graduate retention.

SPECIFIC PROGRAMS—LOAN FORGIVENESS

MEDICAL	A loan forgiveness program is in effect for some <i>Medical Professions</i> including but not limited to physicians, nurses, chiropractors, therapists, or veterinarians.
TEACHERS	A loan forgiveness program is in effect to further the retention of licensed <i>Teachers</i> for some shortage area.
OTHER	A loan forgiveness program is in effect for a profession <i>Other</i> than Teaching or Medical fields.

Appendix B

SCORECARD OF CURRENT PRACTICES IN POSTSECONDARY GRADUATE RETENTION												
State	ACTION	ECONOMIC DEVELOPMENT	QUALITY OF LIFE	SCHOLARSHIPS	TAX	MENTOR	FOLLOWUP	INTERN	SPECIAL	MEDICAL	TEACHERS	OTHER
Alabama	YES	YES	n	P	n	n	n	n	n	n	n	n
Alaska	YES	n	n	n	n	n	n	YES	n	YES	YES	YES
Arizona	n	n	YES	n	n	n	n	n	n	n	n	n
Arkansas	YES	n	n	YES	n	n	n	n	n	n	YES	n
California	n	n	YES	n	n	n	n	n	n	n	YES	n
Colorado	n	n	YES	n	n	n	n	n	n	n	n	n
Connecticut	YES	n	n	P	n	n	n	n	n	n	n	n
Delaware	YES	YES	n	n	n	n	n	n	YES	YES	YES	n
Florida	YES	n	n	n	n	n	YES	n	n	n	n	n
Georgia	YES	YES	n	YES	n	n	n	n	n	n	YES	n
Hawaii	YES	n	n	n	n	n	n	n	n	n	n	n
Idaho	YES	n	n	P	n	YES	n	n	n	YES	n	n
Illinois	YES	n	n	YES	n	n	n	n	n	YES	YES	n
Indiana	YES	n	n	P	P	n	O	n	n	YES	n	n
Iowa	YES	YES	n	n	n	n	n	YES	n	YES	YES	n
Kansas	YES	n	n	n	n	n	n	n	n	YES	YES	n
Kentucky	YES	n	n	YES	n	YES	n	n	n	YES	YES	n
Louisiana	YES	n	n	YES	n	n	n	n	n	YES	YES	n
Maine	YES	n	YES	n	n	n	n	n	n	n	YES	n
Maryland	YES	n	n	n	n	n	n	n	n	YES	P	YES
Massachusetts	n	n	YES	n	n	n	n	n	n	n	n	n
Michigan	YES	n	n	n	n	n	n	n	n	n	n	n
Minnesota	n	n	n	n	n	n	n	n	YES	YES	n	n
Mississippi	YES	YES	n	n	n	n	n	n	n	YES	YES	n
Missouri	YES	n	n	YES	n	n	n	n	YES	n	n	YES
Montana	YES	n	n	n	n	n	n	n	n	YES	YES	n
Nebraska	YES	n	n	P	n	n	n	P	n	YES	n	n
Nevada	YES	n	n	n	n	n	n	n	n	YES	n	n
New Hampshire	n	n	n	n	n	n	O	n	n	YES	n	n
New Jersey	n	n	n	YES	n	n	n	n	n	n	n	n
New Mexico	YES	n	n	n	n	n	n	n	n	YES	YES	n
New York	YES	n	n	n	n	n	n	n	n	YES	YES	n
North Carolina	YES	n	n	n	n	n	YES	n	n	YES	YES	n
North Dakota	YES	YES	n	n	n	n	YES	YES	n	n	n	n
Ohio	n	n	n	n	n	n	n	n	n	n	n	n
Oklahoma	YES	n	n	n	n	n	O	n	YES	n	n	n
Oregon	n	n	n	n	n	n	YES	n	n	n	n	n
Pennsylvania	n	n	n	n	n	n	O	n	n	YES	YES	YES
Rhode Island	YES	n	n	n	n	n	n	n	n	n	n	n
South Carolina	YES	n	n	YES	YES	n	n	n	n	n	YES	n
South Dakota	YES	YES	n	n	n	n	P	n	n	YES	n	n
Tennessee	YES	n	n	n	n	n	n	YES	n	YES	YES	n
Texas	n	n	n	n	n	n	YES	n	n	YES	YES	n
Utah	YES	YES	YES	n	n	n	n	n	YES	n	YES	n
Vermont	YES	n	n	n	n	n	n	n	n	n	n	n
Virginia	YES	n	n	n	n	n	n	n	n	YES	YES	n
Washington	n	n	YES	n	n	n	n	n	n	YES	YES	n
West Virginia	YES	YES	n	n	n	n	YES	n	n	YES	n	n
Wisconsin	YES	n	n	n	n	n	n	n	n	n	n	n
Wyoming	YES	YES	n	n	n	n	n	n	n	YES	n	n

n = NO P = RECENTLY PROPOSED O = ONE TIME SURVEY

Appendix C

Definitions and Scope

For purposes of this report, the scope of graduate retention is defined as that group of policies and programs developed at the state level with the intention of inducing a greater number of graduates from a state's postsecondary institutions to remain within that state's workforce after graduation. The term "postsecondary graduates" includes recipients of associates degrees (defined as two-year degrees, but not including students receiving vocational education and training which does not result in a degree), bachelors degrees, and masters degrees. The word "retention" is used in this report in reference to college graduates remaining in the state in which they *completed* their postsecondary education.³³

The report also does not address the issue of a state's rate of participation in postsecondary education. It is possible that a given state may lack postsecondary graduates in its workforce, not because of a low retention rate, but because few of the state's citizens choose to complete a college degree. Programs are discussed in this report with regard to their bearing on graduate retention, although some (such as broad-based merit scholarships) may also be useful for raising participation rates.

³³ Use of the word "retention" at the institutional level normally refers to a student's persistence to graduation. Institutional policies designed to affect persistence to graduation are beyond the scope of this report.

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