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08

LONG ISLAND'S COLLEGES AND UNIVERSITIES: MEETING THE NEEDS OF A SHIFTING ECONOMY

The nation's postindustrial economy has become an innovation economy, one that is based on new concepts and ideas. America's future economic competitiveness will be determined not only by its stock of financial capital but also by its stock of human capital. Colleges and universities create and enrich human capital. They provide the infrastructure necessary for creative activity. This article discusses the issues confronting higher education today and documents the role of Long Island's colleges and universities as economic engines.



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The Growing Need for Advanced Education

U.S. policymakers currently face more critical policy decisions than at any time in recent memory. What energy policies should we pursue to reduce our dependence on fossil fuels? How can we best provide quality health care for all Americans? What steps are needed to ensure future economic competitiveness? Intelligent decisions with regard to such complex questions require an intellectual climate that fosters informed and reasoned debate. In short, they require an educated public.

Although more Americans are pursuing post secondary education, there is growing evidence that the U.S. is falling behind the curve, particularly in certain critical areas. Too few U.S. students are pursuing advanced degrees. Foreign-born students accounted for 33 percent of all research doctorates awarded by U.S. universities in 2006 according to a survey conducted by the National Opinion Research Center at the University of Chicago. Too few U.S. students are choosing to study science and engineering. Foreign students accounted for 44 percent of the science and engineering doctorates awarded in the

U.S. during 2006. Even more worrisome is the fact that an estimated 40 percent of Ph.D.'s working in U.S. science and engineering occupations are foreign born. At a time when most new U.S. jobs will require advanced education, the U.S. does not appear to be developing the human capital it needs to compete globally.

The failure to pursue advanced education has serious implications for economic mobility in this country. A recent Brookings Institution study entitled "Getting Ahead or Losing Ground: Mobility in America", found that economic mobility in this country has not changed significantly in the past three decades. There is ample evidence that a college degree has a high monetary value. At the beginning of this century, college graduates earned 73 percent more over their working life than high school graduates. Advanced degree holders earned 124 percent more. The Brookings report underscored the powerful role that colleges and universities play in helping people change their station in life. It found that someone born into a family in the lowest fifth of

earners who graduates from college has a 19 percent chance of joining the highest fifth of earners in adulthood and a 62 percent chance of joining the middle class. In recent years, however, only 11 percent of the children from the poorest families have earned college degrees as compared with more than half of children from the top fifth of earners. Therefore, the escalating cost of a college education has become a major impediment to economic mobility.

Financing a College Education

The cost of a college degree has almost doubled in the past decade. During the 2007-08 academic year, the average cost for tuition, room and board at the typical public college was \$13,727. Students attending private colleges paid an average of \$35,000. The rising cost of a college degree will affect more and more students and their families because the number of 18-year olds planning to attend college is expected to set new records annually for the next several years. Moreover, the ability of college students and their families to obtain

private educational loans has been impaired by the current credit crisis. Deteriorating and tightening credit conditions have forced a significant number of lenders out of the college loan market.

However, there is help on the way. Legislation signed last May makes the Federal government the lender of last resort for student loans. Moreover, higher loan amounts are now available under the Federal student loan program. Students who obtain Federal Stafford loans can now borrow \$5,500 as freshmen, up to \$6,500 as sophomores and up to \$7,500 as juniors and seniors. Stafford loans are available regardless of family income at an unsubsidized interest rate of 6.8 percent. The College Cost Reduction and Access Act of 2007 will reduce interest rates on Stafford loans from the current 6.8 percent to a low of 3.4 percent in the next five years, making college more affordable for more students. The new law also makes it less burdensome to repay student loans. As of July 1, 2009 annual loan repayments will be capped at 15 percent of a recent graduate's discretionary income. Any remaining debt will be canceled after 25 years. The new law also forgives the college debt

for those who work in a public service profession for at least ten years and who make 120 monthly payments on their outstanding Federal direct loans. Public service is broadly defined to include occupations such as public health, public education, nonprofit work and law enforcement.

The nation's colleges and universities have also stepped up to the plate to make a college education more affordable. Many have changed their financial aid programs to provide more aid to students from low and middle-income families. Some have replaced loans with grants in their aid packages. Grant money does not have to be repaid. Some colleges are waiving tuition entirely for families with incomes below a certain threshold. Others are capping college costs at a percentage of family income. Harvard's financial aid program is a case in point. At Harvard, parents with incomes between \$120,000 and \$180,000 will be asked to pay just 10 percent of their income to cover college costs. The cost to parents in this income bracket would be no more than \$18,000 a year. This compares with the normal 2008-09 Harvard price tag of about \$50,000. In addition, students are expected to

contribute \$4,000 annually through campus jobs and summer work. Yale, Brown, Dartmouth and Stanford and other private colleges have emulated Harvard's program. Many public colleges are working to come up with grant packages of their own.

Diversifying the Student Body

Not only is the financial landscape changing, but the student body at many of the nation's colleges is also changing. Colleges are attempting to diversify their student bodies in the belief that a more diverse student body will make their graduates better prepared for the real world. Unlike attempts at diversification in the recent past, today's diversification moves are based primarily on income rather than race. A growing number of programs seek to pair gifted low-income students with public and private colleges. QuestBridge, a nonprofit organization located in Palo Alto California, matches qualified students from low-income families with some of the nation's top colleges. In return, these schools give the students scholarships and pay QuestBridge a fee for helping them to diversify their student bodies. The Posse

Program, a New York nonprofit, was launched in 1993 in response to the discovery that inner city students tended to drop out of college because they didn't have their friends with them. The Posse Program sends groups of students who are acquainted with each other to the same college. That is, they send students to college along with their "posse". Upward Bound, a Federal program, also matches low-income students with colleges

Table 1

The Economic Importance of Long Island's Institutions of Higher Education, 2007-08 Academic Year

Indicator	Number/Amount
Number of Students	179,820
Number of Employees	38,661
Full-Time Employees	22,330
Part-Time Employees	16,331
Operating Expenditures	\$3,963,738,320
Current & Projected Capital Spending	\$2,537,110,481
Cost of Ongoing Capital Projects	\$807,861,970
Cost of Future Capital Projects, 2007-2012	\$1,729,248,511

Source: LIRACHE

throughout the country.

Older students have also become more prominent on college campuses. Baby boomers are returning to college in large numbers to expand their knowledge and/or strengthen their employability. The number of college students between the ages of 40 and 64 has increased by almost 20 percent in the past decade. Their numbers currently total about two million. A growing number of employers are subsidizing college courses for their older workers in order to help them upgrade their skills. Additional training and education is viewed as a vehicle for retaining these workers for longer periods of time. In some cases, employers subsidize college courses for those nearing retirement to help them transition to new careers.

The Push Toward Online Learning

More college students are now taking courses online, a trend that has been given impetus by rising gasoline prices. In some instances, enrollments for Internet courses have doubled in the past year. Approximately 79 percent of the nation's 15 million college students live off campus. With gasoline prices topping \$4 a gallon, many are trying to cut their commuting costs by studying online. Some of the largest increases in registrations for online courses have occurred at two-year community colleges, where most students are commuters. However, online study is not a good option for students living in rural areas that may lack the high-speed Internet connections on which online courses depend.

Table 2

The Secondary Economic Impact of Direct Operating & Capital Spending By Long Island's Colleges and Universities, 2007-08 Academic Year

Indicator	Impact of Operating Expenditures	Impact of Capital Spending	Total Economic Impact
Direct Expenditures	\$3,963,738,320	\$2,537,110,481	\$6,500,848,801
Gross Output Increase	8,721,413,425	5,244,714,786	13,966,128,212
Net Output Increase	4,757,675,105	2,707,604,305	7,465,279,411
Earnings Increase	2,935,544,600	1,633,391,728	4,568,936,327
Employment Increase	92,682	40,315	132,998

Source: RIMS II Input-Output model based on LIRACHE data

Moreover, most colleges offer only a fraction of their courses over the Internet and some of these courses still require campus visits. There is growing concern that the rising fuel costs could force some students to drop out of college. Increased online study may be the answer for some of them.

Colleges and Corporate America

The nation's colleges and universities are also developing new relationships with the U.S. business community. Most large corporations no longer maintain internal research laboratories and have instead begun to partner with universities to pursue new discoveries. University researchers tend to work in unexplored territory on the frontiers of knowledge. Therefore, by teaming up with university researchers, companies not only gain access to state-of-the-art knowledge but also become acquainted with the Ph.D. candidates who become a steady source of new talent for their companies. Recently, Stanford negotiated a research deal with Exxon Mobil and Intel opened collaborative laboratories with the University of California at Berkeley, the University of Washington and Carnegie Mellon. Other companies are emulating these models because technology is

changing rapidly and they do not have the time or resources to assemble their own research staffs. The corporate-university partnership will help the nation's businesses market innovations faster and more efficiently. Universities, in turn, are using corporate funding to reduce their traditional reliance on government funding.

Long Island's Colleges and Universities

Higher education plays a significant economic role on Long Island. Not only are Long Island's colleges and universities an important source of jobs but they also provide a steady stream of educated workers for local businesses, nonprofits and governments.

According to LIRACHE, the Long Island Regional Advisory Council on Higher Education, Long Island's institutions of higher education enrolled almost 180,000 students during the 2007-08 academic year and employed a total of 22,330 full-time and 16,331 part-time workers. Their total operating expenditures approached \$4 billion. Capital projects underway at these institutions were valued at almost \$808 million. Anticipated capital spending through 2012 is estimated at more than \$1.7 billion. (See Table 1)

These direct expenditures undergo several rounds of responding on Long Island, creating a multiplier or ripple effect. This effect was estimated by applying multipliers from the RIMS II input-output model of the Long Island economy. This regional input-output modeling system was developed by the Bureau of Economic Analysis of the U.S. Commerce Department and is specific to Long Island. It depicts the flow of economic activity between industries. The model contains multipliers for output, earnings and employment. Multipliers for higher education were applied to the operating expenditures of Long Island's colleges and universities. Construction industry multipliers were applied to their current and projected capital expenditures.

The findings, shown in Table 2, indicate that direct capital and operating expenditures of about \$6.5 billion increase Long Island's total output of goods and services, its gross regional product, by almost \$14 billion. This spending causes Long Island earnings to increase by almost \$4.6 billion and supports an estimated 133,000 jobs in a broad cross-section of Long Island industries.

Long Island's institutions of higher education are building new facilities, hiring more full-time faculty, adding courses and equipping more of their classrooms with the latest telecommunications technology. As a result, their economic influence will continue to grow. For example, the State University of New York at Stony Brook is expanding its main campus. Its satellite facility in Manhattan is also growing and it recently opened a new campus in Southampton. Adelphi University recently built a Center for Fine Arts and is completing performing arts and sports centers. Adelphi also has plans for an Early Learning Center as well as new tennis

courts, baseball and hockey fields. Hofstra's plans include a 220-bed graduate residence hall. Touro College's Jacob D. Fuchsberg Law Center has a new \$35 million, 180,000 square foot facility located adjacent to the state and federal court complexes in Central Islip.

Long Island's colleges and universities are expanding their online course offerings and giving students wireless access throughout their campuses. Computers, projectors, DVD players and sound systems have replaced chalk, as more classrooms are converted to "smart" classrooms. These investments are needed to better compete for national and international students.

The state's public colleges and universities could experience some of the most dramatic changes in recent memory. A 2007 report by the Governor's Commission on Higher Education suggested that SUNY and CUNY hire 2,000 full-time faculty members, including 250 eminent scholars, in the next five years. The report also called for a \$3 billion innovation fund to promote cutting-edge research at the public colleges and the expenditure of \$5.8 billion to meet critical maintenance needs. Equally important,

the report suggested that academically prepared students from at risk school districts be given free tuition within the public system. It also called for a state low-interest student loan program financed by tax-exempt bonds. This would put a college education within the reach of significantly more students. Governor Paterson recently embraced this recommendation.

Conclusions

Higher education is at a critical tipping point. The need for advanced education is greater than ever before. However, the rising cost of a college education is deterring otherwise qualified students from attending college. The Federal government has expanded its college loan program and recently passed legislation will make Federal loans more affordable. Colleges are also using more of their endowments to provide additional aid to students from low and moderate-income families. However, more steps must be taken to encourage college attendance if the U.S. is to retain its current living standards and remain competitive in the global economy.

Expected Cost of Current Capital Projects At Long Island Colleges & Universities (\$ Millions)

