

SPRING 2009

REGION FOCUS

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Reforming the CREDIT RATERS

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Our mission is to provide authoritative information and analysis about the Fifth Federal Reserve District economy and the Federal Reserve System. The Fifth District consists of the District of Columbia, Maryland, North Carolina, South Carolina, Virginia, and most of West Virginia. The material appearing in *Region Focus* is collected and developed by the Research Department of the Federal Reserve Bank of Richmond.

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The (Limited) Role of Credit Ratings in the Financial Crisis



The cover story of this issue of *Region Focus* seeks to frame the policy debate about the future of the credit rating agencies. It's certainly a timely discussion. When financial institutions began to post significant losses, some observers suggested that many financial institutions had invested in new, complex securities — some of which have been downgraded to junk status

today — mainly because those assets were at that time given a seal of approval by one of the “Big Three” rating agencies. Some of the reform proposals being discussed in Washington are geared toward eliminating what many argue were conflicts of interest that arose in the course of awarding those ratings.

It's important to acknowledge the concerns that many have about the agencies and how those agencies might have influenced the quality of investor information. After all, clear and reliable information is an important component of a properly functioning market. If an investor doesn't understand how a securitized asset is constructed — maybe because it is too opaque or simply too confusing to understand — market discipline may be weakened. Either a lack of transparency or a lack of comprehension by the buyer of an asset can lead to little or no check on the originators and underwriters of those securities.

Yet it may not be entirely appropriate to blame the apparent shortcomings of the securitization markets simply on the complexity of the products. If indeed that complexity raised sufficient concern among investors, it should have been reflected in the prices of those assets. And if those risk premia were not as high as we think they should have been after the fact, an undeserved credit rating may not have been the only contributing factor. It could be that investors simply had an incorrect view of the future of the economy or of particular institutions.

Nor is it appropriate to place all the blame with the credit rating agencies. Yes, an investor's false sense of security may have been reinforced by the inflated grade given to a securitized asset by the rating agencies. But intelligent institutional investors also probably had some understanding that the ratings awarded by the Big Three agencies were flawed in certain respects. That could have just as easily been factored into the price too. And indeed it was, to some extent, as structured securities routinely traded at spreads greater than similarly rated, but less complex,

corporate bonds. This leads one to question the extent to which investors had a competing incentive to ignore countervailing information about the potential riskiness of the securitized assets they were buying.

One plausible reason investors bought these securities involves the incentives built into the capital requirements that financial institutions must observe. Credit ratings issued by the agencies were used to assign “risk weights” to the securities banks held. If the grade was high, banks could hold less capital as a buffer against losses. That gave banks an incentive to hold the highest-yielding (that is, riskiest) securities with any given rating — in short, potentially over-rated securities.

Such a strategy might seem especially desirable to certain financial institutions if market participants believed the federal government would treat those institutions as “too big to fail” and would take action to keep them alive in the face of impending insolvency. This implicit promise to bail out institutions considered important to the stability of capital markets could have dampened market discipline no matter how good the information produced by rating agencies and others might have been.

When the government is in the business of protecting a certain class of investors and institutions against downside risk, it should be no surprise that those investors and institutions are more likely to take on risk. It should also be no surprise that information which might have spurred caution might be given less attention in such cases.

Better information — whether through a reformed rating process or through increased disclosure — could contribute to better functioning markets. But better information alone will not be sufficient to bring effective market discipline to bear on institutions that are widely viewed as too big to fail. What will be necessary is a widespread belief among investors that the government will not necessarily protect large institutions which make imprudent investments. So far, investors have little reason to believe that is the case. Indeed, quite the opposite. Establishing tighter boundaries on the financial safety net — and making those boundaries well known and credible — is a key task facing policymakers.

A handwritten signature in black ink, appearing to read "Jeffrey M. Lacker". The signature is fluid and cursive, written in a professional style.

JEFFREY M. LACKER
PRESIDENT
FEDERAL RESERVE BANK OF RICHMOND

Backyard Burn

Coastal Wildfire Risk Swells with Population

The worst wildfire in more than 30 years burned nearly 20,000 acres and sent smoke billowing over the Grand Strand near Myrtle Beach, S.C., in April after a backyard debris burn spread to an adjacent property.



A wildfire near Myrtle Beach, S.C., burned about 20,000 acres last spring.

No one was injured, but the fire destroyed 75 homes and damaged 101 more. Four thousand people were evacuated.

South Carolina's coastal development has mushroomed since the biggest fire on record, the Clear Pond Fire. In 1976, that fire burned 30,000 acres. The residential boom raises questions about what's become a problem, not just in South Carolina, but across the nation as people settle in retirement or vacation communities near the woods. This fire, for example, threatened thousands of homes. The fire came close to major developments like Carolina Forest and Barefoot Landing.

Most fires are caused by people. South Carolina Forest Protection Chief Darryl Jones says that his agency responds to between 5,000 and 6,000 fires a year, many started by people trying to burn leaves or yard trimmings. Some 88 percent of the 12.9 million acres of forest in South Carolina are privately owned.

As destructive as wildfires can be, especially near residential areas, fires serve to manage forest floor litter and that prevents worse fires. "Wildfires in forests are a part of the natural disturbance regime," says economist Roger Sedjo, who directs the forest economics and policy program at Resources for the Future, a Washington, D.C., think tank. But suppression becomes a priority when human life and development are threatened.

Living near forests presents risks. Sedjo notes that the "insurance market has begun to adapt to these differential risks" especially in

the West. It makes more sense for the people whose assets are at risk to bear the cost of fire suppression, so society doesn't pick up the whole tab. Jones says that his agency is working with insurance companies to consider factoring the risk of fires into insurance rates.

To fight the South Carolina fire, the commission got help from local fire departments as well as the United States National Guard. The Guard sent Black Hawk helicopters outfitted with 750-gallon buckets to scoop water from ponds to drop on the blaze. The Federal Emergency Management Agency will help South Carolina pay the Guard. Damage estimates from the fire fighting alone reached \$1.5 million. Damage to timber is estimated at between \$15 million to \$20 million, with about \$25 million in damage to homes.

There's ongoing debate about how budgets, for example in the United States Forest Service, are allocated between suppression of wildfire and prevention. Sedjo says that most of the money today goes to fire fighting when "there are obvious things people might do to decrease the probability that their house might burn down."

The South Carolina Forestry Commission is responsible for forest fires in rural areas of the state, and fights them with its fleet of fire tractor-bulldozers that plow firebreaks. Each machine costs about \$250,000. Without a buffer zone of about 30 feet to 40 feet between the house and the woods, it's not safe for firefighters. Some materials to avoid include vinyl siding, wood stacked near the home, and certain types of flammable shrubs and mulch.

The fire still smoldered underground well into May, requiring the commission to monitor the area with heat sensors, amid an unusual coastal feature known as the "Carolina Bays." Those are elliptical depressions dotting the Southeast containing peat bogs and flammable material.

—BETTY JOYCE NASH

Lead Foot

Traffic Tickets Rise in Recessions

When the stock market declines and unemployment rises, it might be a good idea to pay a little extra attention to local traffic laws.

Recent studies have found evidence that police use traffic tickets to generate revenue during hard economic times, like when tax receipts flag during recessions. Economists Thomas Garrett from the Federal Reserve Bank of St. Louis and Gary Wagner from the University of Arkansas at Little Rock in a 2006 paper find that the number of traffic tickets rise after state revenue sources fall. The economists studied data from counties in North Carolina from 1990 to 2003.

One implication of these findings is that police face a choice about how stringently to enforce traffic laws. Individual officers can choose whether to pull someone over, issue a ticket (and, to some degree, what the fine will be), or simply warn a driver.

“Clearly the police’s primary motive is public safety,” says Garrett, “but the revenue motive does appear to come into play.”

Once you consider that local police respond to incentives, perhaps it shouldn’t be a surprise that the revenue motive induces officers to issue more traffic tickets. “There is a lot of literature out there that suggests local governments are revenue maximizers,” Garrett says. “Whether you think that’s good or bad, it suggests they’ll look for alternative sources for revenue when existing revenue sources become constrained.”

This explains why nonresidents of a municipality may be issued more traffic tickets and bigger fines than residents, according to economists Michael Makowsky of Towson University and Thomas Stratmann of George Mason University in a 2009 paper. They studied municipalities in Massachusetts, and compared the outcomes of drivers pulled over for speed violations. Their probability calculations found that out-of-town and out-of-state drivers got more tickets than residents, by 11 and 21 percentage points, respectively. This occurred even though speeders who were pulled over drove the same number of miles per

hour over the speed limit, on average.

Their study also finds that municipal officers are more likely to issue tickets after local voters have rejected increases in certain taxes. Then the prospects for out-of-town drivers get even worse: Their probability of receiving a fine after being pulled over increases by 38 percentage points. This effect disappears if voters have approved the tax increase.

This suggests that local police use traffic citations to generate revenue from a previously untapped group: those who pay no local property or income taxes. Also, Makowsky and Stratmann hypothesize that targeting nonresidents could provide a source of revenue from a group that is unable to retaliate come election day. Local police often report to elected officials who would be worried about such an outcome.

“I think if this form of revenue generation was subject to voter approval, maybe the fines would be lower,” says Garrett. “But then maybe they’d just have more tickets being issued to compensate for the lower fine.”

Raleigh Police Department spokesperson Laura Hourigan says that officers are not instructed to use tickets to recoup revenue during downturns, and that traffic citations are just one aspect of a police officer’s job description. “Their responsibilities are to keep our roads safe, our streets safe, and our citizens safe,” she says. In her view, it’s an old wives’ tale that officers intentionally write a greater number of tickets to get more revenue for the city at any particular time, let alone during recessions.

Garrett proposes an interesting way to further test the theory that local police forces consider revenue when allocating resources toward issuing traffic tickets. “If the concern is purely about public safety, I would suggest that all revenue be donated to charity,” he says. “If there is no revenue motive, we would expect the number of traffic tickets to stay the same.”

— RENEE COURTOIS

Consumer Loans

Law May Constrain Payday Borrowers

The South Carolina General Assembly overrode a gubernatorial veto of a bill that requires the creation of a database to track whether borrowers have outstanding loans elsewhere.

The state will now contract with a third party to provide the database, and that company will be allowed to charge payday lenders a fee to determine consumer eligibility. Companies can pass half of the fee — which cannot exceed \$1 per completed transaction — onto their customers, says Jamie Fulmer, director of public affairs for Advance America, the nation's largest payday lender, which is based in Spartanburg, S.C.

The new rules specify that borrowers will be allowed to take only one loan at a time, face a one-day break between each of the first seven consecutive loans and a two-day break between loans after that. The maximum allowable individual loan will increase from \$300 to \$550.

Both the South Carolina House of Representatives and Senate overrode the veto by a wide margin. Governor Mark Sanford worried the lending database would violate consumers' privacy, according to newspaper reports. He also argued the bill could make people's financial situation worse or drive them to illegal loan sharks and unregulated Internet lenders.

Payday loans are small, short-term consumer loans designed to be repaid in a single lump sum. Borrowers only need to provide a pay stub, bank statement, and driver's license. Lenders typically won't conduct a credit check of prospective borrowers but may investigate whether the applicant has a checking account. If approved, the borrower typically writes a postdated check for the loan amount plus a finance charge, and receives the loan amount in exchange. The lender will hold the check until a future date, in most cases, two weeks. In some states, borrowers can renew loans before their postdated check is deposited, and incur additional fees.

In the Fifth District, South Carolina now joins Virginia in tracking borrowers' activity and the imposition of a cooling-off period between loans for repeat borrowers. No storefront payday lenders operate in Maryland, the District of Columbia, North Carolina, or West Virginia.

Most states cap interest rates on consumer loans, usually in the double digits. Payday lenders often can't profitably operate in states with such laws because their customers are often relatively risky borrowers. Maryland, West Virginia, and the District of Columbia each cap interest rates.

More than 22,000 outlets make payday loans to consumers nationwide. Typical payday borrowers earn between \$25,000 and \$50,000 a year. Nearly 70 percent of customers are under 45 years old, most are married, and 42 percent own homes. Payday borrowers are typically "early life-cycle, moderate income, credit constrained consumers," write Gregory Elliehausen and Edward C. Lawrence in a 2008 *Contemporary Economic Policy* article.

Lenders in South Carolina currently charge \$15 for every \$100 borrowed, for an annual percentage rate of more than 400 percent. However, annual percentage rates for overdraft protection, offered by banks, and for cash advances on credit cards can be even higher. Rates for \$100 bounced checks including merchant fees, credit card balances with late fees, and utility bills with reconnect fees may add up to finance charges of 1,000 percent.

Consumer advocacy groups condemn payday lenders. They argue payday loans are debt traps that pose hardships for borrowers. However, in a Federal Reserve Bank of New York staff report, Bank economist Donald Morgan and Cornell University doctoral student Michael Strain studied the effects of legislation against payday loans in Georgia and North Carolina. They found residents of both states bounced more checks than residents of states where payday loan laws did not change. The researchers also found more Georgians and North Carolinians complained to the Federal Trade Commission about debt collectors.

Since he started studying payday lending in 2005, Morgan says more states have banned or regulated the practice. The next big research question, Morgan says, is why some states regulate the loans more strictly. "It's not the borrowers themselves who are pushing to have these laws changed," he says.

— DAVID VAN DEN BERG

Virginians Snap Up Personalized License Plates

Who's so vain? Virginia is, according to the American Association of Motor Vehicle Administrators (AAMVA). The organization found in a 2007 survey that Virginia ranks No. 1 in the percentage of all registered vehicles with vanity license plates. They feature a personally chosen number, letter, or symbol combination.

The AAMVA's study estimated that almost 4 percent of all registered motor vehicles in the United States are "vanitized," equaling about 9 million total plates. But in Virginia, about 16 percent of all vehicles have vanity plates. New Hampshire came in second at 14 percent, and Texas was dead last at 0.56 percent.

"People seem to just really love personalized plates," according to Melanie Stokes of the Virginia Department of Motor Vehicles (DMV). "It's a fun way to put your personality on your car. Virginians really have fun with it and the DMV really enjoys administering it."

Why are Virginians so eager to express themselves? According to economist Erik Craft at the University of Richmond, there are several reasons. In 2002, he used data collected from each state, with the help of the Virginia DMV, to figure out which factors affect the number of vanity plates you see on the road.

According to Craft's study, one of the biggest determinants of vanity plate demand is the age range of the population. States with more 25- to 34-year-olds tend to have more vanity plates.

"Younger people want to stand out," Craft hypothesizes. "Single, young people may tend to be at the point where they want to make a statement with their style and attract attention." If a state requires license plates mounted front and back, as in Virginia, then the proportion of cars with vanity plates rises even more, according to Craft's study, because the impact of personalizing your car is even greater.

Craft's study also found that vanity plates and "specialized license plates" are complementary goods. States that offer these specialty-background plates that endorse some

university, civic group, or nonprofit organization sell more vanity plates too. By the time a driver has gone to the trouble to order a special background image for his plate, choosing a number and letter combination requires little extra effort.

Virginia offers more than 200 specialty plate styles. Each costs an extra \$25, and yet more specialty plates are issued than vanity plates. Stokes reports that specialty plates generate almost \$3 million for special groups and universities, including more than \$404,000 for the Department of Game and Inland Fisheries through proceeds from the Wildlife Conservationist plate, which is the most popular.

But perhaps the biggest reason that Virginia's drivers are so expressive is that it costs so little. In Virginia, a vanity plate costs only \$10 at the time of purchase in addition to the usual vehicle registration fee, with a \$10 annual renewal fee. Compare this with Minnesota, which charges \$100 initially. The Virginia DMV also estimates that it takes about four minutes to buy your plate online. At prices like these,

Virginians have shown more interest in being whimsical on their plates.

Though a state-by-state comparison of vanity plate demand hasn't been repeated since 2007, Virginia residents need only to look around to know whether their counterparts continue to express themselves in abundance. A recent stroll through the Richmond Fed's parking garage one morning revealed a wide range of vanity plates, touting everything from a sweetheart's name to a favorite NASCAR contender. None were Fed related.

— RENEE COURTOIS



Capital Cushions

BY STEPHEN SLIVINSKI

The Basel Accords and bank risk

The recent “stress test” the federal government conducted on the nation’s biggest banks was an attempt to ascertain whether those depository institutions could withstand a market downturn. This new form of bank examination was meant to quell some of the uncertainty among investors about the value of the assets the banks were holding on their balance sheets as well as whether these banks had enough capital on hand to keep them standing in the wake of an extended economic storm.

Banks can finance their operations

through the interest payments made by borrowers.)

When a bank borrows money to fund its operations, this creates a liability that can cause the bank to fail if it cannot meet its repayment obligations. On the other hand, the revenue generated by a stock sale is considered “capital” since it can be used to pay off depositors or bondholders if necessary. Thus, the larger the portion of the bank’s operations that are financed by capital funds, the more losses the bank can absorb.

Measuring how much capital a bank has on hand relative to its assets has become an important function of the bank regulatory system. The main regulators of the U.S. banking system — the Federal Deposit Insurance

Corporation, the Federal Reserve, and the Office of the Comptroller of the Currency — have routinely examined banks for years to measure the adequacy of their capital cushion, among other things.

One of the metrics by which this adequacy is measured is a capital-to-assets ratio. While this

based on are relatively new. Before the 1980s, bank supervisors did not impose a specific quantitative capital requirement on a bank. Instead, through most of the country’s history, an institution’s solvency was based largely on an examiner’s judgment. Supervisors had the freedom to take a look at each bank individually and use formal and informal measures and their knowledge of each bank’s circumstances to form their views.

Rigid adherence to something quantitative like a capital ratio was still widely perceived to discourage a more comprehensive and thoughtful analysis of a bank’s potential solvency in the face of an economic shock. For instance, the American Bankers Associations 1954 “Statement of Principles” explicitly rejected the use of ratios as a centerpiece of bank supervision. Even as late as 1978, the FDIC Manual of Examination Policies — the rulebook for that agency’s bank auditors — instructed their examiners to use capital ratios as only “a first approximation of a bank’s ability to withstand adversity. A low capital ratio by itself is no more conclusive of a bank’s weakness than a high ratio is of its invulnerability.”

This was a sustainable strategy for bank examiners from the 1940s through the early 1970s. Bank failures were few in number and in scope during that time. The dollar-weighted average capital ratio for the banking industry remained healthy also, ranging from 6 percent to 8 percent between 1950 and 1970.

The high-inflation environment of the mid- to late-1970s led to high interest rates that severely weakened large banks and the savings and loan (S&L) industry. In 1981, the federal regulators introduced an explicit capital ratio requirement for the first time. It consisted of a “leverage ratio” of primary

Bank Capital Ratios Have Risen Since the 1980s



SOURCE: FDIC Historical Statistics on Banking

in two ways. They can borrow money — or accept more deposits from their customers, which by definition is a form of borrowing since the bank is required to return the full deposit balance if demanded by the customer — or they can sell stock. Banks can then turn around and lend this money to others. (The loans the banks extend to others are considered assets since they generate income for the bank

might sound like a simple concept to operationalize, the proper role for the ratio in regulatory policy is far from settled. In addition, current events have raised questions regarding the old assumptions about how best to define a bank’s capital cushion.

A Brief History

The numeric standards that the current capital adequacy requirements are

capital (mainly the amount of stockholder equity) to average total assets (an average of aggregate assets over a set time period, usually two years). Congress furthered the push by passing the International Lending and Supervision Act of 1983 (ILSA). The legislation ushered in a common definition of uniform capital requirements for all bank regulatory agencies to use.

In 1985, under the auspices of ISLA, the standard mandated capital ratio for banks converged on 5.5 percent of total assets. Any bank operating at a leverage ratio of 3 percent was declared unsound and was required to comply with federal enforcement actions.

By 1986, however, regulators began to realize that the ratio failed to differentiate between different sorts of risks on the bank's balance sheets. The simple ratio, by definition, ranked all assets as being equally likely to maintain their value. But during the 1980s, financial markets were becoming vastly more international in scope and innovations in financial products were introducing a new element of risk into bank holdings. Besides, many banks were beginning to move away from lower-yielding liquid assets while also experimenting with "off-balance-sheet" activities that would allow them to make certain higher-yield (but riskier) investments. Under the old rules, they didn't have to increase the size of their capital cushion as a result.

The Basel Accord and U.S. Policy

In the summer of 1988, central bank governors from the 10 biggest economies (also called the Group of Ten, or G-10) met in the town of Basel, Switzerland, to approve an agreement — eventually called Basel I — that would set the approach that bank regulators would take for the next 18 years. The first big result of the accord was to redefine the way regulators in each participating country measure capital. It created two "tiers" — Tier 1 (core) capital and Tier 2 (supplementary) capital. Tier 1 is basically equity owned by common stockholders while Tier 2 consists of a variety of other forms of capital, such as a "hybrid" equity instrument like preferred stock that resembles equity in some form but also maintains a liability claim on the bank in the event of bankruptcy.

The next new step was to break away from a simplistic, uniform approach to capital ratios and instead create a series of risk categories into which the assets of a bank can be subdivided. A "risk weight" would then be assigned to each class of asset for the purposes of taking into account the potential for a loss in value or probability of default: The higher the risk weight, the more capital the bank needs to have on hand to compensate for the potential loss. Those ranged from a "0.0 percent" risk weight for bonds issued by the governments of most developed countries to a "100 percent" risk weight for corporate debt. Mortgages fell in the middle (a 50 percent weight). Off-balance-sheet assets were also included in these "risk buckets" and weighted by a similar risk factor.

To calculate the risk-weighted capital ratio, regulators would sum the new weighted values of the assets before they

calculated the capital-to-asset result. The standard would require banks to hold capital (Tier 1 plus Tier 2) that consisted of 8 percent of their newly defined risk-weighted assets.

Coincidentally, the year after the original Basel Accord was agreed upon and the standards began to be adopted by a number of countries — over 100 by the year 2002 — the United States witnessed the largest number of bank failures since the Great Depression. More than 530 FDIC-insured banks failed in 1989. The concern among policy-makers at the time was about "regulatory forbearance" — in other words, the act of looking the other way when a regulator discovered that a bank might be in jeopardy of collapsing.

Analysts of the period often point out that bank regulators were aware of many of the warning signs and the losses from the S&L crisis of the 1980s were made worse than they might have been. "The consequent increased pressure to forbear from managers and owners in the industry, unchecked by an offsetting increased pressure to facilitate early closure, may have led to changes in favor of such policies in the 1980s," write economists Randall Kroszner of the University of Chicago and Philip Strahan of Boston College in a 1996 paper. (Kroszner subsequently served as a Governor at the Federal Reserve Board.)

Partly in response to this concern, Congress passed the Federal Deposit Insurance Corporation Improvement Act (FDICIA) in 1991. It created a set of categories to classify the capitalization of a bank. A bank was "well capitalized" if it had a risk-weighted capital ratio of 10 percent or more. It was "adequately capitalized" at 8 percent or more. Below 8 percent was considered "undercapitalized." The law mandated "prompt corrective action" by regulators to shut down banks that were considered undercapitalized and failed to meet other criteria. The purpose was to minimize the potential cost to taxpayers of the government's deposit insurance guarantees by heading off a potential bank collapse while a bank still had a positive, but low, capital ratio.

The Rise of Basel II

Soon, a variety of inherent flaws in Basel I's treatment of capital became apparent. First, the relationship between assets' actual revealed default risk and their risk weights proved to be less reliable than had been thought. For instance, all bonds issued by countries that were members of the Organization for Economic Cooperation and Development (OECD) were given the same weight even though doing so might have downplayed the very real differences in the risk of defaults among these countries or, conversely, possibly overstated the difference in default risks between OECD and non-OECD countries.

Second, the Basel methodology was too crude. It simply summed the risk weights to construct a measure of overall capital risk, but that is a poor proxy for actual risk. Doing so does not take into account the overall portfolio risk of the bank and the formula made no room for management

strategies that could reduce that overall risk. A bank portfolio can indeed be more or less risky than the mere sum of its parts might indicate because of the correlation among assets.

Third, the broad categories were lumped together, and assigned a single weight to a variety of assets that in reality exist along a spectrum of risk profiles. A loan to a startup company, for instance, was treated the same as one to an established Fortune 500 company. As such, banks investing the same share of their portfolio in either asset would have identical mandatory capital set aside. This creates an incentive for a bank to invest in high-yielding assets in the risky end of the spectrum without having to make a corresponding expansion of their capital cushion. This sort of activity could over time increase the overall risk of a bank's portfolio although it would still meet Basel I standards.

In January of 2001, a second set of Basel standards — called Basel II — attempted to remedy these problems. (The implementation by the Federal Reserve began in the fall of 2006.) The first big change altered the risk weight. By using the ratings issued by credit rating agencies like Standard and Poor's and Moody's to determine the potential risk of default, Basel II set up a system by which assets within each broad "risk bucket" could be further classified.

The second big change was a new method by which risk profiles could be measured. Instead of forcing all banks to abide by the specific numeric standards set forth in Basel II, certain banks could opt out. In place of the top-down approach, the "internal ratings based" approach — available only to sophisticated banks with the resources and knowledge base to develop an internal rating with a mathematical model — allowed some banks to estimate the necessary size of their own capital cushion.

Both changes were aimed at answering the critics who stated that the original Basel standards did not integrate any market-based mechanisms for evaluating risk. Yet these changes seem to have proven flawed as well. The grades awarded by the ratings agencies for some mortgage-backed securities, for instance, have been shown to be less reliable than originally hoped. Some argue it's hard to make a case that a handful of firms which are largely insulated from competition by the Securities and Exchange Commission, as the "Big Three" ratings agencies are, could be considered a sufficient market-based mechanism. (For a detailed analysis, see this issue's cover story on page 14.)

In addition, allowing banks to set their own capital requirements doesn't seem to acknowledge the current state of the science of risk management. It has become apparent that the models of risk used by many banks may not have been sufficiently robust to anticipate the potential default of complex new asset-backed securities.

There has been some discussion within the Federal Reserve about how to overcome the incentive a bank would have to lowball their capital requirement estimates. One way to create an incentive for banks to be as honest as possible is to require them to precommit to a maximum loss exposure

and corresponding capital buffer. If the bank's losses exceed the declared maximum, the bank supervisor would levy a fine on the bank.

A criticism of the precommitment approach centers on the ability and willingness of a regulator to assess fines. For the fines to be a credible threat, they must be large enough to spur action by the bank. But if an economic shock were to reduce a bank's soundness, a regulator might feel compelled, if he believed the shock to be temporary, to avoid assessing the fine if doing so would result in the bank's failure. Yet the failure to issue a penalty, especially if it is sufficiently steep for the precommitment regime to work, would severely restrict the credibility of the regulatory threat in the future.

The Search for a Market-Based Mechanism

Critics of the Basel standards have pointed out that each round of changes has yet to address a key conceptual problem: Banks face a variety of risks that cannot be captured by a simple ratio. There is no attention paid to the risks of a heavy concentration of a bank's balance sheet in a certain sort of investment. And a ratio has no way to gauge the risks of poor management, the risks of an economic shock, and the risks to reputation in the marketplace. Critics argue that a real market-based mechanism that does not rely almost solely on credit rating agencies or mathematical models would be better suited to managing not just the capital ratios of a bank but also these other intangible risk factors that those institutions face.

One proposal is to require large banks to hold a certain portion of their assets in long-term subordinated debt. This form of debt would be uninsured — meaning it has no claim to a federal guarantee — and would have a maturity of more than a year. The term "subordinated" means that the holders of these bonds are in line for repayment behind depositors, conventional bondholders, and the FDIC should the bank fail. The bonds could be traded in a secondary market.

Supporters of this proposal suggest that these characteristics would be important for making this form of debt a strong market-based barometer of a bank's capital position. Because these bondholders would be among the last to get paid in the event of a bank failure, they would have an incentive to monitor the bank's relative riskiness. Subordinated debt holders would be watchful of the bank's levels of leverage because that level would influence not just the probability of the bank's failure but also the composition of risks on its balance sheet — and, consequently, the bank's ability to repay subordinated bondholders in the event of failure. Finally, because the bonds can be traded in secondary markets, the risk yield would go up on the debt in the event of a market perception that the bank is taking on too much risk, thus sending a signal to both regulators and investors.

As Charles Calomiris of Columbia University and Robert Litan of the Kauffman Foundation argue, a subordinated debt requirement could be preferable to the current Basel standard that encourages more equity financing of banks.

Stockholders of a bank are likely to be more concerned about the bank's profitability and, hence, more interested in the bank making high-yield, potentially risky investments. As Calomiris and Litan point out in a 2000 study, "because holders of subordinated debt have no upside other than the interest they are promised, they are likely to be less risk seeking than shareholders." They argue that these debt holders would also have a relatively longer time horizon than a stockholder because of the long-term nature of the bond maturities. And they suggest that, because a portion of the bonds will mature regularly, a subordinated debt requirement on banks would force those banks to prove themselves in the credit markets on a regular basis.

A criticism of the subordinated debt proposal suggests that a secondary market for the asset may not emerge. The amount of debt outstanding, particularly for a small bank, might be too small for the market to be robust. Also, because the proposal relies on the assumption that the bondholders are relatively risk averse, they may be unusually sensitive to new information and rush to redeem the debt after hearing isolated pieces of bad economic news.

Another criticism of the subordinated debt is that political realities might make it a less effective tool at controlling risk. In a world of deposit insurance and central governments unable to credibly commit to not bail out failing banks, the upside of risk is privatized — by allowing the bank's stockholders to keep the profits of successful gambles — but the downside is socialized because the government ensures that the bank's debtors don't suffer. This creates an incentive for banks to make even riskier investments than they would otherwise. Meanwhile, the price of bank debt will be influenced by the implicit or explicit insurance guarantee, and the debt price would not necessarily yield accurate information about a bank's level of risk.

One way to control risk more directly is to approach the question from the other end by limiting the net return a bank can make and thereby limit its incentive to take too much risk. This can be done by requiring banks to issue stock warrants. Edward Simpson Prescott, an economist at the Richmond Fed, argues this requirement would alter a bank's capital structure in such a way as to replicate the incentives that a bank would face in a world in which deposit

insurance and bondholder guarantees didn't exist.

The stock warrants would contain a strike price — a set price at which the holders of the warrant could purchase a share of bank equity. If the per-share return a bank experiences is higher than the strike price, then the warrant holder could exercise his option to buy the stock at the predetermined price and reap the gains. The bank, on the other hand, would only receive the price of the stock. Selling a stock warrant would, in other words, be equivalent to selling a portion of the bank's return to a set of investors. This would have the effect of constraining the upper-end payoff a bank could reap if the managers pursued a risky yet potentially high-yield investment and should limit the incentive that banks have to engage in such behavior.

A potential risk here is that a stock warrant could penalize a bank that exhibits high returns generated by innovation or better management rather than risky leveraged investments. There are also political economy issues. Bank warrants can tip the balance of power away from bank managers, and a proposal to require warrants are likely to be met with opposition. Additionally, by definition a stock warrant requirement would work best with a lower equity capital requirement; high capital requirements choke off investment. Yet it's likely that a proposal to allow a lowering of capital requirements would be met with skepticism today.

As the economic downturn unfolds, the debate about the correct regulatory approach to capital buffers and the best way to integrate market-based mechanisms will continue. Bank regulation, by its nature, is often backward-looking, adjusting to new financial innovations after they become widespread. Some critics question whether the attempts to continually modify capital standards can ever keep up.

Nevertheless, capital ratios are quite firmly embedded in U.S. law now. Yet it remains an open question whether the spirit of the Basel II standards will survive intact. The Basel Committee responded to the situation in the worldwide financial markets in a November 2008 press release that recognized the "fundamental weaknesses" of Basel II and proposed a goal of modifying the standards once again by the end of 2009. **RF**

READINGS

Burhouse, Susan, John Feid, George French, and Keith Ligon. "Basel and the Evolution of Capital Regulation: Moving Forward, Looking Back." Washington, D.C.: Federal Deposit Insurance Corporation, Jan. 14, 2003.

Calomiris, Charles W., and Robert E. Litan. "Financial Regulation in a Global Marketplace." *Brookings-Wharton Papers on Financial Services: 2000*. Washington, D.C.: Brookings Institution Press, pp. 283-323.

Kroszner, Randall S., and Philip E. Strahan. "Regulatory Incentives and the Thrift Crisis: Dividends, Mutual-to-Stock Conversions, and Financial Distress." *Journal of Finance*,

September 1996, vol. 51, no. 4, pp. 1285-1319.

Kupiec, Paul, and James M. O'Brien. "The Pre-Commitment Approach: Using Incentives to Set Market Risk Capital Requirements." Federal Reserve Board Finance and Economics Discussion Series Paper 1997-14, March 1997.

Prescott, Edward S. "Regulating Bank Capital Structure to Control Risk." Federal Reserve Bank of Richmond *Economic Quarterly*, Summer 2001, vol. 87, no. 3, pp. 35-52.

Rodriguez, L. Jacobo. "International Banking Regulation: Where's the Market Discipline in Basel II?" *Cato Institute Policy Analysis* no. 455, Oct. 15, 2002.

JARGON ALERT

Underemployment

BY DAVID VAN DEN BERG

The monthly unemployment rate most people are familiar with tracks people who are out of work and searching for new jobs. However, it's only one of six measures of unemployment published by the Bureau of Labor Statistics (BLS). The BLS also produces a broader measurement, sometimes referred to as the "underemployment rate" or the "U-6 rate" after the dataset on which it is based. The U-6 rate, according to the BLS, includes the officially unemployed plus all marginally attached workers and people employed part-time for economic reasons as a share of the civilian labor force plus all marginally attached workers. Through June 2009, the underemployment rate reached 16.5 percent, the highest since the BLS redesigned its unemployment figures and created the U-6 in 1994. In 1993 the BLS stopped the U-7 data set, which was previously its broadest measure of unemployment.

Workers classified as "marginally attached" and "discouraged workers" are included in the underemployment calculation. They are typically just a small portion of the people outside the labor force as measured by the BLS, which defines the labor force as the sum of all employed and unemployed people. Employed people performed any work for pay or profit during the survey week, did at least 15 hours of unpaid work in a family-owned business, or were absent from work because of bad weather, illness, vacation, industrial disputes, or various personal reasons. People who do not have a job but have actively searched for one in the last four weeks and are immediately available for work are counted as unemployed.

Typically most people not in the labor force do not seek employment because they're retired, attending to family responsibilities, going to school, or are physically unable work. The marginally attached are neither employed nor looking for work but have sought work in the past year and are available immediately. Family responsibilities or transportation concerns can keep marginally attached workers out of the work force. Discouraged workers are not employed and not seeking work because they believe nothing is available for them.

All six unemployment measures the Bureau of Labor Statistics publishes follow a similar pattern: Both the underemployment and unemployment rates move in the same direction. What is perhaps most relevant to economic researchers is how these measures move relative to each other, says Jason Faberman, an economist at the Federal

Reserve Bank of Philadelphia. For general audiences, the fact that the official unemployment rate follows the same trend as alternative unemployment figures makes things easy, says Faberman. "For a lay person, what this tells you is that looking at the unemployment number is going to give you the same story in relative terms as looking at the underemployment number." Because they move in the same direction, both numbers will tell the same general story over time, Faberman says.

Unemployment measures and other labor market indicators are derived from data generated by the Current Population Survey (CPS), sent to 60,000 households a month. Before the 1994 changes to the survey, the BLS sent the old and new versions of the questionnaire simultaneously between July 1992 and December 1993. The new questionnaire produced an unemployment rate half a percentage point higher for 1993.

Survey participants faced more extensive questioning under the new questionnaire, which generally registered more labor force activity, especially for workers who traditionally have more part-time or irregular work force participation. That's why the new survey yielded a higher labor force participation rate. It also revealed longer durations of unemployment, a higher proportion of unemployed people re-entering the work force, and a lower proportion of new entrants.

Because the U-6 was first published in 1996, it is not possible to compare recent underemployment rates to those in earlier severe downturns such as the 1982 recession. For instance, marginally attached workers were not included in unemployment measures prior to the 1994 redesign. The BLS also tightened the definition of discouraged workers, which reduced their numbers considerably after the CPS redesign. However, one element of the underemployment rate can be compared to earlier downturns — the level of involuntary part-time workers. That figure, which can be traced back to 1955, is higher today than at any point since then.

Over time, the gap between unemployment and underemployment rates has remained fairly constant in percentage terms, according to BLS data. However, the severity of the current recession could produce some significant short-term structural changes in the labor market. Monitoring the unemployment and underemployment rates will be important both during the current downturn and the recovery following it. **RF**



RESEARCH SPOTLIGHT

Have Free Markets Failed Us?

BY STEPHEN SLIVINSKI

Is it merely a coincidence that living standards rose sharply and absolute poverty declined while the world embraced free market policies beginning in 1980? That's the question Harvard University economist Andrei Shleifer ponders in this essay.

He names the period between 1980 and 2005 as the "Age of Milton Friedman" to acknowledge the adoption — at least in modified form — of many of the late Nobel laureate's market-oriented proposals. The policies pursued in that spirit include capital market deregulation, the lowering of trade barriers, inflation-conscious monetary policy, the adoption of flexible exchange rates, and tax cuts.

It's hard to argue that these policies didn't at least have some positive effect. As Shleifer points out, they corresponded to substantial increases in the rate of growth in per-capita GDP worldwide and it's quite likely that they were the main drivers of the growth. The countries for which market liberalization policies provided the best relative return were those that were once the most heavily regulated, such as the countries of East and South Asia. (Aggregate growth trends mask a few key differences between regions. Rapid growth in Asia towers above slow growth in Latin America and stagnation in Africa.)

The triumph over runaway inflation and high punitive tax rates was evident during the Age of Friedman. The world median annual inflation rate declined from 14.3 percent in 1980 to 4.1 percent in 2005. Marginal income tax rates dropped from the population-weighted average of 65 percent in 1980 to 36.7 percent in 2005.

Markets became more international in scope due to a weakening of trade barriers too. Tariff rates fell from the population-weighted world average of 43 percent in 1980 to 13 percent in 2004. As formal goods markets become more free, black market activity declined.

The benefits of abandoning dirigistic policies have become clear to many in the developed world and this, in turn, has raised people's hopes and expectations. Shleifer recounts a trip he took to Chile a decade ago. At that time, the ambition of policymakers was to overtake Argentina. In 2007, policymakers wanted to match the growth of Australia and New Zealand.

Yet some scholars, most notably Columbia University economist and Nobel Prize winner Joseph Stiglitz, remain skeptical that free market policies are, in fact, good for the

countries adopting them. For instance, these economists do not necessarily look askance at capital controls or see price stability as an important precondition to economic growth.

A recent book co-authored by Stiglitz, surveyed by Shleifer in this essay, seeks to make the case for significant state intervention in developing economies. Yet, Shleifer argues, the evidence offered is not persuasive. On inflation, for instance, their argument often amounts to a straw man, Shleifer maintains. Stiglitz and his co-authors see advocates of zero inflation as their main opposition when that point of view isn't held by most market-oriented economists, who argue that a certain level of inflation might need to be tolerated, at least in the short run. Meanwhile, Stiglitz and his co-authors are incautious when they "express little concern for the huge costs that high inflation has brought to countries that lost control of their fiscal policy, including many Latin American and transition economies."

Stiglitz and his co-authors also favor capital controls as a way to stem swings in speculative capital

investment. As Shleifer notes, they lean heavily on the example of Malaysia as a country that imposed such controls and was able to escape the Asian financial crisis of the 1990s. Yet that example is still controversial as recent analysis has failed to find that these controls had macro-economic benefits. Instead, Shleifer suggests that such controls encouraged misallocation of capital and political corruption.

Shleifer reminds us that we must be careful to learn the right lessons from the experiences of developing economies. The transition to a more free market system "has taught us that economic and political disorganization, combined with obsolete human capital of both economic agents and politicians, can sharply slow down the economic turnaround." The other obvious problem facing the developing world now, he writes, is the lack of new business investment — a phenomenon that must be tied to the lack of institutional barriers to arbitrary political power which spawns predatory regulatory and fiscal policies.

"On strategy, economics got the right answer: free market policies, supported but not encumbered by the government, deliver growth and prosperity," Shleifer concludes. "And while a lot has been accomplished in the last quarter century, a lot remains to be done." In short, the principles to which Milton Friedman devoted his career can continue to provide a suitable policy guide in the future. **RF**

"The Age of Milton Friedman" by
Andrei Shleifer. *Journal of Economic
Literature*, March 2009, vol. 47,
no. 1, pp. 123-135.

Are CEOs Paid Too Much?

BY DAVID VAN DEN BERG

In June, President Obama announced the appointment of a Washington attorney as the administration's new "special master" for executive compensation. Kenneth Feinberg, the appointee, will oversee pay packages of company executives whose firms are receiving government assistance.

Feinberg will review and approve any compensation for the senior executives and the next 20 highest-paid employees at seven firms who received money through the Federal Government's TARP program. Those companies include Bank of America, Citigroup, AIG, General Motors, GMAC, Chrysler, and Chrysler Financial, according to the Treasury Department. Feinberg's duties also include advising 80 more financial companies that received government money about executive pay.

Part of the debate in Washington about executive pay has centered on the question of whether CEOs are overpaid relative to their contribution to firm value. Another question has revolved around whether their compensation packages create incentives for them to take excessive risks.

Across the corporate sector, the size of executive compensation packages has soared. The gap between the salaries of the workers and the CEO of a corporation has widened considerably. In 1994, the ratio of median CEO pay to median production worker pay was 90 to 1, according to a Congressional Research Service report. In 2005, that ratio had increased to 179 to 1.

Executive compensation packages often contain multiple elements. CEOs can receive company stock, stock options, deferred compensation, long-term bonuses, and nonmonetary perks. Not all of these are new. Stock options have been an important element of CEO pay since the 1950s, although executives receive those more frequently now.

In a 2008 paper, New York University economists Xavier Gabaix and Augustin Landier write: "[T]he sixfold increase of U.S. CEO pay between 1980 and 2003 can be fully attributed to the sixfold increase in market capitalization of large companies during that period." Gabaix says that this suggests the market for CEOs works well and there are only a few egregious examples of executives getting paid more than you would expect based on their contributions to a company's success.

CEOs may operate in a kind of superstar market, which the late University of Chicago labor economist Sherwin Rosen describes as one in which "relatively small numbers of people earn enormous amounts of money and dominate the activities in which they engage." The differences in talent levels among top executives is quite small, Gabaix and Landier argue. However, those small differences can lead to

big gaps in compensation and are magnified by firm size. In their paper, they note that the first CEO on the list earns over 500 percent more than the 250th ranked executive.

The more-talented CEOs seem to add more value to their companies than the less-talented ones. Marko Tervio of the University of California at Berkeley tried to determine what would happen if the managers of the 1,000 largest U.S. companies in 2004 had been replaced by less-skilled executives, such as the CEO of the company at the bottom of the list. The combined market value of the top firms would have been perhaps \$25 billion lower. Tervio's calculations imply talented CEOs contributed \$17 million to \$21 million, or 15 percent of the total market value, of the largest 1,000 firms, writes Arantxa Jarque in a 2008 paper for the Richmond Fed's *Economic Quarterly*.

Economists differ on how closely the executive's pay should be linked to the company's performance. For instance, stock options may prove problematic in CEO compensation packages, Gabaix says, by encouraging excessive risk taking that only temporarily bolsters a firm's share price. In addition, a large decline in share price can render the stock options worthless and granting new options or re-pricing existing ones may seem to reward an executive for failure.

Part of the CEO's compensation should not be subject to risk, providing some insurance against bad performance due to factors outside of his control, Jarque writes. Failure to provide that assurance would make it difficult to recruit executives.

In a May 2009 paper, Gabaix and three co-authors propose one possible solution for improving incentive structures. They suggest awarding executive pay through "dynamic incentive accounts." Under the plan, CEOs would see their pay escrowed each year and would have no immediate access to most of it. A constant percentage of the executive's pay would be invested in company stock and the remainder in cash. The portfolio would be continuously rebalanced so that the portion of company stock is sufficient to induce effort at minimum risk to the executive. The executive would receive small portions of the account gradually, and that gradual vesting would continue even after an executive's departure. This could discourage an executive from behaving badly, such as using accounting tricks to inflate the company's short-run stock price before cashing out and leaving the firm in shambles.

In the end, structuring executive compensation in a way that aligns the incentives of the CEO with those of the company and its shareholders can be a tricky task — but one crucial to well-functioning markets. **RF**

What Prolonged the Great Depression?

BY MATTHEW CONNER

“Capital Taxation During the U.S. Great Depression.” Ellen R. McGrattan, Federal Reserve Bank of Minneapolis Working Paper 670, April 2009.

While most economists would argue that the main cause of the Great Depression was unwise monetary policies, such policies alone cannot adequately explain the severity and duration of the crisis. In this paper Ellen McGrattan of the Minneapolis Fed seeks to prove that some fiscal policies during the period had more than a small impact. One key insight of the paper is that prior studies on this topic have assumed that the only sort of capital taxed during this period was profit. Yet the big change in policy was actually a substantial increase in the taxation of dividends in the Revenue Act of 1932.

As McGrattan suggests, even the anticipation of dividend taxation — a proposal publicly suggested by President Herbert Hoover as early as 1930 — could have had an effect on investment in that period. In addition, the studies that suggest tax increases had little or no effect note that few people actually paid income taxes during this period. McGrattan notes that while this is true, the taxpayers who did pay those taxes earned almost all of their income through dividends.

Adding dividend taxation to the standard growth model on which the majority of research on this topic is based, McGrattan discovers that a large fraction of the observed declines in real GDP between 1929 and 1933 is explained by her tax-inclusive model. Additionally, the decline in production hours per capita during this period also can be explained by her model.

“The Olympic Effect.” Andrew K. Rose and Mark M. Spiegel, Federal Reserve Bank of San Francisco Working Paper 2009-06, March 2009.

The right to host a mega-event such as the Olympics or the World Cup is seen as an honor to the nation chosen, but economists are skeptical about the economic benefits. In practice, these events usually end up imposing large costs on their hosts that are not often fully recovered through revenue during the event or from the structures that are left over afterward.

While it is commonly asserted that hosting the Olympics will promote a nation’s exports, economists Andrew Rose of the University of California at Berkeley and Mark Spiegel of the San Francisco Fed examine the empirical evidence. They find a large positive effect of the Summer Olympics on both exports and overall trade. (The Winter Olympics are not

studied due to the fact that fewer countries are able to host that event.) The authors also found a strong positive effect on trade from other mega-events such as the World Cup. The research shows that Olympic host countries have seen up to a 30 percent increase in exports. Yet the authors also find an almost equal increase in trade in the nations that vied for the right to host the event but were not chosen. This implies that the effect on trade comes not from actually hosting the games but from bidding for them in the first place.

The authors speculate that this increase results from the signal that bidding to host the event sends to the world. This “signaling strategy” conveys the country’s interest in trade liberalization. This idea is illustrated by the fact that just two months after being awarded the right to host the 2008 Summer Games in July 2001, China successfully concluded negotiations with the WTO, thus formalizing its commitment to trade liberalization.

“Subprime Mortgage Pricing: The Impact of Race, Ethnicity, and Gender on the Cost of Borrowing.” Andrew Haughwout, Christopher Mayer, and Joseph Tracy, Federal Reserve Bank of New York Staff Report 368, April 2009.

Some have argued that during the peak period for subprime lending (2004 to 2006) minority borrowers were saddled with higher interest rates than nonminority borrowers. The authors of this study test that claim using a new sample that merges data on more than 75,000 adjustable rate mortgages with information on the race, ethnicity, and gender of the borrowers. This dataset allows them to examine the differences in mortgage lending while controlling for both the risk profile of the mortgage and the characteristics of the neighborhood in which the property was located.

In contrast to some previous findings, their results show that there is no evidence of adverse pricing for most minority demographics. If anything, many minority borrowers actually received slightly lower rates. Black and Hispanic borrowers paid a slightly lower initial mortgage rate than other borrowers, although Asian borrowers paid a slightly higher rate. No appreciable differences were found in lending terms based on gender. Finally, the adjustable rates on the mortgages did not “reset” at higher levels for minority borrowers relative to nonminority borrowers when one controls for risk and location. The authors conclude that these results suggest the possibility that subprime lending was a credit innovation that did serve as a positive credit supply shock in locations with more minority residents. **RF**



Reforming the Raters

Can regulatory reforms adequately realign the incentives of credit rating agencies?

BY RENEE COURTOIS

Just as consumer credit companies like Experian and Equifax issue credit scores for individuals, in bond markets credit rating agencies evaluate the risk level of securities that are issued by corporations, local governments, and other entities to raise money. The processes have substantial differences, but their purpose is largely the same: to reduce asymmetric information in financial markets that can otherwise raise the cost of connecting borrowers and lenders. This is a valuable market function.

In the last decade, rating agencies have been an essential part of the process of mortgage securitization, or turning home mortgages into bonds that were sold throughout the global financial market. Ratings opened up securities backed by mortgages, including many subprime mortgages, to a larger pool of investors than ever before, especially ones constrained by regulations to hold only assets of a certain safety level. This allowed profits from the booming housing market to be shared throughout the financial system.

Like lenders and investors, rating agencies shared in that profit. The “Big Three” rating agencies of Standard & Poor’s (S&P), Moody’s Investors Service, and Fitch Ratings, which together represent more than 95 percent of the market share in the rating industry, made record profits rating mortgage-backed securities: The Big Three’s revenue from ratings doubled from \$3 billion to \$6 billion during the 2002 to 2007 heyday of subprime lending and securitization.

In hindsight, many of these ratings did not do a good job of predicting the performance of the securities. The financial market turmoil — related to the declining housing market — that started in the summer of 2007 led the rating

agencies to revise ratings downward in record numbers. In 2007 Moody’s downgraded 31 percent of its asset-backed collateralized debt obligations (CDOs), most of which were based on mortgages. By just over six months into the crisis, S&P had downgraded 44 percent of the residential mortgage-backed securities (RMBS) based on subprime mortgages that it had rated from 2005 through the third quarter of 2007. In 2008 Fitch downgraded 51 percent of its ratings on residential mortgage-backed securities.

In each of these cases, a large proportion (by historical standards) of the downgrades was for securities rated AAA — the highest possible rating, typically associated with virtually zero default risk. The difficulty of pricing risks in what had become a worldwide mortgage-backed security market is ultimately what amplified the housing downturn and made it a global problem.

Rating agencies were by no means the only parties that underestimated the riskiness of these securities. Nonetheless, the role that rating agencies played in the securitization process has led to an intense discussion about reform within the rating industry, which will depend critically on understanding the incentives these agencies face to produce accurate ratings.

The Rating Process

The grade (called a rating) that a rating agency issues represents the probability the security issuer will default on the bond it is issuing. For the most part, issuers of the securities pay for the ratings to be developed, and then the majority of ratings are published on the rating agency’s Web site for

public consumption free of charge. Rating agencies rate virtually every corner of the financial market, from bonds issued by insurance companies to foreign governments to corporations. There are 10 official rating agencies in the United States and more than 60 rating agencies worldwide. The rating agencies are private, for-profit entities; of the Big Three, only Moody's is a publicly traded company.

The industry has been increasingly woven into financial markets since its birth in 1909, when John Moody began issuing public ratings of railroad bonds. Rating agencies were virtually unregulated by the federal government until 2007, when the 2006 Credit Rating Agency Reform Act was implemented. The act gave the Securities and Exchange Commission (SEC), a government regulatory body that acts as an advocate for investors, the authority to force the agencies to create certain procedures and investigate whether the agencies adhered to those procedures. But the SEC drew a very careful line prohibiting it from auditing the ratings themselves, or forcing agencies to modify the sophisticated methodologies used to produce them.

Rating agencies have historically centered their business on grading bonds issued by a single entity, such as a corporation or a local government, to raise money. However, in the last decade the agencies have gained an increasing amount of their revenue, between one-third and one-half depending on the agency, from rating a relatively new financial device called "structured finance" bonds — so named because they are "structured" out of other assets like mortgages. These are much more complex and harder to rate because they entail assessing the risk of many underlying assets.

A large class of structured finance products is RMBS. To grade an RMBS, a rating agency works closely with the security issuer, often an investment bank, to obtain background information on the security, including the characteristics — like the borrowers' FICO score, geographic location, loan-to-value ratio, and whether income documentation was provided — of each of the up to several thousand mortgages in the RMBS. Based on the risk characteristics of the mortgages in the RMBS, the rating agency uses sophisticated mathematical models and some subjective judgment to determine the probability that the issuer will default. Based on that probability, the rating agency assigns a grade to the security.

The grade is then provided to the issuer and, in the case of the Big Three, published on their Web sites. The agency continues to monitor the likelihood that the security issuer will default, updating its rating as necessary. Some rating agencies make these updates frequently to keep their ratings current, while others, especially the Big Three, intentionally do so only periodically to avoid erroneously adjusting ratings in response to temporary blips in financial markets.

A Structural Problem

No other industry is structured quite like the credit rating industry. Since the 1930s, certain financial institutions, such as insurance companies, banks, pension funds, and money

market mutual funds, have been required to hold only securities that have been deemed "investment grade" by a rating agency. Since then, rating agencies have been a part of the regulatory apparatus. In 1975 regulations also began setting minimum capital requirements for certain financial institutions based on the grades of the assets in their portfolio — if a regulated financial institution held risky assets, regulators would require it to keep a little extra cash on hand as protection.

But the SEC began to worry that bogus rating firms would emerge and issue beneficial ratings for anyone willing to pay. This compelled it to spell out exactly whose "grades" counted. For that, in 1975 the SEC created the nationally recognized statistical rating organization (NRSRO) designation for rating agencies. The Big Three were granted the NRSRO title by the SEC, and NRSROs were formally written into SEC and other regulations. It followed that many investors, even those whose portfolios weren't regulated in this way, would choose to also base their investments in part on ratings, further cementing demand for rating agencies' services.

In these early days, rating agencies were paid by the investors who were bound by regulation to use ratings in creating their portfolios. However, this changed around the time the SEC created the NRSRO category. With simple photocopying, those who did not pay could have access to the thick manuals of ratings published by the Big Three, introducing the "free rider" problem to the rating industry. Around the same time, the large bankruptcy of Penn Central Railroad — one of the largest issuers of commercial paper at the time — left issuers of securities desperate to prove to investors that their paper was sound.

The Big Three realized that issuers of securities, as opposed to investors, were ready and willing to pay for ratings, and they each moved to an "issuer-pays" structure. Currently more than 98 percent of all credit ratings issued by NRSROs are paid for by the issuer. The remaining ratings are paid for by subscribers, usually investors, which are kept private.

The issuer-pays model has not been easy for everyone to swallow. Critics say the rating agency being paid directly by the party that it is evaluating presents a conflict of interest because both sides have incentive for ratings to be as optimistic as possible. There is nothing preventing issuers from shopping around among rating agencies, or at least threatening to if they think they can get a higher rating elsewhere.

Rating agencies — which are paid according to the quantity of securities they rate — in turn have incentive to attract the business of issuers by providing ratings that are inflated, according to critics.

This structure doesn't guarantee that rating agencies will inflate ratings, but it certainly presents incentive for them to do so. The surprising volume of rating downgrades taken place since the housing downturn, coupled with anecdotal reports like a 2008 SEC investigation that found rating analysts participated in fee negotiations with issuers,

highlight the possibility that conflicts of interest might have affected the rating process in recent years.

For all its potential conflicts of interest, the issuer-pays structure apparently posed no large problem until the recent boom in subprime lending. There are two probable reasons for this. The first is that securities grew increasingly complex during this time period (see sidebar), which encouraged market participants to skimp on their own due diligence in favor of over-relying on the straightforward simplicity of ratings. Further, rating agency analysts' models may not have kept pace with the mounting complexity of RMBS and CDOs, causing them to underestimate some of the risk. In an open April 2009 SEC meeting on rating agencies, Daniel Curry, head of Canadian rating agency DBRS's U.S. operations, referred to increasing complexity as a "smokescreen" that obscured any inaccuracies of the ratings.

Second, growth in securitization from the mortgage market was exceptional — CDO issuance grew from about \$158 billion in 2004 to more than \$520 billion in 2006. The result was that large portions of rating agencies' revenue became increasingly concentrated in just a handful of clients since the lucrative and exceedingly complex securities were issued

predominantly by a few firms. According to an SEC review of 368 CDOs rated by the Big Three in 2006 and 2007, just 11 issuers accounted for 92 percent of them. These issuers would have the power to wield more influence on rating agencies to produce favorable ratings since, if they were unhappy with ratings, they could threaten to take a very large chunk of their business to a competing rating agency. The rating agencies merely being conscious of this predicament could be enough to encourage them to inflate ratings to keep business.

Supporters of the issuer-pays model, including the Big Three, say that the question of who pays shouldn't matter since the market would weed out any agency that didn't have an established reputation for producing accurate ratings. The issuer-pays rating agencies execute this "reputation building" by publishing all of their ratings, covering virtually every industry and every bond issuer, on their Web sites for public consumption, providing the opportunity for anyone, including competitors, to check on their ratings. This ratings transparency was described as a "substantial public good" by Raymond McDaniel, CEO of Moody's, in the April 2009 SEC roundtable. This public good would

Understanding Mortgage Securitization

In 2000 a J.P.Morgan analyst named David Li was intrigued by the frequency with which someone dies after a spouse passes away, commonly called the "broken heart" phenomenon. Li knew that insurance companies use mathematical techniques to estimate that probability for the pricing of insurance policies. He realized that a similar technique could be applied to financial markets and published a highly technical paper on the topic. He probably had no idea that his revelation would arguably contribute to the worldwide financial market downturn and the role that mortgage securitization had in it.

To understand how, you first need to know what mortgage securitization is. When mortgage lenders sell mortgages on the secondary market they are often grouped into a pool called a residential mortgage-backed security (RMBS). Then they are resold in pieces to institutional investors on Wall Street.

Creating an RMBS requires some financial alchemy. The issuer often divides the RMBS into groups called "tranches." Investors in the highest tranche get paid first as mortgage payments come in; then the middle tranches are paid. The lowest tranches are paid only if all the higher tranches have been paid first. In other words, they bear losses first so they're a riskier investment. For the top tranches to be affected, however, literally hundreds or thousands of homeowners in a pool would have to default on their mortgages at once. That's not very likely to happen.

The lower RMBS tranches, on the other hand, were obviously quite risky. But just as some mortgages could be

pooled to create a virtually risk-free asset, what if a new, safer security could be created out of the risky low tranches of RMBS too?

Issuers already had a name for such a security: A collateralized debt obligation (CDO), which is a bond that is itself backed by another pool of bonds and sold in tranches like RMBS. The key to creating a mortgage CDO is pooling together the low-tranche RMBS bonds in such a way that the probability they would default at the same time is sufficiently low. This would mean the high tranches are likely never to see losses. In fact, if the default probabilities are sufficiently uncorrelated, the higher tranches could even earn an AAA rating — even if they are comprised entirely of risky assets — and sold to investors looking for safe assets.

Estimating the correlation of a pool of bonds for a CDO is relatively easy when they are based on corporate bonds, which are relatively simple. But what if underlying assets are based on mortgages, each with different homeowner FICO scores, geographic locations, loan-to-value ratios, and dozens of other characteristics? It is hard enough to use those characteristics to estimate the probability of default for even one mortgage. Estimating the probably that the hundreds or thousands of mortgages would default together — their default correlation — would seem nearly impossible.

The trouble with assessing the default correlation of a pool of mortgages is that we haven't observed each mix of mortgage characteristics very many times in history to know how they affect the likelihood of default. Further, some of the characteristics, such as geographic location, are related across

go away if all rating agencies were required to switch to the “subscriber-pays” model that some of the smaller agencies use.

It may even be that it doesn't truly matter which party pays for ratings, since conflicts of interest can exist no matter who pays. For example, certain investors such as hedge fund managers could just as easily persuade a subscriber-based rating agency to downgrade a security, allowing them to short-sell it. “[A]s long as rating agencies are paid by any party with a financial stake in the outcome of our opinions ... there are going to be pressures,” said Moody's McDaniel in October 2008 testimony before Congress. “And so the question is not are there conflicts of interest. There are. It's managing them properly.”

Supply Does Not Meet Demand

Questions surrounding the incentive structure created by the issuer-pays model are not the only ones on the table. The rest comes down to supply and demand — both of which are set artificially by the SEC. By establishing the NRSRO label and parsimoniously choosing which rating agencies get that label, the SEC has created barriers to entry into the rating

industry. These barriers were lowered somewhat after the 2006 act; there are now 10 approved NRSROs in the United States.

In addition to restricting the supply of rating agencies, the SEC has established guaranteed demand for NRSROs by writing them into regulations. Issuers must get their securities rated in order for institutional investors — the largest investors in the market — to hold them, ensuring that they will always be in need of rating agencies' services. The presence of ratings in public regulations — and now in many private contracts and investment guidelines — could mean that the focus of a large proportion of the market's investors has shifted from holding sound investments to holding investments that are simply highly rated. These should be equivalent but may not be if there are active conflicts of interest.

Economist Lawrence J. White of New York University is one of the most vocal critics of the protection of NRSROs in regulations. He believes that regulators have essentially outsourced their responsibility to conflict-ridden credit rating agencies. “These third-party opinions had been given the force of law,” he says. “Federal regulations make it clear that

mortgages, but we don't always know how much. If a mortgage in Oakland County, Mich., defaults, how does that impact the probability that another mortgage there will, too, given the dozens of other differences between them? It's hard to say.

This is where David Li's paper comes in. Insurance companies had used a “Gaussian copula” function to estimate the probability of death — which he realized could also be used to estimate the “death” of a security, or default. The copula function predicts the likelihood of two events occurring when they are somewhat affected by each other.

The breakthrough of the copula model was that rather than gathering data from actual mortgage defaults, which are rare, the copula looked at prices in bond markets, which are abundant, to assess correlation. Through the lens of the copula function, movements in certain asset prices revealed their risk level, and produced the default correlation between them. CDO issuers no longer had to scratch their heads over the multitude of characteristics of each individual mortgage in the loan. The copula provided a much simpler way to evaluate default correlation. Thus, the mortgage CDO boom was born.

The appetite for these structured finance securities was substantial — in 2005, 81 percent of CDOs contained mortgages, the vast majority of which were highly rated by rating agencies. Institutions also had begun issuing insurance policies for these RMBS, called credit default swaps (CDS). The seller of the swap didn't even have to own the RMBS pool, and that allowed an unlimited number of securities to be created out of a limited number of mortgages. From

2001 to 2007, the CDS market multiplied more than 67 times to \$62 trillion, larger than the entire world's gross domestic product at that time.

CDO issuers became by far the largest purchasers of subprime mortgages in the secondary market, for the purpose of issuing more securities. Subprime mortgage lenders saw such a strong demand for their subprime loans that many were encouraged to provide more of them, sometimes lowering their lending standards to do so.

Securitization allowed the proliferation of mortgage-related securities to expand far beyond the number of actual mortgages extended during the boom. This explains how the global economic impact of the housing market decline has been many times larger than the total losses in subprime loans. Securitization is not the enemy — it remains an important way for financial markets to hedge risk. The copula's flaw was that the correlation estimates it provided were extremely sensitive: As soon as market conditions changed a tiny bit, the correlations became highly inaccurate. As mortgage holders defaulted in increasing numbers, so did the trillions of dollars of securities on which they were based. The logic of mortgage securitization was based on pooling assets that were not likely to default together. But issuers and rating agencies never accounted for the possibility that house prices would turn negative simultaneously in so many regions.

But don't blame Li for the mess others may have made of his model. “The most dangerous part,” he warned in the *Wall Street Journal* in 2005, “is when people believe everything coming out of it.”

— RENEÉ COURTOIS

'investment grade' is something entirely the creation of the rating agencies." Meanwhile, he notes, all ratings are alongside disclaimers that the ratings are purely opinions and shouldn't be construed as investment advice.

In fact, the rating agencies cannot be held liable for the quality of their grades. Several court cases have ruled that ratings are opinions, legally equal to those of journalists and therefore protected as "freedom of speech" under the First Amendment. "We are giving the force of law to a bunch of judgments where the judgment providers are caveating and taking absolutely no responsibility for the force of law they were granted," White says.

Just how rating agencies could be held responsible is tricky, however. The procedure of the Big Three is to adjust ratings only after fundamental changes in order to avoid mistakenly responding to short-run market fluctuations as opposed to a security's fundamental health. So what constitutes getting a rating "wrong" as opposed to simply declining to adjust a rating in response to what the rater believes is a temporary market turn?

Rating agencies argue that if you saddle them with liability for the imprecise art of rating securities, the industry would no longer be profitable and wither away. "Ultimately, we are not guaranteeing all the securities," said Sean Egan of Egan-Jones, a subscriber-based agency, in an October 2008 testimony before Congress. "There is too much out there. The industry would go away ... if you did away with the freedom of speech defense." Barron Putnam of LACE Financial, a smaller subscriber-pays agency, adds, "The industry needs changes, but you have to be sure that you don't kill it."

White agrees, sort of. "It can't be a healthy situation to sue them anytime they make a modest mistake," he says, "but for big mistakes they ought to be held liable. There is a difference between the kind of things they do and the kind of things the *New York Times* and *Wall Street Journal* do."

The agencies argue that they are indeed held liable — again referring to the possibility that their reputations for producing reliable ratings will be tarnished when their ratings have to be downgraded. Heads of the Big Three have conceded that their reputations have suffered as a result of the subprime and securitization mess.

However, White is skeptical that concerns over reputation provide sufficient incentive for rating agencies to stay in line. "The problem is, that's what Arthur Andersen told us up until the end of 2001, and we know where they ended up," he says, referring to the history-making collapse of the accounting firm scandalized by Enron. "Of course there's always the long-run incentive to maintain one's reputation, but it can get overpowered, clouded, by short-run conflicts and short-run temptations." He says this is what appeared to happen during the mortgage lending and securitization boom.

So far, the rating agencies have not withered away like Arthur Andersen, and no one seems to expect that outcome. For example, one of the Federal Reserve's recent programs to assist financial markets, the Term Asset-Backed Securities

Loan Facility (TALF), makes loans to investors only if backed by highly rated collateral, as deemed by the rating agencies. The Fed explained its reliance on the rating agencies by pointing out that their grades on asset-backed securities unrelated to mortgages have been more stable, and that ratings are not the only criterion used for TALF collateral.

The Call for Bolder Reform

White is among a growing group of academics who advocate taking NRSROs out of the regulatory process completely by removing all references to them in SEC rules. Certain investors would still be required to hold assets of a given safety level, but the burden of proof of the safety of that portfolio would be placed on the regulated financial institutions. They could deal with this either by conducting their own analysis on their portfolios, or by consulting an advisor, which could very well be a rating agency. However, rather than blindly using the ratings as justification for the assets they hold, they would need to justify to regulators why they believe the rating agencies' opinions on their portfolios are sound. Indeed, a key reason to write NRSROs out of regulations would be to encourage investors to rely on alternative measures of risk that are market based, such as spreads on asset yields.

In June 2008 the SEC did propose writing NRSROs out of regulations, although the proposal has been absent from all subsequent iterations of regulation changes. A new set of SEC rules that have been proposed but not yet adopted are geared toward improving competition by requiring background information on securities to be shared among rating agencies. This would allow competing agencies to formulate and publish second opinions based on the very same information that the initial rating agency used. The issuer-pays rating agencies do currently publish these unsolicited second opinions, but they are based only on information that is publicly available, which is of significantly less detail.

These proposed regulations carefully traverse what is actually a fine line between promoting competition and destroying it. The concern of some of the agencies is over the potential infringement on proprietary information such as the agencies' rating models. If forced to share them, the smaller subscriber-pays agencies, which don't make their rating methodologies public, could be disproportionately affected, further increasing barriers to entry in the industry. Some of these agencies view their classified ratings models as their most important asset.

Perhaps surprisingly, a recent batch of research has suggested that competition in an industry dominated by the issuer-pays model may not actually improve the quality of ratings. A 2009 paper by New York University economists Vasiliki Skreta and Laura Veldkamp shows that increasing the number of rating agencies in the game could enlarge the pool from which securities issuers can shop for ratings. In a world where the average security has grown more complex, as in the past decade with RMBS and CDOs, the more

likely raters are to evaluate a security differently and thus issue different ratings. The wider the dispersion of possible ratings, the more likely an issuer is to find one that is overly optimistic — an outcome that is possible even in the absence of any fraud or active conflict of interest. Further, a 2009 paper by Bo Becker and Todd Milbourn of the University of Illinois at Urbana-Champaign and Washington University in St. Louis, respectively, suggests that since competition reduces profits in an oligopolistic setting like the rating industry, it may also reduce the relative payoff for rating agencies to “invest” in developing a reputation for publishing consistently high-quality ratings compared to other revenue-generating activities like ratings inflation.

Despite his instincts as an economist, White is also not convinced that increased competition is the answer given the industry’s other significant structural flaws. “I’m a pro-competition guy, but I have to acknowledge the possibility that in this fifth-best world it may well be that increasing competition may have perverse consequences.”

On the other hand, LACE Financial’s Putnam thinks increasing competition is crucial to driving the agencies’ primary incentive back to building a reputation for creating high-quality ratings. “If you control so much market share, you’re not really accountable to anybody,” he says. Besides, he adds, if the current regulations on the table don’t work, increasing competition will be hard to avoid for another reason: “Congress and the SEC can pass reforms to make them do a better job, but in the long run if you can’t straighten out the industry, and something like the current mess happens again, Congress will likely address the problem with antitrust regulation.”

Incentivize Me

While regulations may make ratings disproportionately important to issuers and investors, the agencies say that many investors misunderstand their purpose to begin with: The grades assess the probability of default, nothing more. They are not meant to signify whether an investment is

adequately priced or aligns with a given investor’s risk appetite. Furthermore, two assets with the same rating may exhibit great differences in price volatility. Investors are particularly prone to over-relying on rating agencies in an environment in which securities are growing excessively complex. A simple letter grade is an enticing way for an institutional investor to meet a regulatory requirement and also take part in an opaque but burgeoning market that many of its competitors are finding profitable.

Ratings are intended to be simply one tool of many for reducing asymmetric information, however. This logic was spelled out in the SEC’s initial regulations requiring institutions to rely on NRSROs. But the profitability and complexity of the securitization market in recent years induced investors to ignore this caution, a fact that issuers and rating agencies may have intentionally or unintentionally exploited.

Even those who argue for taking credit rating agencies out of regulations do not argue that the agencies provide no value to the market. However, without the status as a government-protected oligopoly, the agencies would be profitable only if investors perceive that they produce consistent, high-quality ratings. In other words, it would emphasize the need for the agencies to build a reputation by developing a proven track record. What may also abet that process is better procedural oversight of conflicts of interest — such as oversight rules adopted by the SEC in February 2009 — which should fall short of regulating the ratings or methodologies themselves.

At any rate, the discussion highlights that even if there is no intentional fraud, the current structure of the rating industry can, and did, produce adverse outcomes. Whether any particular agency engaged in intentional wrongdoing will take more than the duration of the present economic downturn to ascertain. Perhaps the most important outcome, however, is that this has called attention to the incentives that rating agencies faced in the past and still face today. **RF**

READINGS

Becker, Bo, and Todd Milbourn. “Reputation and Competition: Evidence from the Credit Rating Industry.” Harvard Business School Working Paper 09-051, October 2008.

Benmelech, Efraim, and Jennifer Dlugosz. “The Credit Rating Crisis.” *NBER Macroeconomics Annual 2009*, forthcoming.

_____. “The Alchemy of CDO Credit Ratings.” National Bureau of Economic Research Working Paper No. 14878, April 2009.

Coval, Joshua, Jakub Jurek, and Erik Stafford. “The Economics of Structured Finance.” *Journal of Economic Perspectives*, Winter 2009, vol. 23, no. 1, pp. 3-25.

Salmon, Felix. “Recipe for Disaster: The Formula That Killed Wall Street.” *Wired Magazine*, Feb. 23, 2009.

Securities and Exchange Commission. “Summary Report of Issues Identified in the Commission Staff’s Examinations of Select Credit Rating Agencies.” July 2008.

Skreta, Vasiliki, and Laura Veldkamp. “Ratings Shopping and Asset Complexity: A Theory of Ratings Inflation.” National Bureau of Economic Research Working Paper No. 14761, February 2009.

White, Lawrence J. “The Credit Rating Industry: An Industrial Organization Analysis.” In Levich, Richard M., Giovanni Majnoni, and Carmen Reinhart (eds.), *Ratings, Rating Agencies, and the Global Financial System*. New York: Springer, 2002.

Honeybees

Market for pollination services grows

BY BETTY JOYCE NASH

Only a beekeeper would move to South Carolina for the pollen. But Chuck and Karen Kutik of Manning, S.C., count on it to help feed their livestock — 2,500 to 3,000 hives of honeybees. Bees mix pollen and nectar to make food (beebread). A summer hive, or colony, at peak can hold as many as 80,000 bees. The Kutiks pack bees off to California almond fields in February, apple orchards in New York in May, and blueberry fields in Maine in late spring with vegetable and fruit stops along the Atlantic seaboard in the summer.

Charles Hatley of Concord, N.C., also rents hives. “You want to try to keep your bees busy.” His bees, in mid-April, were foraging for nectar in the raspberry fields of Stanly County, N.C., before heading to blueberry and blackberry fields.

Beekeepers like Hatley and the Kutiks are part of a growing market for pollination services that has expanded over the past century, especially since the 1980s when wild bee populations began to vanish. Farmers can’t rely on or manage other pollinators — birds, other types of bees, butterflies, wind, or water. Honeybees forage across flowering plants, improving quality and yields for farmers, while the bees process the blossom nectar into honey, a boon for the beekeeper if the weather, temperatures, and blossoms cooperate. Pollination services can be found throughout the nation and are estimated to be worth \$15 billion annually. Honeybees are vital to North Carolina’s \$48 million blueberry crop, \$28 million apple crop, and myriad vegetables and crops like alfalfa, cotton, peanuts, and soybeans.

Commercial pollination markets have been well established since at least the 1940s. Yet research into the economics of the honeybee and its role in agriculture continues to flourish as hive numbers fall and demand for pollination grows.

Bees and Economic Thought

Honeybees also have appeared in economic theory. Imagine adjacent property owners, a beekeeper and apple farmer. Economist J. E. Meade suggested in a 1952 paper that beekeeping is an “unpaid factor” in apple production because neither farmer nor beekeeper arranged pollination or honey-making services in spite of mutual benefits to the bees’ stamen-to-pistil pollen deposits. Theory suggests that, absent an agreement over compensation, the farmer will neither arrange for optimal beekeeping services nor the beekeeper establish the number of hives that would maximize the farmer’s return on apples. In that case, there is an argument that bee pollination services — or the reverse, nectar provision services — would be “under-provided” by the market.

Nectar provision and bee pollination are a “reciprocal externality,” according to those early papers, both drawing on the work of economist A.C. Pigou who in 1920 had defined the concept of negative or positive side effects of a firm’s behavior and termed them “externalities.” His theory conceptualized the costs that aren’t borne by the firm. Certain taxes might compensate for negative side effects while positive side effects, such as pollination and honey-making in the bee case, could be encouraged by a subsidy. (Such observations had minimal influence on honey price support policies at the time, but the U.S. honey program of the 1980s and 1990s was in fact designed to encourage bee and pollination services, according to research by economist Walter Thurman of North Carolina State University. Today, there are no price supports for honey, but trade rules govern some honey imports.)

In 1973, economist Steven N.S. Cheung in his paper “The Fable of the Bees,” described a functioning market with obvious transactions between beekeepers and farmers: Pollination services were listed in the *Yellow Pages* of rural, apple-growing Washington state, evidence that beekeepers rented hives. When he looked at pollination fees, he found buyers and sellers of these services. He concluded that “observed pricing and contractual arrangements governing nectar and pollination services are consistent with efficient allocation of resources.”

Cheung’s work drew on the now-famous paper by Ronald Coase published in 1960, “The Problem of Social Cost,” that, among other insights, pointed out that when property rights are well defined, firms generally will bargain among themselves to find an efficient solution.

Thurman explains that Cheung’s paper highlighted the need to understand the details, in this case, of the beekeeping and farming businesses. “While in principle the externalities exist, once people start contracting, there’s a market,” Thurman notes.

“Markets coordinate the joint production of pollination and honey in the face of dramatic variation in output prices, and do so against a backdrop of continually evolving scientific views on the efficacy of honeybee pollination,” according to a paper on the subject that Thurman co-authored. “Markets must also coordinate the delivery of pollination services to multiple crops during their blooming seasons, not perfectly forecastable.” That is no small task.

Coast-to-Coast Demand

Demand for hired hives grew along with knowledge about pollination benefits, which often depends on dissemination of the latest research. Other factors contributed, too, such

as the invention of the movable hive, and produced markets that expanded with transportation improvements like engines, trucks, and roads. “The costs of market exchange declined and the returns to specialization increased,” Thurman notes. Finally, the demise of wild bee colonies that began in the 1980s — probably from the appearance of the varroa mite, a dangerous parasite to honeybees — put more pressure on domestic honeybee colonies for pollination.

Honeybees have become essential in the production of certain crops, and nowhere is that more evident than in the almond groves of California. The science of pollination has led to varieties of crops that are ever more dependent on pollination, according to Thurman. The more a crop depends on pollination services, the more the farmers are willing to pay to rent bee colonies, and California’s Central Valley hosts the most vigorous market in the nation. In 2004 and 2005, almond acreage required an estimated 60 percent of the approximately 2.5 million hives in the United States. Dispatched by owners through brokers or trucked in by beekeepers, colonies are placed in February and early March to pollinate almonds, 80 percent of world supply, 1.5 billion pounds (shelled) in 2008. While the keepers also may arrange pollination services for other crops while they’re in California, the almonds are the primary and most lucrative crop. The bees may roam a couple of miles from the crops they’re supposed to pollinate. However, the effects are often negligible, and when this does occur it is probably on fields smaller than the vast almond groves.

When bees suck nectar via their long tongues, their sticky hind legs pick up pollen grains that are necessary to fertilize some plants. (Some crops like corn are self-pollinating and don’t require bees.) While much of that pollen returns to the hive with the bees in tiny pollen sacks, some is deposited as they land on flower blossoms. A honeybee’s work can make a difference, but that difference is hard to measure in money. For one thing, aggregate pollination data are not recorded, including even the fees paid to beekeepers, according to Thurman and co-authors Michael Burgett of Oregon State University and Randal Rucker of Montana State University, who have written a paper about pollination fees.

But Burgett has kept crop-by-crop summaries of an annual pollination survey of about 60 commercial beekeepers in Washington and Oregon since 1986. The survey captures the upward trend in demand for the service and increases in commercial beekeeping operations. The authors found that pollination fees rise according to costs — for example, accounting for the appearance of the varroa mite in 1991, which increased the price of rentals by about \$4.60 per colony. The authors also examined the value of honey produced during the pollination periods. Although some beekeepers like the Kutiks say that they don’t factor honey production into their pollination prices, the authors found fees in Washington and Oregon vary across pollinated crops. Ranking crops from vetch seed, which produces good honey, to almonds, which produce barely palatable honey, the



Bees pick up and deposit pollen as they forage across flowering plants, improving quality and yields. Farmers often hire honeybee hives to pollinate crops because wild bee populations have declined.

authors found the fees paid for a honey crop like vetch are lower than all fees reported for non-honey crops like almonds. Almond pollination prices are higher when honey production and pollination do not occur simultaneously.

The authors find the price of pollination services reflect “a complex array of knowledge of entomology, horticulture, environmental science, consumer preference, logistics, and world trade.”

Bee pests have reduced available supplies, especially in California, and so the demand for almond pollination continues to be reflected in prices, which Thurman cites as about \$130 per colony in 2006. He estimates fees paid to all U.S. beekeepers for all crops at about \$180 million in 2006 and increasing.

With an estimated 2.5 colonies per acre, and an increase of 25 percent in almond acreage from 1996 to 2004, economist Daniel Sumner and research specialist Hayley Borriss of the University of California at Davis estimate hive requirements at roughly 1.4 million in 2004. By 2012, the almond crop may need about 2 million colonies.

Bee operators who migrate to California to pollinate almond blossoms may rent hives to fruit and vegetable growers along the way. After almonds, many move on to the Northwest for apple, pear, and cherry crops. During the summer, hives remain in the Midwest, home to the mega operations for honeybees. There, bees may frequent sunflower, clover, basswood, and various nectar sources to produce honey.

Higher prices are attracting beekeepers from as far away as the East Coast. The Kutiks sent their bees by truck to California for the first time in 2008 and again for the 2009 almond pollination. They contract with another beekeeper in California who unloads and then ships the bees back. “We lease our bees to another beekeeper who deals with the farmer,” Karen Kutik notes. “The bees are inspected to make sure they are the proper standard that the farmer expects for the money he pays. It was very lucrative

last year for us and this year too.”

Trucking was cheaper this year too. She says they get paid anywhere from \$90 to \$150 per hive — “what the guys are willing to pay.” Prices for pollination vary but “have been going up for the past few years.”

The Kutiks formerly rented bees to large-scale cucumber farmers in South Carolina but some of those customers have switched to other crops. And Karen Kutik says small fields aren’t a good fit for the business any longer.

The Kutiks ship bees to New York to pollinate apples in late April or early May for about \$55 per hive. “There are a lot more apple growers, and they’re not getting that much for their apples. It’s what the market will bear. Some guys [beekeepers] will rent for \$30 per hive.”

While the Kutiks’ business is going well, most aspects of the bee business are fickle. For instance, temperatures over the recent winter were too cold for nectar in South Carolina. “We have had to feed our bees this year,” Karen Kutik says. Weather can wreak havoc on pollination and honey production alike. When it rains or temperatures drop, the bees don’t forage. For instance, the bees may be out in the almond groves of California for a month and only fly 10 days, she explains.

The Kutiks depend on pollination services to round out their income, which also derives from honey and making “nucs,” the nucleus of a hive. Right now, honey is where the money is, she says. Honey prices have risen, in part because of a drought in major honey-producing countries and a smaller than average crop in 2008, according to the American Honeybee Producers Association. While there’s no explicit honey subsidy, there was a new \$2.63 per kilogram duty placed on Chinese honey in January.

Karen Kutik says they separate the honey production from the pollination services. For example, although blueberries make good honey, when they pollinate that crop in Maine, they “don’t even talk honey with them,” she says of the blueberry growers. “That’s a perk. It is not a sure thing. Honey-making isn’t ever a sure thing.” For instance, cool, rainy weather in the past two years have stymied basswood and locust honey production for the Kutiks. “It is feast or famine,” she says, of the bee business in general. “Right now

seems to be a good time. For a number of years we were too small.” She adds that they run between 2,500 and 3,000 hives, while among the Midwest bee operations, 10,000 is considered small.

Future of the Bee Business

While feral bees have vanished from the fields and forests, domestic bees are also struggling with a variety of mites and viruses. There are pest control options, but keeping hives healthy is tricky. Researchers are even examining the possibility that the migrations may weaken bee colonies, making them more susceptible to mites like varroa. Apiculturists are worried. Some losses are odd and include reports of bees failing to return to the hives and rapid colony losses for reasons that remain largely unknown, according to a 2008 report by the Congressional Research Service.

“The market for pollination services has grown and it has coincided with these infestations of exotic pests we’ve had,” says Don Hopkins, the state apiarist for North Carolina. The pests are one reason most states require inspections, certifications, and permits for incoming bees.

North Carolina has the most beekeepers of any state in the nation, but most keep the bees as hobbies or sideline businesses, like Charles Hatley. He has kept bees for 33 of his 45 years. With demand for pollination services ramping up, and bee populations in jeopardy, he wants to transform his sideline into a full-time operation. He currently breeds queen bees, good for disease resistance, for eventual sale. He places bees in a 400-acre forest of sourwood trees for a distinctive honey that can bring a price premium of up to 200 percent over other varieties. Hatley also rents hives to vegetable and fruit growers for about \$50 per colony for six weeks. He has drafted his own contract, one that specifies whether they use insecticides because he prefers to rent hives to organic farmers.

He now can’t keep up with demand. “I got a call from a farmer who wanted 600 colonies for watermelon and cucumber.” As research continues into colony collapse disorder and the various pests plaguing managed beehives, the demand for pollination intensifies. As he says, “This can get as big as I want it to get.”

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READINGS

Burgett, Michael, Randal R. Rucker, and Walter N. Thurman. “Economics and Honey Bee Pollination Markets.” *American Bee Journal*, April 2004, vol. 144, no. 4, pp. 269-271.

Cheung, Steven N.S. “The Fable of the Bees: An Economic Investigation.” *Journal of Law and Economics*, April 1973, vol. 16, no. 1, pp. 11-33.

Coase, R.H. “The Problem of Social Cost.” *Journal of Law and Economics*, October 1960, vol. 3, no. 1, pp. 1-44.

Meade, J.E. “External Economies and Diseconomies in a Competitive Situation.” *Economic Journal*, March 1952, vol. 62, no. 245, pp. 54-67.

Muth, Mary K., Randal R. Rucker, Walter N. Thurman, and Ching-Ta Chuang. “The Fable of the Bees Revisited: Causes and Consequences of the U.S. Honey Program.” *Journal of Law and Economics*, 2003, vol. 46, no. 2, pp. 479-516.

Rucker, Randal R., Walter N. Thurman, and Michael Burgett. “Internalizing Reciprocal Benefits: The Economics of Honey Bee Pollination Markets.” Working Paper, June 2008, pp. 1-42.

Silver Screen Subsidies

Is hoping to land the next Hollywood hit a sound economic development strategy?

BY DAVID VAN DEN BERG

Subsidy contests among states to lure sports teams and factories have been fought for years. Now many states want to attract movies and television shows and offer those Hollywood productions generous incentives. Critics of incentive programs argue that they don't pay for themselves. Supporters of production incentives claim they are an attractive and quick way to inject money into a community.

When production companies arrive, they immediately spend money on items such as lumber for set construction and accommodations for out-of-town cast and crew. Tim Reid, an actor who played the disc jockey "Venus Flytrap" on the television show "WKRP in Cincinnati," has firsthand knowledge of these expenditures. Reid is also a filmmaker and co-founder of New Millennium Studios in Petersburg, Va. He says bringing a production to a community is like hosting dream in-laws. "They come and visit you, they spend lots of money and they leave quickly," he says. "Who wouldn't want in-laws like that?"

"One Tree Hill," a CW television network drama filmed in Wilmington, N.C., shows the impact a production can have, says David Hartley, a producer for the show. The program has just finished its sixth season shooting in Wilmington. In the time it has been there, Hartley says the show has generated revenue for Wilmington's economy through spending at local businesses, which boosts the city's tax base. "We're not even a big budget show," he says.

The overall effectiveness of these subsidies, however, remains in question. States that seek those revenues and offer production incentives should be asking themselves if this is a sound economic development strategy for the long term.

The Incentives Game

Many states offer incentives to all sorts of companies looking to relocate or open a plant. However, not all firms will view incentives as a major factor in their location decision. Education levels of the work force, the ease of transporting goods, and the overall quality of life could prove just as important for the company. A comparative advantage, like the abundance of a particular natural resource or a specialized labor input, may also attract a firm to a state.

Film and television productions differ from corporations making choices about where to put factories because movie productions in particular are short-term work. Television series can stay longer in a community but don't always last. Besides, especially with feature films shot on location, much of the labor force could come from somewhere else and eventually leave.



Cinematographers and camera operators at EUE/Screen Gems Studios in Wilmington, N.C., collaborate on a scene.



However, firms that choose to bring a plant or factory to a community invest in the area, train workers, and will have at least management personnel or corporate leaders living where the new facility is located.

"The motion picture industry isn't like that, except in Los Angeles or New York," says Cornell University City and Regional Planning Professor Susan Christopherson.

Moviemaking and television production, furthermore, don't need to rely on a specific location. Just because a film or television show takes place in one city doesn't mean it has to be shot there. Special visual effects can alter certain elements of a landscape or the look of a street. In these cases, any city can be a substitute for any other, thereby reducing any comparative advantage a city's appearance provides.

The industry that can re-create any location also produces one of the nation's largest exports: movies. With the decline in manufacturing and the appeal of the entertainment industry, it's not surprising states would want to attract film production, says Ned Rightor, principal of MXCIX, a Boston area policy research firm. Rightor has worked with Christopherson on research into production incentives. Currently, more than 40 states — even film

production hubs like California and New York — provide incentives in various forms.

The entertainment industry is a fixture of the economy in both Los Angeles and New York City. Companies are involved in pre- and post-production, operating studios, and renting production equipment. Service providers like accountants and lawyers are all there to assist projects at every stage. Both places initially established leadership in the industry and developed a comparative advantage without tax incentives.

Now some states hope to use incentives to build their own comparative advantage. Production incentives generally come in the form of either tax credits or rebates. Some states also offer incentives for in-state construction of studios and other businesses related to moviemaking and production. Filmmaking incentives are typically applied toward “below the line” expenses such as equipment rentals and wardrobe. Some states cap the amount of incentives that can be applied toward “above the line” expenses such as salaries for star actors.

Top stars and big-budget movies have come to New Mexico to shoot. The state enacted its incentive program in 2002 and has since expanded it. The program includes a tax rebate on production expenses, employment training for “below the line” costs (mostly production workers), support for film and media programs at colleges and universities, and funds for capital expenses. Filmmakers have responded, as projects including Oscar-winner “No Country for Old Men” and the action film “Terminator: Salvation” were filmed in the state. A film production support industry has grown there. According to a New Mexico State University study, the industry had 136 businesses employing 2,284 workers in 2007. Both numbers had increased since 2001.

In the same study, however, New Mexico State economist Anthony Popp and a co-author show that in the 2008 fiscal year, for every dollar provided in incentives, New Mexico received only 14 cents in revenues. Companies have built and announced plans to build studio complexes in the state since the incentives took effect. Popp says he hopes the state’s incentives will establish an industry that can survive without them, but added that many of these sorts of companies are mobile. “The transaction costs of moving someplace else are fairly small.”

Wilmington, N.C., has housed a studio since 1984. Film producer Dino De Laurentiis brought the sound stages to town after falling in love with the area while scouting filming locations for Stephen King’s “Firestarter.” Numerous productions, including “Muppets from Space,” the HBO television shows “Eastbound & Down” and “Little Britain USA,” and “One Tree Hill,” have all been shot there. Though DeLaurentiis built the studio, its former president Frank Capra, Jr. — the deceased son of the legendary director of “Mr. Smith Goes to Washington” — is considered the godfather of the city’s film industry. The studio is one element of the comparative advantage the city has in film

and television production, and it was established initially without subsidies from the state. Wilmington is also home to a trained crew and multiple service providers.

The shooting of films and television series is one of the most mobile parts of the production process. States provide incentives for it in the hope that they can lure the less mobile parts. That strategy has become more difficult as the number of states offering production incentives has increased, says Steven Miller, an economist at Michigan State University. Michigan, Louisiana, and New Mexico have succeeded in luring companies to build studios in their states. But the only way a studio can make money is if a production company owns it and shoots a steady number of its own projects there, Christopherson says.

Boston has a comparative advantage in one specific area of film and television production because it is home to PBS station WGBH-TV. The station produces educational programs and the most PBS primetime and online productions. States interested in developing a film and television industry should pursue opportunities for specific niches instead of seeking the same productions other states fight for, Christopherson says. Opportunities are out there. “Regions should be trying to identify what’s distinctive in their economy and what they can build on rather than just competing on basis of cost,” she explains.

For states, trying to sell themselves on their comparative advantage alone is easier said than done. If left to their own devices, industries would choose to locate in places best suited to their needs, says Miller. In a world where incentives exist, however, states face a kind of prisoner’s dilemma. “If they’re not bidding for businesses to locate or stay in their geography, someone else is going to,” he says.

Stand-in Cities

In a world where one city can double as another, incentives can influence decisions about where productions are shot. “The Curious Case of Benjamin Button,” the Oscar-nominated film starring Brad Pitt as a man who ages in reverse, was based on an F. Scott Fitzgerald short story set in Baltimore. The film’s director had chosen Maryland locations for filming and the Maryland Film Office provided assistance, says Jack Gerbes, the office’s director. But, to take advantage of Louisiana’s more generous incentives, the setting of the story was changed to New Orleans, and most of the movie was shot there. Pitt told reporters at the movie’s New Orleans premiere that the project probably could not have been completed without the tax breaks Louisiana provided. Taxpayers there financed more than \$27 million of the film’s \$167 million budget.

There are more examples, including the movie “Annapolis,” a 2006 film starring James Franco about a young boxer struggling at the United States Naval Academy. That film had opened offices in Baltimore and was planning to shoot there and in Annapolis. But after opening the offices, Pennsylvania Legislature passed production incentives and within a couple days producers

were on their way north to shoot the movie.

Sometimes a state's comparative advantage is vital. "One Tree Hill" started shooting in Wilmington before North Carolina's incentives started. It followed in the footsteps of "Dawson's Creek," a drama shot in Wilmington for six years. But the setting for this show was Massachusetts. Warner Brothers chose to film "One Tree Hill" in Wilmington because of the presence of EUE/Screen Gems Studios and the city's pre-existing base of crew members, Hartley says. The incentives strengthened the argument for keeping the show in Wilmington. If the show was starting today, and no incentives were in place, Hartley says the show would likely not be filming there, and said consideration was even given to moving "Dawson's Creek" out of the city at one time. "Creatively if you have a certain look in mind there are certainly other places in the country that have incentive programs that can approach this place as a comparison."

Gerbes says state film commissioners like him are essentially salespeople who travel to trade shows, film festivals, and similar events selling their states' film industries, diversity of locations, and other amenities for filmmakers. Nothing would make him happier than to go back to the 1990s when decisions about whether to film in Maryland were made on those factors. But now it's all about incentives. "That's unfortunately the economics of today's Hollywood," Gerbes says.

A Shift in Strategy?

When will incentives stop? No one has asked that question, Popp says, but he thinks salespeople stop when states can no longer afford them. For now, whenever states want something developed, they award tax incentives for it. Politicians often focus on the jobs created but disregard the costs. Any halt to incentives would cause problems, including anger from the film industry. Current economic conditions, however, may mean that the approach states take toward economic development could have to change. "I think we're in a position where we ought to think about what we should be doing in terms of economic development," Popp says.

North Carolina may be at that point now. The state's incentive program took effect in August 2006. In 2007 and 2008, the state provided a combined \$32 million to 41 productions that spent \$215.4 million. Pending legislation would increase the state's film incentive program from a 15 percent rebate of select production expenses to 25 percent. More than 800 films and 14 television series have been

filmed in North Carolina, many before the state started offering incentives. After the subsidy took effect, the state has continued attracting productions, including feature films like "Nights in Rodanthe" and television shows like HBO's "Eastbound & Down," both shot in Wilmington. Even with all the productions that have been shot and the infrastructure that's in place, at a 15 percent rebate, "we're not a player anymore," says Aaron Syrett, director of North Carolina's film office. "We're seeing an industry that has been thriving here for the last 25 years start to dissipate and go away. We're losing that competitive edge along with our share of the market."

EUE/Screen Gems Studios could see more activity if the state expands incentives. The studio will add a 10th sound stage this year, it's largest. The new sound stage will have a 60- by 60-foot water tank and will put the company in contention for productions it wouldn't have a chance at nabbing otherwise, says Bill Vassar, the studio's executive vice president. A television production with distribution, money, and major talent behind it is interested in the new stage, Vassar says. However, a Disney film starring Miley Cyrus and written by a North Carolina author, will be shot in Georgia instead because of that state's more generous incentives. "Disney would have been the first client in there, which would have been great," Vassar says.

Wilmington remains home to several small production companies. Some of them benefit from the presence of large productions like "One Tree Hill" in the city because they can get called in to produce "behind the scenes" features for the DVD release of the show, says Jennifer Mullins, who owns Oriana East Productions with her husband, William. Their steadiest source of work is post-production for nationally broadcast reality shows. The company is now developing a feature film that has financing outside the Hollywood studio machine. As William Mullins explains, "We do have one project that has a lot of development money in place at this point, and fortunately it's coming from private equity, so the executive has a lot of creative control, and he wants to bring it to Wilmington."

The firm is serving as consulting producers on some feature films, which may or may not be shot in North Carolina. William Mullins says that decision — like so many others in the film industry — depends on executive producers, mostly based in Los Angeles. "The incentives offered by Louisiana and Michigan are very often too high for them to turn down." **RF**

READINGS

Abdulkadri, Abdul, and Steven R. Miller. "The Economic Impact of Michigan's Motion Picture Production Industry and the Michigan Motion Picture Production Credit." East Lansing, Mich.: Michigan State University Center for Economic Analysis, Feb. 6, 2009.

The Guide to United States Production Incentives. Santa Monica, Calif.: The Incentives Office, Winter 2009.

Peach, James, and Anthony V. Popp. "The Film Industry in New Mexico and the Provision of Tax Incentives." Las Cruces, N.M.: Arrowhead Center, New Mexico State University, Aug. 26, 2008.

Rollins Saas, Darcy. "Hollywood East? Film Tax Credits in New England." New England Public Policy Center Policy Brief 06-3, Federal Reserve Bank of Boston, October 2006.

Clear Skies?

The fight for dominance in the airline industry

BY RENEE COURTOIS

Looking for a flight out of Charlotte, N.C.? You'll have 3.6 percent fewer flight options by June 2009 compared to the same month last year. Excited to spend a summer week in Myrtle Beach, S.C.? You'll have 7.3 percent fewer flights for getting home than you would have had last summer. Even our nation's capital has seen about 6.5 percent fewer flights departing from Washington Dulles International Airport this June compared to June 2008.

The main reason behind the capacity cuts at most of the country's major airports, of course, is the recession. When the economy turns sour, people fly less. Since it doesn't pay to fly empty planes, airlines cut capacity by running fewer flights or swapping big planes for smaller ones. "Right now there are too many seats chasing too few passengers," says Vaughn Cordle of AirlineForecasts, an industry consulting group.

But any seasoned traveler knows the recession is just the latest in a series of shocks to hit the airline industry in this decade. Oil prices — a key determinant of jet fuel prices and, to a lesser extent, would-be travelers' expendable cash — spiked to a record-breaking \$147 per barrel in July 2008. The terrorist attacks of 9/11 led to huge costs for the industry in the form of security protocols, and they worried travelers, many of whom opted to just stay home.

The airline industry as a whole has been profitable for only two years during this decade, 2006 and 2007. They booked a loss again in 2008, and industry analysts are split on what's in the cards for this year. Analysts do agree, however, that because of the succession of shocks the industry has experienced, and the emergence of a new breed of competitors, we may be at a turning point in the airline industry that could change how airlines operate in the future.

Turbulence On the Books

In order to keep this in perspective, it is important to note that the airline industry has never been consistently profitable. This is mostly a result of its structure. Airlines have large upfront fixed costs for their fleet of jets, but their real product is seats on those planes. They charge a fare for each seat that is well above the marginal cost of flying one additional passenger in order to recoup those fixed costs over time.

With the exception of fuel, airlines' costs are relatively stable. The real uncertainty that they face is exceptionally erratic demand resulting from business cycles, and they are more sensitive to weather patterns and geopolitical turmoil than perhaps any other industry in existence. The airline industry experienced its first-ever decline in world traffic volume in 1991, an outcome of anxiety over traveling during

the Gulf War. Other notable extremes since have included airlines' high-profit years during the dot-com boom, the subsequent decline in global air travel following 9/11 and the current financial crisis. The International Air Transport Association (IATA) predicts global passenger traffic will fall by 3 percent in 2009. Despite the industry's cyclicity, this is only the third time in the last 35 years that passenger traffic has fallen. This may be one reason why industry analysts are now speculating on whether the industry's oldest players will survive in their current form.

In an industry whose profits are so volatile, it is no surprise that the competitive landscape for airlines is constantly changing through mergers, bankruptcies, and liquidations. A small handful of airlines have stayed in the game since the industry was deregulated in 1978. These so-called "legacy carriers" include some of the country's biggest names in air travel: American, Continental, United, US Airways, Delta, and Northwest (the latter two of which merged in October 2008 and are in the process of being fully integrated under Delta's brand). They have seen their share of financial distress.

When times are tough for airlines, new competitors tend to enter or expand in the market when aircraft, labor, and airport space are cheaper. They also gobble up any routes that have been abandoned by existing airlines. In the last two decades, the most intense competition has come from the so-called "low-cost carriers," or LCCs. The LCCs are the group of airlines — the names Southwest, JetBlue, AirTran, Allegiant, and Frontier, the biggest of the LCCs, might ring a bell — known for offering cheap fares for flights all over the country. The LCCs aren't always the cheapest flight option, but many times they are. Customers have increasingly chosen them over the legacy carriers.

This is because seats are a commodity. They are not easily differentiated among airlines and have no intrinsic value on their own — people fly to get somewhere, not for the sake of taking a flight. The airline's sole aim is to control the supply of that commodity relative to its competitors in order to manage the fares at a profitable level, or carry more traffic for a given fare.

The commodity nature of seats means that price is king in the airline industry: The airline that offers the cheapest flight for a given market will usually win the customer. Because the LCCs tend to offer cheaper flights, they often act as price-setters for the rest of the industry and "everyone else has to scramble to meet them," according to Edmund Greenslet, author of *The Airline Monitor*, an industry publication. The market share of the LCCs has grown from about one-tenth of the industry in the early '90s to over one-quarter in 2008. Southwest now carries more

passengers than any other U.S. airline.

How do the LCCs serve up cheap flights? Aptly named, they operate within a business model that allows them to keep costs down, run more efficiently, and thus charge lower fares. The defining characteristic of the LCCs is that they have a relatively nondiverse fleet of jets. Frontier Airlines runs only three types of jets. The rest of the LCCs fly either one or two. Notably, at the end of 2008 Southwest had the third-largest fleet of jets in the industry (after the Delta/Northwest merger) at 537 jets and they're all 737s.

A homogeneous fleet saves the LCCs bundles in terms of maintenance and staff training since they don't need to train staff on how to repair and operate multiple types of jets. This helps the LCCs better utilize their staff, including cross-training them on lots of jobs — which is why you may have noticed that the person who checked your bags on your last LCC flight also appeared on board to deliver your peanuts. The LCCs are also known for offering “no frills” service by sometimes eliminating seat assignments, in-flight meals, and entertainment. They often have an uncomplicated fare structure, sometimes selling only one-way flights. These simplifying features streamline flight operations.

This lean business model has created a considerable cost advantage in terms of “cost per available seat mile” (CASM) — or the cost of flying one airline seat for one mile. Over time, consulting firm Oliver Wyman estimates the LCCs operate about 25 percent more cheaply than the legacies in terms of CASM. No legacy carrier beats any LCC in terms of this cost measure. The cost gap between the two groups in absolute terms has also widened over time, despite avid cost-cutting measures by the legacies. As much as 65 percent of the cost advantage of the LCCs may be attributable to its simplified business model, according to consulting firm Booz Allen Hamilton.

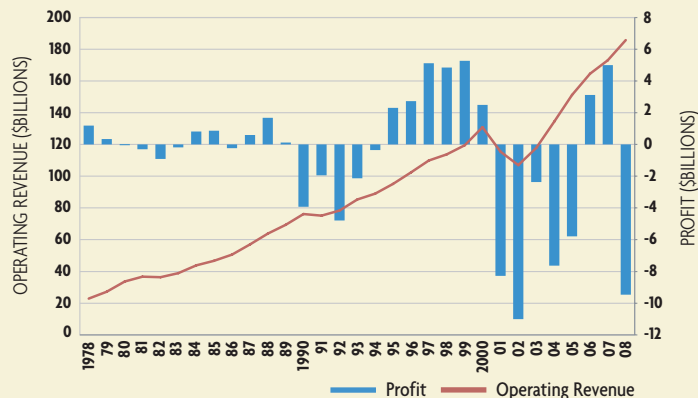
Labor remains the biggest expense for airlines, between one-quarter and one-third of total operating expenses. But because the LCCs are able to better manage other costs, this is not an impediment. Southwest in particular is so good at keeping costs down that it completely compensates for the fact that it has the most expensive labor force of the major airlines as a percentage of its CASM. Its labor force is 77 percent unionized, and its staff and pilots make among the highest incomes in the industry, with the biggest benefits packages — yet Southwest still has among the lowest CASM in the industry.

Coming to a Hub Near You

Another key difference between legacies and LCCs is the routes they fly. The airline industry was heavily regulated prior to 1978, with the Civil Aeronautics Board determining what routes airlines could fly and what fares they could charge. Thus, in effect the government determined the market share of each airline. Decisions were typically made based on what would best serve the “public interest.” (The holdover from this regulatory regime is the painstaking merger approval process that still exists for airlines today.)

Volatile Profits for the Airline Industry

U.S. passenger and cargo airlines



SOURCE: Air Transport Association

After deregulation in 1978, American Airlines pioneered a new method for determining routes. They funneled all their passengers through one common location, called a hub, bundled them into common connecting flights, and shipped passengers out from there to the final destinations. By accumulating passengers in one location, the legacy airlines could schedule a greater number of flights, serve more cities, and earn more revenue. This became known as the “hub-and-spoke” setup, and all the airlines at the time quickly adopted it.

But the hub-and-spoke model does come with some costs. Key to the model is amassing lots of passengers into the hub at peak points during the day to fill outgoing flights and minimize the amount of time that planes are left idle waiting for passengers. Idle time means lost revenue. “You wind up piling up everybody and trying to get them in and out at the same time,” says Greenslet. It also means the airlines must build in time between flights to move bags, staff, and passengers from one flight to the next.

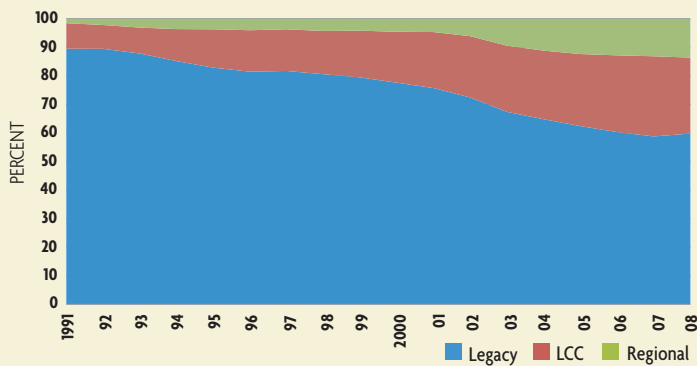
The LCCs revolutionized commercial flying by providing direct flights under a “point-to-point” model, with no hub at all. The LCCs provide more flights that run directly from one city to another, even if neither city is particularly large. The reduced congestion and idle time allows LCCs to get planes back in the air more quickly. “The LCCs’ planes are more productive. They’re flying 11 to 13 hours a day, compared to 9 to 11 hours a day for the legacies,” says Cordle. This business model turned the costs and benefits of hub-and-spoke airlines on its head: The point-to-point model is less costly in part because it reduces idle time, but offers less in connectivity and flight times, and therefore risks accumulating fewer passengers per flight. Over time, cost-conscious vacationers, who are relatively flexible on flight times, have come to rely on the lower-fare LCCs, while business travelers, for whom connectivity and scheduling convenience is most important, have stuck with the legacy carriers.

Meeting in the Aisle

In some ways the business models of the LCC and legacy airlines are merging. As LCCs grow and the two groups fight

Legacy Carriers Losing Domestic Market Share to LCCs

Relative market share by airline type in terms of available seat miles



NOTE: One ASM is one seat flown one mile. Total ASM is the number of seat miles offered by all passenger airlines in a period. ASM is a measure of the total "product on the shelf" offered by airlines.

SOURCE: Airports/USA DataMiner

directly for market share, they're picking up each other's habits. Legacy carriers have started to mimic some of the streamlined features of the LCCs. Many legacy carriers increasingly charge for, or eliminate, the "frills" of air travel. They have paid attention to the cost-minimizing innovations pioneered by the LCCs, like the fuel hedges that have famously saved Southwest billions.

Some have also migrated to "rolling hubs." Traditional hubs schedule many planes to land and depart around the same time during peak hours, which reduces the layovers with which passengers must deal but leads to costly congestion. Rolling hubs, on the other hand, smooth flights over the day rather than coordinating many flights to take off and land around the same time. This reduces congestion and gets planes back in the air more quickly.

As the LCCs have grown, their traffic has inevitably accumulated in certain cities where demand is strong. As a result, low-cost carriers increasingly operate out of hubs, they just might not call them that. Many of the LCCs instead call these de facto hubs "focus cities" or "gateways." Therefore it is something of a misnomer to say that the LCCs operate strictly with a point-to-point model, according to Mike Boyd of Boyd Group International, an airline forecasting firm based out of Colorado. Southwest, for example, specifically calls itself a "point-to-point" airline, even though Boyd estimates as much as a third of its flights are connecting traffic. The LCCs don't make a concerted effort to market themselves as hub carriers, and many are still much less reliant on hubs than the legacies.

Resorting to a partial hub system has allowed the LCCs to offer the greater connectivity that the legacy airlines do. This has expanded the number of markets they serve. They have also begun to target "the most lucrative passenger, the business traveler," by offering more perks and frequent flier programs, "and that's the bread and butter of the legacies," according to Cordle. He estimates that business travelers are 8 percent to 12 percent of the passengers for legacy carriers, but they are about 35 percent to 45 percent of their revenue, and in some cases as much as half.

It looks as though hubs are here to stay, even though, by some measures, they're more expensive to run. Hubs may be the only way to serve a country of our size and composition. "A country like ours, with a lot of population centers, generates a lot of travel demand even for relatively small cities, but not always enough traffic to support a direct flight to another medium-sized town. The only way to serve all those points is to hub the traffic," says Greenslet. "The train system does that in Europe. The hub-and-spoke system does that in this country."

As the LCCs saturate their existing markets, they have two options if they want to keep growing. They can branch into small-city short-haul traffic currently served by the regional airlines — the small, 50- to 70-seat airlines that serve very small cities, often as a subsidiary of a legacy carrier. Or, they can branch into long-haul (generally defined as six or more hours) and international travel like the legacies. The LCCs can't expect to continually branch into these areas while maintaining only one or two types of jets. However, buying an array of new jets departs rather dramatically from the business model that has kept their costs so low to begin with. "Right now they're too big to go to Montgomery, Ala., and too small to go to Shanghai," Boyd says.

What this means is that the low-hanging fruit for the LCCs may be just about gone. They used their novel business model to connect markets in a way that didn't previously exist — point-to-point service between midsized cities that created a low-cost alternative for people who would otherwise drive 300 miles to their destination. In other words, the LCCs expanded overall demand instead of taking it away from their competitors. As they've grown, they've moved into big-city markets and have been largely successful at undercutting the legacies for many flights. But they won't be able to keep growing without fighting tooth and nail to take that market share from the legacy carriers, especially if consumer demand continues to fall.

What's more, the cost advantages that made them so successful to begin with may be dwindling. Their planes are becoming less fuel efficient as they age. Labor costs are getting higher too: Their staffs are gaining tenure and airline wages are determined on a graduated scale by seniority. It's not obvious what more they can do to win market share from the legacy carriers and keep their cost advantage. "The big thing you'll continue to see is that the legacy carriers will keep pushing to lower their cost structure," says Yale University economist Steven Berry. "But the degree to which the LCCs can adopt the hub system, for example, is less certain." But don't be too fast to discount the innovative LCCs. Since it has been around since the 1970s, low-cost behemoth Southwest is a living case study of an aging LCC and it has only seemed to get stronger. Regarding its purported disappearing cost advantages, "I've been saying that about Southwest for about 30 years. So far aging has had no major affect," Greenlist says.

In light of the changes that have taken place, economist Severin Borenstein of the University of California at

Berkeley believes there appears to be a single “hybrid” airline model emerging. “The idea that some airlines have the ‘right’ business model is nonsense. I think we’ll see LCCs move increasingly toward hubbing, and I think we’ll continue to see the legacy carriers move in the opposite direction and streamline,” he says. “We’re definitely seeing the two models merge.”

Landing on Common Ground

The legacy and low-cost carriers will face some issues that both will find hard to ignore. One is the possible adoption of a federal “cap and trade” emissions control program that threatens to dramatically raise their cost of jet fuel. Another is an outdated air traffic control system that forces costly delays. Of course, economic cyclicalities will continue to plague the airlines. The industry expands and contracts in line with, and at roughly twice the pace of, the overall economy. When the economy slows, so does travel demand as businesses tighten their travel budgets and individuals opt for fewer recreational trips.

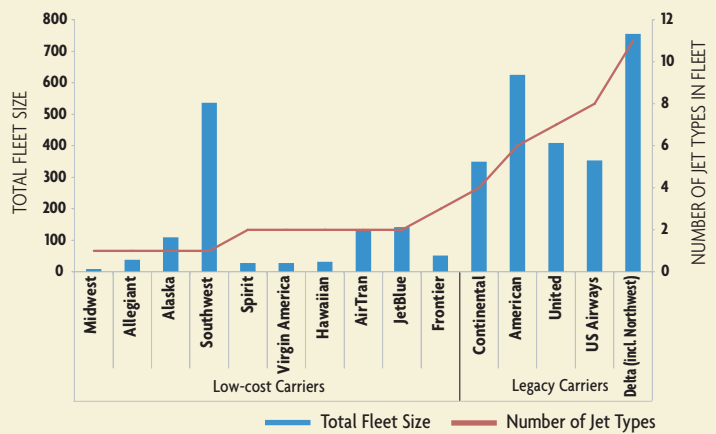
In the future, Cordle expects an airline industry that is smaller overall. “Because of excess spending and consumption in the United States since the early 2000s, with twin bubbles in stocks and housing, expenditures on air travel were inflated above long-run trend,” he says. “Now we’re getting back to the reality of what the consumers can actually manage. When you strip away all the noise, it really means the industry will be 10 percent or so smaller.”

This can take place through mergers or capacity cuts — both of which can be aided by Chapter 11 bankruptcy, to which the airlines are no stranger. Of the six legacy carriers, four have filed for bankruptcy since the year 2000. There have been more than 40 airline bankruptcies overall in this decade alone. It’s a normal course of business that helps the airlines renegotiate existing contracts, especially those with organized labor. “The airline industry’s labor costs have come down 40 percent since 2000,” Cordle estimates, “and much of that was accomplished through bankruptcy or near bankruptcy positions.” He says that one airline got concessions from pilots as the lawyers were essentially walking up the steps of the court to file. This sort of negotiation has been a standard way for airlines to deal with labor costs during hard financial times.

Mergers are the way to go, according to Cordle, in part because he views the legacies’ pension obligations as unsustainable. “Mergers can be win-win-win. Win for the customer, shareholder, and employees.” A merger’s ultimate

Fleet Diversity: The Defining Characteristic

Selected airline fleets as of year-end 2008



SOURCE: Air Transport Association

impact on consumers depends on the airlines involved. For example, if the two airlines have largely overlapping routes, then consumers can be harmed because the airlines will eliminate the overlap which reduces the total network available to passengers, according to Berry. However, if the airlines have complementary networks, then mergers have the potential to create a broader network overall for consumers. “The government looks out for this and impedes mergers where the potential harm for consumers is greater,” Berry says.

No matter what changes influence the new business models, it’s hard to imagine a world without airlines. For U.S. airlines, there are 31,000 scheduled departures ferrying an average of 2.1 million passengers each day. The Federal Aviation Administration predicts global air traffic will double by 2025. The FAA also estimates that the industry adds more than 5 percent to U.S. gross domestic product through its direct and indirect economic impacts, and is responsible for nearly 10 million jobs in industries (other than airlines) related to hospitality and travel — even though U.S. spending on air travel is less than 1 percent of GDP, and airlines directly employ just over half a million people. “There is tremendous spillover that ripples through the entire economy,” Cordle says.

From the passenger’s perspective, ongoing capacity cuts by the airlines will mean “more crowded aircraft, less quality of service, yet better on-time performance because there are fewer capacity bottlenecks,” Cordle sums up.

Boyd is also keen to put the ever-changing airline industry into perspective: “Flying will continue to be just as uncomfortable as ever in the same seat space,” Boyd says. “We can count on continuity in that sense.” **RF**

READINGS

“Air Transport Association 2008 Economic Report.” Washington, D.C.: Air Transport Association, 2008.

“Airlines 101 — A Brief History of the Airline and Commercial Aircraft Industries.” Ponte Vedra Beach, Fl.: *The Airline Monitor*, May 2006.

Borenstein, Severin, and Nancy Rose. “How Airline Markets

Work ... Or Do They? Regulatory Reform in the Airline Industry.” In Rose, Nancy L. (ed.), *Economic Regulation and Its Reform: What Have We Learned?* Chicago: University of Chicago Press, forthcoming.

“The Impact of Recession on Air Traffic Volumes.” Montreal, Quebec. International Air Transport Association, December 2008.

Veto Politics

Can a line-item veto reduce spending?

BY DAVID VAN DEN BERG

State legislative sessions often feature intense debates over appropriations bills. Both legislatures and governors have their own weapons in these battles. One of the most well known is the ability many governors have to veto specific line items in a bill. The line-item veto is often assumed to be an effective way of keeping spending under control. But whether the conventional wisdom is correct on this is still an open question. In fact, the line-item veto is a tool that isn't always used in the context we might expect — and the results can be surprising.

Forty-four of America's 50 governors have some form of the line-item veto, according to the National Conference of State Legislatures. Six states do not have any form of the line-item veto, including North Carolina. Governors in those states can only veto entire legislation, not portions of it.

In the states where it exists, the line-item veto functions differently and can shift the balance of power in budget debates. Governors who have the line-item veto can eliminate portions of bills. In some cases, they can adjust spending amounts, and in others, governors can amend legislative language. Governors can use the line-item veto to preserve their budget preferences sometimes, but legislators can combat the use of the line-item veto by bundling expenses the governor doesn't want with those the governor does want. Yet line-item vetoes, if comprehensive enough, can provide a way for governors to possibly thwart those efforts.

To determine whether this sort of veto can be an effective way of imposing spending discipline requires making a few assumptions. The first is that politicians, like anyone in any profession, face incentives. Governors aren't necessarily less prone to them than are legislators. The line-item veto may not be anything more than an additional bargaining chip that a governor can use to go after additional spending he might want, says Samuel Baker, a former economist at the College of William & Mary.

The second assumption is that the political climate affects how the veto power is used. The line-item veto, to some extent, shifts power to the executive branch. But, as we'll see, that may not matter much. If it does, there are some important contexts in which we can expect the veto to be exercised more frequently.

Line-Item Veto and Divided Government

Political contexts usually influence usage of line-item vetoes. They are used more often when opposing parties control the executive and legislative branches and the legislature cannot override the veto, argues Douglas Holtz-Eakin, an

economist who formerly taught at Syracuse University before working at the Council of Economic Advisers during the George W. Bush administration and then heading up the Congressional Budget Office. Holtz-Eakin is now president of a consulting firm in Washington, D.C.

Highly partisan environments are most conducive to use of the line-item veto, says Glenn Abney, a former Georgia State University political scientist. "The governors will often use the veto because they disagree over policy," he notes. Conversely, when one party controls both the executive and legislative branches, the partisan temperature is lower. In those situations, the item veto is less likely to be used, Abney and University of Georgia political scientist Thomas Lauth argue in a 1985 paper.

While the line-item veto shifts some power to the executive branch, governors may have good reasons not to exercise this power. For example, a governor may decline to use the veto to avoid further antagonizing lawmakers, especially if relationships with the legislature have soured, in order to preserve remaining political capital. Those relationships can be crucial. Stable political relationships between elected officials and the state bureaucracy can be crucial and can determine state expenditure levels, economists James Dearden of Lehigh University and Thomas Husted of American University write in a 1993 paper.

The scope of line-item veto powers may determine how useful they are to governors. Only 15 of the 44 governors with line-item vetoes can adjust both dollar amounts and statutory language in legislation. When they can amend dollar amounts and language, governors are most likely to use the veto. In their paper, Dearden and Husted argue that a governor's ability to obtain a desired budget outcome increases with the comprehensiveness of the line-item veto authority.

Line-item vetoes don't render legislators powerless, however: They can write bills in ways that make it difficult for a governor to veto them. Lawmakers also have a bargaining chip of their own: the override. But research shows that line-item vetoes are rarely overridden. Several explanations for the upholding of vetoes are possible, argue Abney and Lauth. For one, super-majorities are often required for an override, which can be hard to achieve. When overrides are difficult, the veto power is more meaningful.

Fiscal Effects of the Line-Item Veto

The veto is not always used to strike dollar amounts. In a nationwide study published in 2002, Abney and Lauth review appropriations bills from line-item veto states from

the years 1993 and 1995. Governors in only 18 states used the veto in 1993, while 22 used it in 1995. In both years, the researchers show more than 60 percent of vetoes cut language about appropriations that did not contain dollar amounts. More than 20 percent of vetoes were of language totally unrelated to appropriations.

Vetoes of legislative language can still have fiscal effects, although it is difficult to assign them a dollar value. Language and appropriations in bills are not always related. Eliminating language requiring certain state agencies to maintain specific staffing levels could lead to job cuts and resulting cost savings, for example.

Yet leaving the agency free to eliminate jobs may not necessarily lead to job cuts if they find savings elsewhere in their budget, so it's hard to prove that the line-item veto would have a direct fiscal effect in such a case. In a research project about the line-item veto in Georgia, Lauth and Catherine Reese of Arkansas State University-Jonesboro find that 79 percent of the 209 line-item vetoes used between 1975 and 2002 eliminated language that had a fiscal impact that was hard to measure in dollars.

The threat of the veto can play an important role in legislative debates. Reese and Lauth's Georgia study covers several decades. They conducted interviews of the state's seven governors prior to Sonny Perdue, its current executive. The governors told Reese and Lauth the threat of the line-item veto was an important element of their power.

Executive Privilege

Not all governors can use the line-item veto the same way. Whether the veto can be used to eliminate budget items or legislative language depends on where you are in the Fifth District.

	Appropriations	Legislative Language
MD	✓	✗
DC	✓	✓
VA	✓	✓
WV	✓	✓
NC	✗	✗
SC	✓	✓

SOURCES: National Conference of State Legislatures, League of Women Voters of Maryland, District of Columbia Mayor's Office, Virginia Department of Planning and Budget, South Carolina Office of State Budget

Indeed, infrequent use of the veto may mean that its mere threat has made actual usage unnecessary, although it's hard to be certain, Reese and Lauth say.

Such evidence should be qualified. Budget officers overwhelmingly say that a constitutional balanced budget requirement is the most important factor in promoting fiscal responsibility, Lauth claims in a 1996 paper. Both executive and legislative budget officials were surveyed, and at least 90 percent of each group cited the balanced budget requirement's importance.

To resolve this dispute, then, requires turning to the empirical evidence. The most comprehensive analysis to date is still the Holtz-Eakin study. Looking there, you discover that evidence of whether the overall level of spending actually

goes down because of the line-item veto is hard to find. In his paper, Holtz-Eakin concludes that the line-item veto may influence the spending level only over the short run — particularly in regard to reducing a current budget deficit — in cases where a governor's political party does not hold a majority in the legislature. Over time, however, there is no statistically significant effect on the size of the budget in the long run. Instead, it seems that the line-item veto simply alters the composition of spending.

So as voters watch their legislature haggle over the budget each year, they should keep in mind the admonition Holtz-Eakin includes in his study: "There are no simple truths concerning the impact of the line-item veto." **RF**

READINGS

Abney, Glenn, and Thomas P. Lauth. "Gubernatorial Use of the Item Veto for Narrative Deletion." *Public Administration Review*, July-August 2002, vol. 62, no. 4, pp. 492-503.

____. "The Item Veto and Fiscal Responsibility." *Journal of Politics*, August 1997, vol. 59, no. 3, pp. 882-892.

____. "The Line-Item Veto in the States: An Instrument for Fiscal Restraint or an Instrument for Partisanship?" *Public Administration Review*, May-June 1985, vol. 45, no. 3, pp. 372-377.

Dearden, James A., and Thomas A. Husted. "Do Governors Get What They Want? An Alternative Examination of the Line-Item Veto." *Public Choice*, 1993, vol. 77, no. 4, pp. 707-723.

Holtz-Eakin, Douglas. "The Line-Item Veto and Public Sector Budgets: Evidence from the States." *Journal of Public Economics*, August 1988, vol. 36, no. 3, pp. 269-292.

Lauth, Thomas P. "The Line-Item Veto in Government Budgeting." *Public Budgeting & Finance*, Summer 1996, vol. 16, no. 2, pp. 97-111.

Reese, Catherine C., and Thomas P. Lauth. "The Line Item Veto in Georgia: Fiscal Restraint or Inter-Branch Politics?" *Public Budgeting and Finance*, Summer 2006, vol. 26, no. 2, pp. 1-19.

Allan Meltzer

Allan Meltzer has long been one of the most prominent monetary economists and historians, contributing significantly to our knowledge of how to achieve price stability and economic growth through his academic work, his role as a policy adviser, and his popular writings. In 2004, he published the first volume of his history of the Federal Reserve System, which covered the period from the Fed's founding to its accord with the Treasury Department in 1951. The long-awaited second volume of his history will appear in two parts this autumn.

Since 1957, Meltzer has taught at Carnegie Mellon University (then known as the Carnegie Institute of Technology). He co-founded the Carnegie-Rochester Conference on Political Economy, where scholars from academia, government, and business present papers on important public policy issues, and the Shadow Open Market Committee, which comments upon the policies of the Federal Reserve. He also served as an acting member of the Council of Economic Advisers during the Reagan administration and was chair of the International Financial Institution Advisory Commission, better known as the "Meltzer Commission," during the 1990s. In addition, Meltzer is a visiting scholar at the American Enterprise Institute for Public Policy Research in Washington, D.C.

Meltzer has been quite critical of the Federal Reserve's actions immediately preceding and during the financial crisis. In his view, the failure of the Federal Reserve and other agencies to curb the assumption that some institutions were "too big to fail" played a major role in fueling the crisis. In addition, he believes that many of the Fed's lending programs, initiated since the crisis began, were misguided, threatening the Fed's independence and risking its ability to control inflation over the long run.

Aaron Steelman interviewed Meltzer at his office at Carnegie Mellon on May 7, 2009.



RF: What's the status of the second volume of your history of the Federal Reserve?

Meltzer: I just completed the last pages of the manuscript. The book will appear in October in two parts. I got a number of comments from readers, but the main comment was that the book is 1,400 pages long and we don't print 1,400-page books. So we ended up dividing it into two volumes: 2.1 and 2.2, which will come out simultaneously.

RF: Chronologically, how far did you go with the second volume?

Meltzer: The second volume goes to 1986. I chose 1986 because it was pretty clear by then that rampant inflation was over and that expected inflation was low. I have some comments about the current episode, but the editor asked me to include those as an epilogue. The most important message of the epilogue is that you won't get rid of crises until you get rid of "too big to fail."

RF: What do you think could reasonably be done to reduce the scope of the federal financial safety net?

Meltzer: How would I get rid of too big to fail? I would have bank reserves rise with the size of the bank. I think it's in the

public interest to say, if you want to be big, you must hold more reserves so that you will be forced to bear a loss if you make a mistake. We cannot continue to have a system where profits are privatized and losses are socialized.

I should point out that much of this is in Walter Bagehot, of course, who was an early rational expectationist. He said that if central banks are going to lend, they should do so at a penalty rate against good collateral and that this policy should be made well-known in advance of a crisis. That system worked for the better part of a century. There were banking problems and failures along the way, but they never spread. The reason was bankers knew they had to hold collateral to protect themselves, and so they did. We have abandoned that system, to our detriment.

RF: In addition to addressing the too big to fail problem, what other current policy issues do you think are particularly important?

Meltzer: There are quite a few. One of the most important ones is to get rid of Fannie Mae and Freddie Mac. The only thing they do is to subsidize mortgages. We should put that subsidy on the budget. That's where it belongs. Having Fannie and Freddie do this encourages corruption and encourages excessive zeal to help particular parts of the housing system.

I also would make the Federal Deposit Insurance Corporation Improvement Act (FDICIA) applicable to all financial institutions. The purpose was to have structured early intervention — that is, to close down commercial banks before they used all of their capital. Then, the shareholders could be made to bear the losses and the institution could be sold. FDICIA was supposed to do that, but the regulators haven't followed through effectively. They should — and FDICIA should be extended to investment banks as well.

The next one is less of a specific policy proposal and more of a general recommendation. We should pay more attention to the fat tails in the distribution of risk. What are those fat tails? Things like the Russian default, the failure of Long Term Capital Management, the enormous climb in housing prices. Our current models of risk distribution — and how they can affect the economy — don't take adequate account of them.

RF: What do you think of the idea of establishing a systemic risk regulator?

Meltzer: The administration's proposal to make the Fed a super-regulatory body is a mistake for two reasons. The first is the Fed has a poor record of anticipating crises. The

second is it would further remove responsibility from the banks. A regulator of last resort would worsen the too big to fail problem.

I believe there are a few relatively straightforward rules of regulation. First, regulation is written by lawyers and bureaucrats, and over time markets learn to circumvent regulation. The Basel Accord is a great example of that. Banks were supposed to hold more capital in order to take on more risk. But, instead, they took those risks off their balance sheets and didn't hold more capital. In that case, both the regulation and the circumvention failed. Regulation Q of the Glass-Steagall Act, which prevented banks from paying interest on demand deposits, is another good example. We wouldn't have money market funds if it weren't for Regulation Q. There are lots of examples of markets circumventing regulation — and not only in banking and finance. The second rule is that regulation can be beneficial when

We cannot continue to have a system where profits are privatized and losses are socialized.

private costs and social costs are not aligned. For instance, there is arguably a good case for regulation of banks if you have deposit insurance — otherwise, banks might take excessive risk knowing that they will not bear the full costs associated with a failure. The third is that if regulations are not circumvented, the reason is

because they are either beneficial or they are enforced with Draconian measures.

RF: Looking at the Fed's actions over the past year or so, how well do you think it has done handling the crisis once it was upon us?

Meltzer: In the history of the Federal Reserve System, there are three enormous mistakes, in my opinion. The first one was the Great Depression, of course. The second one was the Great Inflation of the 1970s. And the third one was the failure of Lehman Brothers in September 2008. As I said, in principle, I'm in favor of permitting institutions to fail when they have acted incautiously and are insolvent as a result. But this was a failure that occurred after 30 years of bailing out just about every institution of any size, with no prior announcement that the policy had changed. Suddenly the Fed changed what had been the standard procedure and allowed a big firm to fail. That was a mistake. It created uncertainty in financial markets. And then, of course, the Fed changed course shortly afterward, back to its long-established policy of bailing out institutions.

RF: So would you have recommended allowing Bear Stearns to fail in March 2008? That possibly could have sent a signal to the market that policy had changed and, as a result, the failure of Lehman later in the year

wouldn't have come as such a surprise.

Meltzer: I don't think you change policy in a crisis. That is likely to make things worse. At the same time, I don't think the Fed should have engaged in many of the fiscal actions it has taken. I believe that the Fed has sacrificed its independence. It hasn't always been independent, but Volcker and, to some extent, Greenspan built up independence for the institution. That has been squandered in the current crisis. The Fed has become a financing arm of the Treasury Department. Now that it has alerted Congress that it is willing to go along with just about anything, it is going to have a hard time digging its way out.

RF: Do you think the recent actions of the Fed have reduced its credibility as an inflation fighter and that it will have more difficulty pursuing policies consistent with price stability when the economy rebounds?

Meltzer: Yes. I've had this discussion with members of the Board of Governors and some members of the Fed's staff. They argue that the lending programs have been structured in a way that will permit them to remove liquidity from the system when needed. I have no doubt, as I've told them, about their technical ability to do that. It's the political problem. I just don't see them overcoming the political problem. Where will the political problem come from? Probably Congress and the administration, but also the business community. They're going to say, "The economy is just beginning to recover. And you're going to tighten policy now?" It's not going to be an easy sell.

Consider monetary policy during the 1970s. The people at the Fed were not idiots. They knew what they were doing. They would swear to themselves that they were not going to let inflation get out of line. But then the unemployment rate rose, and all of that went out the window. They expanded the money supply rapidly.

Volcker was finally able to put a stop to it for two reasons. First, by then inflation had become such a problem that everyone knew something had to be done about it; there was considerably more popular and political support for taking a hard line against inflation. Second, he demonstrated enormous courage when the tightening was accompanied by

Allan Meltzer

► Present Position

The Allan H. Meltzer University Professor of Political Economy, Carnegie Mellon University

► Education

A.B. (1948), Duke University; Ph.D. (1958), University of California at Los Angeles

► Selected Publications

Author of *A History of the Federal Reserve: Volume 1* (2004) and *A History of the Federal Reserve: Volumes 2.1 and 2.2* (2009); author or co-author of numerous papers in such journals as the *American Economic Review*, *Journal of Political Economy*, *Quarterly Journal of Economics*, *Journal of Law & Economics*, *Journal of Finance*, and *Journal of Money, Credit and Banking*

► Awards and Offices

Co-organizer, Carnegie-Rochester Conference on Political Economy; co-founder and co-chairman, Shadow Open Market Committee; past president, Western Economic Association; Distinguished Fellow, American Economic Association

very high and rising unemployment.

In January 1982, when the recession was at its worst point and new construction had basically stopped, Volcker gave a talk to a home builders association. Basically, he told them, "I know you're hurting, but you have to understand, if we don't do this now and finish it, we're going to have to do it again and it will be even harder the next time because we gave up on this one." They gave him a standing ovation, not because they admired his policy but because they admired his courage. He kept raising rates when everyone thought he would not have the will to do so. For instance, I recall Jim Tobin saying that it would take 10 years to get rid of inflation, when in fact it took much less time.

RF: Do you believe that the Fed was too easy for too long following the recession of 2001?

Meltzer: Well that's one where I have some scars. I was a visitor at the Fed in 2003. Alan Greenspan

invited me down to talk to him about deflation, which he was quite concerned about at the time. He had read and commented on the first volume of my book and had some questions. I told him that there had been six periods of deflation in Federal Reserve history that didn't hurt anything and one that did, the Great Depression. I told him that I did not think the evidence suggested that deflation — especially a harmful deflation — was likely. For instance, I pointed out that countries that have large budget deficits, active money growth, and the probability of a declining exchange rate are very unlikely to experience deflation. So I was very much opposed to the policy at that point and tried to talk him into adopting a more restrained policy. But I was not able to persuade him. Having said that, let me also say that while I think the blame he gets for that is correct, I think that it's been overdone. He didn't tell the bankers to use that money to buy bad mortgages.

RF: Many commentators — and even some economists — have argued that the financial crisis was the result of a fundamental failure of the market system. What is your opinion of that claim?

Meltzer: I have had several journalists call to ask me about that issue. I think the answer is obviously no. Just look

around. Capitalism has spread from western Europe and North America to the rest of the world. Now, why is that? It's the only system man has come up with that provides both freedom and growth. No other system does as well. All of the other systems are generally someone's idea of utopia. But it's not everyone's idea of utopia. And when people look at the recent crisis and say that the market failed, they are not getting to the right issue. The market didn't fail. What failed were the incentives that we — human beings — created. At the top of that list is too big to fail.

RF: How did you and Karl Brunner come up with the idea of creating the Shadow Open Market Committee and what were your goals for it?

Meltzer: We did that at a time when wage and price controls recently had been adopted. Karl and I organized about a dozen economists to sign a statement that we published in the *Wall Street Journal* saying that the controls were a bad idea and would not work. To get that statement written — this was before fax machines and personal computers — we had to spend hours on the telephone. Any time we had to make a change to accommodate somebody, we had to call the others and tell them what the change was. Obviously that was not a very good way to do things. We decided that we needed to have a meeting.

What was our objective? Karl and I were both disturbed — I knew I was very disturbed — because of the way the problem of inflation was being discussed generally. For instance, there was a lot of talk that we either needed to go back to the gold standard on the one hand or that inflation wasn't really anything to worry about on the other. We didn't think these views represented anything close to the consensus of the good academic work that was being done then. So we put together a group of both business and academic economists, and we tried to inform people and build a constituency for a quite different policy. That's how we started. And we were fortunate in that the *New York Times*, *Washington Post*, and *Wall Street Journal* all gave that first meeting a lot of attention. So we were well-launched. The committee has continued to meet since then — although I left in 1990 — and I think it has enjoyed some success in pushing the debate about inflation in the correct direction.

RF: What was the Meltzer Commission? What was its purpose? And which conclusions did it arrive at?

Meltzer: The Commission got started mainly because in 1998 some members of Congress were not in favor of

continued funding of the International Monetary Fund (IMF). They agreed to vote for funding if the president would agree to have a commission to study the effectiveness of the IMF and similar organizations. So that's how it got started. Its official name was the International Financial Institution Advisory Commission but became known as the Meltzer Commission because I chaired it. (I was not, by the way, the first choice to chair it. Originally, I was just supposed to be a member, but a couple of other people could not do it, so I wound up taking it on.) I requested papers on a number of topics and the people who had worked on them would explain to the other Commission members

what the relevant issues were. For example, I knew very little about the Bank for International Settlements — what it did or whether it was a good thing. We eventually issued a report with a series of recommendations.

The major recommendation that we made regarding the IMF was that it needed to be more discriminating in allocating funds. If countries adopt good policies, the IMF should consider helping them. If they don't, it

should not. Also, the loans that are issued should be issued at a penalty rate. That gives countries a strong incentive to pursue wise policies and avoid the need for IMF assistance in the first place. The banks were a much harder problem because their record of accomplishment is very poor. Many countries that have received significant funding from them have not fared very well. Meanwhile, others that have gotten relatively little funding — such as China — have seen millions of their citizens lifted out of poverty as they have liberalized and adopted more market-oriented policies, something that the World Bank does not do a good job of encouraging.

The report didn't say this, but I think the World Bank should close. What the report said instead is that there should be an independent audit to find out which programs work and which do not. Then it could either improve the ones that don't work or get rid of them. The World Bank is full of people who want to do good things for the poor people of the world. But they don't understand which things will help them and which things won't. They do not generally appreciate that the only system that produces growth and freedom is capitalism. Also, they have no follow-up on their programs. Their whole system is geared to the idea that a program is successful once the final set of funds has been discharged. So if they're building schools in Africa, when the school is built, they declare it a success. But they don't know whether there's a road to connect to the school, how many kids go to the school, or if they are learning anything.

The World Bank is full of people who want to do good things for the poor people of the world. But they don't understand which things will help them and which things won't.

Recently, there has been interest in pushing for better evaluations of the World Bank and the African Development Bank, and that's a very positive development. So I think we're having some sort of slow, long-term effect on the banks. But I believe they need to move faster in telling countries that if you want to grow, open up to the world market.

RF: During the late 1970s and early 1980s, you did quite a bit of work on public choice questions. In particular, you and Scott Richard published an influential paper in the *Journal of Political Economy* titled "A Rational Theory of the Size of Government." What were the principal arguments of that paper?

Meltzer: I think that paper has probably gotten more attention by other academics than any paper I have ever written, including my work on money, which has been the focus of most of my professional life. The paper says that the principal factor determining the size of government is the distribution of income. In a system of majority rule, the voter with median income — not necessarily median ideological views — is decisive. Voters with income above the median favor lower taxes and less redistribution, while those with income below the median favor higher taxes and more redistribution. There are shocks, both political and economic, that can change the position of the median voter and, as a result, public policy. For instance, the expansion of the right to vote in the late 19th and early 20th centuries greatly increased the number of voters with low income, shifting the decisive voter down the income distribution. This, we argue, was one of the big reasons why taxes and government grew during the 20th century.

Scott Richard and I wrote another paper on how redistribution is actually carried out in the United States. Specifically, we wanted to explain why we have never

adopted the negative income tax, despite it being a popular idea with economists and arguably the most efficient way to transfer resources to poor people. The answer we gave is that the decisive voter believes the amount that people work can be increased by giving in-kind benefits rather than cash benefits. If you look at the welfare system, for example, the major cash benefits are issued in the form of unemployment compensation and pensions to senior citizens. In short, those benefits go to people who have worked. But for those who do not work or have not worked, we give food stamps, housing subsidies, and a variety of other transfers — but we don't give cash. And even when we have something that's a modified version of the negative income tax, such as the earned income tax credit, it goes to people who work.

RF: You have served in the government on a couple of occasions. Do you think that policymakers pay much attention to the advice they solicit?

Meltzer: It very much depends on the politician. For example, Nixon didn't care much about economics. He really relied on George Shultz to a considerable extent. As budget director, George got to learn what Nixon's priorities and preferences were and he made a lot of the decisions based on that, without consulting Nixon on specific questions because Nixon simply wasn't interested. Gerry Ford, who I got to know quite well, was entirely different. First of all, he knew the budget inside and out because he had been in Congress. But he also listened to his advisers. He took what they said into consideration and was willing to do what he thought was right, even if it cost him some political support. Reagan was a slightly different case. He may not have known the details of a piece of legislation as well as, say, Ford. But he had strong convictions and if the goals and likely effects of a bill coincided with what he believed, he would get behind it even if it was unpopular. **RF**



Sport of Kings: Horse Racing in Maryland

BY BETTY JOYCE NASH

Attendance at the Preakness Stakes in Baltimore fell by 30 percent last May compared to the previous year, yet total wagering on race day rose to nearly \$87 million, an 18 percent jump over 2008. That was unusual. Industry watchers called it an anomaly because odds favored the winner, Rachel Alexandra, a thoroughbred filly, and 85 years had passed since a filly had crossed the finish line at the Pimlico Race Track. The race is usually Maryland's biggest one-day sports event.

But Pimlico's future is in limbo. Owner Magna Entertainment is in bankruptcy, and the state Legislature has authorized the governor to use eminent domain, if necessary, to keep it in Baltimore. The 2009 racing schedule has also been curtailed from 31 to 20 days. Pimlico's plight illustrates an industry already dogged by sparse attendance and revenues dependent on slot machine gambling. Since the 1970s, horse racing has competed not only with alternative entertainment but also gambling via state lotteries, and, later, casinos, and racetrack casinos. While those "racinos" recently won legislative approval in Maryland, bidding for casinos and construction there are off to a slow start. In neighboring Pennsylvania, Delaware, and West Virginia, however, the racinos are thriving, stealing business from Maryland tracks.

Patrons of the Turf

Horse racing today is thoroughly dependent on wagering. Portions of the gambling money provide funds for owners and trainers, and indirectly for breeders, since the value of a horse can be traced to expectations about its performance.

Of the many milestones in Maryland racing, perhaps the biggest was the introduction of the "French Mutuel" machine at Pimlico in 1873.

The method paid in proportion to the total amount bet, and it dominates horse racing today. Maryland's racing legacy also includes early off-track betting parlors as well as 19th century government incentives to build the historic Pimlico track.

Maryland and Virginia were the cradles of racing in the American colonies. Colonial governors, appointed by the King of England, imported the best-bred mares and stallions from the mother country. One mare competed so well she was barred from racing in Virginia in the 1700s, says Joe Kelly, a newspaper man who covered horse racing for the better part of the 20th century. Her name was Selima, and Laurel Racetrack named a race in her honor.

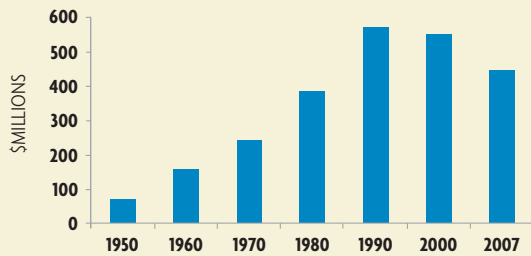
Overland races known as steeplechases were so named because riders raced from church steeple to steeple, and people wagered in a "my horse can beat your horse" fashion. George Washington's diary noted wins and losses on his trips to race in Maryland, according to Joseph Challmes in *The Preakness: a History*.

The once-vibrant racing industry monopolized legal gambling until the 1970s, but now it faces eroding revenues because of competition from other types of wagering



Two offspring of Man o' War raced at Pimlico in 1938. War Admiral was heavily favored to beat Seabiscuit but came up short by four lengths.

Total Betting for Maryland Thoroughbred Racing



SOURCE: Maryland Racing Commission

Racing of all kinds, steeplechase and flat track, can be found throughout the District today. Those include country-day races where people don't bet — for example in Camden, S.C., at the Colonial and Carolina Cups, well-known and well-attended steeplechases in the fall and spring. There are also many on-track and off-track betting locations in Maryland, Virginia, and West Virginia. Colonial Downs in Virginia offers a racing summer season as well as off-track betting and simulcasts. At West Virginia's Charles Town and Mountaineer Park tracks, there's slot machine gambling. Portions of gambling proceeds go to fund purses, and the bigger purses bring in better horses, owners, and breeders.

The Dinner Party

Maryland Gov. Oden Bowie, a horseman himself, attended a dinner party after the Saratoga races in New York in 1868. As Baltimore rebuilt from the Civil War and grew, the city was in a race of its own, vying with New York for economic supremacy on the East Coast, Challmes says. The Baltimore & Ohio Railroad rivaled New York's Erie Canal when the B&O became the nation's first public commercial and freight railroad. The city was known for other "firsts" such as the Baltimore clipper ships that sped around the globe returning with exotic cargo. This competition extended to racing, already thriving in New York and Chicago.

Bowie used his own track on his plantation to test the speed of his horses. He had also managed to hang on to his wealth through the Civil War and regularly raced his horses at Saratoga. When a wealthy land baron and owner of a famous horse, Preakness, suggested a winner-take-all sweepstakes, Bowie persuaded them at this dinner party to hold it in Baltimore.

It was a classic case of 19th century economic development. "Bring in wealthy people, they spend money," Challmes says in a telephone interview. It would be Maryland's first officially sanctioned race since 1859. But there was no race course because the city was still remaking itself after the war. The Maryland Jockey Club, formed in 1743 and now owned by Magna Entertainment, chose a 70-acre site called Pimlico. The track was partly funded by the state (\$35,000) and the city (\$25,000) along with another \$55,000 in private contributions, equivalent to about \$1.9 million in 2008 dollars. There were 4,000 seats in the grandstand.

In October 1870, the crowds arrived in force for a full race day that included the "Dinner Party Stakes." The stakes offered a purse of \$19,000, one of the biggest ever, \$320,000 in 2008 dollars. The name of the winning horse was

Preakness. And from that race, the 1.5 mile Preakness Stakes for 3-year-olds began in the spring of 1873.

The most enduring legacy of that 1873 Preakness may have been the popularity of the parimutuel betting machine that paid winners in proportion to the total amount they wagered. The machines allowed small bets, and would come to dominate horse wagering, even when other forms of betting were outlawed in some states. Previously, people had bought into betting pools or placed bets with bookmakers, which often led to corruption.

Maryland boasted many famous horsemen, and from about 1878 through 1882, George Lorillard of the Lorillard Tobacco family dominated Maryland racing. As Lorillard's health declined and he dispersed his stables, New York was pulling ahead as the hub of racing on the East Coast, offering more tracks and better purses. The Preakness even moved to New York and stayed until 1909, when that state, among others, banned betting in a nationwide reform movement (that ultimately prohibited alcohol as well). Maryland and Kentucky were the only states where you could gamble in that era, says Raymond Sauer, a sports economist at Clemson University.

In 1909, the Preakness returned to Pimlico, and built its reputation through horses like Sir Barton. In 1919, he became the first to win the Triple Crown: the Kentucky Derby, the Preakness, and the Belmont Stakes. Yet the Pimlico race still wasn't widely known outside of Maryland. "The Preakness in 1920 was not really on the map," Challmes says. "Most of the early Derby winners did not find their way to the Preakness."

That was about to change. In 1920, one of the most famous race horses in history ran not in the Derby but in the Preakness, in his first start as a 3-year-old. Man o' War was based on the Eastern Shore of Maryland. The horse was also the grand sire of the acclaimed Seabiscuit, who would become a racing star during the Depression. "After that, it [the Preakness] attracted so much attention and press that it became the normal thing, where the Derby winner would come to the Preakness," Challmes says. And by the late 1920s, the Triple Crown had evolved into the prestigious racing event.

Perhaps Pimlico's biggest day came in 1938 when the track hosted a match between Seabiscuit and a son of Man o' War, War Admiral, the favorite. Forty thousand people filled the stands and 40 million tuned in to the radio. Seabiscuit won by four lengths.

Racing in those days was dominated by stables such as Sagamore Farms, which in 1925 was given over to horse breeding by the Bromo-Seltzer magnate. The farm passed to his grandson Alfred Vanderbilt, the racing dynamo who arranged the Seabiscuit versus Man o' War match and at one time served as president and owner of Pimlico. Vanderbilt cultivated and bred champions such as Native Dancer (a Belmont and Preakness winner in 1953).

Maryland racing was some of the best in the country, says Doug Reed, director of the University of Arizona Racetrack

Industry Program. "It was a state rich in history and horse breeding."

Racing's Debt: Wagering

While gambling sustains horse racing today, until the expansion of an audience through television, radio, and the Internet, tracks also made money on admission, parking, food, and beverage sales. Off-track betting, however, is relatively new. New York was one of the first states to allow off-track betting in the 1970s, a practice since adopted by virtually all race tracks.

"In the '70s and '80s you were a standalone race track," Reed says. "The revenue I can get from you at the track is different than what I would get from you far away."

Today the gambling provides most of the revenue in racing, about 90 percent. Yet the proliferation of wagering has hurt racing. "You just can't keep oversupplying a product," Reed says. "Racing is starting to see that. How much racing do you need when you can bet on every track over the country at the same time?" The Maryland Jockey Club reported a 22.5 percent drop in wagering in 2008 over 2007 at its tracks, Pimlico and Laurel. Total parimutuel handle (wagering) on thoroughbred racing in North America fell by 7 percent in 2008, according to the Jockey Club.

Joe Kelly covered the 1946 Preakness. "Racing changed to the point where you can see the racing in your living room," he says. "Technology took over and people decided it wasn't necessary to go into the physical part of it by attending the race track."

Economist Richard Thalheimer heads a consulting firm in Lexington, Ky. He studies the horse racing industry and notes, along with Sauer, that the introduction of state lotteries in the 1970s and the proliferation of casinos in the latter two decades of the 20th century have cut into horse race betting. Wagering peaked in real dollars in the mid-1970s, and has declined 45 percent to 50 percent, largely because of competition, according to Thalheimer.

"Back in the Seabiscuit days, you'd have 70,000 people at a track on a Wednesday afternoon," says Remi Bellocq, the chief executive officer of the Horsemen's Benevolent Protective Association.

Racing also got hurt because it resisted television broadcasts in the early years, Sauer says, under the misconception that TV would cut into live attendance. "The response was really slow and played out over a decade." Baseball and football broadcasts expanded, and so did those sports' attendance. In the long run, television builds interest in the sport, he argues, and racing suffered on a relative basis from the TV exposure that baseball, football, and eventually basket-

ball gained. Racing is also harder to broadcast, given its brief spurts of action followed by the lags between races. "I think the lack of regularly scheduled [television] racing and the difficulty of convening it on television hurt in a period where TV broadcasts made the landscape of modern sport."

The Interstate Horse Racing Act in 1978 changed the industry because it established the property rights of racing tracks over their own races so they could be transmitted. The 1974 Kentucky Derby was pirated by New York State off-track betting sites — back then, Bellocq says, they didn't think simulcast would amount to much. "Now of course, 80 to 85 percent of wagering at a track is off-track."

Those simulcasts allowed racing distribution and may have increased its popularity. "We usually measure interest in our sport almost more by betting handle than by attendance," says Reed. He adds that graphs of handles increased until 2003. But he agrees that the spread of gambling has hurt racing. "It exploded in the 1990s — state after state started approving riverboat, land based casinos, lotteries," he says. "The competition caught up to us." In particular, Maryland is ringed by states that made changes. "Charles Town is having a huge negative effect on the horse and customer population because of their change and Maryland not having that change."

Thalheimer notes that there is a decline in horse race parimutuel betting because many people play the slots rather than bet on the horses. In particular, he studied the Mountaineer Park track in West Virginia and found that parimutuel betting slowed when slots were introduced. "The horse race handle went down on the order of 30 to 40 percent," he says. "On the other hand, it produced enough revenue to greatly increase purses. So the net benefit was to the horse racing industry as well as to the state and track, which both got far more money." West Virginia is the only state in the District with racinos, approved in 1994.

Racino revenues are growing even as gross gaming revenues are falling. Expansion of racinos in Pennsylvania and Indiana fueled a 17 percent increase in gross gaming revenue from 2007 to 2008, according to the American Gaming Association.

The future of betting on the horses, Thalheimer says, may lie in wagering through telephone and the Internet, where it's legal. "It's a great product to send out where it's convenient to bet on it," he says.

And Maryland racing enthusiasts hope for a renaissance of sorts now that Vanderbilt's old place, Sagamore Farms, has been restored into a horse farm once more. Kevin Plank, who built the Under Armour empire, has entered the breeding business. He wants to win the Triple Crown. **RF**

READINGS

Challmes, Joseph. *The Preakness: A History*. Baltimore: Anaconda Publications, 1975.

Thalheimer, Richard. "Government Restrictions and the Demand for Casino and Parimutuel Wagering." *Applied Economics*, 2008, vol. 40, no. 6, pp. 773-791.

Thalheimer, Richard, and Mukhtar Ali. "Exotic Betting Opportunities, Pricing Policies and the Demand for Parimutuel Horse Race Wagering." *Applied Economics*, 1995, vol. 27, no. 8, pp. 689-703.

Increased Productivity and Trade Have Reduced Manufacturing Employment

BY SONYA RAVINDRANATH WADDELL

The goods-producing sector — which includes the sub-sectors of construction, natural resources and mining, and manufacturing — has been falling steadily as a share of Fifth District industry for quite some time. The story of the decline, however, is really a story about the changing face of the region’s manufacturing base. Before the turn of the century, most of the manufacturing decline was centered in the textile, apparel, and furniture industries. Today, cutbacks have deepened and spread across subsectors of manufacturing as both the number of establishments engaged in manufacturing and employment in the sector have decreased considerably.

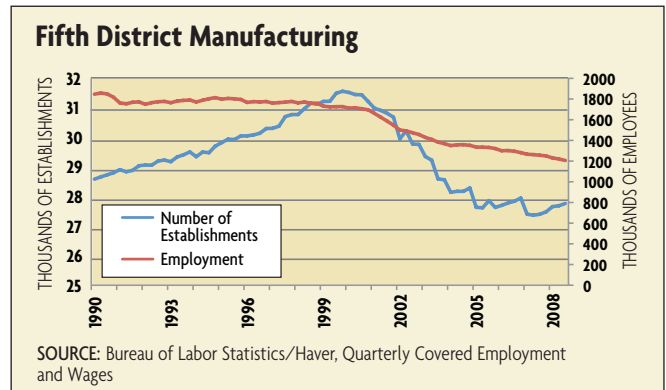
Some of the recent employment losses can be attributed to the globalization of manufacturing and the off-shoring of some manufacturing operations. But much of the reduction can be traced to increased labor productivity.

According to the Bureau of Labor Statistics, the goods-producing sector in 1990 comprised 20 percent of all business establishments in the Fifth District and 30 percent of all employment. By 2008 those shares had fallen to 16 percent and 19 percent, respectively. This corresponds not only with a decline in goods-producing employment, which fell nearly 18 percent in the past two decades, but also with the rise of the service sector — employment in that category has expanded almost 50 percent over the same period.

To speak of broad trends in goods production, however, can be misleading. Employment in the District’s manufacturing sector has fallen by more than a third (35 percent) since 1990, and the number of establishments engaged in manufacturing has dropped almost 3 percent. Meanwhile, employment in the Fifth District natural resources and mining sector has been generally steady over the past 20 years and, although the number of establishments has recently stagnated, it remains above 1990 levels. In construction, too, employment and firm levels are 28 percent and 29 percent above their 1990 mark, respectively, despite a recent deterioration in activity.

The Shrinking Manufacturing Firm

Although employment in Fifth District manufacturing has been declining steadily since 1990, the number of factories actually grew by more than 10 percent from 1990 to 2000. Starting in 2000, those levels began to drop, and by the third quarter of 2008, the number of establishments had fallen by more than 12 percent. Not surprisingly, employment declined more dramatically as the number of establishments



fell. Manufacturing employment fell by 6.5 percent in the 1990s, but since 2000 has dropped more than 30 percent.

As the number of manufacturing establishments grew and total employment fell through the 1990s, the size of the average establishment clearly fell. Despite the decline in the number of establishments that began in 2000, however, the shrinking in average establishment size has continued — falling from almost 65 workers per firm in 1990 to about 54 workers in 2000 and down to 43 workers in 2008.

There are two possible explanations. First, there could be a general decline in factory size across the District. Second, more large factories could be closing relative to smaller factories, leaving the District with smaller manufacturing establishments on average. The data do not provide an unequivocal answer, although most likely the explanation is some combination of the two.

The Changing Face of Manufacturing

Manufacturing in the Fifth District is not concentrated heavily in a particular product. In the third quarter of 2008, only two products came close to accounting for 10 percent of all manufacturing activity as measured by employment: food and transportation equipment.

Transportation equipment has certainly been a growing subsector of Fifth District manufacturing over the past two decades as employment in the industry grew 4.5 percent and the number of factories grew about 45 percent. Fabricated metal products manufacturing, which transforms metal into intermediate or end products (other than machinery, computers and electronics, or metal furniture), has also seen considerable growth in the District. Employment in that subsector grew 7.5 percent as the number of establishments increased almost 23 percent since 1990.

The most notable structural change in the District's manufacturing base, however, occurred in the textile, apparel, and furniture manufacturing. The decline in those subsectors accounted for 72 percent of employment losses and 63 percent of all firm closings from 1990 to 2008. Over time, however, these subsectors' contributions to total losses diminished: They accounted for basically all employment losses (92 percent) in the 1990s, but only about half of all losses since 2000.

Manufacturing activity in the Fifth District is not distributed evenly across states, and therefore states have been affected differently by the manufacturing decline. North Carolina — which houses 38 percent of District manufacturing firms and 43 percent of manufacturing employment — has been hit the hardest. The Tar Heel State accounted for about 50 percent of the gross decline in employment and establishment numbers since 1990. That year, more than 32 percent of North Carolinians worked in manufacturing; the share has dropped to slightly more than 15 percent today.

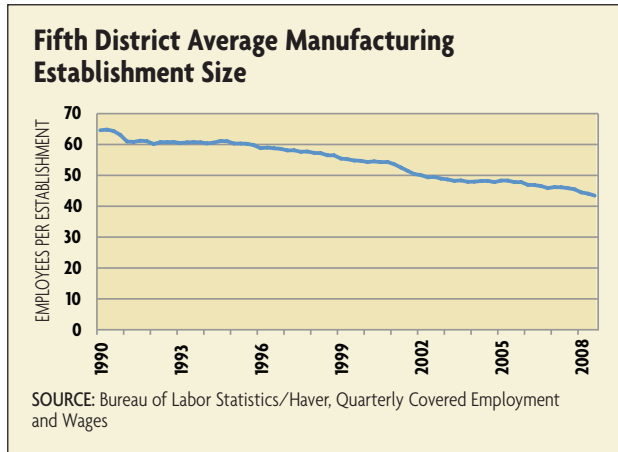
All Fifth District states have lost more than 30 percent of their manufacturing jobs over the past two decades, most since 2000. North Carolina has led the Fifth District in net employment losses, shedding over 300,000 manufacturing jobs since 1990. The other states in the District have also seen manufacturing employment decline, but not as severely. Virginia shed 121,670 jobs and South Carolina lost 112,060 jobs in manufacturing since 1990. (In both states, more than 80 percent of the job losses occurred since 2000.) Although the South Carolina economy has shed more factory jobs than Virginia, South Carolina has also added quite a few more. In particular, the Palmetto State has added 13,900 jobs in transportation equipment over the last two decades, and in 2008 was home to about 275 automotive-related companies.

The Manufacturing Sector Since 2000

The data from 1990 to 2008 show the loss of textile, apparel, and furniture manufacturing and the rise in transportation equipment and fabricated metal production. Yet employment has declined in all Fifth District subsectors of manufacturing since 2000. The number of factories in the Fifth District has dropped, and employment has fallen even more precipitously.

Textile and textile products still accounted for about 30 percent of manufacturing job losses since 2000, and apparel and furniture accounted for about 10 percent each. But the computer and electronic products industry's contribution rose to account for about 8 percent of losses. In addition, electrical equipment, wood products, chemicals, plastics, and machinery each contributed between 4 percent and 5 percent of total losses.

More than half of the manufacturing



sector's job cuts since 2000 were in North Carolina. Forty-seven percent of those cuts were in textiles, textile products, or apparel manufacturing, with an additional 14 percent in furniture. In fact, these four subsectors in North Carolina accounted for 30 percent of manufacturing cuts in the District. North Carolina also saw sizeable losses in computer and electronic products (7 percent), and electrical equipment and appliances (6 percent).

South Carolina and Virginia have continued to see their manufacturing base move away from textile products, apparel, and furniture. In addition, although many subsectors of manufacturing saw employment losses, certain industries, such as computers and electronic products, contributed more than average to the decline. Thirteen percent of Virginia's employment loss (and 15 percent of Maryland's) was in computer and electronic products.

Although manufacturing employment has declined at the aggregate level, there are still some bright spots at the state level. Employment in food manufacturing grew 8 percent in North Carolina and almost 10 percent in South Carolina between 2000 and the third quarter of 2008. South Carolina also saw growth in transportation equipment (6 percent) and petroleum and coal products (5 percent). Virginia saw growth in petroleum and coal product employment (24 percent), as well as in textile product mills (5 percent). Meanwhile, employment in plastics and rubber products grew more than 6 percent in West Virginia.

QUICK FACT

Employment in the District's manufacturing sector has fallen by more than a third (35 percent) since 1990, and the number of establishments engaged in manufacturing has dropped almost 3 percent.

Deciphering the "Slump"

There are a few potential explanations for why the District has seen such precipitous declines in manufacturing employment, particularly since 2000.

The first theory is that the demand for manufactured goods — domestic or international — simply might have declined and the lower demand spurred a cut in production. A second theory is that foreign firms have out-competed domestic firms in production. A third theory is that American firms have found it more profitable to manufacture goods

abroad. Finally, the manufacturing sector in the Fifth District simply might have become more productive as firms have found ways to produce the same output with fewer establishments and workers.

The first theory — a general decline in demand — might explain a more recent decrease in manufacturing activity. However, a decade of booming American consumer spending and rising per-capita incomes around the world does not suggest a reduced demand that could explain a decade-long decline across the Fifth District manufacturing sector.

The second and third theories — that overseas firms are more competitive or that formerly domestic jobs are moving overseas — have been commonly cited reasons for shuttered factories in textiles, apparel, and furniture production. North Carolina State University economist Mike Walden says the decline in textiles, apparel, furniture, and cigarette production may be due to increased imports and outsourcing.

But Walden reports that productivity accounts for declines in other sectors. In fact, this final theory is critical to understanding the manufacturing decline. It is virtually undisputed that manufacturing across the United States has become more productive. According to data from the Bureau of Economic Analysis and the Federal Reserve Bank of San Francisco, overall manufacturing productivity in the United States, as measured by the real value of output per worker, grew almost 40 percent from 2000 to 2007. This trend held true across Fifth District states, especially in North Carolina and Maryland.

Of all manufacturing subsectors in the Fifth District, the computer and electronic products industry had the highest productivity growth. In that subsector, output per worker grew about three and a half times in South Carolina and Virginia and more than quadrupled in Maryland and North Carolina between 2000 and 2006. The data provide evidence that much of the drop in computer and electronic product industry employment — that accounted for almost 10 percent of Fifth District manufacturing employment losses over the decade — is due to increased productivity.

The productivity data also provide evidence to dim some of the Fifth District

Share of Total District Manufacturing

Manufacturing Subsector	1990	2008
Apparel	10.0	1.7
Beverage and Tobacco Product	2.0	2.3
Chemicals	7.0	8.4
Computer and Electronic Product	6.8	7.1
Electrical Equipment and Appliance	3.4	4.0
Fabricated Metal Product	5.2	8.5
Food	6.1	10.0
Furniture and Related Product	7.1	5.6
Leather and Allied Product	0.4	0.1
Machinery	5.3	7.0
Nonmetallic Mineral Product	3.2	3.7
Paper	3.2	3.9
Petroleum and Coal Products	0.3	0.3
Plastics and Rubber Product	4.5	6.8
Primary Metal	2.8	2.5
Printing and Related Support	3.6	3.9
Textile Mills	15.3	5.3
Textile Product Mills	2.5	1.6
Transportation Equipment	5.9	9.4
Wood Product	3.4	4.7
Miscellaneous	2.3	3.1

SOURCE: Bureau of Labor Statistics/Haver, Quarterly Covered Employment and Wages

“bright spots.” Although employment in food production grew about 8 percent in North Carolina and about 10 percent in South Carolina from 2000 to 2008, output per worker in the subsector grew only 5 percent in North Carolina and fell 9 percent in South Carolina from 2000 to 2006.

On the other hand, transportation equipment manufacturing in South Carolina actually appeared to be a bright spot, as employment in the state subsector increased 6 percent even as output per worker in motor vehicle production more than doubled. (Productivity in the “other transportation” category in South Carolina also grew.) Productivity in West Virginia’s motor vehicle production jumped notably as well, but the state accounts for only about 4 percent of all

transportation equipment manufacturing in the District.

Meanwhile, some subsectors saw a decrease in both productivity and employment. Job losses in the chemical subsector accounted for almost 5 percent of total losses in Fifth District manufacturing employment while productivity in that sector actually declined in three of the five states in the District.

Productivity increases are also not likely to account for the steep employment losses in the apparel, textile, and furniture industries. Increased imports and labor outsourcing probably played a larger role in those subsectors’ work force reductions.

Looking Forward

As the marginal productivity gains — particularly in newer manufacturing industries such as computer and electronic products — start to decrease, we might begin to see the decline of manufacturing employment stabilize. New sectors such as biotechnology seem promising. Already, North Carolina is a leading state for biotech with 450 companies involved in some phase of research, development, or manufacturing. Nonetheless, with the increasing globalization of industry and freedom of trade, the urbanization of our region, and the continued productivity improvements, the share of our District devoted to manufacturing may remain on a downward trajectory for some time to come.

RF

QUICK FACT

The Bureau of Labor Statistic’s Quarterly Covered Employment and Wages (QCEW) data comes from quarterly tax reports of more than 8 million employers and some federal agencies. This data includes 99.7 percent of all wage and salary civilian employment.

Smaller Textile Industry Reaches New Markets

BY BETTY JOYCE NASH

Jeff Ward's mother kicked him and his business, Innovative Geotextiles Corp., out of the garage in 1983. "I moved. And so today we're in a 10,000 square foot manufacturing plant," he says. He calls his business category "rejuvenation," because he finds new purposes for old products. His first effort was to take the polypropylene commonly used as dust covers under sofas and chairs and re-purpose it as landscaping fabric. "I developed a retail product you use for weed block — it lets the water through, but not the sun."

Rejuvenation also describes the District's diverse, but much, much smaller textile industry today. Even with all the layoffs and outsourcing, North Carolina remains the No. 1 textile mill employer and yarn producer as well as the No. 4 apparel producer in the nation. Today, however, the textile and apparel sector accounts for less than 2 percent of the state's employment, and the industry's labor-intensive production has been replaced by ideas. These technological innovations include carbon fiber that will be used in the "airbus" slated to be built in Kinston, N.C., to fabric that serves as a structure for new skin growth on burn patients. The definition of what qualifies as a "textile" appears unlimited.

Mansour Mohamed founded and serves as the chief scientific officer of 3TEX based in Cary, N.C. Formerly the head of the department of textile engineering, chemistry, and science at the North Carolina State University College of Textiles, he and his colleagues have put the firm's patent portfolio to work. Among other products, the firm engineers and manufactures armor systems using its patented fabrics and composite systems. The 3TEX technology includes three-dimensional, noncrimped woven fibers known for strength.

"We are also gearing up for a new focus on wind energy — windmill blades," Mohamed says.

While giants such as Milliken in South Carolina, and International Textile Group, Unifi, and Glen Raven in North Carolina remain, a wide variety of firms — small and large, old and new — make up the textile sector today. And, like 3TEX, the products they engineer and fabricate would surprise many people.

Like nonwoven fabrics, for instance — think diapers and wipes. They're not woven or knitted, and they comprise a growing piece of the industry, which began with the development of synthetic fibers during World War II. The category has exploded in recent years. The United States produces and uses more nonwoven products than any other country, and North Carolina has more nonwoven fabric producers than any other state. These include firms like Freudenberg (the world's biggest producer of nonwovens), Kimberly Clark, and PGI Nonwovens, which operates four locations in North Carolina.

"It's a very inexpensive way of putting materials

together," says Ian Butler, who keeps statistics for INDA, the industry association for nonwoven goods. But it's also an industry that requires little labor, he says. Machines churn out 1,000 baby diapers per minute.

Textile firms have also specialized in "performance fabrics" that retard flame and bacteria growth and moisture, and even keep socks and shirts from getting smelly. Textile firms have also found military products to be a growing niche, in part thanks to the 1941 Berry Amendment. The amendment was made permanent in the U.S. Code in 2002 and says military products must be manufactured in the United States. Milliken, for instance, has a military division that makes flame-resistant flight suits and boots, among other products, using various trademarked fabrics. In 2008, the U.S. Department of Defense purchased \$133 million in North Carolina textile goods.

Medical textiles is also a growing segment. "That is the hot area now," says Blanton Godfrey, the dean of the North Carolina State University College of Textiles, "where you're growing peoples' organs on textile scaffolds, a fiber base." Other products include artificial arteries and hernia patches. Those products are almost all made in the United States, some in Canada. These new niches supply a still-robust part of the market. Until recently, automotive textile suppliers were doing well.

Four years ago, a group of researchers, under a grant from the North Carolina Department of Commerce, documented the textile industry in the state. Researchers from North Carolina State, the University of North Carolina at Chapel Hill, and Duke University merged a variety of databases and identified 1,846 textile company locations in North Carolina and more than 900 in South Carolina. They established Web sites to connect firms in those states.

The North Carolina Hosiery Technology Center at Catawba Valley Community College began 19 years ago to train technicians and operators, but now helps firms test, develop prototypes, and market products. The center's testing lab sees a lot of action these days, according to director Dan St. Louis. "We test for a ton of people, like major brands Nike, Lands End, Kmart; it could be for durability, fit, moisture management, antimicrobial properties, compression testing," St. Louis says. Before firms choose which products to buy, they have the samples tested. It doesn't hurt that the center has the resources of the North Carolina State University College of Textiles behind them, among other expertise.

Manufacturing textiles today, says St. Louis, is not about price. Thorlo, for instance, makes high-end athletic and outdoor recreation socks in Statesville, N.C. "They focused on quality," he says, adding that they monitor to the "nth degree." Given the variety they now handle, the center's name is being changing to the Manufacturing Solution Center. **RF**

State Data, Q4:08

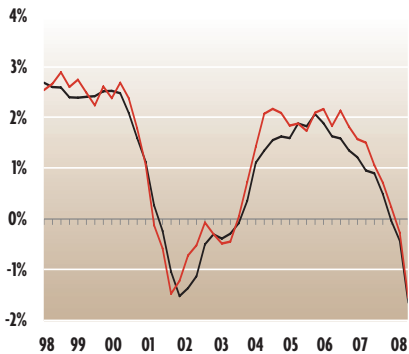
	DC	MD	NC	SC	VA	WV
Nonfarm Employment (000's)	707.0	2,576.3	4,080.0	1,894.9	3,721.5	759.8
Q/Q Percent Change	-0.4	-0.8	-1.3	-1.5	-1.2	-0.4
Y/Y Percent Change	1.3	-1.3	-2.1	-2.7	-1.3	0.2
Manufacturing Employment (000's)	1.4	126.1	497.9	235.8	258.8	55.2
Q/Q Percent Change	-12.5	-1.5	-2.8	-2.5	-2.0	-1.5
Y/Y Percent Change	-17.6	-4.0	-6.7	-5.1	-5.3	-5.3
Professional/Business Services Employment (000's)	152.7	399.5	487.0	215.1	650.5	60.1
Q/Q Percent Change	-0.3	0.1	-3.4	-1.9	-1.3	-0.8
Y/Y Percent Change	0.0	0.0	-3.7	-4.9	-0.4	-2.0
Government Employment (000's)	234.8	488.3	718.0	343.4	697.6	147.5
Q/Q Percent Change	-0.7	-0.1	1.3	0.1	0.1	0.2
Y/Y Percent Change	0.8	1.4	3.6	0.7	1.8	1.4
Civilian Labor Force (000's)	332.9	3,007.4	4,578.3	2,182.1	4,164.3	804.7
Q/Q Percent Change	-0.3	0.3	0.6	1.0	0.8	0.0
Y/Y Percent Change	0.9	0.6	1.4	2.5	1.9	-0.9
Unemployment Rate (%)	8.0	5.1	7.5	8.3	4.6	4.4
Q2:08	7.2	4.5	6.6	7.2	4.1	4.2
Q3:07	5.7	3.6	5.0	5.7	3.3	4.4
Real Personal Income (\$Mil)	31,897.6	224,316.3	262,490.3	117,934.5	275,775.9	45,643.6
Q/Q Percent Change	1.5	1.3	1.1	1.1	1.3	1.7
Y/Y Percent Change	1.6	0.8	0.8	0.8	0.9	2.9
Building Permits	42	1,889	8,058	3,441	5,033	403
Q/Q Percent Change	-72.4	-50.5	-44.7	-48.7	-20.2	-53.8
Y/Y Percent Change	-74.7	-45.9	-49.4	-53.2	-33.4	-67.7
House Price Index (1980=100)	614.2	493.0	346.2	325.0	448.7	229.4
Q/Q Percent Change	-1.2	-1.5	0.1	-0.2	-0.9	-0.1
Y/Y Percent Change	-6.0	-7.7	1.1	0.3	-4.6	-0.5
Sales of Existing Housing Units (000's)	6.8	58.4	121.2	63.2	105.2	22.8
Q/Q Percent Change	-5.6	-11.0	-21.1	-21.4	-16.8	-9.5
Y/Y Percent Change	-15.0	-14.6	-34.7	-31.0	3.1	-17.4

NOTES:

Nonfarm Payroll Employment, thousands of jobs, seasonally adjusted (SA) except in MSAs; Bureau of Labor Statistics (BLS)/Haver Analytics, Manufacturing Employment, thousands of jobs, SA in all but DC and SC; BLS/Haver Analytics, Professional/Business Services Employment, thousands of jobs, SA in all but SC; BLS/Haver Analytics, Government Employment, thousands of jobs, SA; BLS/Haver Analytics, Civilian Labor Force, thousands of persons, SA; BLS/Haver Analytics, Unemployment Rate, percent, SA except in MSAs; BLS/Haver Analytics, Building Permits, number of permits, NSA; U.S. Census Bureau/Haver Analytics, Sales of Existing Housing Units, thousands of units, SA; National Association of Realtors®

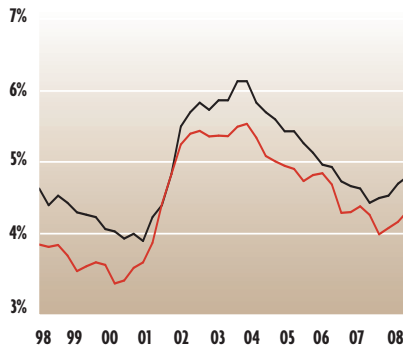
Nonfarm Employment

Change From Prior Year
First Quarter 1998 - Fourth Quarter 2008



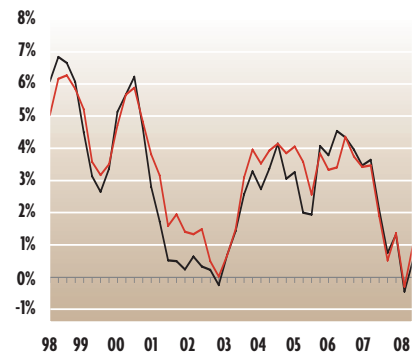
Unemployment Rate

First Quarter 1998 - Fourth Quarter 2008



Real Personal Income

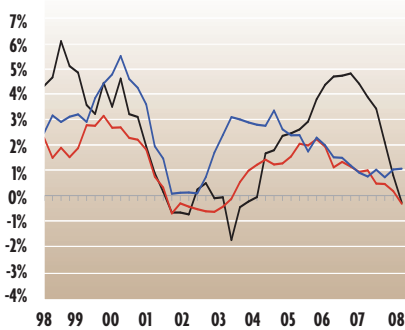
Change From Prior Year
First Quarter 1998 - Fourth Quarter 2008



— Fifth District — United States

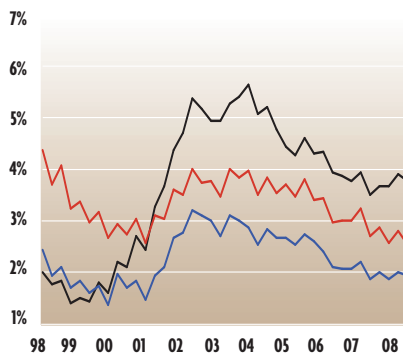
Nonfarm Employment Metropolitan Areas

Change From Prior Year
First Quarter 1998 - Fourth Quarter 2008



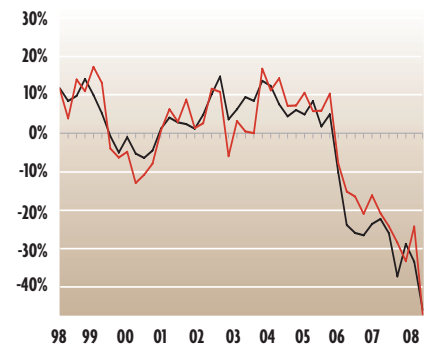
Unemployment Rate Metropolitan Areas

Change From Prior Year
First Quarter 1998 - Fourth Quarter 2008



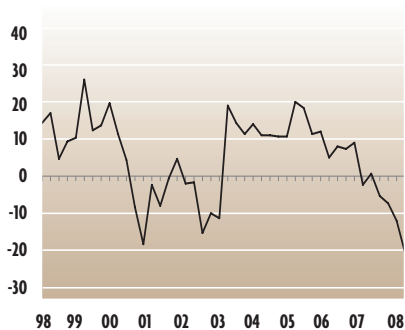
Building Permits

Change From Prior Year
First Quarter 1998 - Fourth Quarter 2008



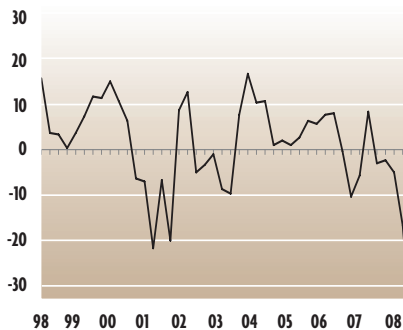
FRB—Richmond Services Revenues Index

First Quarter 1998 - Fourth Quarter 2008



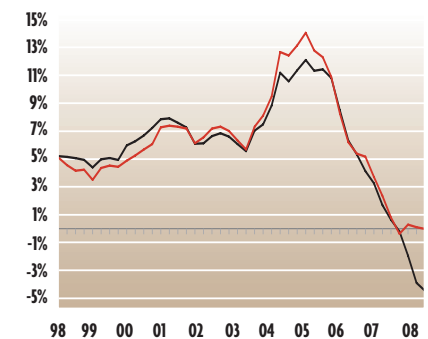
FRB—Richmond Manufacturing Composite Index

First Quarter 1998 - Fourth Quarter 2008



House Prices

Change From Prior Year
First Quarter 1998 - Fourth Quarter 2008



— Fifth District — United States

NOTES:

1) FRB-Richmond survey indexes are diffusion indexes representing the percentage of responding firms reporting increase minus the percentage reporting decrease. The manufacturing composite index is a weighted average of the shipments, new orders, and employment indexes.
2) Metropolitan area data, building permits, and house prices are not seasonally adjusted (nsa); all other series are seasonally adjusted.

SOURCES:

Real Personal Income: Bureau of Economic Analysis/Haver Analytics.
Unemployment rate: LAUS Program, Bureau of Labor Statistics, U.S. Department of Labor, <http://stats.bls.gov>.
Employment: CES Survey, Bureau of Labor Statistics, U.S. Department of Labor, <http://stats.bls.gov>.
Building permits: U.S. Census Bureau, <http://www.census.gov>.
House prices: Federal Housing Finance Agency, <http://www.fhfa.gov>.

Metropolitan Area Data, Q4:08

	Washington, DC	Baltimore, MD	Hagerstown-Martinsburg, MD-WV
Nonfarm Employment (000's)	2,442.0	1,313.3	101.1
Q/Q Percent Change	0.1	-0.3	-0.0
Y/Y Percent Change	0.2	-1.2	-3.0
Unemployment Rate (%)	4.4	5.4	6.1
Q2:08	4.0	4.9	5.2
Q3:07	2.9	3.5	3.0
Building Permits	2,928	684	170
Q/Q Percent Change	-15.3	-57.8	-39.5
Y/Y Percent Change	-40.0	-49.0	-64.3
	Asheville, NC	Charleston, SC	Durham, NC
Nonfarm Employment (000's)	175.0	854.1	293.9
Q/Q Percent Change	-0.2	-0.1	0.6
Y/Y Percent Change	-2.3	-2.7	1.3
Unemployment Rate (%)	5.9	7.9	5.5
Q2:08	5.2	6.8	5.2
Q3:07	3.6	4.8	3.8
Building Permits	263	2,018	339
Q/Q Percent Change	-45.5	-23.6	-37.5
Y/Y Percent Change	-55.3	-47.0	-40.6
	Greensboro-High Point, NC	Raleigh, NC	Wilmington, NC
Nonfarm Employment (000)	364.0	519.6	144.6
Q/Q Percent Change	-0.3	-0.2	-1.4
Y/Y Percent Change	-3.2	-1.3	-2.0
Unemployment Rate (%)	7.9	5.9	7.3
Q2:08	6.9	5.2	5.9
Q3:07	4.8	3.6	4.2
Building Permits	584	1,224	505
Q/Q Percent Change	-14.0	-69.0	-47.8
Y/Y Percent Change	-39.7	-56.6	-44.4

For more information, contact Sonya Ravindranath Waddell at (804) 697-2694 or e-mail sonya.waddell@rich.frb.org

Metropolitan Area Data, Q4:08

	Winston-Salem, NC	Charleston, SC	Columbia, SC
Nonfarm Employment (000's)	216.5	298.5	365.2
Q/Q Percent Change	0.1	-1.0	0.0
Y/Y Percent Change	-2.2	-1.0	-1.2
Unemployment Rate (%)	7.1	6.9	7.1
Q1:08	6.3	6.2	6.5
Q2:07	4.5	4.4	4.8
Building Permits	263	798	617
Q/Q Percent Change	-25.5	-26.8	-55.1
Y/Y Percent Change	-57.0	-35.4	-46.4
	Greenville, SC	Richmond, VA	Roanoke, VA
Nonfarm Employment (000's)	318.3	621.5	162.0
Q/Q Percent Change	-0.1	-1.1	0.1
Y/Y Percent Change	-0.9	-2.3	-1.3
Unemployment Rate (%)	7.2	5.0	4.6
Q2:08	6.4	4.5	4.1
Q3:07	4.9	3.2	3.1
Building Permits	312	1,045	103
Q/Q Percent Change	-47.7	-7.4	-27.0
Y/Y Percent Change	-73.0	-19.7	-42.1
	Virginia Beach-Norfolk, VA	Charleston, WV	Huntington, WV
Nonfarm Employment (000)	767.1	152.8	120.7
Q/Q Percent Change	-1.1	-0.2	1.6
Y/Y Percent Change	-1.0	0.8	-1.8
Unemployment Rate (%)	4.9	3.3	4.9
Q2:08	4.4	3.3	5.0
Q3:07	3.3	3.4	4.1
Building Permits	648	57	5
Q/Q Percent Change	-50.2	-62.3	-37.5
Y/Y Percent Change	-47.4	54.1	-82.8

For more information, contact Sonya Ravindranath Waddell at (804) 697-2694 or e-mail sonya.waddell@rich.frb.org

The Importance of Luck

BY AARON STEELMAN

If you spend much time talking to proponents of free markets, you will find that many of them don't have much to say about the role that luck plays in people's lives. Instead, you will often hear a lot about how people determine their own fates — and that as long as there is a level playing field, then everyone has a good shot at making his dreams a reality.

There is a lot of truth in such statements. Most people do fundamentally determine their own happiness — which, in large measure, is determined by one's general outlook on life. People can choose to be happy, or at least happier, just as they can choose to be miserable and unpleasant. This is not to deny that some people are prone to bouts of depression or sadness. But, fortunately, with effort people often can handle such predispositions, so that their feelings of melancholia are transitory and manageable rather than permanent and crushing. At bottom, happiness is an act of volition for most people.

Does the same logic apply to people's material status? This is a more complicated question. Hard work is usually a necessary condition. But it often is not sufficient. Luck plays an enormous role. In fact, the most important factor affecting people's material status is completely beyond their control: We simply cannot affect the conditions into which we are born.

It is by pure chance that some of us were born in developed countries, while others were born in desperately poor ones. On average, people born in the United States can expect to live about 80 years and have access to luxuries unknown to even aristocrats just a few generations ago. In contrast, on average, people in parts of sub-Saharan Africa can expect to live only into their 40s and get by on less than a dollar a day.

International comparisons provide the starkest example of the role that chance plays in our lives. But intranational comparisons are instructive as well. Income inequality in the United States is significant. What's more, people who are born poor tend to remain poor and people who are born rich tend to remain rich. It is possible to escape poverty in the United States — and as previously noted, being poor in the United States means living a wholly different life than a poor person in, say, Tanzania. But who can doubt the educational and cultural advantages, just to name a few, that accrue to people born to more affluent families? By definition, the

playing field is not level at birth — and this has important consequences for people's prospects throughout their lives.

Does that mean we should attempt to level conditions through, say, a confiscatory inheritance tax? One has to consider the incentives such a tax would create. Some people, no doubt, would not work as hard as they otherwise would because they would be unable to leave the fruits of their labor to their heirs. In contrast, some people who are now likely to receive significant inheritances might work harder knowing that this cushion would not be forthcoming. Which effect is larger is ultimately an empirical question.

But more important, such a tax would codify into law the belief that things *ought* to be equal, that we should all start from the same position. This is simply unrealistic. It is also undesirable. Human beings are intrinsically different. Even if you equalize wealth, you cannot equalize talent or ambition. And, for that, we should be grateful. The world is much richer (financially and nonfinancially) because people have varied interests and goals. It is this diversity that makes the division of labor such a powerful force for improving the human condition — and the world such an interesting place.

It is also important to note that there are two kinds of luck. The first is what we normally think of and what is described above — that is, simple chance. The second is quite different. It is best illustrated by an example. When someone receives a promotion at work, we often say that he is lucky. It is true that a fortunate thing has happened to him. But that promotion probably did not just fall into his lap. He probably placed himself in that position by working hard and making wise decisions. In short, we make this second type of luck. Life is a combination of circumstances that we are dealt and those that we choose.

At the beginning of this column, I noted that many free marketeers downplay the role that chance plays in people's lives. They may believe that acknowledging this weakens the argument for *laissez faire* and provides ammunition to those who favor redistributionist schemes. As I have argued, I don't think this is the case. Regardless, the evidence for the importance of luck is all around us. And to deny it is to appear to be oblivious to the facts, perhaps willingly so. *That* is a very real risk, especially at a time when many in the public are expressing skepticism about the merits of a market system and the wisdom of those who support it. **RF**

The most important factor affecting people's material status is completely beyond their control: the conditions into which we are born.

Measuring the Standard of Living

Per-capita gross domestic product is the most common “standard of living” measure in economics, largely because it is well understood and widely available across countries. But it doesn’t capture all possible aspects of a population’s well-being. Other measures focus on health, environmental quality, income distribution, and happiness. Should policymakers look to these alternative measures when crafting economic policy?

Seasonal Employment

In tourist hotspots like Myrtle Beach, S.C., laid-off workers are now competing for seasonal jobs that students and temporary employees from overseas used to do. What does this mean for the labor market?

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Antitrust

Antitrust laws were originally created to protect consumers against monopolies by breaking up powerful companies and cartels. Yet there are instances where monopoly power doesn’t hurt consumers in the way some initially thought decades ago. We’ll look at how the economics of antitrust has influenced the regulation of large firms.

Federal Reserve

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