

ALBANY, NEW YORK

STAYING AHEAD

Stock dip gives bonds a boost

By JANE BRYANT QUINN

As stocks unraveled from their peaks this year, a modest amount of new money started to flow into bonds.



America's love affair with stocks hasn't come to an end - nor should it, for money invested long term. But bonds have uses that many investors haven't

appreciated.

Bonds of high quality keep a portion of your money relatively safe.

If you buy individual bonds that you can afford to hold to maturity, you don't have to worry about whether conditions in the bond market are good or bad. At maturity, you cash the bonds in, get all your money back and decide where to put it next.

Initially, you might buy some short-term bonds (maturing in under two years) and some intermediate-term bonds (maturing in under 10 years). When the short-term bonds mature, replace them with intermediate-term bonds.

Eventually, you'll have a portfolio of intermediate-term bonds, with some of them maturing every year or two. That gives you safety plus reasonable access to your money, so you won't have to sell any bonds in advance. When you sell before maturity, you don't always get a terrific price.

Individual investors generally choose either tax-free municipal bonds (for their potentially taxable money) or Treasuries (for tax-deferred accounts). You might also consider quality corporate bonds for taxable accounts. Blue-chip companies have blue-chip bonds.

Mutual funds invested in bonds rise and fall as the market does. When interest rates fall, the value of shares in bond funds rises. When interest rates rise, the value of bond funds falls.

Bond funds generally don't rise and fall as much as stock funds do, so your money isn't as much at risk. When the market falls, the average bond fund usually recovers faster than the average stock fund.

You'll find bond funds invested in municipal, quality corporates and Treasuries. The two types of bonds bought in funds are high-yield (junk) bonds, issued by companies with lower

RIVER ECONOMICS

Specialists aim to quantify resources

RPI trains students with an eye toward intelligent development of the Hudson River valley

By JO-ANN JOHNSTON
Business writer

Economists say it's time we started recognizing the costs we all face from lost business opportunities and depleted natural resources. Intelligent development of the Hudson River valley in the future depends on an understanding of environmental economics.



The recently developed specialties of environmental economics and ecological economics have emerged to tackle this type of issue.

These disciplines take on a fuller view of the world, their practitioners say. Environmental economics tries to quantify resources such as the use of water in generating electricity. Ecological economics tends to assume the stewardship of resources even if their value is intangible or hard to quantify.

"We need a climate, we need water, we need air," explained Jon Erickson, a faculty member at Rensselaer Polytechnic Institute, one of the colleges at the forefront of teaching ecological economics.

An economist with the correct training and background in this specialty could survey the Hudson River and quantify losses of fish as a food source or pinpoint the decrease in open space to poor zoning or haphazard land use.

Consider this: ■ Pollution in the river means people can't safely consume much of the fish they catch, and so have had to pay for a substitute food source. On a broader scale, fishing bans wrecked the commercial fishing industry. Advocates have said the Hudson, if cleaner, could support 300 families annually from commercial fishing income, said Andy Mele, environmental director of Hudson River Sloop Clearwater Inc. in Poughkeepsie. The state has figured that the economy has lost \$40 million (not adjusted for inflation) each year since 1976 from the ban on commercial and sport fishing on the river.

■ Someone always foots the bill for sloppy waste disposal into the river, Mele said. Costs shift from the producers of the waste to the ecosystem, in the form of a disrupted food chain, to neighbors living with the odors or to taxpayers subsidizing waste removal.

■ If a riverfront community devotes all its remaining landscape to commercial develop-



STEVEN NACK of Claverack, who fishes the Hudson River with his father, Everett Nack, removes egg sacs from shad they netted earlier in the day.

PAUL BUCKOWSKI/TIMES UNION

ment, the intangible pleasures of wilderness are spent. The city of Troy is scrutinizing this issue now, said Joe Fama, staff director of the Troy Waterfront Commission. Developers and industry leaders are considering whether to create a denser, more cohesive industrial zone by relocating some plants to

South Troy near the Menands Bridge. The present industrial zone is expansive and actually shows gaps. The effect, Fama said, is that zone is too long and "pockmarks the shore." But grouping industrial buildings in a tighter belt would create more open space

Please see HUDSON C3 ►

ment and telecommunication companies investigated and arrested many of them during the late 1980s and early '90s.

Today, many elite hackers of the past are making a go at legitimate work, getting paid big bucks by

problem that makes Lotus Notes vulnerable to malicious hackers.

A Lotus spokesman said the company was aware of the flaw, but it was extremely technical and unlikely to affect anyone.

The hackers at L0pht have made

Nearly two out of three companies reported unauthorized use of their computer systems in the past year, according to a study by Computer Security Institute and the FBI. Another study said 7 percent of companies reported a "very serious"

mingie with military brass and C.Os.

News reports show why such services are needed:

Earlier this month, hackers struck the Web site of *The New York Times*, forcing the company to shutter it for hours. Spokeswoman

HUDSON: RPI a leader in environmental economics

▼ CONTINUED FROM C1

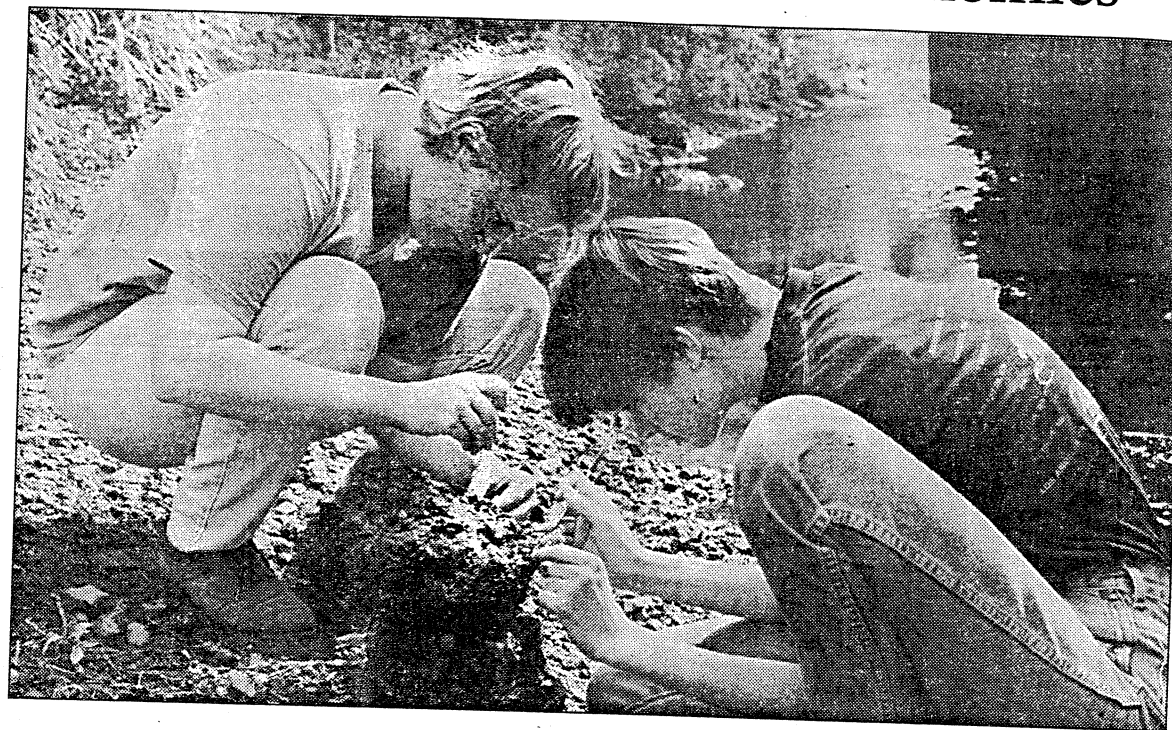
on the river and simultaneously give the businesses faster access to the important trucking routes of Interstates 787 and 90, Fama explained.

No one has yet completed a comprehensive study of the many ways the Hudson River ties into the local economy. On one front, the federal and state governments are working on a multiview study to pinpoint damages from polychlorinated biphenyls, or PCB, pollution that can be charged back to industries. Such damages will take into account not only clean-up costs, but also unrealized commercial opportunities, such as marinas that didn't get developed and fishing harvests that never occurred.

For decades, other fields such as forestry and mining have defined the true value of natural resources. But in most areas of business, environmental factors such as use of water for energy or waste disposal have been considered external and not worth counting. Faye Duchin, a leader in the field and a dean at RPI, said businesses ignored those factors in calculating their manufacturing costs, even though they were certainly as important an element as labor costs or equipment purchases.

Specialists working more in the mainstream of economics, business and development positions agree that ecological economics takes a more in-depth view of certain issues — as do all specialty fields — but add that ecological economics won't necessarily redefine everyone's view of the world and commerce. "You still have to deal with people's wants and needs," said David Crowe, an economist who heads the housing policy department at the National Association of Home Builders.

And while taking an ecologically oriented outlook is in general reasonable, Crowe noted, any particular economic study is going to be subject to questions and debate over the study's methods and findings. So while general economists may look at ecological economics as a legitimate discipline, they won't always agree with the suggestions ecologi-



JESSICA CLARK, left, and Roberta Chase look at zebra mussels along the Hudson River in Troy as part of their studies at Rensselaer Polytechnic Institute. The college helps train future environmental economists.

cal economists make, he explained.

Rensselaer Polytechnic Institute offers degrees with a concentration in ecological economics at the bachelor's and master's level, as well as a specialized doctoral program in ecological economics.

It's still a small field: Only 800 of the 20,000 members of the American Economics Association identified themselves to the professional group as being interested in the environmental field. The International Society for Ecological Economists, founded in 1989 and based at the University of Maryland, counts about 1,500 members.

Still, ecological economists will face critical issues, said Duchin. She sees the key question facing her colleagues as: "How can people live in community on this planet without destroying the physical life support systems that we rely on?" Or, as faculty member John Gowdy put it: "We're trying to find a compatibility between a healthy economy and a healthy environment."

To fill that tall order, students

study biology, finance, banking, statistics, industry and more. An undergraduate course called "One Mile of the Hudson River" has, in past semesters, inspired students to analyze the lock system on the Hudson, to tell the history of iron and steel-making in Troy, and to assess the overall economic benefits the river provides.

When students graduate, Gowdy says, they should be prepared to work at a variety of jobs in industry, environmental advocacy and public policy and tackle pragmatic issues. An early graduate of the doctoral program, Peg Olsen, is now regional executive director for the Nature Conservancy.

"We're training problem-solvers," RPI's Erickson said.

"Anywhere you look you'll find applications for this field of study," agreed Nathanael Greene, an energy policy analyst in New York City for the Natural Resources Defense Council. Factories increasingly want people who can help them figure out how to reduce their waste

streams or recycle materials, he said.

And public policy-makers at all levels want more meaningful and thoughtful analyses of local environmental questions to take to their citizenry, he said.

"It doesn't always cut in favor of the environment," he noted. It may make sense to develop for housing farmland on the edge of a town where water and sewer lines already exist, he says, because the development wouldn't be as disruptive or expensive there "as opposed to setting up a suburb five miles out."

Back on the Hudson, there are plenty of economic and ecological issues to study, the academics say. Earlier this month, for instance, Erickson took one of his economics classes to a fish hatchery on the Schroon River, which feeds the Hudson, to witness trends in fish depletion, sport fishing, restocking efforts and game management.

"Without that type of (trout restocking) program, different lakes and streams would be fished out," he said.