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The University As Economic Savior

As higher education replaces industry in some cities, colleges face both support and unrealistic expectations

By KARIN FISCHER
Rochester, N.Y.

On a wintry March day in 1932, George Eastman, inventor of rolled film and founder of the Eastman Kodak Company, summoned a trio of witnesses to his home here to view the signing of his revised will. Minutes after the group left, Mr. Eastman, who was ill with a degenerative spinal disorder, shot himself in the heart.

The deathbed revisions made the University of Rochester the beneficiary of his \$25-million estate, part of the \$50-million he bequeathed to the private institution over his lifetime.

Mr. Eastman built one of the great American manufacturing corporations of the 20th century, and Rochester's fortunes flourished along with Kodak's. But it was his belief in the value of education — he once said that "the progress of the world depends almost entirely on education" — that will most likely sustain his hometown and help the city thrive as it tries to transform itself to compete in the knowledge economy of the 21st century.

In January the university that Mr. Eastman, a high-school dropout, helped endow surpassed the company he founded as Rochester's largest employer. It is a scene being played out in cities throughout the industrial heart of the United States. In places like Baltimore, Bethlehem, and Akron old-line manufacturers are downsizing, diversifying, and even departing, leaving local universities as a dominant, if not *the* dominant, employer.

Now more than ever, higher education is seen as the key to helping manufacturing-based cities catch up and compete in a highly skilled global economy. "These places were the economic engines of the 20th century," says James J. Duderstadt, president emeritus of the University of Michigan at Ann Arbor and a member of the federal Commission on the Future of Higher Education. "Now they're at risk of becoming economic backwaters." Mr. Duderstadt and others argue that the knowledge infrastructure provided by higher-education institutions, and, in particular, research universities, is as important, if not more so, than the sweetheart tax breaks and real-estate deals conventionally used to attract and retain corporate headquarters and new factories.

As a result, in Rochester and elsewhere, college leaders are seeking closer partnerships with civic and business leaders to harness the universities' strengths. "We is they and they is we," says Joel Seligman, who became president of the University of Rochester last year and was given the charge to use the institution more as an economic-development engine and improve its relationship with the Rochester community.

But the role of the university as the automobile factory of the modern economy is not embraced by all, on campuses or in city hall. Town-gown tensions persist over issues like real-estate development off the property-tax rolls. Some professors say they are concerned that new economic-development imperatives could distract and detract from their institutions' core missions of teaching and research. And college leaders worry that, in depressed regions, civic leaders may harbor unrealistic expectations of a college's ability to create jobs and revitalize local economies.

"Universities are a necessary — but not sufficient — component of regional economic success," says Sean C. Safford, an assistant professor of organizations and strategy at the University of Chicago's Graduate School of Business, who studies the role of higher education in economic development. "A university cannot be responsible for a whole community's transformation."

The Smart, Getting Smarter

The statistics showing how much a university can do for a city are striking. In a recent paper, Edward L. Glaeser, an economics professor at Harvard University, and Christopher R. Berry, an assistant professor of public policy at the University of Chicago, found that in "highly skilled" regions, where more than 25 percent of adults had college degrees in 1980, the population increased by 45 percent by 2000. Metropolitan areas in which less than 10 percent of adults had a degree grew, on average, by just 13 percent. "As smart places get smarter," Mr. Glaeser and Mr. Berry wrote, "they're leaving everyone else in the dust."

Now those left in the dust are increasingly banking that their local colleges can make them economic contenders, much as universities helped propel the high-tech boom in places like Austin, Tex., and the Research Triangle region of North Carolina.

In Michigan and the other Great Lakes states, officials hope they can leverage the intellectual vitality of the Big Ten universities to counteract the financial frailty of the Big Three automakers. Philadelphia's 80 colleges have teamed up with businesses in the city to try to stem its brain drain of young college graduates. The University of Akron has used its expertise in polymer chemistry and engineering to nurture and build connections between local entrepreneurs (see box, Page A21). A summit last December on higher education's role in economic development, sponsored by Pennsylvania State University, attracted more than 500 people. Penn State had expected 50.

Even Boston, the nation's best-known college town and home to successful biotechnology and pharmaceutical spinoffs, has taken note. Mayor Thomas M. Menino

has named a higher-education liaison to encourage collaboration between the city and its colleges.

But Mr. Safford, the University of Chicago professor, cautions that there is no one-size-fits-all model for economic development. Places like Silicon Valley and Austin, for instance, were "economic blank slates," he says, before they became high-tech meccas. The challenges are different for old industrial cities, which often have an entrenched work force and political structure.

For the partnerships to work, all the parties — the university, elected officials, and business — need to have similar goals, Mr. Safford says. For example, he says, the University of Akron's early attempts to encourage economic growth were unsuccessful because large companies had little use for the research generated by the university, while entrepreneurs felt left out. (Now the university focuses more on aiding entrepreneurs.) Alliances with industry can also sour over intellectual-property rights, as business executives and university officials clash over who should own the results of corporate-sponsored research.

Richard Florida, author of *The Rise of the Creative Class* (Basic Books, 2002), which argues that cities that attract educated, creative people will thrive in the new economy, says some places simply do not view colleges as a valuable collaborator in economic-revitalization efforts.

"The university could be a transmitter sending out a signal," says Mr. Florida, a professor of public policy at George Mason University, "but the regional receiver could get turned off."

A Stable Presence

In Rochester, increased foreign competition and rapidly evolving technology have taken a toll on Kodak and the region's two other longtime economic powerhouses, Xerox Corporation and Bausch & Lomb. Kodak alone has reduced its presence in its Rochester headquarters from a high of 60,400 employees in 1982 to 14,100 today. The Rochester area had a net job loss of 1.9 percent of the work force, or 4,800 jobs, between April 2005 and April 2006, the highest in the state.

By contrast, "the university is not likely to downsize or pick up and move to another state," says Sandra A. Parker, chief executive of the Rochester Business Alliance, the city's chamber of commerce. "The University of Rochester is the University of *Rochester*."

Ms. Parker and others in the city hope the University of Rochester and the neighboring Rochester Institute of Technology, another private institution, will cultivate a new generation of start-up businesses in this former company town.

One of those upstarts is VirtualScopics, a medical-imaging company that builds on the region's longstanding strength in the field of optics.

At the company's offices, not far from the University of Rochester campus, the lights are dimmed to give technicians a crisper view of the high-definition images that brighten their computer screens. The computerized analysis can pinpoint minute changes in tissue or bone, allowing pharmaceutical companies to measure the efficacy of new drugs in trials more quickly and with greater precision. Ten of the world's 15 largest drug makers are clients, says Robert Klimasewski, VirtualScopics's interim chief executive. In November VirtualScopics, which grew out of research in the University of Rochester's medical school and school of engineering, went public. The company reported increased sales of 46 percent, to \$1.02-million, in the first quarter of this year. VirtualScopics executives say they benefit from the wealth of expertise in optics in the Rochester region, but they concede that the city's location has made it difficult to attract private investors. Indeed, analysts say it is unrealistic to expect a nascent Silicon Valley to suddenly flourish in the midst of the Rust Belt. Successful start-ups, they note, often migrate to regions that have a more-established infrastructure — private financing, experienced managers, and a depth of talent — to support them. Lycos, the Internet-search engine developed by researchers at Carnegie Mellon University, for example, left Pittsburgh for Boston's high-tech corridor in 1999.

The University of Rochester now spins off about three companies a year, but the effect of these start-ups on the local economy is dwarfed by the university itself. It employs 17,200 people, up from 11,950 a decade ago, has a total payroll of \$1.15-billion, and attracts \$288.5-million annually in state and federal research dollars. Last year the university spent \$172.4-million on locally purchased equipment and hired 2,966 Rochester-area residents to fill positions as registered nurses, research technicians, and faculty members. "The university has recently been a superstar of economic growth," says Patricia K. Malgieri, Rochester's deputy mayor.

Much of that expansion has been fueled by a 10-year, \$500-million investment in faculty members and facilities at the university's medical center. While medical breakthroughs by the center's researchers — such as work by Rochester virologists that led to the development of the vaccine against cervical cancer — attract headlines and earn patent royalties, the investment can also be felt locally, says Nancy M. Bennett, director of the university's Center for Community Health. The university is involved in a coalition to eliminate lead in public housing, has worked to diminish racial disparities in immunization rates, and developed a healthy-living program administered through black and Hispanic churches.

Still, barriers remain, Ms. Bennett says, noting that residents are distrustful of researchers who disappear when their grants dry up. "One of our goals is to create a presence that will be permanent," she says, "so that the project comes and goes, and we won't."

Rewarding Entrepreneurship

One barrier to colleges' becoming more of an economic engine are faculty members who resist taking on the role of community-development cheerleader, administrators say. Part of the problem is that, at most institutions, the tenure-and-promotion system doesn't reward entrepreneurship. That may be gradually changing. The Texas A&M University System announced in May that "patents or commercialization of research" would be considered on a par with teaching, research, and service in tenure review.

"There are people who have an intellectual definition of what a professor should be," says Eby G. Friedman, a professor of electrical and computer engineering at the University of Rochester and director of the university's Center for Electronic Imaging Systems, which develops and commercializes technology. "A lot of good academics don't want to get their hands dirty."

Not only are many faculty members not rewarded for economic development, but strong local relationships do little to enhance an institution's bottom line or its national reputation in such arenas as *U.S. News & World Report* rankings. In at least one instance, a university president's focus on urban development helped lead to her departure. Claire L. Gaudiani resigned as president of Connecticut College in 2000 amid criticism of, among other things, her commitment of college money to local redevelopment efforts at a time when the institution's finances appeared shaky.

But Mr. Seligman, Rochester's president, says he sees no conflict between his institution's national ambitions and parochial obligations. "In the long run," he says, "we will be of the greatest consequence to the city if we succeed as a university."

Becoming the region's largest employer "made us much more self-conscious about our responsibility to the community," says Gerald Gamm, co-chairman of the university's Faculty Senate and an associate professor of political science and history. "There was a perception that the university was aloof, separate. We didn't reach out a lot."

Another Kodak?

When Mr. Seligman arrived at the University of Rochester last July one of his first appointments was a visit across the Genesee River from the university's main campus, to a struggling neighborhood known as the 19th Ward. There, he helped break ground on Brooks Landing, a redevelopment project 20 years in the making that will house a restaurant, retail shops, a hotel, and office space for university employees. Afterward he asked for a walking tour of the neighborhood, an "unprecedented" gesture by the university's president, recalls Dana K. Miller, a member of the city council and a longtime community organizer.

Local officials say that because they recognize how important the university's success is to the region's future they have backed the institution's effort to persuade lawmakers to

finance stem-cell research and called for greater state and federal government support for campus building and research projects.

Business leaders — who uniformly call Mr. Seligman by his first name — also praise the university's outreach. "They're playing a bigger role," says Martin Mucci, chairman of the Rochester Business Alliance and senior vice president for operations at Paychex Inc., a payroll-services company headquartered in Rochester. "They've stepped up to fill a void." But Mr. Mucci and other Rochester-area leaders say it would be naïve to believe that the University of Rochester could be another Kodak.

In many ways, they're right. For one, as a nonprofit organization, the university does not pay taxes on the property it owns. Instead, it paid \$175,122 in "embellishment charges" this year for street cleaning, snow plowing, and other city services, according to Rochester city records. While the revenue loss has not been an issue in Rochester, it has been a source of tension in a number of other cities, such as Boston, Providence, and Washington, where public officials have complained that colleges' tax-exempt status has cost the city money.

What's more, Kodak and its founder were cultural and philanthropic leaders in a way the university, which seeks donations itself, never can be. George Eastman founded the Community Chest, the precursor to United Way, and his employees helped ensure that the Rochester branch raised more per capita than almost any other United Way organization in the country. Thanks to Mr. Eastman's largess, downtown Rochester boasts an art museum, theater, and, of course, a world-class photographic collection. Even so, the University of Rochester is a cultural presence. A traveling exhibit on Edgar Degas drew 7,100 visitors last year, while more than 700 performances by faculty members, students, and guest artists at the university's Eastman School of Music were open to the public. Seventy-five promising public-school students receive free private music lessons from Eastman School faculty and Rochester Symphony Orchestra members as part of the school's Pathways program. And top university administrators populate the boards of Rochester's civic and community organizations, including the American Red Cross, the preservation council, and the local Presbyterian Church.

"Our resources are not limitless," says Peter G. Robinson, vice president and chief operating officer of the university's medical center. The university, he adds, can't be "the knight in shining armor."

CITIES WHERE COLLEGES ARE PLAYING A BIGGER ROLE

As traditional manufacturing economies in many parts of the country decline, universities are being asked to play a greater economic role in their local communities. Here are several cities in which college leaders — and, often, faculty members, staff members, and students — have stepped out of the ivory tower and into the streets:

Akron, Ohio

Home to the Goodrich and Goodyear tire companies, Akron was for nearly a century the tire capital of the world. But as overseas competition increased, manufacturers

consolidated, diversified, and even got out of the tire business and out of Akron altogether. To rebound, city leaders decided to build on their strengthlocal expertise in polymers, particularly at the University of Akron. (Polymers, long strands of interconnected molecules, are used in rubber and such varied other products as plastic wrap and flat-screen televisions.) With the university in the lead, Akron has become a national center for polymer research and innovation, supporting small and midsize polymer companies.

Bethlehem, Pa.

Billy Joel set his 1982 song about the plight of unemployed steelworkers in neighboring Allentown, and two decades after the steel mills began shuttering here, this Pennsylvania community is trying to reinvent its economy around industries like chemicals, health care, and financial services. Gregory C. Farrington, who stepped down as Lehigh University's president in June, has said that economic development in the region is "interwoven" with the private university's success. The university's Small Business Development Center offers training and advice to entrepreneurs, while the affiliated Manufacturers Resource Center provides strategic-planning help to manufacturing companies. More than 30 companies have been nurtured in an on-campus business incubator.

Kalamazoo, Mich.

Philanthropists in this former industrial city are betting that an investment in education is an investment in Kalamazoo's future: A group of anonymous donors has pledged to pay the college tuition of the city's public-school graduates who attend a Michigan university or community college, regardless of financial need. The program, known as the Kalamazoo Promise, was announced last November and pays full tuition for students who attend Kalamazoo schools from kindergarten through the 12th grade, with the percentage of aid ratcheting down for those who spend fewer years in the system. (Students must attend all four years of high school in Kalamazoo.) The program's supporters are wagering that the scholarship plan will lure both residents and employers to Kalamazoo by sending the message that the community values education.

Philadelphia and Baltimore

The 80 colleges and universities in the Philadelphia metropolitan area enroll about 300,000 students from around the world each year, but just 29 percent of nonnative graduates stay in the area after they earn their degrees, compared with 42 percent of such students at Boston colleges. Concerns about the city's brain drain led business, civic, and college leaders to found the Knowledge Industry Partnership. Now in its fourth year, the coalition tries to attract the brightest students to the area, connect them to internships and cultural opportunities during college, and persuade them to stick around after they graduate. Baltimore undertook a similar effort three years ago through a consortium of 15 of its institutions, known as Baltimore Collegetown. Officials there were heartened by the results of a recent survey of area college students that found nearly 32 percent plan to stay in Baltimore after they graduate, up from 19 percent three years ago, says Kristen Campbell, Collegetown's executive director.

Richmond, Va.

When community leaders in this longtime tobacco town set their economic-development priorities more than a decade ago, they looked to Virginia Commonwealth University, a public research institution, to carry out two of the major ideas: establishing a biotechnology park and creating an engineering school. With 16,000 employees and a \$2-billion budget, the university is like a "big aircraft carrier in the downtown area, a huge employment base," says Eugene P. Trani, the institution's president. The university, which opened its biotechnology park and engineering school in 1995 and 1998 respectively, also relates to the community on a personal level, says Mr. Trani, who has served as president of the Greater Richmond Chamber of Commerce. Faculty members are encouraged to lend their expertise to local projects, such as doing research on the history of an African-American church or developing best business practices for nonprofit groups. More than 300 professors have taken part in the program, which allows them to teach a reduced courseload.

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