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N.C. has lost high-tech jobs at nearly twice the national rate.

By Chris Roush

If misery loves company, Fredrick McGriff should have been in a state of blissful sorrow. In November 2002, his job moved to Asia, where labor was cheaper. At 53, he was unemployed. He had to find a comparable job or get some training to switch careers, the same grim choice facing thousands of other laid-off Tar Heels.

But McGriff hadn't been pulling a shift in a textile mill or a furniture factory. He was a college-educated high-tech worker, holding the kind of job — applications programmer — that the state has always showcased. Since graduating in 1971 with a bachelor's in physics from North Carolina Central University, he had worked in Research Triangle Park — first for IBM, then Nortel Networks, then Computer Sciences Corp. But El Segundo, Calif.-based CSC shipped his job and about 100 others to India, where programmers work for as little as \$7,000 a year.

For 13 months, he searched for another tech job. He believes his age worked against him. He considered biotech and even becoming a teacher but, in the end, decided to stay with what he knew best. The problem was, he had a lot of company. "And I'm talking about smart, trained people with a wealth of experience. It was frustrating."

McGriff was one of nearly 20,000 Tar Heel high-tech workers who lost their jobs in 2002. Through the first two quarters of 2003, the most recent period for which statistics

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were available, about 10,200 more joined them on the sidelines. That left slightly more than 136,000 high-tech workers in the state, down 18% from the peak of about 166,000 three years ago. The number of technology companies declined nearly 45%, from 4,311 in 2001 to 2,392 last year, according to the North Carolina Electronics & Information Technologies Association. Most were small, with fewer than 10 employees, and simply went out of business. But some left the state, lured by better incentives and lower taxes. And most ominously, some that are still around have begun outsourcing what were some of the state's better-paying jobs to lower-wage countries, particularly India.

The losses have been especially painful because they come as North Carolina is shedding thousands of jobs in such traditional industries as textiles, apparel and furniture. High-tech was supposed to be the state's vaccination against economic downturn. Instead, it has become another symptom.

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hat went wrong? For one thing, the job losses were part of a larger trend. High-tech employment nationally fell by 540,000, to about 6 million, in 2002, according to the American Electronics Association. It estimates 234,000 more jobs disappeared in 2003. But North Carolina's decline was nearly double the national rate. It dropped the state two places nationally, to 16th, in high-tech employment.

Joan Myers, president and chief executive of NCEITA, believes the state got caught resting on its laurels. "We have got to get back into the marketing game. Most people think we're out of business. We just leak jobs all over the place." Others say that the decline in high-tech companies and jobs in North Carolina can be attributed to a number of factors:

- Outsourcing manufacturing and other work to countries such as India and the Philippines. Charlotte-based Bank of America Corp., among others, has moved thousands of technology jobs to India,

where it can save up to 60% on salaries, as part of its strategy to cut domestic tech employment, which fell companywide from 25,200 in 2001 to fewer than 22,000 now.

- Poor management, which led many small companies in North Carolina to spend money faster than they were earning it. Many businesses born during the tech boom were led by executives running companies for the first time. As a result, bankruptcy filings — business and individual — hit an all-time high in each of the last three years. They totaled 10,494 in 2003, up 12% from 2002 and 55% from 2000.

- A drop in venture capital, which has slowed creation of new companies. In 2002, venture-capital investment in the state fell 11% to \$552 million, according to the American Electronics Association.

- The downfall of the N.C. Technological Development Authority, which had provided money and incubators for new companies. The TDA filed for bankruptcy protection in 2003. The state had cut off the non-profit's funding two years earlier after an audit criticized it for lavish entertainment, travel and salaries. Founded in 1992, it had nurtured small technology companies across the state, offering low-cost rental space, conference rooms and office equipment.

Ray Allen, CEO of Elsinore Technologies, a small RTP-based software developer, and David Jones, co-founder of Charlotte-based Peak 10, which provides data-center and computer-system backup to companies, are among those who point fingers at poor management. Many small high-tech companies, they say, put themselves at risk by expanding too fast in 2001 and 2002 during the economic slowdown.

"We couldn't understand what these other companies saw that we didn't see," says Jones, whose company has operations in Charlotte and Raleigh. "Luckily, we were right. We look smart now. We didn't then."



But there were still a lot of people living on the endorphins of the dot-com boom. They refused to accept the fact that things were going to have to slow down a lot before they picked back up again." He notes that his company went two years without anyone — including management — receiving a raise. Only at the end of last year did Peak 10 start increasing salaries. "I feel like I've been run over by a train."

Scott Albert, managing general director of Durham-based Aurora Funds, which invests in four to seven new and developing tech companies each year, says the high-tech industry is suffering because the rest of the state is. "A lot of these companies just can't get those initial customers to get product acceptance." Still, he's optimistic. Last year, Aurora raised \$85 million to invest in technology companies.

As far as tax breaks, North Carolina companies can earn a 5% tax credit on research-and-development spending through the William S. Lee Quality Jobs and Business Expansion Act of 1996. But the credit applies only to profitable enterprises, which means that many small tech companies cannot get it because they won't make money until several years after creation. Myers believes changing this tax break is crucial to further industry development.

"Basically, North Carolina has a very narrow research-and-development tax credit that is not competitive any more," she says. "When it was created six or seven years ago, it was good to get us in the game." She lobbied the legislature last year to pass a new tax credit for technology companies, but she failed. She'll try again when the General Assembly convenes in May. Her organization supports a flat 5% credit on R&D expenses — regardless of whether the company is profitable — and a 25% credit for research performed at a state university.

Flaws in North Carolina's tax credits have been magnified because even some of the leading technology states have gotten more aggressive with incentives for high-tech companies. In Washington, where Microsoft has spawned a number of smaller technology-

related companies, the governor signed a bill in February for sales-tax deferrals and exemptions for investment in research and development. The legislation also eliminated taxes on federal research grants to small businesses and deferred taxes on university-research construction. The California legislature is considering tax breaks for biotech companies. And in December, a board studying Vir-

High-tech employment dropped 18% in two years. The number of companies plummeted nearly 45%.

ginia's biotech industry recommended a \$100 million bond issue and a \$45 million fund to stimulate growth there.

Charles Hamner, former head of the state-funded North Carolina Biotechnology Center, says he would like to see something similar to the Virginia initiative here. "If you have something like that in place, you could probably build 15 to 20 plants in North Carolina over the next five years [and] create somewhere between 5,000 and 7,000 jobs directly in the plants."

The job losses aren't just occurring in the high-tech centers such as RTP and Charlotte. Employment in fiber-optic and other cable manufacturing in Hickory, where Alcatel and CommScope have factories, has dropped from 9,302 in 2000 to around 5,500, according to the Employment Security Commission. The cuts continued in the latter part of 2003 through early 2004 even as signs point to an upturn in the economy. Electronics manufacturer Sanmina laid off 115 workers in RTP in February. Alltel closed a Raleigh call center the same month, idling 45.

To reverse the trends, companies and industry organizations say the state needs to become more aggressive in recruiting and building tech companies. In addition, businesses need to understand that the industry is changing rapidly and that what worked in

the past may not work now. Before, high-tech companies could count on investors and customers being wowed by their technology. Now, they need to focus on making sure their businesses can be profitable.

Even companies with few tech employees feel pressure to cut costs by shifting jobs overseas.

Despite the setbacks, the technology industry plays a major role in the state. Large employers such as Cree, SAS Institute and IBM and Glaxo-

seas by the end of the year. IBM — the biggest employer in RTP, with about 13,300 jobs — has announced plans to move 3,000 jobs overseas. *The Wall Street Journal* reports that some of those will come from North Carolina, but a company spokesman says nothing has been decided.

Even North Carolina companies with only a small portion of their work force in high-tech jobs feel pressure to reduce expenses by moving those jobs to India and other countries. Steve Zelnak Jr., president of Raleigh-based Martin Marietta Materials, which provides stone to road builders, says he receives one to two calls a week about moving technology positions overseas. "We are not exporting jobs. I did not consider India. I did not consider China.

I didn't really consider anything outside North Carolina."

Zelnak could be onto something. Mirsad Hadzi-

kadic, dean of the College of Information Technology at

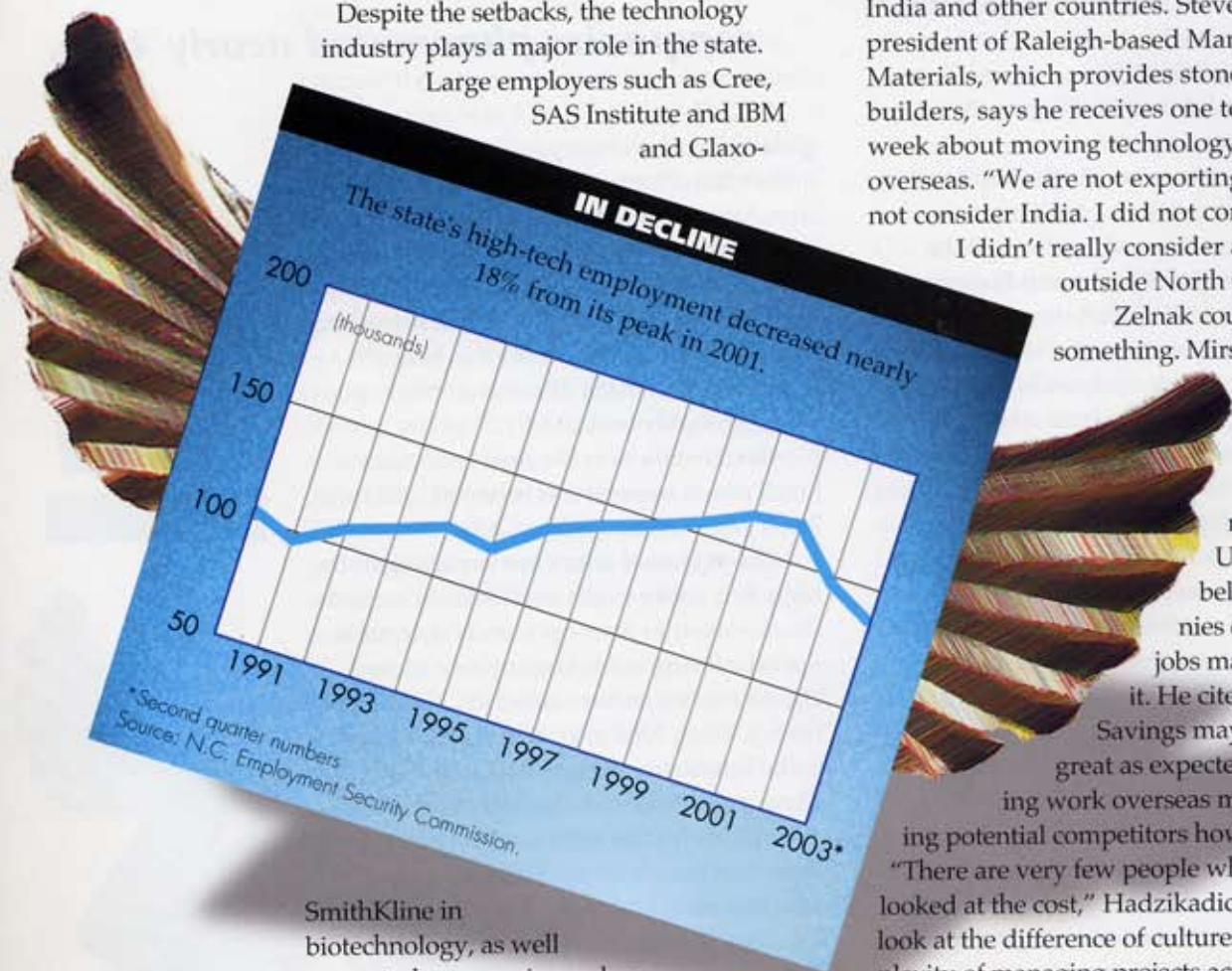
UNC Charlotte, believes companies exporting tech jobs may soon regret

it. He cites two reasons:

Savings may not be as great as expected, and sending work overseas may be teaching potential competitors how to do it.

"There are very few people who have looked at the cost," Hadzikadic says. "If you look at the difference of cultures and the complexity of managing projects across borders and time zones, looking at quality, you may get a different picture."

In the meantime, Hamner, Myers and others believe the state must prepare to spend more to get high-tech jobs. A panel appointed by Gov. Mike Easley introduced



SmithKline in biotechnology, as well as nontech companies such as Wachovia, employ thousands of high-tech workers. But even large companies are scaling back in the state and across the country. Last year, Stamford, Conn.-based tech consultant Gartner Inc. estimated that one of 10 U.S. high-tech jobs would be moved over-

a plan in February to commit more than \$500 million to the biotech industry during the next five years. The proposal includes tax breaks, training and collaborative efforts between companies and universities.

Myers also would like to see money spent on helping to start small technology companies. Her

organization is proposing that the state invest \$5 million to \$8 million annually in incubators. "If North Carolina is going to continue to build jobs that are rich in science, math and engineering, part of it is we've got to help these small, fledgling companies to get a foothold."

She also argues that the state needs to spend more on education.

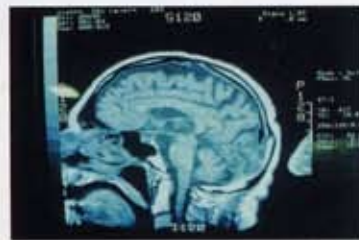
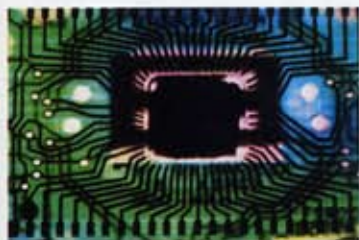
NCEITA proposes that the N.C. School of Math and Science in Durham be expanded to include two satellite campuses in the eastern and western parts of the state and that the state give a tax credit up to \$1,500 per year per person to companies providing IT training.

Information-technology schools are also changing their focus, UNC Charlotte's Hadzikadic says, to provide a better work force. "Instead of trying to figure out how to prevent [the jobs] from going, it may be better to focus on those jobs that still provide high value but provide constant touch with the end customer."

There could be rays of hope on the horizon. *Business 2.0* named Raleigh-Durham the "hottest boom town," saying in its March issue that the Triangle is poised to create more jobs than San Jose or others with a population of more than 1 million. The magazine cited the region's universities and their ability to spin off companies and prepare a highly skilled work force.

But Fredrick McGriff remains cautious. In December, he landed a job as a Web-development instructor with Baltimore-based Catalyst Solutions, an IT consulting and staffing company that opened a branch office in Durham. But he took a 60% pay cut, and he's not sure that this job will last, either. "This is the IT industry, and companies are still looking at the mode of cost reduction. They are still looking as an industry as a whole to things like offshore outsourcing and to go for greater efficiencies and greater productivity with fewer workers. I expect that pressure will still prevail."

An assistant professor of journalism at UNC Chapel Hill, Chris Roush is a former Business Week writer.



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