Volume 11
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Q3 2001

Regional Review

The Federal
Reserve Bank
of Boston

Nursing shortage

Not enough nurses for an aging population

ALSO

How foreign competition changed U.S. banking

School finance in New Hampshire

this issue

WHILE THE UNITED STATES IS fortunate to be a prosperous nation, we still face the challenge of how to allocate our resources to care for those who need help, such as our children, the sick and elderly.

In **Diagnosis: Shortage**, our newest editor, Carrie Conaway, explores the recurrent difficulty health care providers have in filling nursing positions. The work that nurses provide is essential, yet they have long struggled for more compensation and respect in a job that is both technically and emotionally demanding. Conaway looks at how the advent of managed care and an aging population have further pinched the market and how some employers are responding.

Finding a way to fund a satisfactory education for all children is a problem that continues to perplex many state governments. When New Hampshire's method, based exclusively on property taxes, was ruled unconstitutional in 1997, Governor Jeanne Shaheen charged the Commission on Education Funding to evaluate alternative solutions. In **Heat, Light, and Taxes in the Granite State**, Commission member and Fed Economist Robert Tannenwald reviews the group's findings.

We operate in a global sphere. This has been increasingly the case in the banking industry. In **Competition & Opportunity: How International Forces Spurred Innovation in U.S. Banking**, Professor Richard N. Cooper of Harvard University and Fed Economist Jane Little illustrate some of the interconnections between foreign and domestic systems. As financial institutions have found opportunity in transnational regulation gaps, U.S. policymakers have worked to protect the integrity of our system while not placing U.S. firms at a competitive disadvantage.

Cathy E. Minehan
President, Federal Reserve Bank of Boston

JOSHUA DALSIMER

Old-fashioned methods produce top-quality meat at Lovejoy Brook Farm. Page 31

www.bos.frb.org/economic/nerr/regrev.htm

COVER PHOTOGRAPH BY KATHLEEN DOOHER

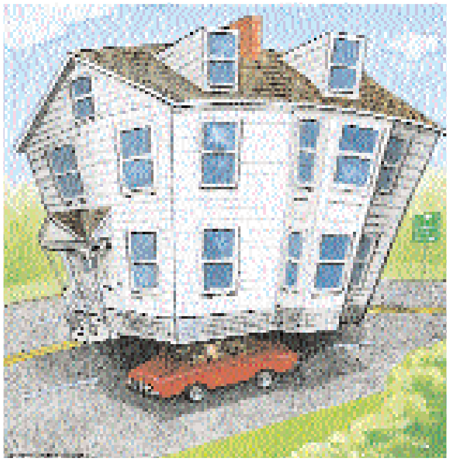
observations

Houses on the go

TEXAS BUSINESSMAN DAMON BEYER found his long-sought-after dream house while flying from Arizona to Florida. The 1880s Victorian mansion located in Biddeford, Maine, was featured in *This Old House* magazine at the very attractive price of $1. The catch? The house doesn't come with the land on which it stands. Delaware-based Historic Relocations will move Mr. Beyer's house to its new location in Blue Hill, Maine, by cutting the walls at the joints and then transporting the flat pieces, stacked like a deck of cards, on a flat-bed truck.

House moving is not new. The initial settlement on Nantucket Island was moved from the north several miles eastward in the eighteenth century when the original harbor silted up, according to Elizabeth Oldham, a researcher at the Nantucket Historical Association. In a rare occurrence, "one Nantucket house was dismantled and went around the Horn on a ship bound for the California gold fields," says Oldham. Today, increasing information sources are making it easier to match available houses with house hunters across a broader geographic area. Mr. Beyer's house was also advertised on MustBeMoved.org and BuildingMovers.com, and he was one of hundreds to inquire about it.

Still, moving a house "is like orchestrating a big parade," says Jim Nickerson (a.k.a. "Captain Groovy") of Nickerson Building Movers in Kingfield, Maine. Gutting, moving, and restoring the property will add another $400,000 to Mr. Beyer's price tag. Most building movers transport a house in one piece, by inserting large beams through holes in the foundation and then jacking the house up and sliding it onto a truck. The process can take anywhere from four hours to a full day; building and highway permits must be in order, power lines taken down, obstacles removed from the truck's path, traffic directed.



And there is always the unexpected. Mr. Beyer encountered difficulties with Maine environmental law, and his move was held up until the trees on his property were counted and an adequately sized driveway was cut.

Given the complications, such houses are rarely "sold" for more than nominal amounts. Since most available houses are scheduled for demolition anyway, the owners are often content with merely saving on demolition costs, which average around $10,000.

But for some homeowners or sentimental neighbors, preserving the house and its historical value is reward in itself. Mike Barrett of Dartmouth, Massachusetts, recently posted a desperate "Must Be Moved!" message on Salvageweb.com when he learned that the developer who bought his property was planning to replace the 1860s farmhouse with a new pharmacy. Alas, greater information does not mean a match is guaranteed; as of October, Mr. Barrett had not found anyone to rescue his home. Any takers? —LESLIE MANN

The inventory hot potato

Consumer taste is a challenge, at best, to forecast. But, in the past, manufacturers could at least count on their retail customers to place one large order for the entire season, giving them sufficient time to make and ship their products. Recent technological advances, however, have changed this equation. Now many retailers use sophisticated inventory tracking systems so they can reorder only when in-store supplies have dwindled, and manufacturers sometimes receive product orders only days in advance.

This rapid replenishment of inventory has obvious advantages for retailers—they have less need to worry about selling off large amounts of leftover merchandise at the end of the season or when demand slackens. However, while retailers may save on inventories, manufacturers potentially are stuck carrying more so that they can service retailers when demand picks up.

So manufacturers are now trying to improve their fore- **(continued on next page)**

ILLUSTRATIONS: TOP BY BROOK MEINHARDT, BOTTOM BY ADAM MCCAULEY

Observations

CONTINUED FROM PREVIOUS PAGE

casts to reduce the risk of being left with lots of remaindered merchandise. New technology has facilitated forecasting inventory by individual Stock Keeping Units (SKUs) which refine goods to the smallest possible category (say down to color and size, in the case of clothing). Some manufacturers have also improved their estimates by openly and frequently sharing information with their retailers. David Stone, president of Sterilite Corporation, a plastic houseware manufacturer based in Townsend, Massachusetts, spends a large portion of his time talking with customers about promotions and product placement in order to make more informed projections about demand.

Other manufacturers have opted for realigning their production process to account for differences in inventory costs. For instance, Warren Featherbone, a manufacturer of infant clothing, makes its infant christening sets at short-cycle production plants in the United States because they are high-ticket low-volume items that have a volatile sales record, says Gus Whalen, president and CEO of the company. Heavy volume products with lower inventory risk, like the infant's white T-shirt—which isn't likely to go out of style—are more cost-effective to produce abroad.

Even with the most sophisticated techniques, however, forecasts can sometimes be way off the mark. If they fall short, the largest retailers like Wal-Mart, Target, and Kmart can use their market power to insist they are first in line for supplies. Smaller retailers will be left with stock-outs. If these smaller retailers shared a bit more in the manufacturer's inventory risk—perhaps by agreeing to buy a fixed amount of capacity ahead of time and specify later the particular SKUs produced—the payoff from reduced stock-outs would improve profits for both parties, says North Carolina State University professor Russell King. A hot potato is sometimes better shared than tossed around. —Matt La Penta

from readers

PROBLEMS WITH FISH QUOTAS

MIRIAM WASSERMAN'S ARTICLE, "The Last Hunting Economy" (Q2 2001) offered an unusually well-balanced perspective on the fishing industry. I do want to emphasize, however, that it is not so much the "quaintness" of fishing communities that may be at risk in management's move towards ITQs [individual transferable quotas], but their social values.

Many fishermen from Maine, for example, argue that they are better conservationists than most ITQ owners because they want to maintain the industry for their children and grandchildren. Many are in fishing for the lifestyle, not simply the bottom line. In addition, some evidence suggests that despite such benefits as the elimination of "derby" style fisheries, ITQs can exacerbate the "tragedy of the commons." For example, the high costs of purchasing ITQs can lead to incentives to underreport or take high-grade catches [and dump smaller fish overboard], leading to distortions in biomass estimates and inappropriate quota settings. Some critics also note that because ITQs tend to be associated with large vessels, there is little constraint on where they can fish, and consequently little concern about conserving the habitat of any particular area. Also, privately owned quotas lock owners into the fishery for which they own quota; but stocks of fish tend to rise and fall cyclically, so ideal management would promote flexibility.

Whereas crew members on fishing vessels usually fish for a share of the catch, under ITQ programs, they tend to be hired for set wages that are considerably lower than traditional shares and lack the sense of cooperative venture that a share system generates. The expense of buying ITQs limits the opportunities for young people to enter the industry with the idea of working up to skipper and owner. Ownership relies

on access to capital rather than skills and family tradition. In addition, the government cost of administering ITQ programs can be prohibitive.

Rebounding stocks and the collaborative research of scientists and fishermen may eliminate the need to search for the perfect ITQ system, allowing the social traditions, values, and institutions of fishing to evolve, and creating a sustainable industry.

Madeleine Hall-Arber, Anthropologist
Center for Marine Social Sciences
MIT Sea Grant College Program

THE COST OF VETERINARY CARE

IT'S WORTH NOTING that while "vets now offer many of the expensive medical procedures and remedies available to humans such as chemotherapy, EKGs, and dentistry. . . " (Observations, Q2 2001), the cost to the animal owner or reimbursement to the veterinarian is NOT comparable. The procedures you list are much more expensive in a human hospital than in a veterinary hospital because human procedures are inflated by insurance and support other services. Vet medicine is a bargain.

Alan M. Beck
Center for the Human-Animal Bond
School of Veterinary Medicine
Purdue University

BUILDING YOUR DREAM HOUSE

THANK YOU FOR your article "Building a Home of Your Own" (Q4 2000/Q1 2001). It was accurate, honest, and informative.

My wife and I built our home between 1981 and 1987. We did it all: design, engineering (I am not an engineer), carpentry, electrical, plumbing, roofing, drywall, etc. We hired help to put in the septic tank and a bulldozer to make a foundation hole. I am proud that during the six-year building process we passed every inspection. The only drawback is that we cannot imagine living anywhere else.

I believe we were successful for a number of reasons. I was retired so we were both free to work on the house full-time. Since we had sufficient funds, we never had to deal with banks, mortgages, etc. I had worked on the design for ten years and had planned the house in great detail; the total number of drawings exceeded 100, including everything from formal floor plans to sketches of how a particular detail would be constructed. I also spent over $6,000 on codes, trade books, and journals. Finally, we had no neighbors close enough to object to construction noise.

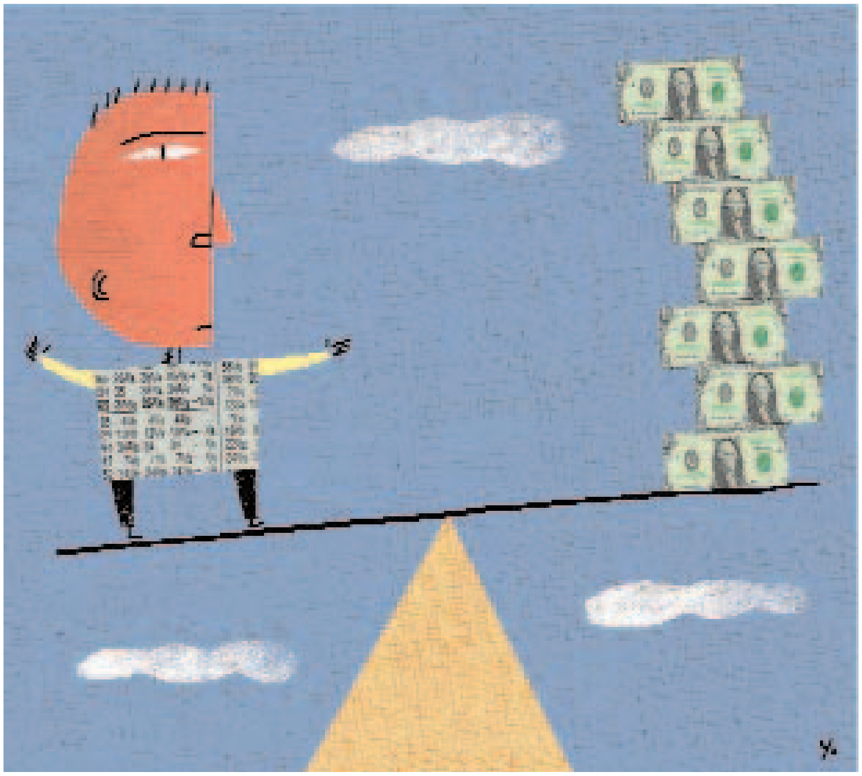
Saving money should seldom be the goal. One should build one's home because it will be a challenging, rewarding, and creative experience. If our house disappeared today, we would still have a treasure trove of memories.

Marvin McConoughey
Corvallis, Oregon

EDITORS' NOTE: We would like to clarify the callout on page 23, from the article "Teens in the Workforce" (Q2 2001). Most research suggests that a teen's chance of getting injured on the job per hour worked is no lower than an adult's.

We are interested in hearing from you. Please address your letters to: Federal Reserve Bank of Boston, *Regional Review*, P.O. Box 2076, Boston, MA 02106-2076.

perspective



Is Margin Lending Marginal?

By Peter Fortune § In *The Great Crash: 1929*, John Kenneth Galbraith placed margin loans front and center as the reason for the depth of the market plunge that preceded the Great Depression. Indeed, margin loans, now only 1 to 2 percent of the market value of common stocks, often accounted for more than 10 percent of the New York Stock Exchange's market value during the 1920s (some estimates range as high as 20 percent or more). Such sheer size demanded attention, and the popular view emerged that the ability to borrow to buy stock—that is, buying "on margin"—was a source of stock market instability. In this view, rising stock prices create additional wealth that can be used as collateral for borrowing and purchasing more stock, thus driving prices up even further. Declining prices create "margin calls" in which stockholders must come up with additional collateral when stock values fall below the margins required by brokers, leading to widespread liquidation of stocks and further price declines. (For an explanation of the different margin requirements imposed by the Fed, stock exchanges, and brokers, see Box, page 6.)

More recently, low margin requirements in the stock index futures markets were cited by the Brady Commission and the Securities and Exchange Commission in their analyses of the October 1987 crash. And after stock prices fell in the wake of September's terrorist attacks, one family of large investors sold $2 billion of Disney stock to pay off margin loans and "meet liquidity requirements." In reporting this incident, *The Wall Street Journal* voiced concern that further forced selling of stocks among large investors could "put continued pressure on an already reeling stock market."

Despite the popular role given to margin loans in stock market booms and busts, the Federal Reserve System has changed margin requirements only 22 times since 1934, the last time in 1974. This has led some to ask why the Fed has not changed requirements more often and whether there is a good case for a more active margin policy.

WHY MARGIN REQUIREMENTS?

During the debates that preceded passage of the Securities Exchange Act of 1934, several motives for margin requirements emerged. First, many in Congress believed that an "excessive flow of credit into the stock market . . . into a vortex of speculation in a few metropolitan centers" had deprived "legitimate business of the financial aid and credit" necessary for their operations. Second, margin credit was thought to expose uninformed or overly optimistic investors to risks that more informed or prudent people would avoid, and lead to investor losses and to stress on margin lenders, such as banks and brokers. Said Congressman Sam Rayburn, of Texas, who introduced the legislation in the House of Representatives, "A reasonably high margin requirement is essential so that a person cannot get in the market on a shoestring one day and be one of the sheared lambs when he wakes up the next morning." Finally, it was believed that margin loans contributed to speculative bubbles, which, like the Crash of 1929, would end with stock price declines made worse by margin calls, an outcome that would magnify declines in production and employment.

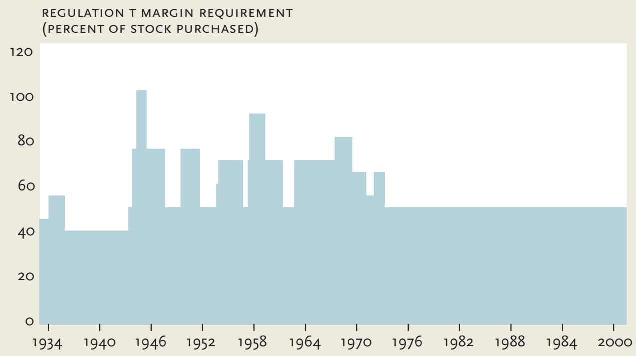
ALLOCATION OF CREDIT. The effect of margin loans on the availability of credit for other business investment is murky and probably small. The argument that margin loans reduce the credit available for more legitimate uses implicitly assumes that the economy has a fixed pool of credit. Alternatively, margin loans that result in the purchase of stock might stimulate economic activity and add to the pool of savings and available credit. Or margin loans might simply substitute for other debt as, for example, when an affluent car buyer borrows against her margin account instead of taking out an auto loan. Finally, for every dollar of stock bought there is a dollar sold; and while the buyer might take out a margin loan, the seller might lend the proceeds by, say, depositing the funds in a money market fund which channels money to the brokers making margin loans. While margin loans might affect the way credit is allocated across uses in the economy and relative interest rates might change, there is no reason to believe that any adverse effects on businesses will be serious.

INVESTOR-BROKER PROTECTION. Investor protection—an important goal of securities regulation—is a dubious objective of margin policy. To paraphrase a biblical statement, the imprudent will always be with us. In a market economy, investors are allowed to make their own mistakes, and they are expected to take responsibility for risks taken so long as they have been properly informed. In addition, investors have a range of ways to manage the risks imposed by margin debt that were not available in 1929, such as using futures and exchange-traded options. Of course, these same instruments can be used by customers to add to leverage even without resorting to margin debt or facing margin requirements; this limits the effectiveness of margin requirements as a way of protecting investors.

The evidence that margin lending is really quite small also weak-

REGULATION T

The Federal Reserve has changed its margin requirements only 22 times since 1934. The last change was in 1974.



SOURCE: Federal Reserve System, Regulation T

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these are individuals in difficulty, not syst

LEARNING FROM A CRASH

The 1929 stock market crash was instrumental in the wave of securities regulation that followed, including the Securities Exchange Act of 1934 that gave the Federal Reserve System the authority to set initial margin requirements, the minimum equity required at the time a security is purchased. The Fed adopted Regulation T, limiting the size of broker-dealer loans to customers buying common stocks and equity-related securities (such as convertible bonds). The Fed also adopted similar regulations for security loans by banks and other financial institutions (Regulations G and U) and for lending by foreign institutions to U.S. citizens living abroad (Regulation X). In addition to the Fed's initial margin requirements, brokers have maintenance margin requirements that set the minimum equity that must be held at all times; these are typically tailored to the characteristics of the securities held.

ens the argument. While undoubtedly some investors' accounts are heavily margined, and some brokers (the e-brokers are notable) have large margin loan positions with customers, the aggregate amount of margin debt is, and long has been, about 1 to 2 percent of the value of common stocks listed on the NYSE and the NASDAQ. We might empathize with heavily margined traders suffering from margin calls in bad times, but these are instances of individuals in difficulty, not of systemic problems requiring public policy intervention.

Broker protection is, arguably, a more appropriate objective if a broker's failure can create spillovers and add to the financial system's instability. However, brokers can protect themselves from customer defaults on margin loans by setting high maintenance margins (certainly no lower than exchange margins and sometimes even above the Fed's initial margin), by closely watching individual accounts, and by liquidating securities, without customer approval, well before the customer's equity has disappeared. Even in the less adaptable financial world of 1929, Galbraith tells us, there was little evidence of significant broker failures adding to systemic risk.

fering from margin calls in bad times, but emic problems requiring intervention

MARKET STABILITY. Recent interest in margin policy arises from the fear that margin loans might pump up security prices to unsustainable levels, and that any emerging bear market will be more severe because of the initial overvaluation and subsequent margin calls. If increases in the size of short-run stock price fluctuations reduce subsequent production and employment, margin policy deserves our attention. If major crashes—or protracted bear markets—inhibit spending, an even greater case for margin policy exists. But if the only effect of margin lending is to increase stock market volatility, with no consequences for output or employment, our stabilization efforts should be focused on broader instruments than margin requirements.

But does more margin lending lead to more market volatility? The *prima facie* evidence in the chart suggests, surprisingly, that margin loans and volatility are *negatively* correlated; that *more* margin lending is associated with *less* stock market volatility. While the chart only shows a brief period since 1986, this negative correlation has been observed as far back as the 1930s.

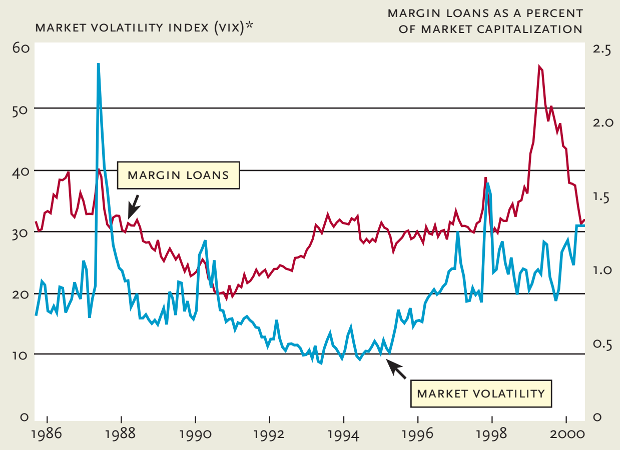
There are both theoretical and statistical explanations for this inverse association. As for theory, margin loans might be a tool for knowledgeable investors to take positions that stabilize the market. In bull periods, any tendency for prices to rise above intrinsic value might motivate the smart money to bet on a decline in stock prices by selling stock short—borrowing and selling shares of stock, and then later replacing the borrowed stock by buying it back at the (one hopes) lower price and pocketing the difference. Short sales will mitigate bubbles because, if profitable, they occur when prices are high. And in bear periods, margin loans might provide liquidity that encourages stock purchases to take advantage of expected recovery.

As for statistical reasons, the negative correlation might arise not from a causal relationship but from the influence of other factors on both margin loans and volatility. For example, stock price volatility is known to be lower in bull markets than in bear markets, and margin loans typically increase in bull periods when expected returns are high and fall in bear periods when expected returns are low. Thus, the association we see in the chart might reflect changes in the market's expectation of future returns rather than any causal relationship between margin debt and volatility. To compound the statistical illusion, margin loans might rise because stock prices are rising, if substantial short-selling has occurred. The reason is that losses on short positions induce short-sellers to borrow to maintain the cash collateral required to cover the larger liability.

Most research on the issue focuses on the relationship between the Fed's margin requirements and stock market volatility. This limits the studies to the period 1934 through 1974, when an active margin policy existed. Although there is little recent work on the relationship between margin loans (as opposed to margin requirements) and volatility, studies of margin requirements are instructive. The results are mixed, giving the reader the sense that margin requirements are of little value as a tool to stabilize the stock market. Even those studies that find that margin policy reduces volatility acknowledge that this does not necessarily support an active policy. Margin requirements might affect volatility but with such a small impact that they have little practical importance. Or the effect might be confined to the short run or to "normal" periods, with little effect on periods of boom or bust. Furthermore, in the popular mind, the reason for an active margin policy is the avoidance of major booms and crashes that might exacerbate the business cycle. But the link between margin requirements and macroeconomic stability is even weaker than the

DO MARGIN LOANS INCREASE MARKET VOLATILITY?

Although margin loans tend to be negatively correlated with market volatility (correlation coefficient = -0.4), the relationship may not be causal.



*VIX is a measure of the implied volatility of the return on the Standard & Poor's 100 stock index, as measured by the Chicago Board of Options Exchange's VIX contract. It is a measure of expectations about the volatility of returns over the next thirty days. That is, VIX = 27 means that the expected annualized standard deviation of returns over the next thirty days is 27 percent.

SOURCES: Margin loans data from Federal Reserve System; market capitalization data from New York Stock Exchange and National Association of Securities Dealers; market volatility data from Chicago Board of Options Exchange.

link between margin requirements and stock price stability.

OTHER ARGUMENTS. Robert Shiller, a prominent financial economist and professor at Yale, has recently argued that while the evidence supporting margin policy's direct effects on stock market or economic stability is slim, a more active margin policy can serve as a signal to investors about the fragility of stock prices. If the Fed sees "irrational exuberance," an increase in margin requirements tells the markets that the road ahead is bumpy. But such signals, if timed incorrectly, might create the problem they are intended to avoid; investors might overreact to the Fed's signal, converting a mild price decline into a tailspin. Furthermore, the Fed's margin-setting authority is a broad weapon that would not necessarily dampen investor enthusiasm in specific sectors such as communications and technology, sectors where the heat was highest in recent years.

Another argument for the existence of margin requirements (though not necessarily for an active margin policy) is that they set a uniform standard for all brokers. In their absence, both initial and maintenance margins would be set by brokerage houses or stock exchanges. Competitive pressures might induce low initial margins, increasing the probability of margin calls. Indeed, margin protection might weaken as debt-inclined customers shop for more lenient brokers. A standard that all brokers must meet can reduce the adverse spillovers from unfettered broker lending.

ARE MARGIN REQUIREMENTS REALLY MARGINAL?

There is no conclusive answer to this question. Margin debt—and any form of leverage—helps define the way financial risks are spread across economic agents and shapes the redistribution of wealth as surprises occur in security markets. These are matters of great importance to the individuals and businesses affected. Margin policy might also be important in distributing leverage across markets. An uneven playing field, with, say, lower margins in futures than in cash markets, will shift leverage-related activity between them. In doing so, it may also facilitate evasion of the regulation's original intent and push risks into other areas, such as derivative securities.

But, at the macroeconomic level, margin lending is, very probably, a nonevent. True, in a major recession there will be those who default on margin loans. But that potential exists for any form of debt, such as home equity loans and credit card debt, especially since these can be used as indirect sources of funds for stock transactions. More important, even if margin lending contributed to short-run stock market volatility, there is little indication that this would translate into changes in overall demand. For example, increased short-run volatility (should it occur) will add to the risk premium on equities, raising the cost of equity capital. But the cost of capital in general, and the cost of equity capital in particular, have historically had little effect on business investment spending. So the real issue is not over whether margin lending affects stock market volatility, but whether it affects the severity and timing of the business cycle. There is no evidence, either way, on this point.

While Fed pursuit of a more active margin policy is unwarranted on the basis of current evidence, the existence of margin requirements might still serve an important function. Margin regulations do establish a higher hurdle than would be set by the exchanges or the brokers. They establish a common standard across brokers, inhibiting problems that might result from competitive pressures if requirements were solely broker determined. And they might provide the extra equity cushion that limits the spillover effects of margin calls in a deteriorating market. But these are all benefits that can be achieved without an active margin policy. ❊

HOW TO BUY STOCK ON MARGIN

At the time a stock is purchased, Regulation T requires that the buyer have a minimum equity equal to 50 percent of the amount paid ("Fed margin"); that is, no more than 50 percent of the purchase can be debt financed. The New York Stock Exchange and National Association of Securities Dealers require that member firms' customers maintain a margin of at least 25 percent, called an "exchange margin." Most brokers require a higher maintenance margin of about 30 to 35 percent, the "house margin." The house margin is tailored to the specific characteristics of the account.

Consider Elena Yee, who buys $100,000 of stock in ABC Corporation. Regulation T limits the amount she can borrow to 50 percent, or $50,000. Assuming a 35 percent house margin, Elena's equity must be at least $35,000, so there is a $15,000 equity cushion at the outset. If ABC's stock price rises, Elena can use each dollar of additional equity to buy two dollars of stock. If the stock price falls, her margin declines to below the initial margin requirement of 50 percent.

But Regulation T does not require restoration of the initial 50 percent requirement; it is silent on the maintenance margin required, leaving that to the discretion of her broker (who must require margin at least equal to the exchange margin). If, say, the value of ABC falls to $77,000, Elena's equity will be $27,000 ($77,000 less the $50,000 debt), just equal to the assumed house margin of 35 percent of the value of her ABC stock. Further price declines would result in margin calls by her broker. Margin calls require either selling stock, with proceeds applied to debt repayment, or the deposit of additional cash or securities.

Had Elena sold $100,000 of ABC short, Regulation T would require that the sales proceeds be held as collateral and that she have equity equal to 50 percent of the value of the short position. In other words, she would need to set aside $150,000 of assets—the $100,000 cash receipts required as collateral for the shares borrowed, plus an additional $50,000 in cash or marginable securities. If ABC's value rose to, say, $111,111, she would have an unrealized loss of $11,111 and her equity would fall to $38,889, just equal to the 35 percent house margin. She would not be required to come up with additional equity unless there were more price increases. But, because the $100,000 originally held as collateral falls short of her $111,111 liability, she would have to provide an additional $11,111 to restore her account to fully collateralized status. These additional funds are typically obtained by a loan from her broker, adding to the margin debt. In this way, short position losses give rise to margin loans.

BY CARRIE CONAWAY

PHOTOGRAPHS BY KATHLEEN DOOHER

DIAGNOSIS: SHORTAGE

The past, present, and future of the registered nurse workforce

Professional nursing was born of a shortage. The lack of medical personnel on the front lines of the Crimean War in the 1850s meant that British casualties were three times as likely to have died from hospital-borne diseases as from battle wounds. Through their efforts at sanitation, nutrition, and personalized care, Florence Nightingale and her cadre of nurses reduced the mortality rate in British military hospitals from 42 percent to just over 2 percent. This remarkable improvement helped nursing to earn recognition as an essential element of quality health care.

Nurses are just as critical to our health now as they were during the Crimean War, but we still don't have enough of them. The American Hospital Association estimates that in the nation's hospitals, 126,000 registered nurse (RN) positions—11 percent of the total—are vacant. Though hospitals account for 60 percent of RN employment, the lack of nurses extends far beyond the hospital setting. Nursing homes in Massachusetts alone have about 900 open positions for registered nurses. Other employers of RNs, from visiting nurse associations to schools, are also scrambling for employees. At the same time, the nation's nursing schools turned away nearly 5,000 qualified students in 2001 due to insufficient faculty and clinical and classroom space.

The number of nurses is increasing every year, but not quickly enough to keep up with the growing demand for their services. The culprits are both long-term trends, such as expanded opportunities for working women and the aging of the population, and new

factors like the effects of the cost-cutting imperative of managed care. The result is that there are too few RNs to fill all the available positions. And the problem promises only to worsen; by the year 2020, New England is projected to have 33 percent fewer nurses than we'll need.

A DAY IN THE LIFE

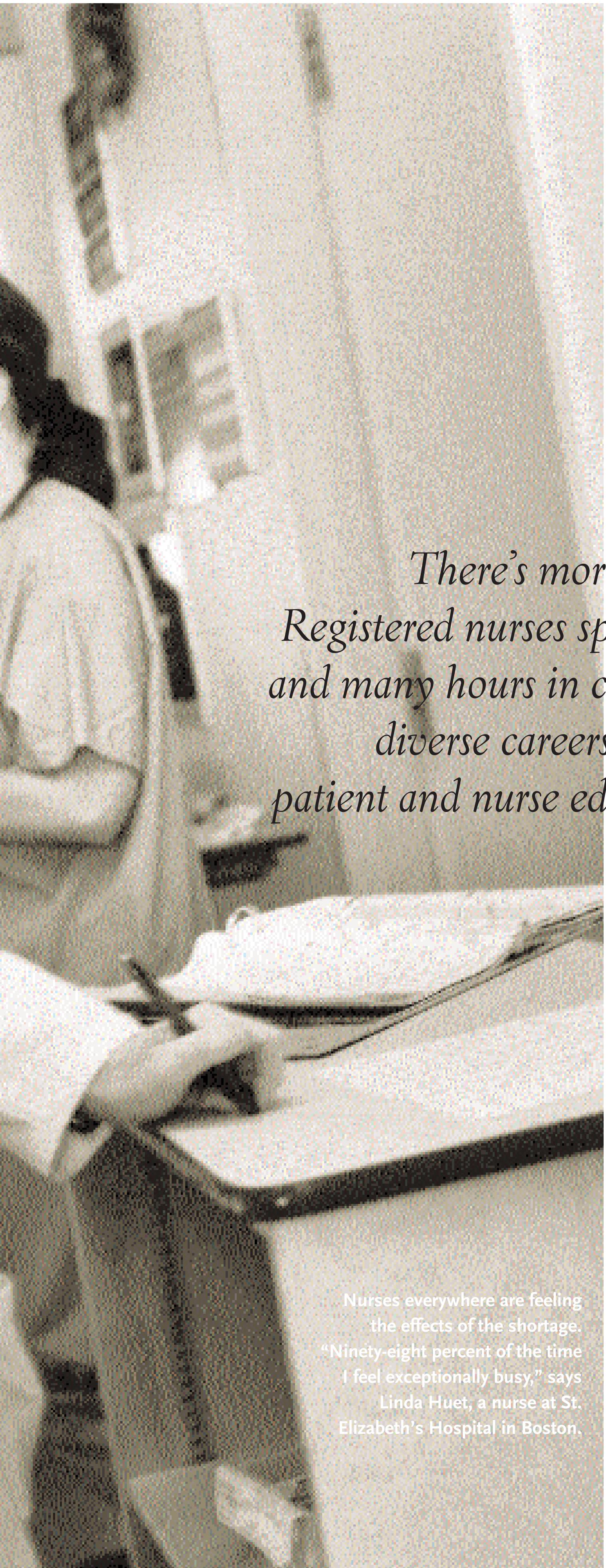
"The first thing I do when I get to work is eat breakfast. I always eat at the last possible moment because it might be five or six hours before I get to eat again," says Linda Huet, a registered nurse in the postoperative recovery unit at St. Elizabeth's Medical Center in Boston. Her day is a hectic rush of listening to reports from the previous shift, then checking in repeatedly with each patient to perform clinical assessments and administer treatments and medications. She adds, "Ninety-eight percent of the time I feel exceptionally busy. There's always a reason to stall lunch, and the day goes by quickly." At Hasbro Children's Hospital in Providence, lunchtime in the pediatric intensive care unit is a particularly stressful point in an already frenzied day. The busy work pace kicks into high gear as half

There's more to nursing than meets the eye. Registered nurses spend two to four years in college and many hours in continuing education to train for diverse careers in direct patient care, research, patient and nurse education, and staff management.

the nurses leave to eat their meal and everyone else's workload is doubled. "It can be mentally overwhelming for some people to monitor double the patients in an intensive care setting," says Donna DuPuis, a registered nurse on the floor.

There are over 2.2 million registered nurses in the United States, making it the largest health care occupation. Nurses may practice in almost any setting, from hospitals and nursing homes to schools, corporations, and nonprofit agencies. Those who work directly with patients are responsible for the day-to-day monitoring and documenting of their patients' progress, as well as for administering treatments, medications, and therapies. They are the first line of medical defense when anything goes wrong, and they are also the first source of professional comfort for patients and their families. Other nurses work outside direct practice in patient education, research, and administration. These nurses may run clinical drug trials, teach patients how to use medical equipment, or manage the workload of dozens of employees.

Nursing is a highly skilled profession, requiring two to four years of schoolwork, a passing score on a national competency examination, and continuing education and training. As a result, starting wages for staff nurses are relatively high compared to other professional occupations. The average new RN earned



Nurses everywhere are feeling the effects of the shortage. "Ninety-eight percent of the time I feel exceptionally busy," says Linda Huet, a nurse at St. Elizabeth's Hospital in Boston.

around $31,000 per year in 1996, similar to the starting salaries for engineers and much higher than the overall average for new college graduates. Opportunities in the field are broad, and the caring labor nurses perform means that they have a direct impact on people's lives every day. But even on a good day, "nursing is physically as well as mentally intense work," according to Lisa Murphy, Huet's supervisor and the director of surgical services at St. Elizabeth's. Nurses complain that their wages do not grow adequately with experience and do not reflect their high level of responsibility. Every day, they face evening, overnight, and weekend work, the possibility of contracting a disease or injuring themselves on the job, and the emotional stresses of dealing with sick people. Furthermore, they feel their work is underappreciated by the public. Though a recent Gallup poll showed Americans rate nursing as the occupation with the highest ethical standards, nurses say this doesn't translate into respect for their work. Murphy says, "People think nursing is bed pans and back rubs, or being a handmaiden to doctors. They don't understand the responsibility and the training that go into it."

Making matters worse, lately many RNs feel there aren't enough nurses to go around. "I spend much of my day trying to make sure there are enough workers for each shift to cover all the patients," reports Murphy. "We're maintaining our quality of care, but on a day-to-day basis it's challenging. Our nurses are definitely busier." Nurse managers like Murphy across the country are having difficulty filling empty positions, especially in specialty care areas such as intensive care and emergency departments. "It's a matter of lack of human resources. We have no nurses to hire," says Veronica Hychalk, Vice President of Professional Services at Northeast Vermont Regional Hospital in St. Johnsbury, Vermont, and New England's representative to the American Organization of Nurse Executives. Because of the scarcity of staff, nurses say they are now expected to work with more and sicker patients than ever before. This has quickened their work pace and decreased the amount of time they can spend with each patient. Insurance regulations have increased the amount of paperwork they must contend with. Additional use of temporary staff has meant that nurses must spend more time training new workers on department procedures. And if managers can't find enough staff to cover all the shifts, nurses may be asked or required to work overtime.

Finding enough nurses to cover all the shifts is one of nurse manager Lisa Murphy's daily challenges at St. Elizabeth's Hospital.

PRESCRIPTION FOR A SHORTAGE

Having more nurses on the job would probably help alleviate some of these problems. But does this mean that there is a nationwide shortage of nurses? It's hard to say. There might not be enough nurses overall, or we might have enough nurses but need to better distribute them across specializations, employers, or regions. We have no official economic definition of a shortage to guide us, or even a consistently gathered set of data that compares national staffing trends over time. However, some characteristic symptoms often indicate that a shortage is in the offing.

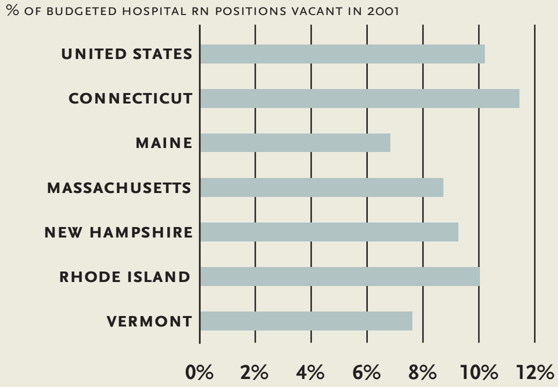
One bellwether of a shortage is the vacancy rate, or the percentage of budgeted positions that are unfilled. New England's hospitals currently report that an average of 7 to 12 percent of their registered nurse positions are vacant, the highest levels since the last shortage in the late 1980s. Connecticut is in the worst shape in the region, with a vacancy rate of nearly 12 percent; in 1996, it was only 4.5 percent. In contrast, Vermont has a relatively low vacancy rate, at 7.8 percent. But its vacancies were at 1.2 percent just five years ago.

Another symptom is the increased use of stop-gap measures to fill empty positions. For instance, many nurses report an upswing in how frequently they are asked to stay past their shifts. According to Murphy, at St. Elizabeth's "the shortage has definitely created a lot of opportunities for overtime for our nurses, whether they want them or not." Similarly, a national survey of registered nurses shows that in an average week, nurses in the U.S. work 2.4 more hours than they are scheduled for. Much of this extra time is voluntary, as nurses earn overtime pay when they stay to fill in blanks in the schedule. But when volunteers fail to plug all the holes, health care facilities must occasionally require RNs to stay for mandatory overtime to ensure enough staff are on duty.

When they can't fill open positions by more traditional means, health care providers hire temporary staff to tide them over. Itinerant workers known as travel nurses comprise the largest part of the temporary health care workforce, hired for thirteen-week stints at health care facilities facing short-term deficits of workers. Temporary workers, mainly nurses, cost hospitals $7.2 billion in 2000. Likewise, in tight labor markets employers start to recruit staff for permanent positions from outside their region or even outside the United States. In 1996, 36 percent of the nation's RNs had received their training in a different state than the one in which they were currently located. And 4 percent—110,000 nurses—had trained in foreign countries, mainly in the Pacific Rim.

Missing in action

Many nursing positions remain unfilled everywhere, but the extent of the problem varies across New England.



NOTE: Maine and New Hampshire data are from 2000. Massachusetts data include only staff nurses.
SOURCES: American Hospital Association and National Association of Health Care Recruitment, 2001

DECLINING NUMBERS, DECLINING TRUST

All the signs today point toward a nurse shortage. But as recently as 30 years ago, there were plenty of nurses. The influx of workers, especially women, into the labor market in the 1970s had eased the scarcity of nurses that had persisted since the 1940s. Women chose nursing occupations in record numbers; indeed, the children born in the late 1950s produced more nurses than any group either before or since. Falling birth rates since the Baby Boom, however, have meant that the number of people available to go into nursing each year has decreased. At the same time, the proportion of women choosing nursing as a career has also declined. In the early 1970s, nearly 10 percent of women entering college listed nursing as their probable future occupation. By 1998 this figure had dropped to under 5 percent. (Less than 1 percent of men listed nursing as their probable career in both years.)

The combination of declining birth rates and smaller proportions of people entering nursing careers means that each year we produce only half the number of RNs we did 30 years ago, even though the U.S. population is nearly 40 percent larger today. New RNs are not being created fast enough to replace retirees, so the population of RNs is aging rapidly. "Forty-one percent of the RNs at my hospital are between the ages of 50 and 59," reports Hychalk. "That means that by the year 2012, 41 percent of my staff will be at retirement age."

These changes in occupational choices and population composition have contributed to the periodic shortages of nurses since the 1970s, and

Is there a nurse shortage? There's no definitive proof, but job vacancy rates are up, nurses are working more overtime than they want, and hospitals are spending billions of dollars to hire temporary staff and workers trained overseas.

In the mid 1990s, hospitals were in a quandary. They needed more RNs to take care of an increasingly older and sicker patient load. But nurses were also their biggest expense. When the dust cleared, 38,000 nurses had lost their jobs.

they will continue to play a role in declining nurse availability in the future. But the current situation has been exacerbated by a new factor—the effects of health care industry restructuring. Historically, the health care industry has redistributed its employment of nurses in response to shortages. Deficits of registered nurses in the 1950s and 1960s, for instance, led to the specialization of nursing duties. Before then, hospitals had used registered nurses for just about every kind of nursing work, from feeding patients and changing sheets through starting intravenous fluids and creating patient care plans. But this meant that these highly trained nurses spent much of their time—by one estimate as much as 65 percent—on duties that did not require their advanced level of expertise. Hospitals solved the problem by hiring licensed practical nurses and nurse aides to handle lower-level tasks, thereby freeing RNs to concentrate on the more skill-intensive work that only they could handle.

In contrast, the changing organization of the health care industry associated with the growth of managed care in the early and mid-1990s may in part have caused the shortage. In the past, delivering health care services was fairly simple; doctors performed procedures on patients and insurance companies paid for them. But under managed care, insurance companies and health plans attempt to reduce expenses by establishing strict policies about which treatments and procedures they will and will not pay for. This new organizational structure has put health care facilities, even those not operated under managed care, under intense pressure to reduce costs in order to remain economically competitive.

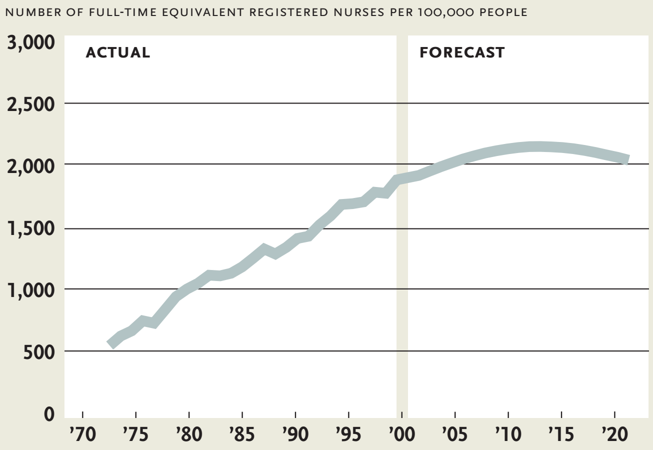
As a result of managed care, registered nurses in the early 1990s found themselves caught between two opposing economic forces. On the one hand, to achieve their new budgetary goals, hospitals increasingly focused on providing only the most advanced and most technical forms of care, leaving the care of less acutely ill patients to less costly rehabilitation centers, nursing homes, and family members. Patients in hospitals were thus sicker than ever before, and more of them required an RN's expertise. But on the other hand, 25 percent of the average hospital's employees are registered nurses, so nursing labor is a major expense for hospitals. RN payroll became an important opportunity for many administrators to trim budgets in the mid-1990s. "In 1995 and 1996, hospital RN employment declined by 38,000 workers while hospitals added 100,000 aides in an attempt to substitute toward a less expensive form of labor," reports Peter Buerhaus, an RN and senior associate dean for research at Vanderbilt University's School of Nursing. Furthermore, hospitals allowed wages to stagnate. Between 1993 and 1998, RN earnings declined by 7 percent after adjusting for inflation.

"By 1997, hospitals realized that their strategy wasn't cost-effective," says Buerhaus. "Patient admissions were picking up, and the patients got older and sicker every year." Hospitals' attempts to reduce costs by cutting professional nursing staff turned out to be short-sighted. They quickly rehired 40,000 RNs in 1997 and let go 50,000 nursing aides.

But according to Buerhaus, these cost-cutting maneuvers had real non-economic consequences—ones that are still being felt in the labor market today. "A lot of nurses felt betrayed. They felt that hospitals were cutting costs without thinking about patients or the quality of care. It broke their trust in the hospitals, and hospitals have been struggling to get that trust back ever since."

An unhealthy outlook

A 20-year projection indicates a drop in supply and a worsening shortage.



SOURCE: Adapted from Peter Buerhaus, Douglas Staiger, and David Auerbach. "Implications of an Aging Registered Nurse Workforce." *Journal of the American Medical Association*, June 14, 2000

WHAT'S THE PROGNOSIS?

At first glance, it seems that the labor market for nurses is caught between the Scylla of increasing demand and the Charybdis of decreasing supply. There is little doubt that the demand for registered nurses will continue to increase for years to come. The elderly population, a major consumer of health care, is expected to increase

Forty-one percent of the nursing staff at Northeast Vermont Regional Hospital in St. Johnsbury, Vermont, will retire in the next decade, worries Veronica Hychalk.

by 60 percent by the year 2030, according to projections from the Census Bureau. And no end is in sight for the advances in high-technology medical care that make skilled nursing increasingly critical, especially in hospital settings. Health care providers may be able to find replacements for some RNs by reallocating work to lower-skilled nurses or using more technology in place of people. But much of what RNs do cannot be substituted for, and in any event these types of changes won't be enough to completely counteract our growing health care needs. On the demand side, for the most part, we will simply have to wait things out.

On the supply side, however, there is more room to maneuver. At least part of the shortage could be eliminated if wages and working conditions for nurses were appealing enough to attract more people to the profession. Employers seem to be taking note of this; RN wages are starting to escalate after years of stagnation. The U.S. Bureau of Labor Statistics reports that from 1993 to 1997, average inflation-adjusted wages for full-time RNs declined from $819 per week to $762 per week (in 2000 dollars). But since 1997 wages have been on the rise, and in 2000 they finally climbed back up to $790 per week. Employers are also attempting to enhance working conditions by offering incentives such as increased flexibility in scheduling shifts and bonuses to new employees and employees taking on extra overtime. But a lack of financial resources resulting from cost containment measures and low reimbursements from government programs means that many health care facilities simply don't have the money to support these initiatives.

Besides, it's not just wages and working conditions that keep people out of nursing; it's also the public image of what nurses do. "Nurses are extremely intelligent, creative people; we have to be to do our jobs. But we are not portrayed as bright, articulate, or innovative, or as working independently and functioning at a high level," says Mary Anne Gauthier, professor and director of the undergraduate nursing program at Northeastern University in Boston. As a result, people who would make excellent nurses can be dissuaded by misunderstandings about the nature of the job. Men in particular seem to find the nursing image unappealing, perhaps because the occupation has such a strong gender stereotype (95 percent of registered

RNs, LPNs, and NAs—oh my!

A nurse is a nurse—or is there more to it? The staff providing day-to-day care while you're sick might be nurse's aides with two weeks of training, or they might be advanced practice registered nurses with six or more years of professional training, or just about anything in between. Things were different at the advent of professional nursing, when the same nurse performed every element of nursing care, from feeding and bathing patients to monitoring vital signs to creating patient care plans. But today nursing work has been divided among four major types of nurses, each with different levels of training, certification, and specialization.

REGISTERED NURSES (RNs), who work in the largest health-related occupation with over 2.2 million workers nationwide and 148,000 in New England, are the most diverse in terms of their preparation and skills. They may have received their training from a two-year associate's degree in nursing program, a three-year hospital-based diploma program, or a four-year baccalaureate nursing program. In clinical settings, their advanced skill level allows them to perform more complicated tasks such as assessing symptoms, administering medications, and educating patients. Clinically based RNs may further specialize in clinical areas such as pediatric intensive care or adult critical care. Other nurses work outside direct patient care in fields such as research, patient education, and administration. Because they are so highly skilled, RNs are in high demand in hospitals, which provide the most complex types of care. Registered nurses' median earnings were about $41,000 per year in 1998.

ADVANCED PRACTICE NURSES (APNs or APRNs) are a subcategory of registered nurses numbering nearly 200,000 workers nationwide. They have completed a baccalaureate degree and then have gone on for several more years of postgraduate training to become nurse practitioners, clinical nurse specialists, nurse midwives, or nurse anesthetists. Depending on their specialization, they earn anywhere from 20 percent to 120 percent more than the typical staff RN; the highest salaries go to nurse anesthetists at about $90,000 per year.

LICENSED PRACTICAL NURSES (LPNs) provide basic bedside care in hospitals and nursing homes. They may take vital signs, give injections, apply dressings, or simply observe patients. Their training typically takes about one year at a community college or vocational school and includes a combination of classroom study and clinical practice. They then must pass a licensing examination before they can join the LPN ranks, which number 36,000 in New England. Once their training is complete, they can expect to earn an average of $27,000 per year.

NURSE'S AIDES and **HOME HEALTH AIDES** (NAs/HHAs), numbering 130,000 workers in New England, are the least-trained nurses. They receive 75 or more hours of instruction in basic health care provision, typically at a high school, vocational-technical school, or community college. Those who work in nursing homes receiving Medicaid funding must pass a competency examination, but there is no official licensure in this occupation. Their job duties include serving meals, tidying rooms, and helping patients to eat, dress, and bathe. The average income for an aide working full-time, year-round in 1998 was about $16,000.

nurses are female). For them, even the term "nurse" itself may be enough to keep them out of the occupation since, as Huet says, "Nursing has the connotation of a baby suckling a mother's breast." Others agree, arguing that the only way to interest more men in nursing careers is to change the name of the occupation to emphasize the professional and technical nature of the work.

Enticing more people into nursing will be a challenge. Nonetheless, some area organizations are tackling the issue. For instance, Northeastern University in Boston has developed an accelerated baccalaureate nursing program for more mature students who have already completed the science prerequisites for a nursing degree. The accelerated program can mint a certified bachelor's-level RN in less than three years, compared to five years for students in the regular program. The Merrimack Valley Area Health Education Center in Lawrence, Massachusetts, is filling its community's need for registered nurses by helping academically underprepared students interested in nursing careers to bridge the gap to college. And the Nursing Career Center of Connecticut is working toward creating a pos-

Schools, employers, and the government are working to increase the supply of RNs by offering scholarships, developing new training programs, and educating people about nursing careers. But will these efforts be enough?

itive public image of nursing by promoting nursing careers to kids as young as elementary school age.

Health care providers are also finding new ways to recruit and retain staff. Some are investing in technology such as patient lifts that reduce the physical strain of nurses' duties, thus helping older nurses to stay on the job. Some are hiring more support staff like respiratory technicians, pharmacists, and dieticians to remove these burdens from the RN workload. Some are offering scholarships or grants to encourage people to choose nursing careers. Northeast Vermont Regional Hospital has taken an innovative approach, forming an alliance with two state colleges to create the first nurse training program in the area in 30 years. The 16 students who entered the program in 2001 are taking courses at the colleges and will do their clinical rotations at the hospital and other local health facilities.

Even the resources and attention of the public sector have been brought to bear on the issue. The state of Vermont, for instance, offers annual scholarships of $7,500 to nursing students who practice in the state for two years. Massachusetts is considering proposals to establish limits on mandatory overtime, to forgive nursing student loans, and to provide bonuses for experienced nurses who serve as mentors. And the proposed federal Nurse Reinvestment Act, if passed, would provide nursing scholarships to students who agree to work in underserved areas for two years after graduation.

Will all these efforts be enough? Only time will tell, but some say we should think bigger. Buerhaus, for one, would like to see a billion-dollar public image campaign for nurses, along with government aid for nursing schools on the brink of financial collapse, for hospitals redesigning the ergonomics of their work environments, and for students going into nurse training programs. But in the end, any successful solution to the shortage depends on convincing more people to become nurses, and that is no easy goal to reach. To achieve it, says Buerhaus, "society needs to place more value on nursing. Legislation can't do that—it has to come from people." ☼

Mary Anne Gauthier, professor of nursing at Northeastern, hopes that changing the image of nursing will attract more people to the profession.

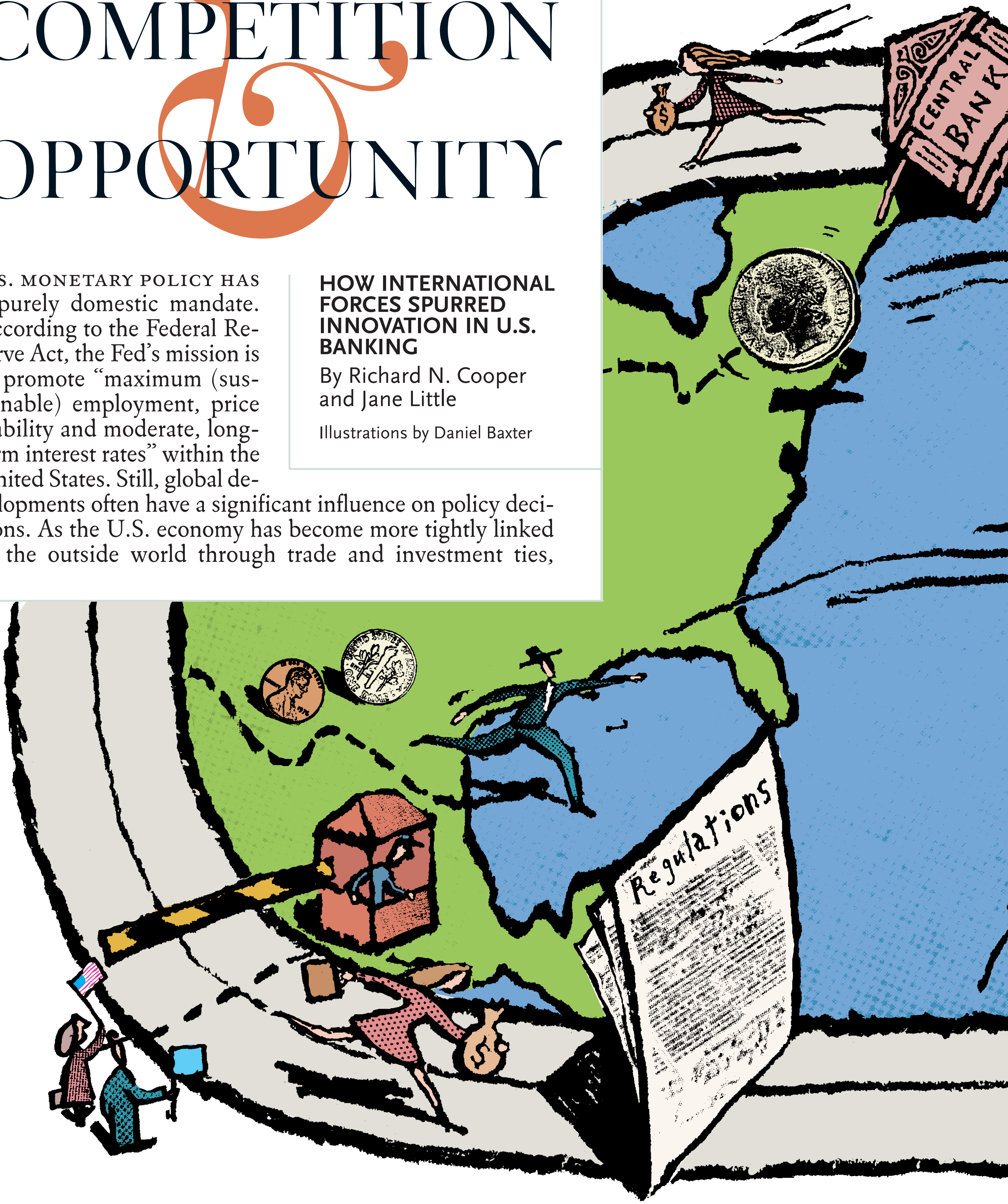
COMPETITION & OPPORTUNITY

HOW INTERNATIONAL FORCES SPURRED INNOVATION IN U.S. BANKING

By Richard N. Cooper and Jane Little

Illustrations by Daniel Baxter

U.S. MONETARY POLICY HAS a purely domestic mandate. According to the Federal Reserve Act, the Fed's mission is to promote "maximum (sustainable) employment, price stability and moderate, long-term interest rates" within the United States. Still, global developments often have a significant influence on policy decisions. As the U.S. economy has become more tightly linked to the outside world through trade and investment ties,




CD
REGULATIONS
INTEREST

timeline of selected banking legislation

1927 *McFadden Act*
Prohibited interstate banking.

1933 *Banking Act (Glass-Steagall Act)*
Separated commercial banks from investment banks, prohibiting commercial banks from owning brokerage firms or engaging in most investment banking activities.

1956 *Bank Holding Company Act (Spence-Robertson Act)*
Established comprehensive regulations for bank holding companies, which were now required to register with the Federal Reserve Board. Prohibited a bank holding company from acquiring a bank located in another state, unless specifically authorized by the host state (Douglas Amendment).

1963 *Interest Equalization Tax*
Tax on foreign stocks, bonds, and long-term loans that was meant to discourage U.S. residents from lending abroad.

Voluntary Foreign Credit Restraint Program
Suggested limitations on loans and investments in order to discourage U.S. banks from lending to foreigners and from investing abroad.

1978 *International Banking Act*
Brought foreign banks within the federal regulatory framework, imposing the same reserve requirements, interest rate ceilings, deposit insurance requirements, and interstate banking restrictions for foreign banks operating in the United States as for domestic banks.

1980 *Depository Institutions Deregulation and Monetary Control Act*
Lifted ceilings on the interest rates that banks could offer their customers and authorized interest-bearing transaction accounts.

1994 *Riegle-Neal Interstate Banking and Branching Efficiency Act*
Repealed McFadden Act of 1927. Allowed interstate banking by way of branch acquisition. States permitted to both veto acquisitions and authorize new branches at will.

1999 *Gramm-Leach Bliley Act*
Repealed Banking Act of 1933. Allowed affiliations between commercial banks and securities firms, insurance firms, and merchant banks. Prohibited nonfinancial companies from owning commercial banks, however.

Note: Included are only highlights from selected pieces of legislation.

promoting U.S. price stability and sustainable growth have increasingly required taking global trends into account. Usually, these developments are taken as "givens," inputs into the data set on which policy decisions are based. More rarely, international developments, like an international liquidity crisis or a period of dollar weakness, have elicited a Fed policy response aimed at influencing the course of these "external" events — always with the intent of improving the long-term outcome for the U.S. economy.

In addition, however, since World War II, international pressures have played an important, if generally unrecognized, role in the evolution of the U.S. banking system and, thus, the practice of U.S. monetary policy. In particular, U.S. and foreign banks have frequently been able to avoid costly domestic banking rules by taking advantage of the gaps between national regulatory systems. In some cases, for example, domestic banking law simply did not cover foreign bank operations or new products denominated in foreign currencies. Seeking to exploit these loopholes, financial firms invented new types of accounts or found ways to engage in previously prohibited activities.

THE CREATION OF AN UNREGULA
DENOMINATED DEPOSITS IN
LED TO THE ELIMINATION OF U.

These efforts then forced regulators to try to close the gaps or, at least, to "level the playing field" for foreign and domestic banks and for banks that could afford foreign operations and those that could not. In doing so, regulators tried to walk a thin line between safeguarding the integrity of the U.S. financial system and of U.S. policy decisions and ensuring that U.S. regulations did not place U.S. firms at a competitive disadvantage in an increasingly global market.

The result: Foreign opportunities and foreign competition — among regulators as well as firms — helped drive structural change in the U.S. financial system over the past 40 years. The development of the Eurodollar market and the role of foreign banks in breaking down the barriers to interstate banking and the provisions separating investment from commercial banking represent examples of how global forces helped spur the evolution of the U.S. financial system. The resulting financial innovations and changes in banking regulation have, in turn, affected how the Fed conducts monetary policy.

THE EURODOLLAR MARKET

The Eurodollar market was one of the first important financial innovations of the post-World War II era. The Eurodollar mar-

TED MARKET FOR DOLLAR-
EUROPE BEGAN A PROCESS THAT
S. INTEREST RATE CEILINGS

ket is the wholesale market for large, dollar-denominated deposits placed at banks outside of the United States. The freedom from national banking regulation provided by this market led to major changes in the U.S. banking system, including the end of interest rate ceilings on bank deposits, a diminished role for reserve requirements, and the creation of money market accounts.

The Eurodollar market sprang up in the mid 1950s because Soviet banks feared that the U.S. government would seize their U.S. dollar balances if they kept these deposits in the United States; instead, they arranged to hold dollar-denominated deposits at banks in London and Paris. Other early customers included Italian banks that borrowed and lent dollars to dodge the cartel that ruled lending in lire, and British banks seeking to finance non-Commonwealth trade after the U.K. government restricted foreign loans in sterling during the Suez War and the ensuing sterling crisis.

But it wasn't until the 1960s that the growth of the Eurodollar market really took off. Much to the consternation of officials on both sides of the Atlantic, the U.S. dollar came under considerable downward pressure in foreign exchange markets throughout the 1960s. Since the Bretton Woods agreement to maintain fixed exchange rates was still in effect, governments with weak currencies were expected to limit the supply of their currency in the foreign exchange market. Accordingly, from 1963 to 1969, the U.S. authorities instituted the Voluntary Foreign Credit Restraint Program and other measures to restrict U.S. investors from lending dollars abroad. These restrictions, in effect, drove U.S. banks and foreign borrowers to the Eurodollar market.

Once in the Eurodollar market, U.S. banks, foreign borrowers, and U.S. firms wanting to build plants overseas all discovered the advantages of operating beyond the reach of costly central bank regulation. In the early days of the market, U.S. reserve requirements and Regulation Q interest rate ceilings did not apply to these dollar deposits at foreign banks, including overseas offices of U.S. banks. And neither did foreign bank regulations, which generally covered assets and liabilities in domestic currency only. Thus, the banks could afford to offer higher interest rates on dollar deposits than they could in the United States, and borrowers could obtain dollar funding that would otherwise have been unavailable to them. By permitting transactions that could not have occurred in its absence, the Eurodollar market proved highly advantageous to the large banks able to operate on both sides of the Atlantic as well as to their large customers.

U.S. regulators grew more concerned about the freedoms provided by the Eurodollar market in the late 1960s. At that time, the Fed tightened monetary policy to fight inflation and market interest rates rose above those permitted by Reg. Q interest rate ceilings. For example, while the ceiling for savings accounts was 4 percent in 1969, rates on 3-month Treasury bills were approaching 7 percent. Under these constraints, the U.S. banks faced a serious runoff of funds from their domestic offices. As a result, they began to borrow large sums from the unregulated Eurodollar market to replace them. Fearing these Eurodollar borrowings might undermine policy and wanting to remove the "special advantage" enjoyed by large banks with ready access to the Eurodollar market, the Board of Governors instituted a reserve requirement of 10 percent on any increase in member bank Eurodollar borrowings above a base amount. Still, at the end of 1969, big U.S. commercial banks had borrowed enough Eurodollars (about $13 billion) to largely offset the runoff of domestic deposits subject to interest rate ceilings. Later, during yet another period of dollar weakness but relatively low U.S. interest rates, the Board raised the marginal reserve requirement on Eurodollar borrowings still higher. Since the reserve-free base fell as the banks repaid their Eurodollar loans, this time raising reserve requirements was meant to discourage the banks from *repaying* their Eurodollar debts and adding to the downward pressures on the dollar. But once again, market forces prevailed, and the episode ended with the banks having paid down their Eurodollar debt and the Fed having reduced reserve requirements on Eurodollar liabilities.

Even while it was trying to use reserve requirements to control the size and steer the direction of Eurodollar flows (with limited success), the Fed was also sensitive to the U.S. banks' need to compete in the Eurodollar market. Accordingly, in 1977, the Board reduced the reserve requirement on Eurodollar funds lent by a foreign branch of a member bank to a U.S. borrower to let these branches compete with foreign banks not subject to such requirements. The Fed also found a way to let U.S. banks participate in the Eurodollar market without the expense of setting up a London branch by approving the establishment of "Nassau shells" in 1969. These shell offices in the Bahamas were generally little more than a brass plate, a bookkeeper, and a set of accounts, but they allowed U.S. banks to do business under Eurodollar rules while performing the bulk of the related activity at the U.S. head office. In 1981, the Board went a step further and approved the creation of International Banking Facilities (IBFs), a set of segregated accounts that still provide a way for U.S. depository institutions and other corporations to accept large time deposits from foreign residents free of reserve requirements and interest rate ceilings.

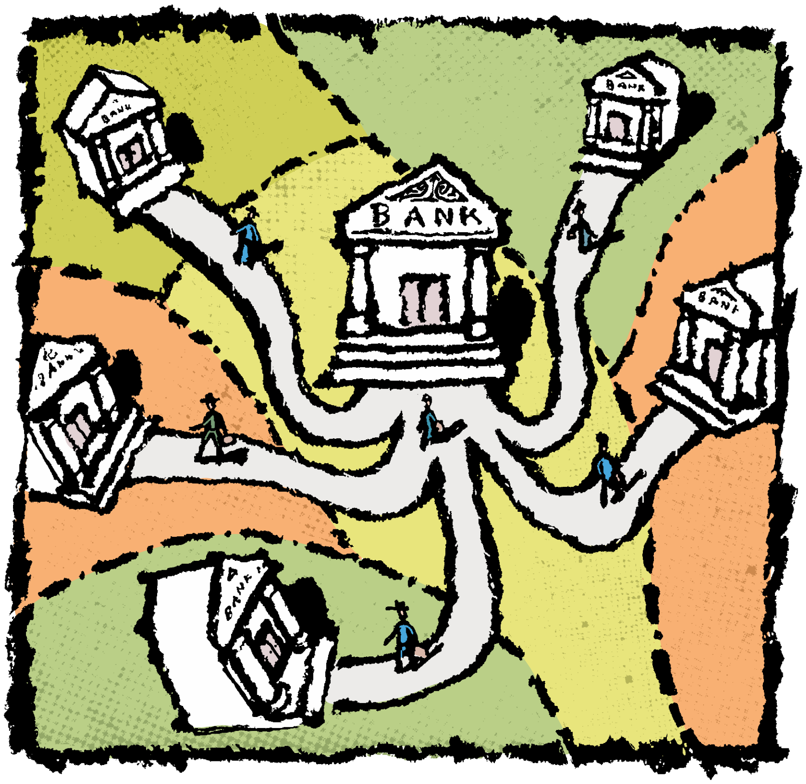
In 1970, the large negotiable CD was freed from interest rate ceilings, in part to increase this domestic instrument's ability to compete with Eurodollar deposits. Once the two big financial innovations of the 1960s — the Eurodollar and the large negotiable CD — allowed investors with $100,000 to earn interest rates higher than those available to small depositors, the small investors began to pressure financial institutions to find ways around interest rate ceilings for them, too. In 1970, an innovative Massachusetts savings bank introduced the Negotiable Order of Withdrawal or NOW account — in effect, a (limited) checking account that paid interest. Similarly, in 1977 a handful of brokerage houses and banks cooperated to create the money market account, another transactions account earning a market rate of interest.

In the end, these efforts to escape interest rate ceilings and reserve requirements contributed to the passage of the Depository Institutions Deregulation and Monetary Control Act in 1980. Among other important changes, this act required a phaseout of the interest rate ceilings that had dominated the U.S. banking sector for half a century (see the sidebar on Reg. Q) and created the money market deposit, which let banks compete with brokerage houses offering similar accounts. In addition, reserve requirements on Eurodollar liabilities and competing time deposits have been set to zero since the early 1980s.

FOREIGN COMPETITION AND THE MOVE TO INTERSTATE BANKING

Interstate banking is another area where competition from foreign banks has served as a catalyst for change in the U.S. banking system — in this instance, primarily in the early stages of the process. The prohibition against interstate banking became

FOREIGN BANKS' FREEDOM TO O
U.S. STATE HELPED BREAK
PREVENTED DOMESTIC BANKS



a hallmark of the U.S. banking system with the passage of the McFadden Act in 1927. This prohibition reflected Americans' traditional fear of "national moneyed trusts" and a pragmatic desire on the part of small banks and their political supporters to protect local banking interests.

But foreign banks were not covered by this prohibition. Indeed, foreign banks operating in the United States remained unregulated at the national level until 1978 and, therefore, had a competitive advantage over U.S. banks in being able to establish a full presence in more than one state. Moreover, during the 1970s a number of states began encouraging foreign banks to establish branches and agencies within their borders in order to support the international trade and investment activities of firms located in their state. Because most small- to mid-sized banks had limited experience in providing international banking services, state legislators viewed the foreign banks' presence as complementary rather than competitive.

PERATE IN MORE THAN ONE
DOWN THE RESTRICTIONS THAT
FROM CROSSING STATE LINES

By 1978, 63 of the 122 foreign banks operating in this country already had facilities in more than one state, noted G. William Miller, then Fed chairman. Of these, 31 banks were operating in three or more states, a number that most observers expected to grow since additional states had passed legislation allowing branches or agencies of foreign banks to begin operations. Three large foreign banks with multistate facilities had also announced an intention to acquire a large domestic bank. Forty-five of these foreign banks had worldwide assets of more than $10 billion and thus were comparable with the largest domestically chartered banks. In supporting the passage of the International Banking Act (IBA), Chairman Miller argued that it was incongruous that foreign banks could operate in this country without being subject to the rules of the central bank. And it was unfair to domestic banks (and inconsistent with the favored principle of national treatment) that foreign banks be allowed to continue to expand across state lines.

When the IBA was passed in 1978, it required foreign banks operating a federally or state-chartered branch or agency to pick a home state. Existing branches outside of that state were grandfathered, while additional branches could only be set up under the same rules that would apply to a domestic bank — that is, so long as it was welcome in the host state and all of its business was related to foreign commerce. In effect, these branches were meant to function like the limited-purpose Edge Act corporations that national banks had been permitted to establish in New York and other financial centers to conduct international banking since 1919.

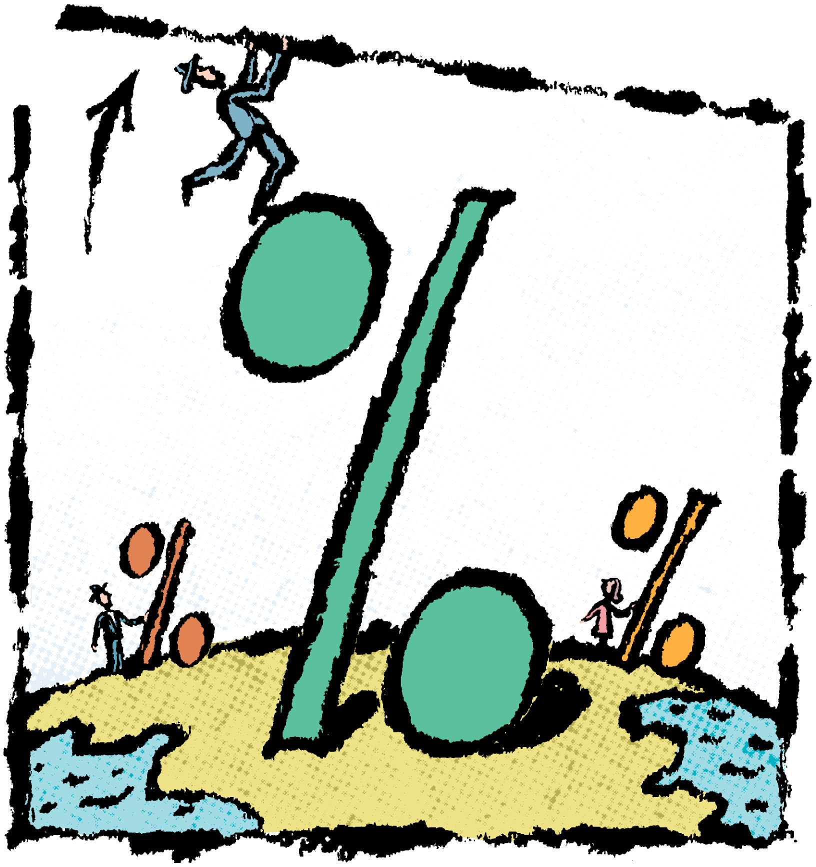
Perhaps more significantly, the IBA also allowed these Edge Act corporations to branch interstate. (This provision was advantageous because allowing an existing Edge to branch requires less capital than setting up a new Edge Corp.) As a result, as of 1978 domestically chartered commercial banks could in effect establish a national branch network — so long as they limited these branches to providing banking services related to international trade. For a time, these Edge corporations became a favored way for some of the large U.S. banks to step across state lines.

Once again, then, foreign competition helped to provoke early changes in the domestic status quo. While most analysts believe that the high failure rates of geographically constrained banks and thrifts in the 1980s made interstate banking acceptable in the 1990s, the fusion of national and global financial markets had helped pave the way. By 1993, most states were allowing bank holding companies to cross state boundaries, and several permitted interstate branching by state banks that were not members of the Federal Reserve System. Many argue that, by the time the Riegle-Neal Interstate Banking and Branching Efficiency Act was passed in 1994 to allow bank holding companies to acquire banks in any state and, as of 1997, to allow banks to merge across state lines, the legislation was largely unneeded; interstate banking already existed.

THE DEMISE OF GLASS-STEAGALL

In a similar fashion, competition from foreign banks contributed to the demise of the Glass-Steagall provisions that had long separated commercial from investment banking. Foreign banks usually operate in a more permissive regulatory environment than do U.S. banks, and U.S. regulators have generally been quite sensitive to U.S. banks' need to compete overseas. Accordingly, the Fed's Regulation K has allowed U.S. banks operating abroad to engage in activities not permitted within the United States. For instance, foreign branches of U.S. banks were allowed to underwrite the debt obligations of the host country, to act as an insurance agent or broker, and, with Fed approval, to engage in other activities connected with the business of banking in the foreign country.

In the case of foreign bank operations in this country, U.S. law and U.S. regulators have taken the view that prohibiting all activities allowed abroad but not permitted to U.S. banks might be unnecessarily harmful to the foreign banks. For this reason, under certain circumstances, foreign banks have been allowed to conduct any business in the United States, such as invest-



ment banking, that is "incidental" to their business outside the United States.

In this way, the greater leniency granted U.S. banks abroad, together with the broader scope permitted to foreign banks operating in the United States, contributed to broadening the range of business activities permitted to all banks operating in this country. Indeed, by the late 1990s some observers had come to believe that the repeal of Glass-Steagall was no longer necessary, given the flexibility with which the authorities were defining "permissible" activities, notes Carl Felsenfeld in *Banking Regulations in the United States*. Yet, in 1999, when the Senate Banking Committee asked Fed Chairman Alan Greenspan to comment on proposed legislation to remove the legal impediments to the integration of banking, insurance, and securities activities, he strongly endorsed the need for change. Greenspan emphasized that U.S. financial institutions compete in global financial markets and noted that "archaic barriers to efficiency" could "undermine the competitiveness of our financial institutions . . . and, ultimately, the global dominance of American finance."

FINANCIAL INNOVATION AND THE EVOLUTION OF MONETARY POLICY ANCHORS

As the innovations and regulatory changes described above took shape, the traditional relationships between various measures of the money supply and inflation began to break down. In the early 1980s, with the introduction of money market deposits and sweep accounts, among other innovations, the frequently redefined monetary aggregates like M1 (basically currency plus various types of checking accounts) and M2 (M1 plus small savings and time deposits) became increasingly unstable and hard to predict.

M1 had been a favored target for monetary policy, particularly during the late 1970s and early 1980s, because it was thought to have a relatively close relationship to economy-wide spending and was easily influenced by Fed policy. Before deregulation, targeting M1 appeared attractive largely because laws prohibited checking accounts from earning interest, and other types of accounts could not offer checking privileges. These differences forced depositors to keep all the money they intended to spend in the near future in checking accounts while encouraging them to minimize these non-interest-bearing transaction balances. But when deregulation and financial innovation led to checking accounts that paid interest, and it became possible to write checks on other types of deposits, the division between the various monetary aggregates broke down. "Small changes in interest rates caused individuals to move in or out of M1, which, in turn, led to substantial swings in the aggregate's growth rate that had little to do with individual spending plans," San Francisco Fed researchers Bharat Trehan and Kelly Ragan pointed out in 1998. As the growth rates of the various Ms turned unstable, targeting any particular monetary aggregate became a far less effective way of conducting monetary policy.

THE INVENTION OF NEW TYPES O
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This article was adapted from a paper presented at a Boston Fed conference in honor of Frank E. Morris, former President of the Federal Reserve Bank of Boston. The complete proceedings can be found in The Evolution of Monetary Policy and the Federal Reserve System Over the Past Thirty Years: A Conference in Honor of Frank E. Morris, *Conference Series No. 45.*

By July 1983, Frank Morris, then president of the Federal Reserve Bank of Boston, was arguing that no targets should be set for M1 and M2 because they were no longer "predictably related to nominal GDP." He argued that it would be far better to target broader aggregates, such as total liquid assets or total domestic nonfinancial debt.

In time, Morris's views came to be widely shared. By the early 1990s, the Federal Open Market Committee was warning the Congress and the public regularly that the monetary aggregates were unreliable guides for policy. Finally, in August 1995, the FOMC changed the wording of its domestic policy directive to the New York Fed to include a specific target for the Fed funds rate, the overnight interbank lending rate. This change clarified the fact that the FOMC had actually been targeting the Fed funds rate, rather than any of the Ms, for some time.

CONCLUSION

Foreign competition and foreign opportunities resulting from gaps between national regulatory frameworks have provoked substantial change in the structure of the U.S. financial system.

F ACCOUNTS AND FINANCIAL LY LED THE FEDERAL RESERVE TO ONDUCT OF MONETARY POLICY

These external forces were an important factor in breaking down the geographical and business barriers that had shaped the U.S. banking system since the 1930s. They also led to important financial innovations that required major changes in the regulations governing U.S. banks. These innovations, in turn, affected how monetary policy works in this and other countries since many of the new types of accounts blurred the distinctions between the monetary aggregates and made them increasingly poor guides for policy. The ensuing search for a substitute has led many central banks, in the United States and abroad, to choose short-term interest rates as their operational target. Others have adopted a specific inflation target, choosing to highlight what they view as the central bank's ultimate goal. Which is the better approach? Once again, foreign forces will likely help shape the future conduct of U.S. monetary policy as policymakers here and abroad observe the outcomes of their differing national experiments. ☼

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The birth and death of Regulation Q

Interest rate ceilings on bank deposits loomed large on the U.S. banking landscape for over fifty years. The Banking Acts of 1933 and 1935 prohibited commercial banks from paying interest on demand deposits (that is, checking accounts) and allowed the Fed to set ceilings — via Regulation Q — on interest paid on time and savings accounts. This legislation reflected a widespread belief that the bank failures during the Great Depression had resulted from excessive competition. Supposedly, high interest costs and low profit margins drove banks to make high-yield but risky investments. In addition, the Congress thought that limiting interest rates would encourage country banks to lend more in their local communities.

The ceilings were not binding until the mid 1960s, as market interest rates remained well below the Reg. Q limits. But in 1966 inflation began to pick up, the Fed tightened policy, and unregulated interest rates on assets like Treasury securities rose above those permitted by Reg. Q for bank deposits. At the time, policymakers were very concerned that investment funds were flowing disproportionately toward business investment rather than into mortgage lending. Thus, they extended Reg. Q to cover the thrifts (the savings banks and savings and loan associations) but imposed slightly higher ceilings on these institutions because they traditionally specialized in mortgage lending. The lawmakers thought that doing so would let the thrifts attract more deposits. Instead, both the banks and the thrifts faced a runoff of funds into assets, like Treasury securities and commercial paper, with unregulated interest rates.

Facing a loss of deposits every time interest rates rose, the commercial banks sought to work around the restrictions. Aside from turning to the Eurodollar market and other unregulated markets to raise funds, commercial banks also started enticing U.S. depositors by offering them a variety of gifts, to compete in areas other than interest rates. The ceilings harmed low-income savers disproportionately. Wealthy depositors could shift their deposits to unregulated investments and, after 1970, deposits of $100,000 or more were exempt from Reg. Q. "According to some studies, small savers lost several billion dollars in interest earnings as a result of Regulation Q ceilings," R. Alton Gilbert of the St. Louis Fed pointed out in 1986.

By the late 1970s, it was clear that Reg. Q was not producing the desired results. Money market mutual funds had become major competitors with banks and thrifts for small investment accounts. And Reg. Q was not increasing the supply of funds for mortgages. If anything, it was making mortgage lending more sensitive to the business cycle. In 1980, Congress passed the Depository Institutions Deregulation and Monetary Control Act, which began the phase-out of the interest rate ceilings. By 1986, all Reg. Q ceilings had been eliminated.

BLUFF SCHOOL in Claremont, New Hampshire. Claremont was the lead town in the coalition that sued the state over school funding in 1997.

BY ROBERT TANNENWALD
PHOTOGRAPHS BY MARY KOCOL

Daniel Webster, one of New Hampshire's most famous citizens, once declared, "There is nothing so powerful as truth." For over 50 years, the *Manchester Union Leader*, the Granite State's most widely circulated newspaper, has included this famous quote on its masthead and its editorial page. However, the truth can also be frustratingly complex, as the New Hampshire Commission on Education Funding found as

HEAT, LIGHT, AND TAXES IN THE GRANITE STATE

it analyzed alternative solutions to New Hampshire's education funding problem. The Commission, created by Governor Jeanne Shaheen in April 2000, issued its final report in January 2001. § The Commission's origins can be traced back to a 1997 New Hampshire Supreme Court ruling that the state could no longer rely on local property taxes to pay for its public schools. The Granite State was not the first to see its system of financing education struck down by judicial decree. Over the past 35 years, court decisions have induced at least 19 states, including every state in New England except Maine and Rhode Island, to diminish the role of the local property tax in school funding. § For New Hampshire, however, radical reform of school finance is an especially unsettling prospect. Many of New Hampshire's citizens take great pride in their state's limited, decentralized government. Until the Court decision *(Claremont v. the State of New Hampshire)*, no other state had delegated such a large fraction of its fiscal responsibilities to cities and towns. New Hampshire is the only state, other than Alaska, that levies neither a broad-based personal income tax nor a retail sales tax. (And, unlike Alaska, New Hampshire has no oil upon which to levy severance taxes.) Instead, New Hampshire has relied heavily on the local property tax. Many New Hampshire residents and some economists believe that this strategy has been an important competitive advantage for the state, enabling it to grow faster than any of its New England neighbors for the past several decades. Certainly, the absence of a sales tax has contributed to the growth of malls and many other retail establishments near New Hampshire's border with Massachusetts.

Over the past 35 years, court decisions in at least 19 states have reduced the role of local property taxes in school funding

According to the state Supreme Court's decision (commonly referred to as "*Claremont II*"), the constitutional flaw in New Hampshire's local property tax is rooted in the wide variation in per pupil property wealth across municipalities. Fiscally comfortable towns, such as Bedford, were able to raise ample money for education and other municipal functions with a property tax rate of $17 per $1,000 of property value, while the property-poor town of Berlin imposed a levy more than twice as high. These large differences violate the requirement of the state's constitution that taxes be "reasonable and proportional." The Court further ruled that, given the difficulty of raising sufficient property tax revenues in fiscally stressed towns, reliance on the tax also violated the constitutional duty of the state to provide every school-age child with an adequate education. The Court told the legislature to determine what constitutes an adequate education, how much achieving educational adequacy would cost, and how the funds should be raised — other than through the local property tax.

So, with the bang of a gavel, New Hampshire was confronted with possibly the most challenging fiscal issue in its history. Short of a constitutional amendment directing the state's Supreme Court to "butt out" of the educational funding arena, which was contemplated, significantly higher state taxes seemed inevitable.

In 1999, the state met the Court's mandate with what was then viewed as temporary patchwork consisting of a state property tax, increases in business profits taxes and excise taxes, and tobacco settlement money. The legislature passed an income tax, but Governor Jeanne Shaheen vetoed it. By the beginning of 2000, forecasters were projecting budget deficits in fiscal biennium 2001-2002, and credit rating agencies were warning the state to resolve the issue or see its bonds downgraded. In response to the pressure to craft a long-term solution, the Commission went to work.

Governor Shaheen instructed the Commission to conduct a comprehensive, objective evaluation of revenue options designed to raise $825 million, the amount that the legislature had determined was needed to provide an adequate education for every New Hampshire student in the year 2000. She told the Commission's members that economic competitiveness should be their primary concern: In devising new ways to fund schools, the state must "enable New Hampshire to compete in the new and increasingly global economy." In addition, the Governor directed the Commission to evaluate the impact of each funding option on "particular sectors..., property values, and taxpayers" and to consider whether the option could "provide stable, sufficient, and administratively efficient sources of revenue for the foreseeable future." She instructed the Commission *not* to make recommendations, but simply to evaluate the pros and cons of various alternatives.

The Commission looked at a variety of policy options: taxes on personal income, property, retail sales, value added, gross receipts, capital gains, and purchases of tobacco products and motor fuels. It also considered arrangements in which the state would legalize video lottery terminals and share in a portion of the revenues that their operation would generate. In the end, the Commission focused much of its analysis on three candidates: the property tax, a general sales tax, and the personal income tax.

In evaluating the various alternatives, the Commission used seven criteria:

COMPETITIVENESS. New taxes should not diminish New Hampshire's attractiveness as a place in which to live, work, shop, and invest.

FAIRNESS. The burdens imposed by new taxes should be distributed equitably.

ADEQUACY AND STABILITY. New taxes should generate enough revenue to finance adequate schooling, year in and year out.

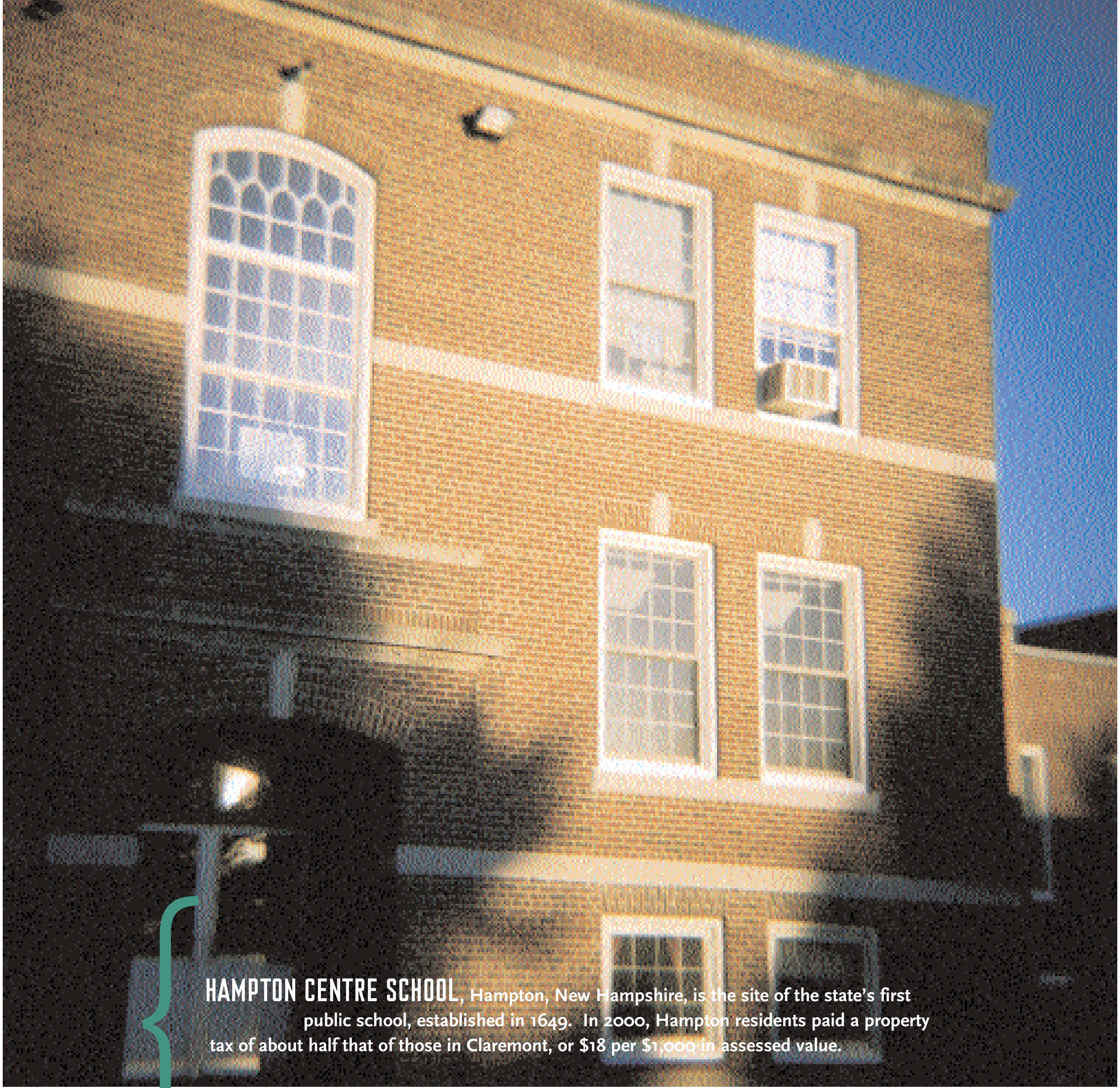
EXPORTABILITY. New taxes whose burdens are borne more by nonresidents are preferable.

NEUTRALITY. New taxes should distort economic choices as little as possible.

SIMPLICITY. A new tax should be simple to administer and impose low compliance costs.

The Commission produced a wealth of analysis, much of which is presented in its report. One conclusion that emerges from this analysis is that there are few simple answers. The most careful and dispassionate empirical studies often produce inconclusive or even contradictory results. Often, the data needed to resolve a particular issue are missing. To some degree, the Commissioners functioned like detectives, relying on a combination of theory, evidence, and common sense to form their judgments.

As the overview to the Commission's report points out, the "Commission found no single tax to be superior — or inferior — on all counts." For example, a sales tax would be more re-



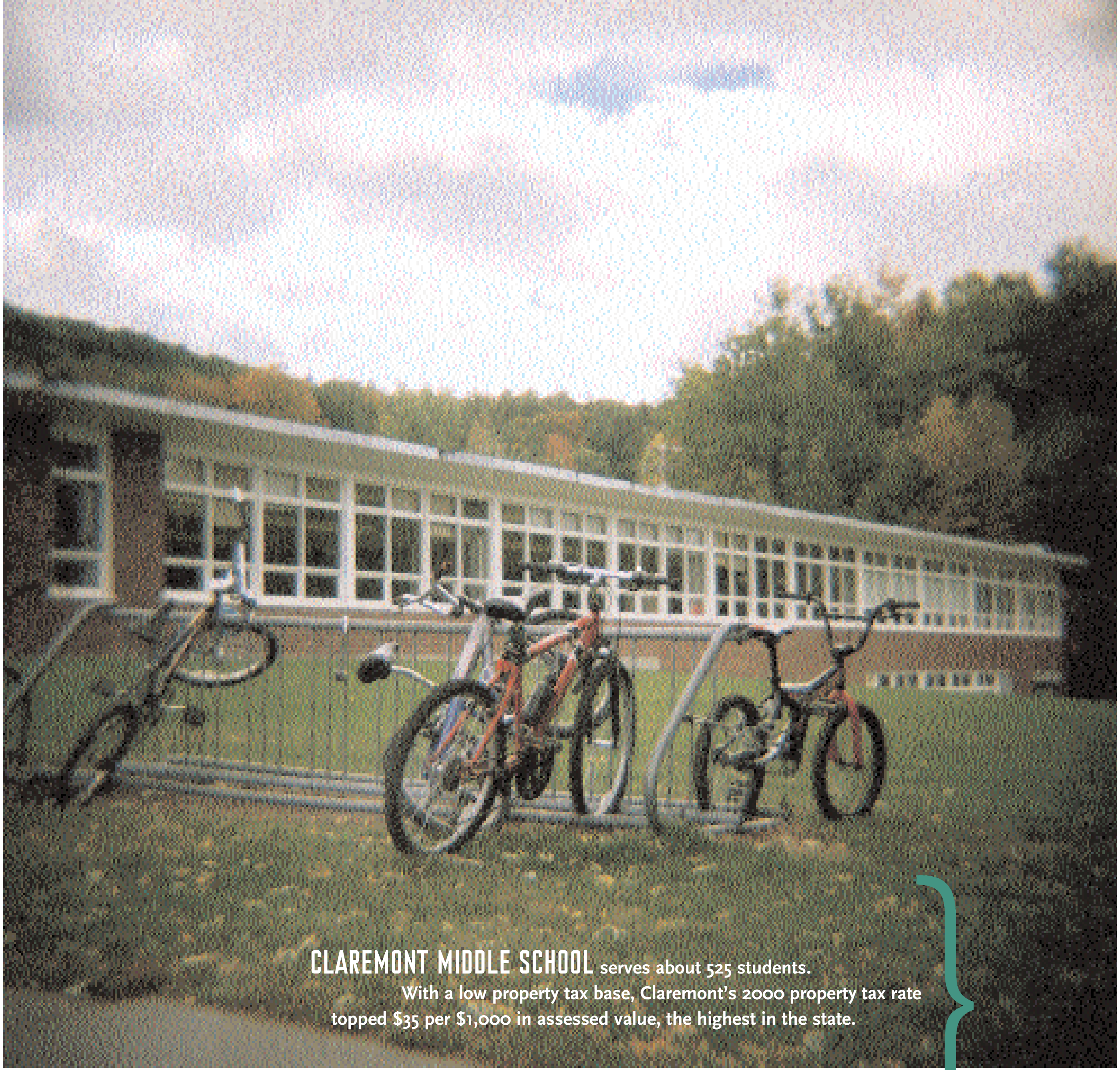
HAMPTON CENTRE SCHOOL, Hampton, New Hampshire, is the site of the state's first public school, established in 1649. In 2000, Hampton residents paid a property tax of about half that of those in Claremont, or $18 per $1,000 in assessed value.

gressive than some of the other alternatives considered; but a larger share of the burden would be borne by non-New Hampshire residents than under other options. While the Commission considered all seven criteria in its evaluations, perhaps the most salient — and controversial — findings related to competitiveness and fairness.

COMPETITIVENESS: WHAT IS THE IMPACT ON JOBS?

In addressing the issue of competitiveness, the Commission estimated the impact on job creation of a state income tax, a state property tax, and a retail sales tax. In each case, it was assumed that the tax would raise $825 million per year, all earmarked for education. The Commission concluded that each tax option would depress New Hampshire's total employment by between 3,000 and 7,000 jobs (0.5 and 1.1 percent, respectively) in the year 2000 relative to the pre-Claremont-decision tax system. The Commission found no consistent evidence that one tax would have a more depressing effect than another.

In arriving at these estimates, the Commission confronted several related questions. First, would the imposition of a new state tax earmarked for education cause school districts to reduce local property taxes by an equal amount? Or would localities cut back only part way, resulting in an overall increase in total state and local taxes and public spending? Based on studies of the experience in other states, the Commission as-



CLAREMONT MIDDLE SCHOOL serves about 525 students. With a low property tax base, Claremont's 2000 property tax rate topped $35 per $1,000 in assessed value, the highest in the state.

sumed that cuts in local property taxes would offset 50 percent of the increase in state taxes, so that total state and local taxes would increase by 50 percent. Second, would the effects of increased state and local taxes be offset by the beneficial effects of increased spending on education? Although employers are attracted to areas with well-educated workforces, a review of the evidence led the Commission to conclude that educational outcomes would not improve sufficiently to compensate employers for higher taxes.

To estimate the effect of the three tax options on employment, the Commission used two approaches. In the "direct" approach, the Commission consulted the economics literature on the effects of changes in state and local tax burdens (measured as taxes per capita or taxes relative to income) on employment levels. From this review of previous studies, estimates were made of the likely employment impact of higher tax burdens in New Hampshire.

In the "indirect" approach, the Commission considered who would bear the burden of each tax. This is one of the thorniest issues in the study of taxation. The imposition of a tax may cause the individuals or businesses paying the tax to alter behavior. This change in behavior may shift the tax burden to other individuals and businesses, causing them, in turn, to alter *their* behavior and shifting the tax burden yet again. Questions of tax incidence permeate all discussions of tax competitiveness.

Because New Hampshire employers compete intensely for workers with firms in neighboring states, the Commission concluded that the imposition of a personal income tax would force firms to pay higher compensation. Some previous research also indicated that an increase in the sales tax would also be reflected in higher compensation costs. The Commission then computed the effect of these higher labor costs on employment using the relationships estimated in previous studies. In the case of the property tax, empirical evidence argues against a shifting of the tax burden to employers in the form of higher labor costs. Yet, many studies have found that the impact of the property tax on employment is similar to, or even greater than, that of other state and local taxes.

ARE NEW HAMPSHIRE PROPERTY TAXES REGRESSIVE?

A comparison of the estimated average property tax burdens of low-income and upper-middle-income households in Lebanon in 2000.

	LOW-INCOME HOUSEHOLDS	UPPER-MIDDLE-INCOME HOUSEHOLDS
RENTERS		
Annual cash income	$15,000 to $20,000	$65,000 to $70,000
Share of households in this income category that rent	80%	10 to 15%
Rent paid, as a share of income	40%	20%
Total property taxes paid by landlords, as a share of gross rent collected	10%	7%
Total property taxes paid by households in this category, as a share of income	4%	1.4%
HOMEOWNERS		
Value of home	$50,000 to $80,000	$225,000 to $275,000
Share of households in this income category that own	20%	85 to 90%
Property tax rate (per $1,000 valuation)	$28.48	$28.48
Total property taxes paid	$1,425 to $2,280	$6,400 to $7,800
Total property taxes paid by households in this category, as a share of income	7.1 to 15.2%	9.2 to 12.4%
OWNERS AND RENTERS		
Total property taxes paid, as a share of income	4.6 to 6.2%	8.0 to 11.3%

Source: New Hampshire Commission on Education Funding

FAIRNESS: WHO BEARS THE BURDEN?

Most would agree that the burden imposed by new taxes should be distributed equitably. But reasonable people can differ on what constitutes "fairness." To some, a fair tax is one that assesses individuals or families according to the benefits they receive from the resulting public spending. Others believe that fairness is achieved by levying taxes according to the ability to pay. In the United States, this usually implies that tax systems should be "progressive," that is, the share of income that an individual or family pays in taxes should rise as income rises. However, what degree of progressivity is "fair" is very contentious. Some people believe fairness requires proportionality; others contend that consumption rather than income is a better measure of households' ability to pay taxes.

The Commission analyzed how each new state tax would affect the tax burdens of New Hampshire residents by income class. To highlight the different distributional effects of the tax alternatives, the Commission assumed that local taxes were reduced by the amount of the state tax increase; in other words, total tax revenues did not change. The tax burden for each income class was measured as total state and local taxes paid by residents in that class divided by their total money income. Money income includes not only wages and salaries, dividends, interest, pensions, and realized capital gains, but also cash transfers from all levels of government, such as public welfare, unemployment insurance payments, and Social Security.

In analyzing fairness, the Commission made somewhat different assumptions about tax incidence than it did in assessing competitive implications. For the most part, the Commission assumed no shifting; tax burdens fall on those incurring the tax liability. Thus, the burden of sales taxes on consumer goods and services is borne by households in proportion to the value of their taxable purchases, and the burden of income taxes is borne by households in proportion to their taxable income. While data limitations contributed to this decision, it also reflected the mindset of Commission members. They understood that taxes "stick where they hit" for a considerable period of time. Tax burdens are shifted only after some taxpayers change their behavior to reduce their exposure. These behavioral changes, such as moving to another state, are often costly and time consuming. Until they are completed, those initially liable for a tax bear much of its burden. Commission members were especially interested in analyzing how tax burdens are distributed before shifting occurs because other widely circulated studies of the fairness of New Hampshire's taxes have adopted this perspective. The Commission wanted a clear comparison between its findings and those of other evaluations.

The Commission found no clear evidence that any of the tax options would have a larger impact on competitiveness

An important exception to the general assumption of no shifting pertained to property taxes on residential rental property. The burden here was assumed to be borne by tenants in proportion to their rent. Given New Hampshire's tight housing markets, it seemed reasonable to think that landlords would pass on higher property taxes to their renters.

As an indicator of fairness, the Commission computed the ratio of the tax burden of the highest income class to that of the lowest income class under each tax scenario. The higher the ratio, the more progressive the tax system. The Commission found the substitution of income taxes for a property tax would generally make New Hampshire's tax system more progressive, while the substitution of taxes on consumption, such as various forms of sales taxation, would make the system less progressive. The Commission concluded that the substitution of a state property tax for local property taxes would not significantly change the fairness of the state's revenue system.

Although the Commission found that the introduction of an income tax would be most progressive, it also found — much to the surprise of many in New Hampshire and contrary to the conclusion of other studies — that the current tax system, heavily dependent on the property tax, is also relatively progressive. It is commonly believed that property taxes impose a higher burden on low-income households than on high-income households. For homeowners, this perception is correct. Most of the widely circulated studies focus their analysis on homeowners, or on a segment of the population (such as the married nonelderly) where the incidence of homeownership is unusually high. To some degree, this is understandable; 70 percent of New Hampshire households own their own home. However, the incidence of homeownership is distributed very unevenly across income groups. Homeownership is much less common among the poor than among the well-to-do, and including renters in the analyses changes the results significantly.

The substitution of income for property taxes would tend to make the system more progressive; a sales tax less so

According to conventional wisdom, the property tax burden of low-income renters is high, at least as high as the burden borne by low-income homeowners. It is usually assumed that landlords shift much of their property tax burden to their tenants in the form of higher rent. However, even if this is true — and the Commission assumed it is — renters and homeowners in a given income class may not face comparable tax burdens. Indeed, the Commission found that, other things equal, the renter is likely to bear the lower burden.

To appreciate how the Commission came to this conclusion, consider the example in the table, "Are New Hampshire Property Taxes Regressive?" Susan Almy, a New Hampshire state representative initially skeptical of the Commission's conclusion, asked two landlords renting low-income units in her hometown of Lebanon for their total property taxes and total gross rental collections in 2000. In each case, the ratio of property taxes to rent was about 10 percent. Suppose (1) that this ratio is generally representative of low-income renters in Lebanon; (2) that their rent is, on average, about 40 percent of income; and (3) that landlords pass on all property taxes to tenants in the form of higher rents. Then, the property tax burden of the average low-income renter in Lebanon in 2000 would be about 4 percent of income (that is, 10 percent x 40 percent).

What about Lebanon's low-income homeowners? Real estate listings suggest that the average house or condominium owned by households with incomes between $15,000 and $20,000 is worth between $50,000 and $80,000. The property tax bill on such a property would be between $1,425 and $2,280. Thus, the average property tax burden would be between 7 percent and 15 percent of income. Since only about 20 percent of Lebanon's low-income households are homeowners, the average property tax burden of all low-income households, combining both renters and owners, is between 4.5 percent and just over 6 percent.

Compare these figures to similar calculations for households earning $65,000 to $70,000 a year. Renters at this income level pay about 20 percent of income as rent, and the percentage of rent covering property taxes is probably closer to 7 percent than 10 percent, since more of their rent goes towards amenities such as better maintenance and security. Thus, their property tax burden would be about 1.5 percent. In contrast, as the table lays out, the property tax burden on homeowners in this income class would be between 9 percent and 12.5 percent of income. Since 85 percent to 90 percent of households in this income category are homeowners, the average property tax burden for upper-middle income households, both renters and homeowners, is between 8 percent and 11 percent.

Critics of the Commission's analysis point out that it fails to evaluate the distributional impact of the property tax among households with incomes above $70,000. These account for about one-third of all New Hampshire households. For this income group, New Hampshire's property tax is very likely regressive. However, much of the concern about the regressivity of the property tax centers on lower-income households; and here, as demonstrated, tax burdens are not as heavy as commonly thought.

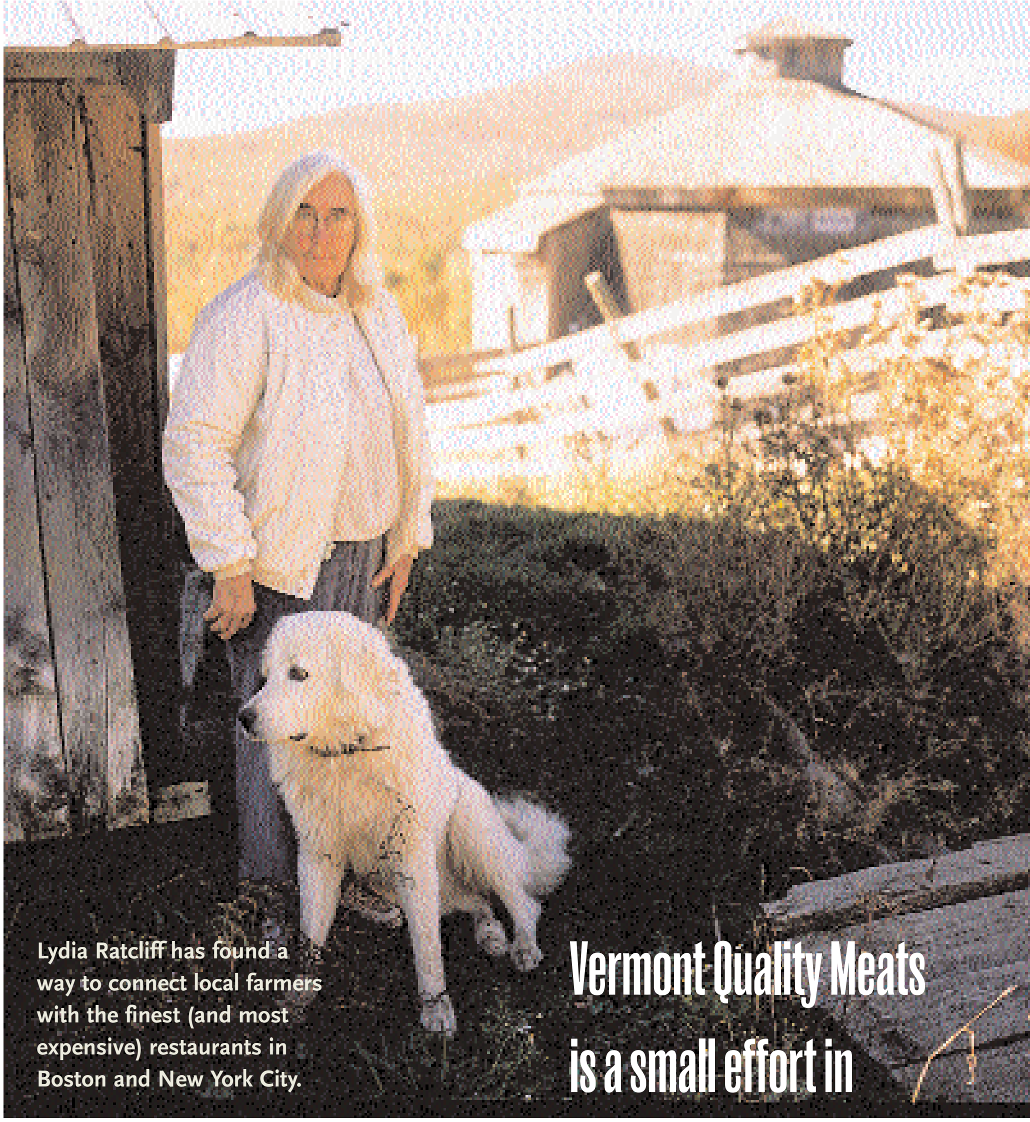
POSTSCRIPT

After the Commission issued its final report, Governor Shaheen recommended the imposition of a 2.5-percent sales tax dedicated to school funding. The state legislature rejected her plan, as well as an alternative broad-based tax on consumption and a personal income tax. The legislature eventually opted to meet its school funding requirement by retaining the statewide property tax, raising business taxes and the telecommunications service tax, and eliminating an exemption from the real estate transfer tax.

The future remains uncertain, however, as the constitutionality of the state property tax might be successfully challenged. In January 2001, a judge in Rockingham District Court ruled that the tax violated the state constitution. In May, the state Supreme Court, in a split decision, reversed that ruling but left the door open for future challenges. Additionally, the communities that filed the original Claremont suit have declared their intention to go back to court to challenge the manner in which the state has determined the price tag of providing adequate schooling for every educable child in the state.

As Daniel Webster knew, and the Commission found out, in order to shed a little light, you have to generate a little heat. One hopes that state policymakers have found more of the former and less of the latter in the Commission's report and, and that they will find it a useful tool as they continue to deal with New Hampshire's school funding dilemma. ☼

letter from
Andover, Vermont



Lydia Ratcliff has found a way to connect local farmers with the finest (and most expensive) restaurants in Boston and New York City.

Vermont Quality Meats is a small effort in the struggle to save the region's family farms

By Susan Ritz § Andover is one of those "blink and you'll miss it" towns that snuggles in the rolling hills of Vermont—a place you might stumble upon if you drive the back roads between the resort areas of Manchester and Ludlow. A tiny town hall, a white steepled church, and the Over Andover used bookstore make up the village center. The surrounding countryside shows the changing face of Vermont's rural areas. A few hobby farms still limp along here, while others have been transformed into the B&Bs and antique shops that are replacing farming as the area's economic mainstay. § But on a high ridge above the village, one farm has managed to buck the trend, thanks to the tough-minded woman who owns it. Lovejoy Brook Farm is the home of Lydia Ratcliff and the central office of Vermont Quality Meats, a cooperative she founded in 1999 to help keep livestock farmers like herself in business. Ratcliff and other co-op farmers supply New York and Boston's finest restaurants with top-quality lambs, pigs, veal, goats, and even deer. Thanks to Ratcliff and Vermont Quality Meats, the demanding diners of the Northeastern elite are now savoring the kind of naturally raised meat they once thought could only be found in

photograph by joshua dalsimer

Tuscany or Provence. And as a result of the boom in fine dining, co-op members are now getting top dollar for livestock they used to sell to auctioneers and slaughterhouses for far less.

If you stop by the farm, you may find Ratcliff busy in the kitchen of her 1810 farmhouse chopping carrots and celery for chicken soup made from her own chickens. The kitchen reflects her rugged simplicity. Copper pots hang from the rough-hewn beams, and the ceiling is darkened by years of cooking smoke from the old cast-iron stove. A steady drip of water sounds in the deep soapstone sink.

Ratcliff, now 67, lived most of her early life in Europe and in and around New York City. She started out as a business writer, coming up from New York to camp in Vermont on the weekends. The money she made writing the best-selling *Sylvia Porter's Money Book*, published in 1975, allowed her to become a full-time Vermont farmer.

She began her own business selling pigs to neighbors and other local buyers, but she soon realized there was a greater market to be tapped outside Vermont. Her big city background and nose for business led her to the high-end restaurants in New York and Boston. "I figured out early on that I had to sell retail, not wholesale, so that all the money didn't end up going to the auctioneers and the distributors."

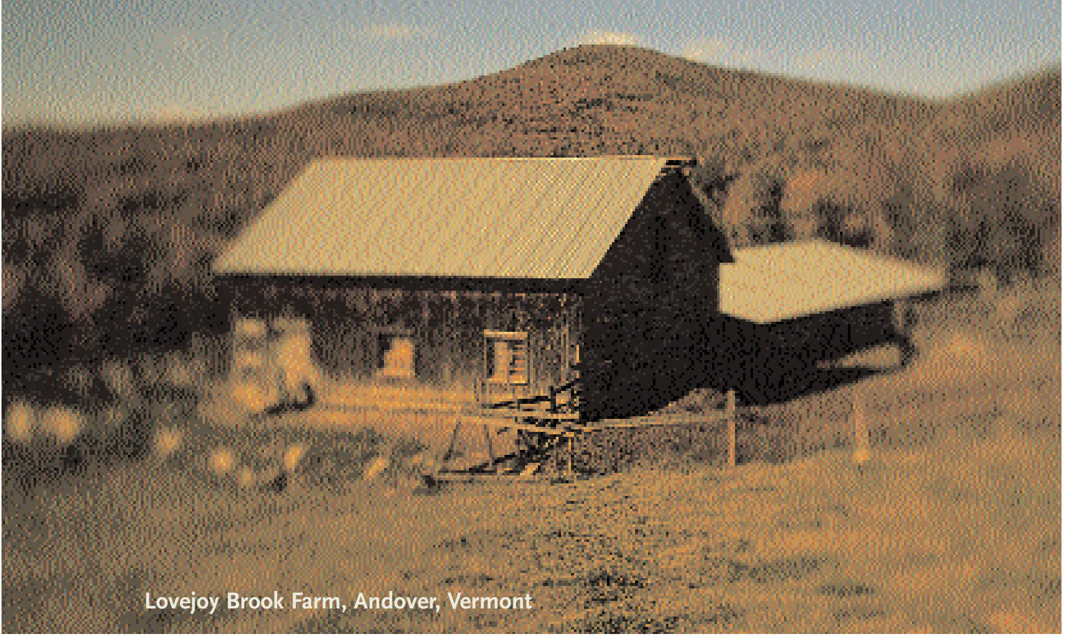
Ratcliff was also a front-runner in the natural meats industry, advertising "livestock raised on nonmedicated grain, homemade hay, and green pasture" on her first sales flyers back in the 1970s. She added sheep, goats, chicken, and veal to her livestock, creating one of the few diversified farms around, a practice she wishes more farmers would emulate. Remembering how animals were raised on the small Italian and French farms she'd seen in her youth, she dedicated herself to producing top-quality animals using humane farming practices. Ratcliff lets her calves roam freely around the barnyard, where they drink real milk instead of the milk substitutes that most commercial veal is raised on. The result, rhapsodizes Boston's Sel de la Terre chef and long-time customer Geoff Gardner, is "quality not to be believed! You can tell the moment you look at it. This veal has a dark pink color and flavor that you just can't find anywhere else."

As demand for fresh meat and locally grown products exploded in the 1990s, Ratcliff couldn't keep up with the orders from customers like Gardner. So she and colleague Jean Audet looked around for ways to expand. With a $6,000 startup grant, they established the Vermont Quality Meats Cooperative, and used the grant money to set up an office and recruit members. "We cast our net far and wide and brought in farmers from around here, and as far away as New York and New Hampshire." Today almost 50 members are profiting from Ratcliff's marketing and farming strategies.

Judith and Charles Eirmann of the Capricious Goat Dairy in Pawlet, Vermont, were

Co-op members are now getting top dollar for livestock they used to sell for far less

Ratcliff produces top-quality meat by raising her animals under humane conditions and feeding them natural grain.



Lovejoy Brook Farm, Andover, Vermont

among the first to join. "Our son had bought a goat from Lydia years ago; that's how she knew about us," says Judith. The care the Eirmanns bestow on their animals produces exactly the kind of high-quality meat required by co-op standards. "I hate to sell my goats because I raise them like pets with lots of good food and special attention." But the extra work has paid off. "We paid a $250 joining fee," notes Judith, "[but] made that back right away. We used to get 80 cents a pound for our buck kids. Now we get between $3.50 and $5.00." Like other co-op members, the Eirmanns also take on some of the co-op's administrative work. "This year," says Judith, "I'm coordinating goat inventory."

To find new customers, Ratcliff went through *The Zagat Survey* and cruised the streets of Boston and New York searching out restaurants that had "the look." She only approached restaurants with meal prices above $35 because "they were the ones that could afford us." Once her reputation spread, she had no trouble signing up new chefs. Vermont Quality Meats can now be found at such famous food haunts as Daniel, Chanterelle, and Gramercy Tavern in New York, and L'Espalier, Biba, and Aujourd'hui in Boston.

Direct delivery is another trick-of-the-trade that Ratcliff has passed on to co-op members, and Ratcliff still takes her turn at the New York route. When it's her turn to drive, she loads up a refrigerated truck at the Fresh Farms Beef slaughterhouse near Rutland, and sets out with an assistant well before dawn. In 12 hours, she can hit up to 35 restaurants. At each stop, Ratcliff checks out the order—a whole baby lamb, a side of veal, or a goat—and her assistant hoists it over his shoulder and carries it into the kitchen. Sometimes, she spends a few minutes chatting in French or Italian with the chefs who have become both fans and friends. Some even plan their menus around her products.

Ratcliff remains the major force behind the co-op's operations, although it is only one of her daily occupations. Managing her own farm, which spreads out on two sides of the road, is a full-time job in itself. Across from the house, barns for 70 sheep and 100 lambs nestle into hills that roll out across a hazy mountain backdrop. Ratcliffe cuts costs and improves sales by shipping the lambs at an early age, a technique she's passed on to co-op members. "You don't have to pay for months of feed, and you get the kind of tender baby lamb that chefs want."

Up the hill, three Jersey cows head from the field to the 12-sided round barn with a gingerbread-pattern roof that Ratcliff designed in her early years on the farm. A smaller barn next to it houses 30 goats and 50 kids. With the help of only a few part-time assistants, Ratcliff does the lion's share of work herself. "There's a part of me that wants to do the dirty work," she says.

For all its success, Lydia Ratcliff knows that Vermont Quality Meats is a small effort in the struggle to save Vermont's family farms, but she says, "I believe it's better to have a small legacy than no legacy, to do something rather than nothing." For dozens of New England's small towns and villages, saving one or two farms at a time is one step toward maintaining a quality of life and a quality of food that no one wants to lose. ✳

Susan Ritz is a freelance writer and adult education teacher from Montpelier, Vermont.

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