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# Regional Review

The Federal  
Reserve Bank  
of Boston

**New focus  
on money  
laundering  
after  
September 11**

**Has online  
learning made  
classrooms  
obsolete?**

## **Too much trash?**

**The costs and benefits of  
waste disposal policy**

Baled trash at the Wellesley Municipal  
Recycling and Disposal Facility,  
Wellesley, Massachusetts.



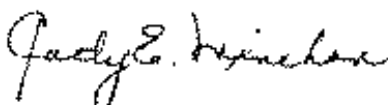
# this issue

Many new technologies developed over the last decade have transformed the way we do business, especially the technologies that allow remote electronic transactions to replace in-person communication.

In **Virtual University**, Carrie Conaway looks at technology's role in education. As remote networks allow educators to create online environments that are as interactive as traditional classrooms, increasing numbers of nontraditional students are able to attend college without stepping foot on campus. Without a doubt, this is revolutionizing distance learning; whether it will either complement or compete with on-campus programs remains to be seen.

Similar changes have occurred in banking, where remote account-holders can now execute rapid money transfers over long distances and across borders. As the flow of international capital has increased, it has become easier to mask illegitimate monies in the stream of legitimate transfers. Miriam Wasserman examines **Dirty Money** and the evolution of mechanisms used to launder that money. As the events of September 11 and its aftermath have highlighted, money laundering is an increasingly international issue that requires worldwide cooperation for successful detection.

Something many of us would like to deal with as remotely as possible is our trash. Though civil and environmental engineers have long grappled with the challenge of municipal waste disposal, it always ends up in someone's backyard. In **What a Waste**, Jane Katz appraises what seemed like a looming landfill crisis just a decade ago. She considers the evolving waste disposal options and the economic benefits involved in source reduction, recycling programs, and the newest generation of landfills.



CATHY E. MINEHAN  
PRESIDENT, FEDERAL RESERVE BANK OF BOSTON



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JOSHUA PAUL

## 1 Observations

There are still reasons to sew, even though apparel prices have dropped; a college education raises incomes for all workers, but black workers see smaller increases than others.

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A reader's solution to the nation's shortage of registered nurses.

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*By Robert W. England* New England is known for the beauty of its natural landscape and the political independence of its cities and towns. Can we devise policies to preserve both?

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*By Carrie Conaway* By allowing students to "attend" class when and where they choose, online learning is changing higher education.

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*By Miriam Wasserman* Criminals find modern ways to launder money, and law enforcement officials adopt new tools to fight back.

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*By Jane Katz* In 1987, the *Mobro 4000* garbage barge from Long Island focused public attention on trash. Have we disposed of the problem?

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*By Richard Rosenthal*

# observations

## On pins and needles

IN THE EARLY 1800s, it took 14 hours to hand sew a man's dress shirt and over 10 hours for a simple dress. Thankfully by the 1850s, sewing machines had reduced these times to just 1.25 hours and 1 hour, respectively. Since the price of readymade apparel dropped 51 percent since 1970, in large part because of inexpensive imports, the tedious chore of sewing one's own clothes has become unnecessary, even for penny-pinchers. Furthermore, as women have joined the workforce, they have more income and less time, making the thrifty home sewer seemingly obsolete.

But according to Anna Mazur, president of the Connecticut chapter of the American Sewing Guild, "The cream of the crop is still doing it." A 2000 Home Sewing Association survey of adult women found that 31 million American women sew, including 30 percent of women under 45. Seventy-five percent of them do it for recreation and relaxation, sewing crafts, home decorations, quilts, or embroidery. Reflecting the shift from chore to hobby, in 1998 the Bureau of Labor Statistics began classifying sewing machines as "Recreation" instead of "Apparel and Upkeep" in the calculation of the Consumer Price Index.

Though most of today's sewers are just having fun, there are still cost advantages to sewing clothes, particularly with high-quality fabrics and items where the fit is difficult or important, such as evening gowns and suits. A suit made with natural-fiber fabric may retail for \$1,200 in Nordstrom's, and still require tailoring, while the same suit could be sewn to fit for less than \$500, says Mazur.

But between 1992 and 1997, sales declined 25 percent in "sewing, needlework, and piece goods" stores; 2,000 of them closed. Dedicated sewers increasingly have to shop alongside other hobbyists, as retailers such as Hancock Fabrics and JoAnn Stores have survived by tapping into the broader \$23 billion crafts



of Chapter 11s and 13s filed by supply stores has "all but stopped" since the late 1990s. Meanwhile, the American Sewing Guild attracted 2,000 new members last year, and classes such as "Learn to Sew Clothes!" and "Getting to Know Your Sewing Machine"

industry and by stocking more home-decorating merchandise such as silk flowers and custom frames. The strategy seems to be working. Cathleen Campbell of the Home Sewing Association reports that the number

at the Boston Center for Adult Education have been filling quickly, says instructor Eleanor Mason of the Traveling Tailor, Inc. Apparently, bobbins and thimbles are here to stay.

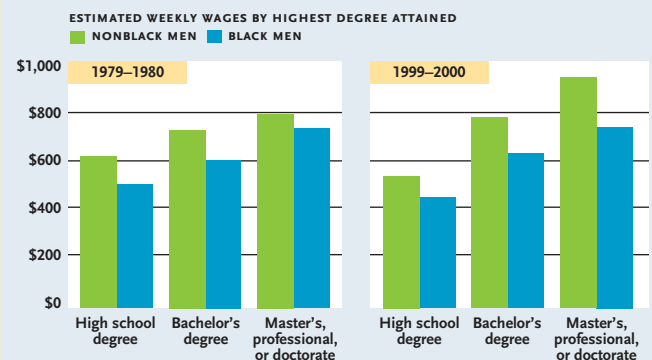
—KRISTIN LOVEJOY

## Education pays (for some more than others)

Education is a passport out of the lower end of the income distribution. The higher the education, the higher the salary. Indeed, the payoff to education has risen steeply in recent decades. The real wages of full-time workers with a college degree grew an average of 14 percent between 1979 and 2000. In contrast, wages of workers with only a high school diploma fell by 7 percent. But the fact that education leads to increased income does not mean that higher education by itself will let those whose wages have lagged behind catch up, according to Boston Fed economist Katharine Bradbury.

At the end of the 1990s, blacks not only earned lower wages at each education level, but they also received a smaller payoff for graduating from high school or earning a college degree than otherwise similar workers. In 2000, a black man working full-time saw a 40 percent increase in wages by attaining a college degree. A similar worker of another race enjoyed an even greater boost with a (continued next page)

### GROWING APART



NOTE: Estimates reflect full-time weekly wage differences associated with race and educational attainment for men who are otherwise similar in terms of usual work hours (within the full-time category), marital and family status, potential work experience, geographic region, occupation, and industry.

SOURCE: "Education and Wages in the 1980s and 1990s: Are All Groups Moving Up Together?" *New England Economic Review* Q1 2002.

## Observations

CONTINUED FROM PREVIOUS PAGE

44 percent increase. Twenty years earlier, by contrast, all men working full-time received less than a 20 percent increase in wages, on average, by going from a high-school degree to a college diploma. Though returns to education rose for women too, black women also saw the payoff to an additional degree rise more slowly over the past two decades than it did for their non-black counterparts.

What causes these differences is not clear. Some of the disparity may be due to discrimination. But it could also be the result of other factors, such as differences in the quality of education that blacks typically receive relative to other workers. Though education remains the best ticket to higher wages, “the incentives created by these differential growth paths and differential current payoffs augment the disadvantages that blacks have long faced in the U.S. labor market,” notes Bradbury.

—Miriam Wasserman

### ► FROM READERS

## Another prescription?

Carrie Conaway’s article, “Diagnosis: Shortage” (Q4 2001), was excellent, except it left out one important reason for the shortage of registered nurses.

Foreign countries, particularly the Philippines, train nurses (in English) specifically to enable them to work abroad. From 1952 to 1995, the United States brought in more than 100,000 of these nurses to work in hospitals on temporary visas. Due to union pressure, the temporary visa program was eliminated in 1995. Restoration would help to relieve pressure on overworked nurses and increase the nurse-to-patient ratio at beleaguered U.S. hospitals.

The solutions that Ms. Conaway mentioned in her article will take time and money. Restoration of the temporary visa program for RNs would take effect immediately, and at no cost to the taxpayers.

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# perspective

## A NEW ENGLAND APPROACH TO PRESERVING OPEN SPACE

by *Richard W. England* § During the past decade, land-use issues have received considerable attention throughout the United States. Phrases such as “smart growth,” “compact development,” and “sprawl” have begun to enter our political lexicon. These concerns rose to the forefront in 1999 when the National Governors’ Association called for preservation of open space and encouragement of growth in existing communities across the nation.

In New England, these issues have particular resonance. The region’s identity is rooted in its distinctive landscape—the spectacular beauty of its mountains, seashore, forests, and farmland. But New England is also known for the unique character of its many cities and towns, and the tradition of local autonomy and strong municipal government is an important aspect of the region’s charm. Some have argued that preserving our natural landscape will entail sacrificing some local authority, particularly over land use and zoning. Perhaps we can try to preserve both the region’s civic and physical terrains by taking a distinctly New England approach.

### THE NATURAL LANDSCAPE

New England faces its own distinctive land-use issues. On the one hand, a rate of population growth far lower than the national average means that the region has confronted less intense pressure to develop its rural landscape. Even New Hampshire’s population, by far the fastest-growing in New England during the 1990s, grew more slowly than the U.S. population as a whole.

But by other measures, New England may face more serious land-development issues than most other regions. Connecticut, Massachusetts, and Rhode Island have already developed more than 30 percent of their land areas; New Hampshire has built up 10 percent. By contrast, only 6 percent of the nation’s acreage has been converted. This means that the social benefits of preserving open space are especially high in the region’s densely populated southern states.

Also worrisome is New England’s rapidly declining population density in its developed areas. Between 1982 and 1997, the average number of

**The region’s challenge: to preserve**







**both the landscape and the distinctive character of its cities and towns**



## Perspective

CONTINUED FROM PREVIOUS PAGE

residents per developed acre, one indicator of sprawl, fell by 13.6 percent nationwide. During the same period, density fell by 19.2 percent in Maine and New Hampshire and by 26 percent in Massachusetts. Concretely, this means that urban neighborhoods in Bridgeport, Springfield, and Bangor have been partially replaced by subdivisions built along I-91, I-95, and other regional highways.

The region's governors and legislatures have begun to take action to discourage metropolitan sprawl and to preserve open space. Since 1998, for example, the Connecticut Open Space Program has distributed matching grants to municipalities and nonprofit groups to help finance the purchase and preservation of 14,000 acres of undeveloped land. In 2000, Massachusetts enacted the Community Preservation Act, which allows cities and towns to impose a property tax surcharge of up to 3 percent and requires that at least 10 percent of the money raised be spent on land for open space. The other New England states have also adopted policies aimed at preserving open space.

### CITY AND TOWN CHARACTER

But achieving ambitious land preservation goals in New England may also require adopting creative policies rooted in the region's distinct political character and governance structure. The first of these is its reliance on property taxation: Every New England state relies more heavily on real estate (property) taxes to raise state and local tax revenue than does the average U.S. state. This puts special pressure on the region's municipal governments when they are confronted with calls to manage growth, because it is new development that generates the funds they need to provide services. It also makes it especially important to have policies in place that take into account the benefits of open space as well as additional tax revenue.

Another distinctive feature is the scope and power of local government. New England cities and towns raise and spend more revenue than most municipal governments in other regions (which rely more heavily on county government or school districts). We also have a long tradition of direct citizen participation in local government. In 1996,

87 percent of the region's towns still employed the open town meeting to make public decisions. In many places, a town meeting is the singular ingredient of the civic landscape, the place to mingle with neighbors, to voice one's opinions, and to influence the course of local events.

Preserving city and town authority (particularly the power to regulate land use) while simultaneously preserving open space is a challenge. All too often, towns on the metropolitan fringe restrict building heights and require multi-acre residential lot sizes, implicitly fostering low-density development. While greater reliance on regional planning might help overcome local zoning rules that encourage low-density development, assigning more powers to regional authorities would conflict with New England's tradition of local autonomy. Thus, it is worth considering policies that bridge this gap.

### SOME POLICY OPTIONS

New England states might first consider revising the practice of current-use assessment of farm and forest properties. At present,



**A system of intergovernmental grants might**

## CASE STUDY: LIVE FREE OR DIE

New Hampshire is the fastest-growing state in New England—indeed in the entire Northeast—and this is rapidly transforming its traditional landscape of forests, farms, and villages. Between 1982 and 1997, the state’s developed area increased by 210,000 acres, a 55 percent increase at a time when population increased about 26 percent. During 1998-1999 alone, landowners removed nearly 33,000 acres from the current-use assessment program, presumably because of plans for development. While federal ownership of 13 percent of the state’s land area helps to preserve open space, rapid population growth in the counties nearest to Boston and low-density zoning rules threaten the remaining open space in the southeastern third of the state.

To date, policymakers have paid insufficient attention to the impact of high property taxes on these trends. In 1998-1999, nearly 65 percent of state and local tax revenues in New Hampshire came from real estate taxation. Depressed cities like Berlin and Franklin are candidates for experimentation with two-rate property taxation, which taxes site values at a higher rate than capital improvements on real properties. In addition, the state currently reimburses school districts for 70 percent of pupil transportation costs, which rewards localities for school siting decisions that contribute to sprawl.

owners of farms and forest lands can lower their property tax bills substantially by applying for use-value instead of market-value assessments. This allows a farm, for example, to be taxed on its value in its current use rather than at its market value if it is used in some other way. Once a property falls within the path of metropolitan development, however, its owner is free to remove that parcel from current-use classification and sell to a developer. The only impediment is a penal-

ly help to revive New England’s cities and to discourage sprawl is “two-rate property taxation,” in which cities are permitted by enabling statutes to tax buildings and other capital improvements at a lower rate than lot values. The rationale is that a lower tax rate can act as an investment incentive, spurring renovations and new construction in already-developed areas. Pennsylvania has had such a law since 1913. In 1979-1980, after the steel industry downsized, Pittsburgh restructured its property-tax system by raising the tax rate on land to more than five times

the rate on structures. University of Maryland economists Wallace Oates and Robert Schwab studied this move and found that Pittsburgh experienced a downtown revival and an increase in building construction greater than that seen in similar cities in the subsequent decade. They believe that one reason was two-rate property taxation: It may have allowed the city to avoid rate increases in other taxes that could have impeded development. If similar legislation were enacted in New England, cities like Hartford, Lawrence, and Waterville would have another local policy tool with which to encourage economic development.

In addition, we might devise a system of intergovernmental grants to foster denser

### DECREASING DENSITY

*New Hampshire’s developed areas now have about two people per acre.*

	1982	1987	1992	1997
Population (estimated)	948,000	1,054,000	1,118,000	1,189,000
Developed area (acres)	379,000	468,900	526,000	588,600
Avg. density of developed areas	2.50	2.25	2.13	2.02

SOURCE: U.S. Census Bureau and U.S. Natural Resources Service

patterns of land development and the maintenance of open space. State aid formulas to schools and municipalities could be scrutinized for ways they may inadvertently encourage sprawl. For example, current formulas allocating aid to local school districts often reimburse municipalities for a large portion of the cost of transporting students; as a result, they don’t encourage school districts to site schools in ways that encourage compact development. State grants for construction of water and sewage treatment plants and for new water and sewer lines could favor adoption of smaller minimum lot sizes at the town level. Grants to purchase firefighting equipment could encourage high-rise commercial zoning. In 1999, the Environmental Protection Agency launched a number of initiatives, including support for Maine and Vermont in their efforts to use sewer funds to encourage compact development and \$2.3 million for individual grants, several of which have gone for planning and implementation of programs at the city and town level.

These proposals are far from exhaustive, and they may not guarantee success. For example, we don’t know whether a system of intergovernmental grants would have a large impact, or whether cities and towns would make use of them. But they do point us in the direction of a more comprehensive strategy for preserving New England’s cherished countryside along with the character of its cities and towns. \*

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## foster denser development and save open space

ty imposed by the state. Several dozen U.S. states collect all or a portion of past property tax savings plus interest. Maine charges a penalty on developing farmland equal to tax savings plus interest for the five years prior to development. In New Hampshire, however, the penalty is 10 percent of market value, a rate far too low to deter land conversion in communities with rapidly escalating land prices. Rhode Island has no penalty at all after 15 years of current-use enrollment. Stiffer penalties could help to defer development of some parcels without infringing on the power of cities and towns. They would also generate revenue that states could use to buy development rights on other rural properties.

Another policy that might simultaneous-

# Virtual





BY CARRIE CONAWAY  
ILLUSTRATIONS BY JOEL HOLLAND  
PHOTOGRAPHS BY KATHLEEN DOOHER

# University

Is online learning changing higher education?

College education hasn't changed much since the first modern university was founded in Bologna, Italy, in 1119. Higher education was then, and is now, at its core about communication. It is a continuous dialogue between teacher and learner, who work together to find a path toward a new understanding about the world. Nearly a millennium later, despite many changes in the technology of communication, professors and students are still participating in this same exchange.

This is not to say that new communication technology has had no impact on higher education; indeed, it has played a key role in expanding the university's boundaries. Johannes Gutenberg's movable-type printing press, for instance, enabled the rise of the modern university itself. No longer was the expansion of knowledge limited by the scarcity of manuscripts, since books could now be reproduced quickly and cheaply. As more people became literate, universities sprang up to meet the new demand for higher education. But until the mid-nineteenth century, education was still



primarily a face-to-face affair. Students could read books on their own, for certain, but the interaction with a teacher so critical to the learning process could only happen in person. Mail-based correspondence courses, offered in Britain as early as the 1840s, for the first time allowed personal contact between teacher and student outside the time and space constraints of the classroom. From then on, the many improvements in communication have all been used to extend education's reach. Instructional films were introduced in the early 1900s, and later advances like satellite broadcasts, videotapes, and teleconferencing were exploited for their teaching potential, as well. But in the end, none of these technologies could hold its own against the traditional classroom. Students worked in isolation from one another, faculty were not easily accessible to students, and there were frequently considerable time lags in feedback and communication—all poor substitutes for a campus-based education.

Today the Internet is staking a claim as the solution to the problems of teaching and learning at a distance. Its popularity in the high-

er education setting is indisputable. Online courses enroll almost 2 million students at nearly 2,000 U.S. universities, according to the National Center for Education Statistics. A quarter of these universities offer entire certificates or degrees that can be earned without ever setting foot on campus. Distance learning enthusiasts argue that the Internet can speed up interactions into real time, reduce the barriers to communication between students and faculty, and make the university accessible to more people by eliminating the need to come to campus physically. As a result, online classes can replicate the traditional university environment with more success than any previous distance learning tool.

On the one hand, this is good news for students who have difficulty working with a campus-based curriculum; the Internet will make higher education more accessible to them. But it also means that online learning, unlike its predecessors, is a potentially formidable competitor for students' higher education dollars. Education specialists worry that it could knock marginal schools out of business or reduce the quality of higher education overall. Some say it might even end face-to-face instruction as we know it. Is online learning the death knell of the university?

#### THE CLASSROOM GETS CONNECTED

In her graduate-level "Leadership and Management" course last May, Professor Deborah Nutter of Tufts University's Fletcher School of Law and Diplomacy posed the question, "Who do you think is the most successful and effective foreign policy leader of the twentieth century?" One student defined successful and effective as "a person who has been able to spread his thoughts, ideas, and activities internationally and has thus influenced the whole world significantly." He then noted that Lenin could be seen as such a leader since he was a powerful purveyor of Communist ideas both before and after his death. Another disagreed, arguing that Lenin's influence was no more

than a myth perpetuated by the Communist Party. The two parried for a while, and then the discussion turned to other candidates. None of this classroom debate is so remarkable, except that it all occurred online. Stepping into an Internet classroom is at once familiar and alien to anyone who has experienced a traditional college education. All the usual elements of a class are there—the professor, the students, the syllabus, the lectures and discussions. But each has metamorphosed into something recognizable as, but thoroughly changed from, its in-person counterpart. For instance, rather than face-to-face introductions, online students often meet the professor and their fellow students by reading online biographies, or perhaps by downloading prerecorded audio or video clips. The syllabus is accessible with a click of the mouse, and it may change frequently as students and faculty work together to chart the direction of the course. Lectures, broadly defined, still play an integral part in conveying course material for many classes, but they often take advantage of the Internet's interactivity by including links to relevant sources or pro-

## Students like the convenience of online courses

viding alternate explanations to mesh with different learning styles. Course discussions like the one in Nutter's class do not require all students to participate at the same time. Instead, they happen via "asynchronous chats" in which students log in at their leisure, read the prior discussion on the topic at hand, and participate by responding in kind. Students even do group projects, communicating with group members via email or instant messaging facilities. All these features are made possible by courseware such as WebCT and Blackboard, a new generation of software that integrates all these classroom-related functions into one seamless and easy-to-navigate package.

Why would universities adopt this teaching model, so far outside their usual purview? Student demand is a primary reason. As the nation becomes increasingly wired, students expect to communicate online with their professors and their university as easily as they do the other businesses they patronize. It makes sense for universities to invest in courseware to facilitate this interaction—and once courseware is available for on-campus courses, it's not much more effort to move a course completely online. As universities have added technical capacity, they've also discovered other advantages of teaching over the Internet. For one, the lack of physical boundaries in Internet-based learning can help public institutions and community colleges achieve their goal of serving the whole community. John Christensen, a coordinator of academic services at the Community College of Vermont (CCV), says, "Online learning is the ultimate fulfillment of what's been our mission since we started 30 years ago. We're bringing college into people's homes." Furthermore, online learning can be cost-effective; most online courses are no more costly than their in-person equivalents. "The software for teaching online is not inexpensive, but online courses don't have the facilities cost," says CCV's president, Tim Donovan. The price is worthwhile since distance learning helps expand the student base, increasing revenue potential.

Institutions that see the advantage of developing an online cur-



### WORKING TOGETHER

Connecticut's colleges have solved the problem of the costly initial investment in online learning technology by joining their online offerings together into the Connecticut Distance Learning Consortium. Every higher education institution in the state is a member. "We have access to a dependable server, qualified people to help with course design, technical support, and a think tank to bounce ideas off," says Judith Slisz (right), dean of online programs at Teikyo Post University in Waterbury, Connecticut. "Because we partner with the Consortium, we've been able to offer online courses cost-effectively. If we had to pay for and supply and staff all the services that the Consortium provides, it would be much more difficult." Students benefit because their financial aid carries over to online courses at any university in the Consortium. In total, the Consortium coordinates 23 online degree programs with six more in development, plus a dozen certificate programs, all for a reasonable fee to its membership.



Judith Slisz, dean of online programs, Teikyo Post University



riculum have myriad choices about how to proceed. At the course level, depending on the topic and the resources available, online classes can vary from little more than a correspondence course to an extremely interactive learning environment requiring high levels of student participation. Institutions must also decide how their entry into Internet-based learning should fit within their broader organization and mission. For example, at the Massachusetts Institute of Technology, online learning has meant making all their course materials available online within the next decade, but without providing any teaching content. For the New Hampshire Community and Technical Colleges System, it has meant obtaining a license for courseware to support the several dozen online courses currently offered and the 50 to 100 courses in development for next semester, as well as ensuring that credits for online courses transfer throughout the system. The Community College of Vermont, which has been teaching online for five years, has gone a step farther than New Hampshire by offering entire degree and certificate requirements that can be completed with-

much easier. They come back for more because they are also satisfied with online course content and quality. A recent survey by NCES shows that three-quarters of students who have taken a course over the Internet liked it at least equally as well as traditional courses. As a result, the number of online classes is increasing rapidly. According to technology industry analysts, 47 percent of U.S. colleges offered some form of online learning in 2000. This percentage is expected to increase to almost 90 percent within the next three years. Likewise, schools that already offer online courses are seeing big upticks in enrollment. To accommodate the increased demand, university investment in distance learning technology, faculty, and support is expected to rise nationally from \$900 million in 1999 to an estimated \$2.2 billion by 2004.

#### COMPETITION IN THE LAND OF BRICKS AND IVY

Online learning has brought new competition to the previously insulated world of higher education. For one, the geographic bound-

## The Internet has expanded university boundaries

aries of the university have exploded. Elite research universities and liberal arts colleges have always attracted a national, even international, student body. But the range of education options for most students, especially the adult learners who comprise the largest portion of online students, used to be restricted to the schools within a reasonable drive from home. That usually meant community colleges, branch campuses of state universities, and small private colleges. But according to Donovan, "With the Internet, geography starts to mean nothing." Many universities are now vying for students against schools that wouldn't have even been on their radar screen a decade ago. Nguyen, for example, chose the University of Maryland University College when she couldn't find a legal studies program near her Enfield, Connecticut, home that fit into her nontraditional work schedule.

out ever going to a physical campus. Connecticut has created a statewide distance learning consortium so that each school does not have to reinvent the wheel of developing online courses. Elite institutions, such as Tufts University in Medford, Massachusetts, are developing professional master's programs with residency requirements and substantial name-brand cachet. And the potential to reap riches has attracted new entrants to the field—institutions such as Jones International University and Cardean University that exist only online, with no bricks-and-mortar campus to speak of. (The best-known of these, the University of Phoenix, is in fact neither new nor online-only; it was founded as a for-profit university with traditional campuses in 1976 and added an online campus in 1989.)

Whatever its form, this new approach to education has proved popular among students who find campus-based courses restrictive or impossible to manage. "My work schedule is very inconvenient," says Joann Nguyen, a student in legal studies at the University of Maryland University College (the online branch of the University of Maryland) who also works full-time as a loan representative for the Connecticut Student Loan Foundation in Rocky Hill, Connecticut. "It's extremely difficult for me to take morning classes, and by the time I get out of work most evening classes have started. But with an online course, I can attend class on Sunday morning in my pajamas with a cup of coffee if I want." Like Nguyen, the prototypical online student is an adult learner working full-time who has taken previous college-level coursework in a campus setting and who is highly motivated to finish a degree. This is a population on the increase; according to the National Center for Education Statistics (NCES), only about one-third of college students fit the description of an 18- to 21-year-old attending college full-time. Forty-one percent of students (and 69 percent of part-timers) are age 25 or older.

Online learning is initially attractive to this growing group of students because it makes balancing school, work, and home duties

Furthermore, while some educators have argued that the quality of education via distance learning is inferior to that in a traditional classroom—and therefore is not a competitive threat—research evidence shows this need not be the case. It is certainly true that universities that do not include enough interactivity and communication in their online courses will be shortchanging their students. But more often than not, students learn just as much online as they do in the classroom since, as one distance learning expert put it, "Good teaching is good teaching is good teaching." The Community College of Vermont experienced this with their very first Internet-based course, a political science course with concurrent online and on-campus sections. At the end of the semester, the professor found that students performed equally well in both sections. This type of result is by no means unusual. Thomas Russell, director emeritus of instructional telecommunications at North Carolina State University, set out to examine whether technology improved classroom outcomes by reviewing every scholarly study on the topic. After assessing over 350 studies, he reported in his book, *The No Significant Difference Phe-*



### MEETING ITS MISSION

Starting an online master's degree program helped the Fletcher School of Law and Diplomacy at Tufts University in Medford, Massachusetts, find a new way to fulfill its mission of educating professionals for international leadership positions. The Fletcher School is now in its second year of offering its highly regarded Global Master of Arts Program (GMAP) to high-level international affairs specialists around the world. "We started GMAP because we couldn't reach some of the students we really wanted," says Deborah Nutter (right), senior associate dean and director of the program. "For example, we have a student who is an undersecretary in the office of the president of Uganda. How can we get him to come to a campus-based program? We can't." Unlike the online offerings at many schools, GMAP incorporates an intensive residential component into its one-year curriculum—two weeks at the beginning of the program, plus two more two-week stints later in the year. Meeting each other in person, according to Nutter, ensures that the students feel a part not just of GMAP, but also of the broader Fletcher community. (It doesn't hurt that they have the same access to student services, from library resources to job placement, as regular Fletcher students.) The courseware itself is surprisingly low-tech. "We have students dialing with very slow connections. It's nice to have different kinds of streaming media, but it's not practical for our students. We keep the technology simple, but effective," says Eric Burkhart, manager of technology for the program.



Deborah Nutter, senior associate dean, Fletcher School of Law and Diplomacy



nomenon, that “No matter how it is produced, how it is delivered, whether or not it is interactive, low-tech, or high-tech, students learn equally well with each technology and learn as well as their on-campus, face-to-face counterparts.” This doesn’t surprise CCV’s Donovan. “Face-to-face interaction with faculty is less important than we’d like to believe,” he contends. “In an on-the-ground course in a lecture, you may have face-to-face contact with your professor, but do you have a learning relationship? Not necessarily.”

But this need not mean that the campus-based university is an endangered species. For one thing, not all courses translate easily into the online environment. Traditional lecture courses and discussion-based seminars usually fare well. But laboratory science classes like biology and chemistry and hands-on courses like computer repair tend to be less successful, since the learning process requires demonstrating techniques and using expensive scientific and technical equipment. Likewise, master-apprentice relationships, common in graduate programs, are hard to sustain without frequent in-person

grees, however, universities in effect dilute the worth of credentials obtained from a distance. The potential lack of credibility and, hence, market value for online programs ensures the persistence of traditional degree programs, at least in the short run. “Education is expensive. It’s hard to convince people to fork over ten or twenty thousand dollars without evidence of a return on the investment,” says LeBaron. But on the other hand, he also feels the legitimacy issue may dissipate as online learning becomes more commonplace. “The proportion of people who say that distance learning is fluff is dropping precipitously,” he contends. “Five years from now, very few people will say that. They’ll be living in an ancient world if they do.”

#### THE FUTURE IS NOW

Who will be winners and losers in the market for students’ educational dollars? Regionally based private colleges geared toward adult learners will likely face the toughest battle with online providers, since they offer degrees that can be obtained more cheaply from public in-

## An on-campus living experience is still valuable

contact. And for some students, there is just no substitute for a traditional class. Some want the residential collegiate experience of living in a community of scholars, something hard to replicate on the Internet. Others find the independent work required of an online student difficult. “In an online environment, much more self-motivation is required to be successful than in a traditional classroom. Some students don’t function well online, partly because just having to come to class is a reminder that they need to do something—do the reading or produce the assigned classwork,” comments John LeBaron, distance learning expert and professor of education at the University of Massachusetts Lowell.

But even if online schools could compete on all these factors, they would still have a critical problem to contend with: their legitimacy. The students who take online courses and the faculty who teach them say that distance learning is the real thing, but many employers still look askance at online-only degrees. Only 26 percent of human resources managers surveyed recently by Vault.com, a career development website, agreed that an online bachelor’s degree is as credible as a traditional degree. Internet extensions of bricks-and-mortar schools, though still less esteemed, are more acceptable because of their brand-name advantage. It’s hard for an employer to differentiate a lesser-known online university from a diploma mill churning out phony degrees for a moderate fee and no effort on the student’s part. A degree from a school with a familiar name seems more genuine.

Adding to the legitimacy problem, universities themselves sometimes bestow a different degree to distance learning students than to on-campus students; for example, undergraduate students in Harvard University’s division of continuing education receive a bachelor of liberal arts, rather than the more traditional bachelor of arts or bachelor of science. This is particularly common at elite schools, which want to maintain the value of their brand name while still reaping revenues from Internet-based courses. By differentiating the de-

stitutions and more conveniently from online schools. “There’s a lot of competition for that market, which is why many of those schools are starting to offer online courses,” says Judith Slisz, dean of online programs at Teikyo Post University in Waterbury, Connecticut. Community colleges and regional public universities will probably emerge relatively unscathed. They offer a less-expensive alternative to both nationally recognized online universities and regional private schools that will continue to prove popular among educational bargain-hunters. The most selective institutions will encounter the least competition from online providers. They make their money from the scarcity of their product, not its accessibility, and thus can afford to enter the online market on their own terms—or to choose not to enter it at all.

It’s hard to imagine that the traditional university as we know it will be gone anytime soon. So perhaps the most interesting outcome of the new competition in higher education will not be which institutions last, but how online learning affects the rest of the university. Already the line between online and on-campus learning is blurring. “Professors are bringing back the new teaching paradigms that they use online into their regular classes. There is more interactivity and more access for all students,” says Ed Klonoski, executive director of the Connecticut Distance Learning Consortium. Students at many schools may choose to take courses in each format as best fits their schedules and learning needs. And online-based coursework will likely become less stigmatized as more online students join the workforce with newly minted skills in hand. Thus, just as the written word and the printing press expanded the boundaries of education, so too will online learning. But at the end of the day, what universities do will be much the same as what they did a millennium ago. Though the medium may be different, professors and students will still be producing knowledge by interacting with each other. The more things change, the more they stay the same. \*





#### INCREASING ACCESS

The Community College of Vermont (CCV) was an early entrant into Internet-based learning; it has been teaching online since it first offered American Politics and Government over the Internet in 1996. Since then it has expanded its offerings to over 70 courses each semester in topics ranging from accounting to Vermont history, and its online program has become a full-fledged “thirteenth campus” complementing its 12 physical campuses scattered around the state. By the end of the year, CCV students will be able to complete the concentration requirements for associate’s degrees in liberal studies, business, or criminal justice entirely online. Offering classes over the Internet helps solve one of the institution’s perennial problems as a rural community college—not having enough students in any one place. “We can’t provide all our programs every place in the state and have them succeed economically,” notes CCV’s president, Tim Donovan (left). “But with online classes, we can raise the class size average and build a critical mass of students in a course.” It also allows them to provide students with unique learning opportunities; for instance, one political science course held an online discussion with Vermont’s senior U.S. senator, Patrick Leahy.

Tim Donovan, president,  
Community College of Vermont

# AFTER SEPTEMBER 11, THE FIGHT AGAINST MONEY LAUNDER

# dirty money

**BY MIRIAM WASSERMAN**  
ILLUSTRATIONS BY TOMER HANUKA

The first strike against terrorism after the September 11 attacks on the World Trade Center and the Pentagon was a financial one. Not two weeks had passed since the attacks when President Bush signed an executive order freezing the U.S. assets of 27 entities that included terrorist organizations, individual terrorist leaders, a corporation alleged to be a front for terrorism, and several nonprofit organizations. In the days and weeks that followed, policies to impede the covert flow of illicit funds through the global financial system were among the measures at the heart of Congressional debates on how to fight terrorism.



# ING HAS ACQUIRED NEW URGENCY



This response should come as no surprise. Measures against money laundering have increasingly become an important front in the fight against crime. Such measures can facilitate detection of financial trails that provide important sources of evidence, potentially linking the members of a criminal organization and leading to convictions of the ring leaders—who are hard to connect to the day-to-day criminal operations. Moreover, finding and seizing money or assets that result from criminal activity can also serve to take the motive out of crime. And, in the case of terrorist financing, it can make it more difficult to commit future acts.

Even before September 11, banks and other financial and nonfinancial institutions in the United States had been required to keep increasingly detailed records of financial transactions and report suspicious dealings. International organizations have worked on designing common standards to fight money laundering and have begun to pressure countries with lax regulations to adopt stricter laws.

Anti-money laundering policies promise to become even more stringent in the aftermath of September 11. The U.S. Congress passed the USA PATRIOT Act, which expanded anti-money laundering provisions. It will affect a broad range of companies, such as securities brokers and dealers, commodity firms, and investment companies. It also imposes more exacting requirements for U.S. financial institutions dealing with foreign customers and institutions, and provides for greater scrutiny to open new accounts at U.S. financial institutions. Many foreign countries are following suit.

But, fighting money laundering is no easy task. With increasing globalization and advances in banking technologies, moving money around the world has become easier and, with the growth in international capital flows, it has also become easier to mask illegitimate monies in the stream of legitimate transfers. Even as nations such as Switzerland and the Cayman Islands have begun to restrict their coveted bank secrecy regimes, nations with underregulated financial systems, such as the Pacific island nation of Nauru, have emerged as centers of importance in the realm of global finance.

Similarly, as new domestic laws have made money laundering more difficult in particular areas of the financial system, criminals have sought new ways to disguise their loot. And, when it comes to terrorism finance, authorities have to think very differently about the issue. Instead of looking for dirty money in the process of being cleansed, they now also have to



detect funds that may have legitimate origins but are destined for criminal ends.

#### **MONEY LAUNDERING 101**

Criminals have always tried to hide their money. The greater the amount illegally earned, the more difficult it becomes to camouflage its origins and enjoy the proceeds of crime. Sudden, inexplicable wealth can draw the attention of authorities. And, ever since Al Capone was put behind bars for tax evasion, criminals have known that handling and using the spoils of their endeavors can be one of their weakest links.

The practice of disguising wealth, whether legitimate or illegitimate, from government attention has a long history. More than 3,000 years ago, merchants in China protected their wealth from government confiscation using some of the same schemes in use today: converting money to movable assets; moving cash outside a jurisdiction to invest in a business; and trading at inflated prices to expatriate funds, according to a study cited by money laundering expert Nigel Morris-Cotterill.

Today, nobody knows for sure how much money is laundered globally. It is difficult to know if money is being counted more than once as it cycles through the system and harder still to know how much goes undetected. Nonetheless, experts believe the amounts are large. The most cited figure is between 2 and 5 percent of global GDP—or between \$600 billion to \$1.5 trillion per year. Still, this is an admittedly rough estimate based on extrapolations of the global sales of illegal drugs on the lower bound, and estimates of the size of underground economies on the upper bound.

To disguise the unlawful nature of funds, criminals must go through a process that varies from crime to crime but that gen-



# MANY FIRMS ARE NOW REQUIRED TO REPORT ON SUSPICIOUS ACTIVITIES BY THEIR CLIENTS

erally involves three separate stages. First, cash must be converted into a more portable and less suspicious form—sometimes achieved by using cashier's checks or money orders—and then it is entered into the financial system. Once there, it goes through a series of transactions that resemble legitimate activity and often involve crossing several national borders, making it more difficult for law enforcement agencies to follow the trail. Finally, the funds must be integrated into the legitimate financial system.

Of course, not every criminal act calls for the profits to be laundered. Petty criminals can get away with working in cash. But bigger criminals have to resort to increasingly elaborate methods to create the illusion of legitimate wealth.

Take, for example, the drug trade. Illegal drug trafficking is believed to be the largest source for laundering in the United States and accounts for 60 to 80 percent of all federal money laundering prosecutions, according to James Richards, author of *Transnational Criminal Organizations, Cybercrime, and Money Laundering*. Just the bulkiness of drug money creates logistical problems. Justice Department officials have estimated that the weight of cash generated by drug sales is about ten times that of the drug itself for heroin and six times for cocaine. While traffickers only need to smuggle and distribute about 22 pounds of heroin to net \$1 million, they then have to contend with 220 pounds of street cash.

Not surprisingly, the assets of drug traffickers and other criminals who produce vast volumes of cash are believed to be most vulnerable to detection at the stage of placing cash into the financial system. Thus, they often try to avoid triggering the mandatory reporting requirements of large cash transactions by U.S. banks, or steer clear of U.S. financial institutions altogether. Bulk cash smuggling across international borders is perhaps the most widespread way of doing this. Smuggling is done in a variety of ways, from employing an army of couriers who physically transport loads of concealed cash to using trucks and containers.

Once the dollars leave the United States, they

can be placed in banks in countries that have weaker controls. Or, cash can simply be brought back into the United States, points out Richards. In this scheme, cash smuggled out of the country is brought back in, this time declared at the border supported by false invoices and receipts. As the funds are recognized by U.S. Customs, they can be deposited at any U.S. bank

## THE BLACK MARKET PESO EXCHANGE

Perhaps the largest money laundering system in the United States is the Colombian Black Market Peso Exchange, estimated to launder at least \$5 billion a year in drug proceeds. The network has existed for decades as a way to avoid Colombian currency controls and tax laws. Drug traffickers turned to it in order to convert the dollars earned from drug sales in the United States into pesos back home. They sell their dollar proceeds for pesos to brokers who take on the task and the risk of cleaning the money.

The brokers take the dollars at exchange rates usually between 20 and 40 percent below the official Colombian exchange rate. They place the cash in U.S. banks by smurfing or other schemes (see page 18). Then, they sell the dollars in Colombia to importers or businessmen and use the pesos to pay the traffickers in their home turf. The dollars deposited in U.S. banks are wired to personal accounts or used to pay legitimate companies for goods, as Colombian importers often buy American appliances, electronics, car parts, and cigarettes to be smuggled into and sold in Colombia.

In an attempt to disrupt this arrangement, Colombian and U.S. authorities have begun to work with the firms that take the end payments. In summer of 2000, at the request of the U.S. government, Panamanian authorities seized a Bell model 407 helicopter purchased by a Colombian individual from Bell Helicopter Textron, of Fort Worth, Texas. The government also froze payments in the company's bank account, alleging the money was linked to laundering of drug proceeds. The evidence: Bell had received as payment 31 separate wire transfers from individuals and companies with no known relationship to the purchaser of the \$1.5 million helicopter. For its part, Bell contended that it did not know that drugs were the source of the funds and that, in its view, it had complied with U.S. laws.

The U.S. government has campaigned to educate U.S. manufacturers and distributors about the forfeiture and indictment they can face if they are caught knowingly participating in the black market scheme. The Colombian government has also been pressuring U.S. companies to look more closely at customers. In 2000, Colombian states went so far as to sue Philip Morris, alleging that its products are frequently smuggled into Columbia as part of the black market exchange, costing the government dearly in lost tax revenues—Colombian police estimate that only 4 percent of Marlboros consumed in the country got there legally, according to *Newsweek*. But companies seeking to comply may face additional costs. General Electric told *Frontline* that, as a result of stricter controls, including not allowing distributors to export out of the country, sales to South Florida decreased by about 25 percent between 1995 and 1999.



without raising red flags. There is some evidence this technique is widespread: Brownsville, Texas, and Nogales, Arizona, had the most funds declared upon entry into the United States from the Mexican border—\$8 billion and \$5 billion, respectively, between 1988 and 1990—amounts much higher than would be justified by their population or flow of commerce, according to the Financial Crimes Enforcement Network of the U.S. Treasury Department (FinCEN), as cited by Richards.

Launderers have also sought ways to use the U.S. financial system without raising suspicion. Some criminals break down the cash earned into many smaller wads for deposit. This technique came to be called “smurfing” by law enforcement officials in Florida after the little blue cartoon characters. In this method, many people—the smurfs—make large numbers of deposits, always below \$10,000, at several different institutions on a daily basis, thus avoiding triggering U.S. bank reporting regulations. (See box on the Colombian Black Market Peso Exchange on page 17.)

Front companies are another common way of placing cash in the system. By running cash-intensive businesses, such as restaurants or liquor stores, launderers can blend legal and illegal profits and make large cash deposits into banks without eliciting questions. In addition, criminals may look beyond banks to businesses such as foreign exchange bureaus, money remittance businesses, and check cashers to convert cash into easier-to-handle instruments or to send the funds abroad.

And, there is also the option of using underground banking structures such as Hawala. Hawala is an old system that originated in South Asia but now operates in many countries. Such informal financial networks are very attractive to those seeking to transfer money without government notice because the transactions leave no paper trail. A person who wants to send money abroad takes the cash to an underground banker who gives him a marker or some form of receipt. The broker in turn, informs his contacts in the transfer’s destination so that the designated receiver can claim the money at the other end, minus a commission. The money does not physically need to be transported abroad, as two-way flows support the exchange: Cash for the payment is provided by customers wanting to send money in the opposite direction.

#### **A WORLD OF OPPORTUNITIES**

Once the money is placed in the financial system somewhere in the world, technology and globalization facilitate the process



of disguising the origin of the funds and reintegrating them into the realm of legitimate finance. Wire transfers, for instance, offer launderers the possibility of quickly moving money through different accounts and different countries until it becomes impossible to trace the origin of the funds. One of the most recent trends, according to the U.S. Treasury, involves funds wired to or through a U.S. financial institution—primarily from Switzerland, Italy, Germany, and England—and then withdrawn in any one of about 57 nations through an automated teller machine (ATM). The largest number of this type of ATM withdrawals is made in Colombia.

Another way in which funds deposited abroad can be repatriated and given a semblance of respectability is through loans. Illicit funds deposited in foreign banks can be used as collateral for loans drawn for legitimate investments elsewhere.

Furthermore, criminals have increasingly resorted to products and services in so-called offshore banking havens such as Nauru. These jurisdictions tend to offer a certain level of banking or commercial secrecy, low or no tax rates, and relatively simple requirements for licensing and regulating banks and other businesses. Money launderers often take advantage of laws that favor easy incorporation and the use of nominee owners or bearer shares—which allow anonymous ownership of companies. Such laws allow them to create “shell” companies that do not conduct any commercial or manufacturing business and whose sole purpose is to serve as conduits for fund flows.

Whatever the “cleansing” method, the transactions involved are usually extremely complicated—and deliberately so. In the investigation of alleged money laundering by Raul Salinas (the brother of the former Mexican president), for instance, the U.S. Government Accounting Office (GAO) found that Mr. Salinas



# TECHNOLOGY AND GLOBALIZATION HAVE PROVEN HELPFUL TOOLS FOR HIDING ILLEGAL WEALTH

was able to transfer between \$90 million and \$100 million between 1992 and 1994 from Mexico to London and Switzerland through a private banking account with Citibank in New York. Key in enabling him to do this was a private investment company in the Cayman Islands named Trocca, which was formed by Cititrust (Cayman), then an affiliate of Citicorp—now known as Citigroup—to hold Mr. Salinas’s assets. The laws in the Cayman Islands protected the confidentiality of the documentation linking Mr. Salinas to Trocca. To further insulate Mr. Salinas’s connection to Trocca, “Cititrust (Cayman) used three additional shell companies to function as Trocca’s board of directors—Madeleine Investments SA, Donat Investments SA, and Hitchcock Investments SA,” states the GAO report. In addition, many of the fund transfers from Mexico to New York were made by Mr. Salinas’s wife using her maiden name. The whole affair was only discovered after Mr. Salinas was arrested and charged with murder in 1995. (In 1999, Raul Salinas was sentenced to 50 years in prison in Mexico on charges of planning the 1994 murder of Jose Francisco Ruiz Massieu, his former brother-in-law and a leader of the Institutional Revolutionary Party.)

## THE CAT-AND-MOUSE GAME

In spite of money laundering’s long history and broad impact, laws against the practice are relatively recent in the United States—and even more so in other countries. Money laundering was not considered a federal crime in the United States until the mid 1980s. The term itself first appeared in print in the early 1970s in the context of the Watergate scandal, when it was used to describe a process to circumvent a law prohibiting anonymous campaign contributions, according to Jeffrey Robinson, author of *The Laundrymen: Inside Money Laundering, the World’s Third-Largest Business*. Members of Nixon’s Committee to Reelect the President used a contact who received donations in Mexico and then forwarded them to Bernard L. Barker, a real estate salesman in Miami, to protect the identity of the private citizens that made the donations. When Barker was arrested for breaking into the Democratic National Committee headquarters in the Watergate building, the money trail helped link the Watergate break-in back to Nixon.

The growth of the illegal drug trade—with the vast illicit fortunes it generated—was the main factor motivating the evolution of anti-money laundering legislation in the United States and Europe. Reports of people depositing bags of currency of doubtful origin into banks led Congress to pass the Bank Secrecy Act (BSA) in 1970—the backbone of domestic money laundering legislation. Though it did not make laundering a criminal activity, the Act required financial institutions to create and preserve a paper trail for various financial transactions

in order to facilitate criminal, tax, or regulatory investigations. As a result, financial institutions have to file reports for most cash transactions over \$10,000 and keep such records for five years; and individuals have to report whenever they physically carry more than \$10,000 in monetary instruments (coins, currency, travelers’ checks, bearer bonds, securities, and negotiable instruments) into or out of the United States.

But criminals would not be deterred and money laundering methods evolved to circumvent these new restrictions. As launderers developed new methods, new laws and more stringent punishments were crafted to cover the regulatory gaps. As it became more difficult to make large cash deposits in banks, for instance, criminals found other businesses that served their needs such as check cashers or money remitters. In response, the currency reporting requirement of the Act was expanded to cover check cashers, currency exchange businesses, casinos, the U.S. Postal Service, and businesses that issue, sell, or redeem traveler’s checks, among others. Nonetheless, the reporting requirement was “widely disregarded until 1985,” writes Robinson. That year, Bank of Boston was fined \$500,000 for not reporting 1,163 transactions valued at \$1.2 billion.

In order to further strengthen the fight against dirty money, Congress made money laundering a crime in its own right with the passage of the 1986 Money Laundering Control Act (MLCA). The legislation made money laundering punishable by up to 20 years in prison, provided for both civil and criminal forfeitures of funds, and made it illegal to break down financial transactions to avoid triggering currency transaction reports.

The MLCA defined money laundering fairly broadly. Financial transactions that ordinarily would not be considered illegal became criminal if they knowingly involved the proceeds of a “specified unlawful activity.” These activities comprise a long, and expanding, list of over 200 criminal offenses including such diverse items as health care fraud, counterfeiting, drug trafficking, espionage, extortion, murder, and—since 1996—terrorism. (Interestingly, tax evasion is not currently part of the list. So, for instance, a doctor not reporting all his income and sending what he doesn’t report to an offshore bank would not be considered to be laundering money unless the money was illegally earned. The Internal Revenue Service recently estimated that as many as one to two million Americans may be evading taxes by secretly depositing money in tax havens like the Cayman Islands and withdrawing it using American Express, MasterCard, and Visa cards.)

Specifically, the MLCA made it a crime to knowingly conduct transactions above \$10,000 with property derived from a specified crime. For lower amounts, transactions are illegal if they are intended to conceal the origin of the funds, avoid reporting requirements, or conceal *illegal* proceeds from tax au-

thorities. For any amount, it is also considered money laundering when a monetary transaction into or out of the United States is being carried out with the intent to facilitate a future crime from the specified list. So, in the case of terrorism, even if the funds originated in a “legitimate” donation, their transportation, transfer, or transmission is considered money laundering if they are used to support a criminal cause.

In addition to the passage of the MLCA, the reporting requirements imposed by the Banking Secrecy Act have been expanded. The Annunzio-Wylie Anti-Money Laundering Act of 1992 made it mandatory for financial institutions to report *any* suspicious transactions relevant to possible violations of the law by their clients. As of January 2002, this also included money service businesses, such as issuers of money orders and traveler checks. The law explicitly prohibited banks from informing their customers when they have filed a suspicious activity report. And, it protected banks from civil liability for doing so, by furnishing them with certain “safe harbor” provisions.

Though domestic laws have become increasingly strict, their effectiveness has been limited to the extent that other countries’ laws are lax. Just as money laundering techniques spread from banks to other firms in the attempt to circumvent regulation, money laundering activity spread to other countries where the laws were weaker. In fact, some nations developed a large industry based on laws that benefited financial secrecy and discouraged international law enforcement cooperation. The tiny Pacific island of Nauru, which sits halfway between Hawaii and Australia with a population of merely 12,000, for instance, allowed people to set up banks for as little as \$25,000 without even setting foot on the island. The nation has been accused of facilitating the laundering of \$70 billion in Russian Mafia money through almost 450 banks based there (all registered to the same government post office box).

At issue are not just small nations looking to make quick wealth. There are also international differences in how countries define money laundering and the crimes they accept as underlying unlawful activities. Countries tended to consider only those crimes that had the most pernicious effects on their own soil. The United States, for example, included foreign drug trafficking as an underlying offense, but foreign corruption was not on the list until the USA PATRIOT Act was passed.

Resolving these differences requires international cooperation. From the IMF to the United Nations, several international



organizations have taken initiatives against money laundering. Chief among them, the Financial Action Task Force (FATF), created in 1989 by the G-7 (the group of the world’s largest industrialized nations, including the United States), which has worked to establish international standards against money laundering. Most recently, the strategy of the FATF members shifted towards a more active role. The organization has named 19 “noncooperative” jurisdictions hoping that increased international scrutiny would pressure them to make their anti-money laundering laws and enforcement practices stronger. In December of 2001, FATF imposed countermeasures on Nauru, deeming that it had not adequately addressed the legal deficiencies in its offshore banking sector.

### **COSTS AND CONSEQUENCES**

The fight against money laundering has not been uncontroversial. Like all legislation, money laundering laws have to play a delicate balance between the costs to businesses and individual citizens with the benefits of legislation. To some critics, the reporting requirements impose high costs on banks and other financial institutions. Though numbers are unreliable, as procedures vary somewhat by institution, the U.S. Treasury’s Financial Crimes Enforcement Network estimated in 1999 that it costs financial institutions \$109 million a year to comply with the reporting and record-keeping requirements of the Banking Secrecy Act. But whether these costs are high depends on our estimate of the costs crime and laundering impose on society, and on the law’s effectiveness in combating them.

The legal definition of money laundering and the penalties imposed by the law have also raised some questions. For instance, the MLCA can make the defense of some alleged crim-

# PREVENTING CRIME WHILE PROTECTING PRIVACY REQUIRES AN INCREASINGLY DELICATE BALANCE

inals, such as drug traffickers, a difficult issue for lawyers. An attorney who receives over \$10,000 in fees can be accused of money laundering, given that it would be difficult to prove ignorance of the potentially tainted origin of the funds. Precisely because of their problematic nature, prosecutions of this type are rare and have to be approved by the Justice Department.

In addition, the criminal penalties for money laundering drew fire because they were often higher than for other white-collar crimes such that defendants received higher sentences than if charged only with the underlying criminal offense. In response to the criticisms, the sentencing guidelines for money laundering were revised this past November to make punishments more sensitive to the seriousness of the underlying crimes.

But perhaps the most controversial aspect has been the effect that money laundering laws have on privacy and how they affect business-client relationships. The fact that financial institutions and other businesses are obligated to report suspicious transactions to the government changes the nature of their relationship with their clients. It places some businesses that traditionally served clients in confidence partly on the side of enforcement. Moreover, in some cases, it requires that businesses ask more questions of their clients. In order to be able to report suspicious transactions, financial institutions have to make sure they know their customers well. They are expected to conduct a risk assessment and determine the appropriate level of due diligence. In some instances, this might include verifying a customer's identity, determining their sources of wealth, reviewing their credit and character, and understanding the type of transactions the customer would typically conduct.

For banks, which were subject to these regulations well before September 11, the key issue is to make sure they tell customers about what they do and why they do it, says John Byrne, Senior Federal Counsel and Compliance Manager at the American Bankers Association. "You want to be able to explain to your consumer: We don't share or sell your information or, we do, if you allow it," says Byrne. Banks also have to make clear that, if they ask clients for information, they do so to "protect the institution, to protect the country, and to protect the client."

Some European countries and Canada have imposed suspicious activity reporting that goes well beyond the financial sector—requiring attorneys to report on suspicious transactions by clients. This February, the American Bar Association issued a statement urging the govern-

ment to protect the principle of lawyer-client confidentiality in its fight against money laundering. Other countries have adopted laws or policies that make lawyers "the eyes and ears of the government," Washington, D.C., lawyer Stephen Saltzburg told the media. "This is the single most alarming threat to the attorney-client privilege that anyone has seen in a long time," Saltzburg said.

In the future, balancing our concerns for privacy with the need to prevent crime and terrorism will continue to be one of the most difficult issues in dealing with money laundering. As the evolution of money laundering legislation shows, increased efforts and widened scope are certain to make money laundering more difficult. But, they are not likely to end it. So long as crime exists, the fight against money laundering is likely to continue to be a cat-and-mouse game with new methods and loopholes being discovered as soon as prior regulatory gaps are closed. In this context, money laundering laws and awareness of the issue help prevent innocent citizens and organizations from being corrupted by easy money or from becoming unwitting accomplices to crime. The alternative is to turn a blind eye and let corruption flourish. \*

## CORRUPTING POWER

**Law enforcement and financial authorities have focused on money laundering, in part, as a way of combating crimes ranging from drug and arms trafficking to terrorism, fraud, and embezzlement. But, beyond serving as an enforcement tool to combat other crimes, large-scale money laundering poses problems in and of itself. As criminals try to find ways to legitimize large amounts of money, this creates the potential for corrupting government officials and financial institutions. And, even if money laundering does not corrupt the whole institution, banks can see their reputations tarnished and the public's trust in them eroded if they are embroiled in a money laundering scandal.**

There can also be macroeconomic consequences. "Money laundering allocates dirty money around the world not so much on the basis of expected rates of return but on the basis of ease of avoiding national controls," says International Monetary Fund economist Vito Tanzi. Thus, money is not used where it is most productive. Moreover, though there are no clear examples of this so far, large and sudden movements of dirty money—say, responding to changes in legislation or law enforcement—could lead to instability in particular countries or banking systems.

In addition, money laundering can end up undermining the legitimate private sector; front companies used to hide ill-gotten gains may offer their services at discounted prices, crowding out legitimate businesses. Hotels and restaurants built to serve as cover for illicit cash may be created in tourist markets that are already saturated. In Colombia, large-scale smuggling of electronic appliances, cigarettes, and other goods is one way in which drug proceeds are introduced into the country. These items are sold at very discounted prices, weakening the domestic manufacturing industry.



BY JANE KATZ PHOTOGRAPHS BY JOSHUA PAUL

The images in the media were vivid—and, well, disgusting. In March 1987, the *Mobro 4000*, the garbage barge from Islip, Long Island, sailed down the coast piled high with 3,100 tons of rotting garbage, medical waste, old tires, cardboard containers, and other trash from local schools and businesses, looking for a place to discharge its cargo. Wandering all the way from New York to North Carolina, Alabama, Louisiana, Texas, Mexico, and Belize, no community wanted to let it unload.

The story was front-page news for weeks and resulted in considerable public debate and finger pointing. Society

# What a



The generation and disposal of trash imposes costs on society and the environment. Should we be doing more?

At the Central Landfill in Johnston, Rhode Island, trucks are required by law to dump at least six inches of dirt over the day's trash.

# aste





Cans and other metal items ready to be compacted and baled for recycling at the Wellesley Municipal Recycling and Disposal Facility, Wellesley, Massachusetts.





was creating trash faster than we could find space to put it. Eventually, we would all be buried under a giant pile of garbage, victims of our own excessive consumption and wastefulness. A senior administrator at the Environmental Protection Agency warned of a “deluge of garbage.” What’s more, we were using up resources, polluting the environment, and pushing these costs on to future generations.

Communities began to take serious notice. At the time, almost 80 percent of trash was destined for landfill; another 10 percent was incinerated; only about 10 percent was recycled. Nearly 3,000 municipal landfills had closed between 1982 and 1987; many more were scheduled to close over the next several years. There seemed to be a limited number of alternatives. We could reduce the amount of trash we generated, or increase the amount we recycled or burned.

In an effort to reduce trash production, many communities began to charge households for the amount of trash they generated; others began recycling efforts in earnest. In 1988, less than 1,000 communities had curbside recycling programs; by 2000, at least half the population could leave their bottles, cans, and newspapers at the curb.

Fifteen years later, the subject of trash seems to have lost some of its heat. In the media, it now takes a back seat to articles on global warming and depletion of the ozone layer. What happened? Have our policies worked? Or are we still going to be buried under our own trash?

#### **MORE TRASH**

The world certainly hasn’t stopped producing trash or, as it’s known technically, municipal solid waste—that is, all the solid waste generated by households, institutions (such as schools and hospitals), and businesses, except for industry and agriculture. Municipal solid waste includes such materials as containers, food scraps, construction materials, medical waste, miscellaneous inorganic trash, including hazardous materials such as aerosol cans, paint, pesticides, and batteries. It also includes sludge and ash generated by sewage treatment and incinerators.

According to the Environmental Protection Agency (EPA), the United States generated 231 million tons of municipal waste in 1999, up from 88 tons in 1960 and up almost one-third since the furor over the *Mobro 4000* in 1987. On a per capita basis, the numbers are a little less dramatic. In 1999, the average American produced 4.64 pounds per person per day, up from 4 pounds in 1987. About 38 percent (by weight) is paper; 23 percent is food and yard waste; another 11 percent is plastic.

World production of waste tends to grow along with world population and GDP, say David Beede of the U.S. Department of Commerce and David Bloom of Harvard—with population growth having a larger impact than income. However, they point out that technological improvements in product and container design are likely to slow the growth of waste, as designs evolve to use more aluminum and plastic (and less steel and

glass), and to require less material overall.

High-income economies, such as the United States and European nations, account for more than their share of waste per capita, note Beede and Bloom. These nations contain about one-sixth of the population, yet generate more than one-fourth of its municipal waste. However, developing countries produce more waste per dollar of GDP; they account for less than one-half the world’s GDP, but produce nearly three-quarters of its municipal waste. Here is one way to think about it: High-income countries produce and consume more per person; low-income countries create more waste from a given amount of production. Paper is the largest component (by weight) in high-income countries, food waste predominates in low-income countries.

Historical evidence suggests that, on a per person basis, modern household waste production may not be much higher than early last century, when coal ash and horse manure were significant sources of waste. Coal ash production alone created an estimated 3.3 pounds of waste per person per day in Manhattan in the early 1900s. Today, however, a greater share of waste comes from industry—iron and steel production, power generation, pulp and paper industries, and oil and gas extraction, which are not included in municipal waste calculations. Historians also note that nineteenth-century cities were hardly pristine. In Boston, for example, trash and human waste were routinely dumped into local waterways or primitive sewers that flowed into Boston Harbor, creating “foul air” as the tide came in, particularly on warm summer nights.

Whatever the historical figures, few dispute that collecting and disposing of garbage takes scarce resources, or that the generation and disposal of trash imposes costs on society and the environment. Post *Mobro*, researchers have made attempts to estimate these costs. These estimates should be thought of as rough guides at best. Their accuracy depends on the state of scientific knowledge and our ability to accurately assess the environmental and health risks posed by trash. For example, something thought safe at one point in time could later be found harmful. Accurate estimates also depend on valuing the benefits to individuals outside the local community, including future generations—obviously no easy task.

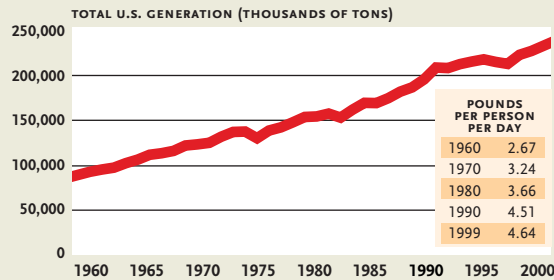
Researchers generally make such estimates by looking at the alternative—disposal in a modern, state-of-the-art landfill. That is, they assume that the benefits of reducing waste are equal to the full social cost of disposing of that waste. They figure social cost by taking landfill operating costs and adding in transportation costs and environmental costs (truck noise, unsightliness or odor, and harm to human health or the environment). In reviewing the evidence to date, Economist Thomas Kinman concludes that reducing garbage does not offer “huge” benefits. He cites calculations by Robin Jenkins that suggest that the social benefits of reducing municipal waste appear to be about about 60 cents for each 32-gallon bag of trash that is eliminated. However, this figure doesn’t include any contribution that landfills make to acid rain or global warming (landfills account for 28 percent of U.S. methane emissions). Consequently, it may underestimate the benefits of trash reduction.

Some firms were slow to produce with recycled materials because it required investing in expensive new equipment



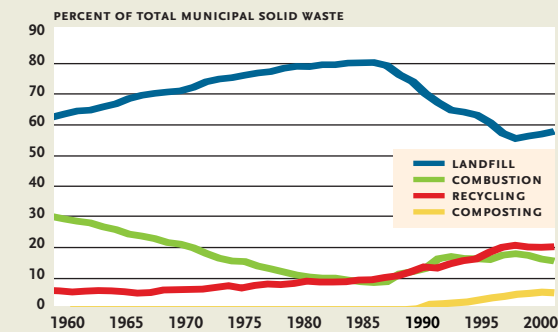
## PILING UP

Total municipal solid waste generated in the United States has grown substantially, nearly doubling since 1970. Per capita increases have been much smaller. Waste per person per day has barely risen over the last decade, even during a period of strong economic growth.



## WHERE DOES WASTE GO?

At the time the *Mobro* set sail in 1987, the United States sent about 140 million tons of municipal waste to the nation's landfills, an all-time high. But as a share of total waste, the amount going to landfills had already peaked, in part because increased use of incineration and in part because of a rise in recycling. Americans now recycle or compost about 28 percent of all municipal solid waste, up dramatically from 6 percent in 1960.



SOURCE: Franklin Associates, Ltd.

### CHARGING BY THE BAG

In the late 1980s, local communities got serious about trying to reduce trash generation, in part, because of the *Mobro*. By 1999, more than 4,000 communities had introduced programs that assessed households' "per unit" of garbage collected. Some charged for each can or bag; others set a base rate and levied additional fees per unit, or for collections above a specified level. Municipalities that adopted these policies hoped to encourage households to consume less, throw away less, recycle more, and buy items with less packaging. They also hoped producers would feel pressure to be more economical and environmentally aware in product and package design.

Economists were pleased. They had long argued that per-unit charges would reduce overall garbage generation at a lower cost than setting a maximum quantity standard (that is, lim-

iting the amount of garbage a household can throw away). Charging per unit encourages households and firms that can adjust at least cost to do so—for example, those who can easily compost or buy products with less packaging. And it does not force a specific standard on those who would find reducing their generation of trash extremely difficult or costly (that is, more costly than paying the imposed price per bag). In this view, so long as households face the full cost of their consumption and disposal decisions, they can make socially efficient choices.

Yet, in communities that adopted per unit fees, trash collections have declined, but the drop in tonnage has been relatively small. Why? It turned out that the incentives created by these programs have been complicated.

First, most programs charge by the bag, not by weight, giving households an incentive to pack trash bags more tightly and even buy compactors. Indeed, Thomas Kinnaman and Don Fullerton actually measured trash collection in Charlottesville, Virginia, both before and after the town started charging \$0.80 per 32-gallon bag of trash. They found that garbage decreased by 37 percent by volume (number of bags), but only 14 percent by weight. The reason: weight per bag increased by one-third, rising from 15 to 20 pounds per bag.

Pricing per unit also may encourage illegal trash disposal, such as throwing waste in commercial dumpsters, taking it to a town that does not charge per bag, tossing it in an empty lot, or burning it without a permit. Again, Fullerton and Kinnaman estimated that more than one-quarter of the reduction in garbage that follows the introduction of pricing by the bag may be the result of illegal dumping. Other studies find illegal dumping is less significant.

Beyond the simple issue of trash reduction, many programs don't differentiate between what is in the bags. So food waste and other relatively innocuous trash is charged the same fee as more hazardous garbage. Most states now ban batteries and whole tires from regular landfill, and some have even more stringent rules. Vermont bans oil-based paint, large quantities of latex paint, paint thinner, and mercury devices; Massachusetts bans cathode ray tubes (which contain several pounds of lead to protect viewers from radiation). But as with pricing by the bag, households often ignore or evade these regulations. After televisions and computer monitors were banned from regular garbage pickup (because of cathode ray tubes), many communities reported finding them abandoned in empty lots and on the street. "The sidewalks are growing TVs," an official from Beverly, Massachusetts, told the *Boston Globe*.

Reducing cheating would make trash generation more responsive to fees and increase the pressure from consumers to improve package design. But monitoring and tracking down cheaters is difficult—and the costs of doing so might not outweigh the benefits. The decentralized nature of the production and disposal of household garbage—precisely what makes user fees efficient—also raises monitoring and enforcement costs. Others point out that simple administrative costs—distributing bags, keeping records, collecting the fee, and so on—could easily exceed the estimated \$3 to \$13 per person per year bene-

fits. On the plus side, however, most analysts who have looked at the question believe that charging by the bag does increase the amount of trash that households and businesses recycle.

#### USE IT AGAIN

Recycling not only decreases the amount of garbage headed for landfills, but also reduces energy use (and the resultant air and water emissions) as compared with manufacturing items from virgin materials. After the *Mobro*, many communities introduced curbside recycling programs, which are convenient for households since they don't require people to transport trash themselves. Nationally, 9,700 communities operated curbside recycling programs by 2000, up from about 1,000 in 1989. In Massachusetts, 159 of 351 communities (78 percent of the population) had curbside pickup; Connecticut served 100 percent of its residents. By contrast, less than 20 percent of people living in Kentucky, Mississippi, North Dakota, and Virginia could leave recyclables at the curb.

In many communities, recycling was made mandatory—at least for single-family homes. However, monitoring and enforcement—making sure people separate their paper, bottles, and plastic containers—is costly, and even when violations are discovered, punishment is generally light.

Some towns set goals for the percent of waste they want to recycle, but reaching these goals has proved difficult; towns often later relax standards or extend deadlines.

In most curbside programs, a separate fleet of trucks collects recyclables (garbage trucks are not equipped to handle both jobs) and unloads at a material-recovery center. These centers can be simple or highly automated, with magnets to extract ferrous metals, blowers to separate light materials (such as plastics) by weight, and magnets suspended above a conveyor belt that sort and separate aluminum. Biodegradable material, such as food and yard waste, can be composted or converted (through natural microbial breakdown) into methane gas that can be captured and used as fuel.

By many measures, recycling programs have been a huge success. The nation's recycling rate, only about 10 percent in 1980, reached 22 percent in 1999, with an additional 6 percent composted. According to press accounts, some people in communities without curbside programs are so intent on recycling, they carry their bottles and cans to nearby towns. And most analysts credit the increase in recycling with the decline in the percentage of municipal waste that reaches landfills (see chart).

However, increased use of recycled materials has been stubbornly slow, and the economics remain somewhat fragile. Certain products, particularly metals, are cost-effective to reuse; others, such as glass and certain kinds of paper, are still less expensive to produce from virgin material. Plastic—a petroleum product—would seem an obvious candidate for recycling. But it is costly to collect, transport, sort, and clean discarded plastics; and whenever oil prices drop, the price of recycled plas-

tic drops, too. Prices for many recycled materials have remained stable over the past decade but, like other commodities, they can be volatile—and tend to be particularly low when the economy slows. In a recent article in the *New York Times*, New York City Mayor Michael Bloomberg claimed that 40 percent of the cans and bottles collected in the city were never recycled.

Why has it proved so hard to increase the demand for recycled goods? To some degree, it is the “chicken and egg” problem. In capital-intensive industries, firms have been slow to adopt the use of recycled materials because it required investing in expensive new equipment. In the paper industry, for example, existing equipment was suitable for virgin paper only. Without a steady and reliable supply of recycled paper, firms were reluctant to commit themselves to investing in new machines. And before they would do so, an industry for de-inking newsprint also needed to evolve. In the case of plastic bottles, recycling has been complicated by the introduction of technology that allows production of bottles with barrier labels or colors that keep products fresher (by keeping oxygen out and carbon dioxide in). However, these bottles can cause hazing and spoil otherwise good batches of clear recycled plastic. And the equipment to sort them out is expensive.

Moreover, appeals for the environment alone are not always enough to sway consumer buying decisions. A recent poll cited in the *Wall Street Journal* found that only 29 percent of shoppers had recently purchased a product with a label claiming it was environmentally safe or biodegradable. Gerber switched from glass to plastic bottles after 70 percent of its customers said they would prefer the convenience of plastic. And Seventh Generation, a firm that makes napkins, tissues, and other household products, recently changed its slogan from “products for a healthy planet” to “safer for you and the environment” because it found that “personal wellness” and safety were stronger consumer draws.

Over the long run, however, reductions in the cost of collection and separation may make recycling more cost-effective. Firms are currently tinkering with optical recognition technology and electric charges that can efficiently separate plastics, and with solvents that remove labels. Industry-wide standards for new materials (such as the plastic barrier bottles) could reduce material incompatibility in the recycling process. Costs may drop with the next generation of garbage trucks that can pick up trash and recyclables at once. And new uses for recycled materials may be developed, encouraged by more reliable supplies. Even now, one can buy bathroom tiles made from recycled glass, ground-cover from recycled tires, and “wood” decking made from recycled plastic.

A number of studies have tried to assess whether recycling is socially efficient. To answer this question, they look, not at whether revenues from selling recycled material cover the costs of the programs, but at whether the benefits of recycling are greater than the cost of the alternative—putting the waste in landfills. Although the exact figures vary, studies generally conclude that the costs of at least some recycling efforts exceed the social benefits. However, most of these studies don't take into account the reduction in air and water emissions due to reduced

Although many town dumps had closed, landfill capacity was not a national problem at the time the *Mobro* set sail



These refrigerators, at Rhode Island's Central Landfill, are waiting to have chlorofluorocarbons (CFCs) removed; later the steel will be recycled. The tires behind them will be sent to Connecticut to be burned for energy. In the background, the grassy hill is landfill space already filled to capacity.



energy use from manufacturing from recycled (rather than virgin) materials or any benefit from the conserving of nonrenewable resources. It is not clear whether doing so would change their conclusions.

#### UP IN SMOKE

After energy prices rose during the 1970s, some thought that burning our trash would solve both the energy problem and the garbage problem in one fell swoop. In 1985, only about 7 percent of the nation's municipal waste was burned; by the mid-1990s, the figure rose to more than 17 percent.

Since then, the number of incinerators and percent of waste disposed of in this way has declined. Garbage incinerators exhibit scale economies; it takes a lot of trash to make them cost-effective. Some places thought that they could achieve the scale economies by requiring local communities to use area facilities. But the Supreme Court struck down these laws, forcing incinerators to compete directly with cheaper landfill operators. In 1994, the Supreme Court also ruled that some incinerator ash was toxic and must be disposed of as hazardous waste, raising costs even more. Concerns about safety and public reluctance to site the facilities has also contributed to the decline.

Today, about 15 percent of the nation's municipal waste is burned, just a little more than at the time of the *Mobro*. Incineration remains more prominent in the New England and Mid-Atlantic states where land and landfills are costly, and

high population densities produce a lot of trash. In 2000, Connecticut incinerated almost two-thirds of its solid waste; Massachusetts burned one-third.

#### NOT IN MY BACKYARD

Trash that is neither recycled nor incinerated is destined for the town dump—or its modern-day equivalent, the sanitary landfill. While it was the fear of running out of space that was most prominent in the controversy surrounding the *Mobro*, this concern was not grounded in fact. What *was* going on? The waste disposal industry, especially landfill, was undergoing restructuring—precisely because of more stringent environmental regulations.

In the nation's early days, people threw their garbage any place that was handy. But by the nineteenth century, most U.S. cities had established a town dump. Even into the 1970s, most towns maintained a dump, charging only a few dollars per ton for waste disposal. However, many were open pits that attracted flies and rats, and produced air pollution and noxious smells. Although improvements (such as covering the pits with dirt) were made in some localities, the EPA estimated that as many as 14,000 communities still were using open dumps in 1972.

By the 1970s, concerns over pollution and groundwater contamination, and improvements in technology resulted in pressure to clean up. Federal legislation was passed that imposed

standards on the construction, operation, and closure of landfills. Today, rules require operators to line the landfill with a thick clay or plastic shield, collect and treat any material that leaches out, monitor groundwater, and cover new layers of garbage with six inches of dirt within hours.

These new sanitary landfills are considerably cleaner and safer, but also more expensive. Construction costs rose as high as \$500,000 per acre, and made large landfills far more economical than small ones. One 1994 study found that the average cost of operating a sanitary landfill decreased 70 percent as capacity rose from 250 to 2,976 tons per day—and this was before all current regulations were in place. Expanding existing landfills became both cost-effective and politically attractive, as opposition from local residents made it harder to site new dumps. These larger regional facilities could also be located away from population centers in places where land costs were low and the threat to local residents was minimized.

The industry began to restructure. Many town dumps closed; others transformed themselves and got out of the burial business. In upscale Wellesley, Massachusetts, residents drop off trash and recyclables and take home abandoned treasures from the Wellesley Municipal Recycling and Disposal facility, which features picnic tables, a park bench, and a collection of recycled books—including a librarian. After recycling, the remaining waste is taken to a landfill in Fall River.

Despite many closings, the increasingly large scale of the remaining facilities meant that landfill capacity was not a national problem at the time of the *Mobro*. In 1986, 42 states had landfill capacity sufficient to last at least five years; many had capacity for more than ten years. So while some landfills near population centers were due to close or be filled, the nation's total landfill space was more than sufficient. Since then, capacity has continued to increase, rising to about 20 years' worth in 1997. Even the landfill methane emissions thought to contribute to global warming have begun to decline—the result of a reduction in the volume of waste in landfills and an increase in the amount of methane captured and used as fuel.

#### ACROSS STATE LINES:

##### HOW THE *MOBRO* 4000 GOT STRANDED

So while the *Mobro* focused public attention on trash disposal, the nation did not generally face a shortage in landfill capacity. What many communities *did* face were higher prices for disposal, precisely because of improvements in environmental regulations. The new, more stringent standards for landfills raised the cost of building and operating them. In the New England and Mid-Atlantic states, fees paid to landfills ran as high as \$50 to \$100 a ton. On Long Island, the short-run problem was particularly acute. All landfills were scheduled to close by 1990 because the high water table meant that leaking chemicals threatened the water supply. Islip's landfill stopped accepting commercial waste and disposal fees skyrocketed.

This created the opportunity to transport trash to less populated areas where land was cheaper and the potential risk to local residents was small. Some states began to “specialize” in trash disposal. By 2000, more than 30 million tons of trash, or

Modern sanitary landfills are much cleaner and safer than town dumps, but are also more costly to build and operate

## TOSSED OUT IN 1999

	WEIGHT GENERATED (MILLIONS OF TONS)	PERCENT OF TOTAL
<b>TOTAL U.S. MUNICIPAL SOLID WASTE</b>	<b>230</b>	<b>100</b>
Paper and paperboard	88	38
Yard trimmings	28	12
Food waste	25	11
Plastics	24	11
Metals	18	8
Glass	13	5
Wood	12	5
Textiles	9	4
Rubber and leather	6	3
Miscellaneous other	7	3
<b>BY SELECTED PRODUCTS</b>		
Containers and packaging	76	33
Corrugated boxes	31	14
Glass bottles and jars	11	5
Plastic packaging	7	3
Cans (steel and aluminum)	7	3
Plastic bottles	4	2
Milk cartons	< 1	< 1
Newspapers	14	6
Furniture and furnishings	8	3
Office papers	8	3
Appliances	5	2
Disposable diapers	3	1
Consumer electronics	2	1

SOURCE: Franklin Associates, Ltd.

about 8 to 9 percent of the nation's municipal waste, was transported across state lines. The nation's three largest net importers of trash were Pennsylvania (12.2 million tons), Virginia (3.9 million tons), and Michigan (2.8 million tons). In New England, only Maine (475,000 tons) and New Hampshire (114,000 tons) were net importers.

Most economists do not view this as a problem, assuming that pollution costs from transporting the garbage are taken into account. From their standpoint, waste disposal is an industry like any other, with underlying regional costs and other differences that make geographic variation and concentration something to be expected. However, analysts have expressed concern that encouraging the importation of out-of-state trash may undercut a state's efforts to reduce its own trash production.

And the circumstances that produced the *Mobro 4000*? Its fate was a consequence of stronger environmental policies and entrepreneurial incompetence, not a shortage of landfill space. As local landfill closures and increased tipping fees began to encourage trash shipments, Salvatore Avellino, reputed mob boss of Long Island's trash-hauling business, arranged to dispose of Islip's trash for \$86 a ton. He planned to load the trash on a barge, ship it to Louisiana, then bury it in a local landfill for \$5 a ton. Later, the methane would be captured and the profits split with farmers and local public officials. Unfortunately, his partner in this venture neglected to "sufficiently nail down" an agreement before the *Mobro* set sail. When the partner tried

to make a quick deal with a dump in North Carolina (which had extra capacity), state regulators got nervous and refused, worrying that the boat contained toxic waste. (There had been earlier instances of organized crime members hiding hazardous waste inside normal-looking bales of trash.)

Once the media frenzy began, no community was willing to take the trash, even though many places had extra capacity and accepted shipments both before and afterward. After two months at sea, the *Mobro* returned to Brooklyn, where its cargo was incinerated. Mr. Avellino eventually went to prison on an unrelated matter after pleading guilty to conspiring to murder two trash haulers in August 1987.

### TOXIC AVENGER

There was bound to be a backlash. The outlines of the *Mobro* story and landfill issues became more widely known; articles appearing in the *New York Times* and the *Wall Street Journal* came down particularly hard on curbside recycling programs, which are actually quite popular among voters. Recently, the subject has been in the news again, after New York City Mayor Bloomberg proposed cutting back recycling to save money.

Some environmental activists have argued that overemphasizing household trash merely assuages the guilt of out-of-control consumers, while diverting money and effort from more serious environmental threats—air and water pollution produced by industrial and agricultural waste, automobiles, and long-run climate change. EPA estimates suggest the cancer risk from properly operated modern landfills would average fewer than 0.08 cases per year. Many analysts argue that these hazards are dwarfed by industrial and agricultural sources of pollution, such as industrial waste dumps and wastes from large animal-feeding operations. Collection, monitoring, and enforcement are often more cost-effective than for households, since the toxic material is produced in fewer, larger locations.

Others point out that it might make sense for local governments and households to focus on the proper disposal of hazardous waste. Cleaning an area contaminated by hazardous waste is considerably more expensive than disposing of it properly in the first place, since the surrounding material must also be treated as hazardous. And then there is the prospect of destroying the ozone layer and causing long-run climate change. The recent spectacular and unexpected collapse of the Larsen B Ice Shelf in Antarctica only underscores the view that perhaps we ought to concentrate more resources on understanding and preventing global warming.

Still, it is easy to overstate the case against policies intended to reduce trash and encourage recycling. While the improvement in landfill regulation began prior to the *Mobro*, continued public support has helped in passing the current, even more stringent, standards. The best evidence to date suggests that the net benefits of recycling programs are not enormous, but then neither are the net costs. Over time, the benefits of recycling might rise and the costs drop. And while it is important to focus on the most pressing environmental problems, public support of recycling is heartening in its good intentions. We certainly don't want to toss those out in the trash. ✱



# letter from

## *Wellfleet, Massachusetts*

By *Richard Rosenthal* § “A Jewish Rambo!” That’s what this little Cape Cod town was getting for its new chief of police, or so I’d heard. It was 1990, and the Cape, particularly those towns situated on the lower part—Orleans, Eastham, Wellfleet, Truro, and Provincetown—was undergoing a demographic sea change. Changes can be quite painful. And I was going to be one of them.

Once solely inhabited by old New England families, the long-time residents of Wellfleet were making way for people from all parts of the country who had discovered its quiet, unspoiled charm. What had been a small fishing village was slowly turning into an upscale retirement haven. The old school vainly tried to hang on to power as the new arrivals came along and, with neither malice nor evil intent, basically outnumbered them. The struggle had been going on for some time when I arrived, and by then the balance had swung in favor of the “wash-ashores.”

In the meantime, my life was undergoing its own changes. My career with the New York City Police Department was approaching its twentieth year. That’s a long time to be working in one place. As a rookie in 1969, my first assignment was to infiltrate an organization, going deep undercover. Since then, I had been a police firearms instructor, a detective in assorted homicide, nar-



Police Chief Richard Rosenthal and Emergency Medical Technician Frauke Rosenthal arrived in Wellfleet after 20 years in New York City.



Most calls to the Wellfleet police revolve around traffic accidents, public drunkenness, and domestic disputes.

room. One could feel the tension. I realized that my first job was to establish a good relationship. I unlocked my door and it has never been locked since.

Initially, I had to play catch-up with the administrative things that had been neglected since the last chief of police had left the position. I'd sit in my office, working at my desk, and department members would slyly walk past, peeking in. I later learned that some thought it was a trick on my part to entrap them. Their paranoia ran deep. I can only speculate as to what a "fun" place this little department must have been.

Heading up a police department is not supposed to be political. Yet, in a small community, it is one of the most political jobs in town. I always remember being asked this rhetorical question by a friend, an experienced chief of police. "How often does a chief of police run for his job?" His answer: "Every day."

Moreover, objective law enforcement decisions, made fairly easily in an urban setting, become complex political considerations in a town of 3,300 people (20,000 in the summer). Police officers tend to encounter people when they are not on their best behavior; in a small

## "How often does a chief of police in a small town run for his job?" Answer: "Every day."

otics, and robbery squads, and a helicopter pilot. I had even written a novel. When asked about my varied positions, I'd simply tell people that I just couldn't seem to hold a job!

Now my goal was to become chief of police in a small town and continue my professional writing. Applications went out to whichever police departments had an opening that year—not a large number of places. The application I sent to Wellfleet, a place I'd never even visited (indeed, I'd never been anywhere on Cape Cod), resulted in an interview and a job offer.

So I was both amused and bemused by this appellation put on me by the Wellfleet "street." In truth, the only souls in town who had even spoken more than a few words to me were the five members of the board of selectmen and the town administrator.

Now, one might wonder why the board of selectmen picked someone with my background. The answer is simple. Small towns often choose a police chief depending on the amount of trouble the department is causing

at that moment. If all is sweetness and light, then the chief will likely come from the ranks. Disharmony and rancor bring in the fresh blood.

In this case, as it turned out, there had been a breakdown in communication between the board and the police department, and between the department and the town citizens. There had also been long-standing animosity between members of the police and fire departments, which was particularly problematic as the departments operated out of the same station. By the time I was interviewed, the Board had already been through one aborted search for a new chief, and the position had been vacant for more than a year. In the end, what they felt was needed was a strong-willed, tough, no-nonsense, big-city cop to straighten out their little mess.

A Jewish Rambo, indeed.

My first day at work was telling. Every door in the place was locked tight. My office was sealed, the sergeant's door was closed and secured, as was the prosecutor's, and the squad

town that person might be your neighbor, a member of the board of selectmen, or just someone with lots of friends. Since voters decide on the town's budget and salaries, the same person who is subject to police action will vote on that officer's raise come time for the annual town meeting.

I quickly realized that in order to survive I'd need the support of at least two of three groups in town: the board of selectmen, the citizens, and the members of my own department. My goal was to get all three. Yet, I was new in town, and the position and community felt very strange. I was supposed to be here, but I didn't really feel like I belonged.

I was fortunate, however, in having considerable experience in getting along with people of very different backgrounds. I met my wife, Frauke, in Berlin in 1967. She was an architectural engineering student; I was serving in the intelligence branch of the U.S. Air Force as a Russian language specialist. It was an interesting mix. Her father (a teacher) had served in the Luftwaffe (the German Air



Force) during World War II; my dad had been in the U.S. Army Air Corps. Her relatives had been members of the Nazi Party, while mine were a mix of Democrats and Republicans. Her family were Lutherans, mine were Jewish. A perfect match.

Frauke turned out to be my secret weapon and unofficial liaison to the town. She served on the council on aging and the town hall building committee. When nobody else would take the job, she even worked as the town's animal control officer. (Her pay was terrible, but we got one of our two cats, Louie D. Pussycat, out of the deal.) Perhaps, most important, after attending a CPR recertification session with me on a whim, she decided to join the fire department as an emergency medical technician. Because she is soft-spoken and hard-working, she has helped ease the long-standing tensions between the two departments.

This is especially helpful when the police department is faced, as it is every now and again, with an unusual situation. Last summer, for example, we had a series of car break-ins around town and a number of burglaries, at night, where the burglar would enter an unlocked door and take what he could. Most of the victims were asleep at the time, a potentially dangerous situation. Due to the scattered pattern of these events, we reasoned that several individuals were involved—a major crime wave for a town like Wellfleet.

Since the police department is small (with rarely more than three officers on patrol during a single shift), we had to come up with an imaginative way to deal with the situation. Borrowing a car, we put a VCR in the trunk and hid a miniature camera inside. This allowed us to videotape inside the vehicle. For bait, we filled a woman's pocketbook with what would appear to be desirable contents: a wallet filled with out-of-date credit cards and a broken but respectable looking cell phone peeking out the top. The plan was a long shot, but our options were limited.

On the fourth day, the thieves took the bait. They also took our videotape. We later learned that after breaking into the car and discarding the pocketbook, someone realized that the car was a hatchback and gained access to the trunk from inside. Initially uninterested in the funny looking VCR he found back there, he walked away. Thinking that something wasn't quite right, he went back into the car, examined the VCR, and found

the videotape! It wound up in the trash and was never recovered.

We did finally solve the crimes, although using somewhat more routine police methods. Going over field inquiries, we identified a suspect who had been found asleep in his car near where several of the break-ins had taken place. The national crime computer database showed that he had been convicted of burglary in New Jersey. We then discovered that his family owned a tiny mobile home in town, right near the burglarized houses. He was put under surveillance, and ultimately we matched his palm prints with one of the car break-ins. Our major crime wave turned out to be just one 20-year-old young man.

Most days, however, work is more routine—budgets, personnel, and issues of public safety. The most common calls to the police revolve around traffic accidents, public drunkenness, and domestic disputes. Very different from the NYPD, but perhaps just as important.

The lifestyle change has also proven to be a good one. Where I once commuted 45 to 77 miles one way to work, I now bicycle (in fair weather) the mile and a half to the office. Frauke and I frequently have lunch together at home. Her daily trip to the post office often means that she stops by the station to say hi to me and check in with her fellow firefighters. And at the scene of an accident, when I arrive to perform my duties, she shows up to do hers. We usually have time for a quick wave of the hand before she grabs gear from the ambulance and tends to the injured.

From time to time, friends with Type A personalities ask me why I haven't sought a position in a larger police department. The answer is quite simple; I doubt if I'd be able to duplicate the lifestyle. So this Jewish Rambo is no longer chasing murderers and bank robbers or hovering over the New York City skyline in a Bell JetRanger helicopter. He and his wife have settled down and are living a quiet life in Wellfleet—at least to the extent that small-town politics allows. \*

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