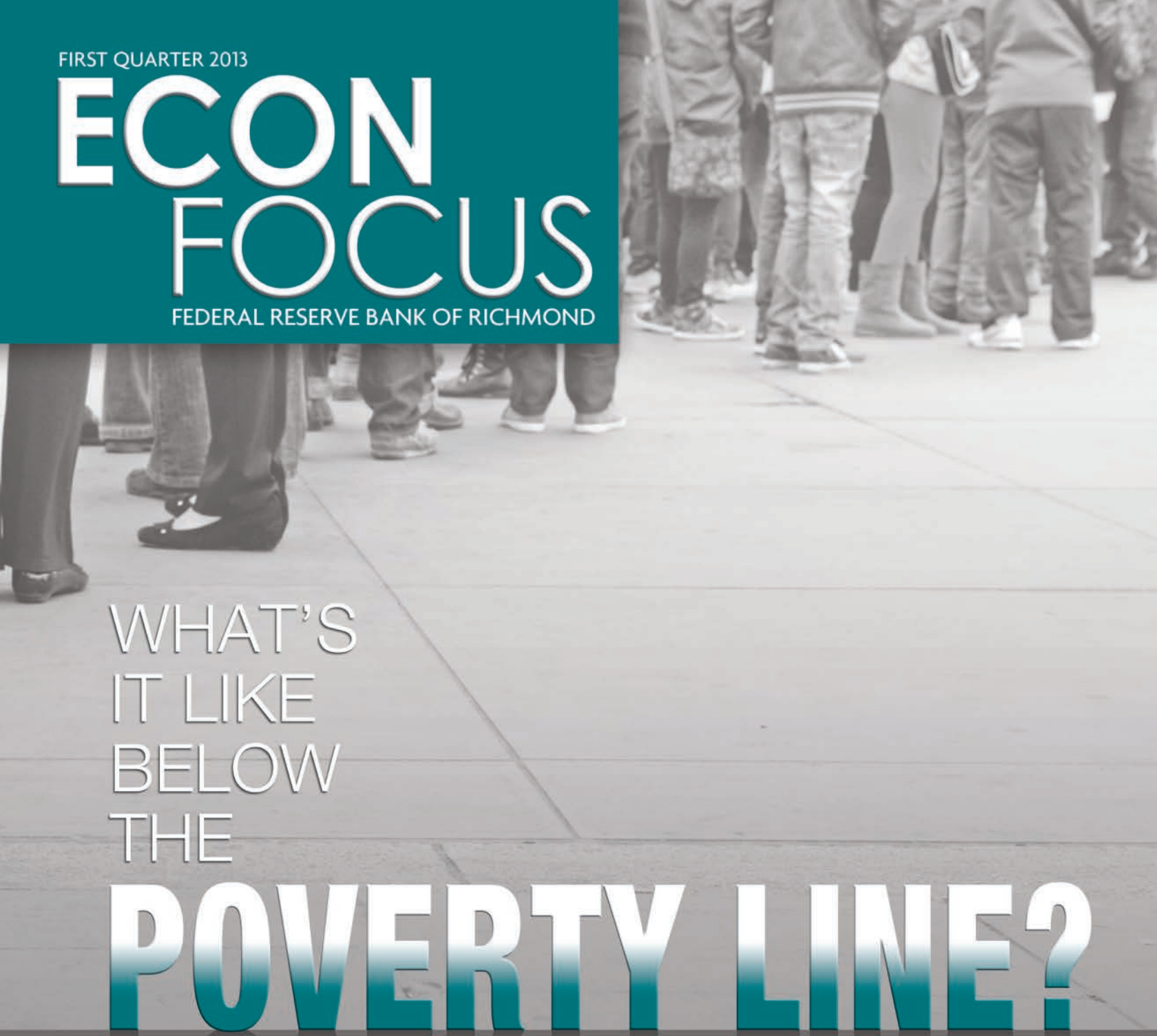
FIRST QUARTER 2013

ECON FOCUS

FEDERAL RESERVE BANK OF RICHMOND



WHAT'S IT LIKE BELOW THE POVERTY LINE?

Does Online Education Work?

Where the Newly Created Money Went

Baltimore Steel

ECON FOCUS

PHOTOGRAPHY: RICHARD NEWSTEAD/FLICKR/GETTY IMAGES

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President's Message

Big Banks Need "Living Wills"

Economists and policymakers are still debating the causes of and responses to the financial crisis of 2007-2008, but there is one clear point of consensus: We cannot continue to treat certain financial institutions as being "too big to fail." Many provisions of the Dodd-Frank Act of 2010 were written with this goal in mind, and we have yet to see how effective they will be. But I believe that the provision requiring large and complex financial institutions to craft "living wills" offers the greatest potential for curtailing the ambiguous government safety net for financial institutions and putting an end to government bailouts.

Living wills are detailed plans that explain how a financial institution could be wound down under U.S. bankruptcy laws without threatening the rest of the financial system or requiring a public bailout. The plans explain how to disentangle the numerous different legal entities — sometimes numbering in the thousands — that make up a large financial firm. Under the Dodd-Frank Act, large banks and other "systemically important" firms are required to submit these plans on an annual basis for review by the Fed and the Federal Deposit Insurance Corporation (FDIC). The largest banks submitted the first drafts of their plans last summer. Regulators then pored over the thousands of pages of documents, focusing primarily on evaluating how well the firms had identified potential obstacles to resolution and understanding the key assumptions in the plans.

Planning for the resolution of a large, complex firm is difficult, painstaking work. But it is critical that regulators invest the time and energy necessary to ensure that the plans are workable and credible. Only if the plans are credible will regulators and policymakers be willing to use them in a future crisis. That willingness is essential to ending investors' expectations of government rescues, which encouraged many firms to take on excessive risk prior to the crisis.

The Dodd-Frank Act also created the Orderly Liquidation Authority (OLA), which allows the FDIC to wind down certain troubled institutions in cases where the bankruptcy process is deemed to pose a great risk to the financial system. This authority was intended as an alternative to government rescues. But instead, the OLA still affords policymakers and regulators a great deal of discretion in determining how to treat different creditors, which further weakens the market discipline that would prevent institutions from taking on excessive risks. For this reason, I believe the use of living wills within bankruptcy is the better course. Should the creation of those plans reveal that bankruptcy would pose a risk to the system as a whole, firms may be subject to more stringent capital requirements or required to change their structure and operations such that bankruptcy is workable. An example of this would be divesting certain subsidiaries.

Some have proposed that the first step should be to break up the banks — that the way to prevent "too big to fail" is simply to make sure that the banks aren't too big. But how do we define "too big"? The process of having firms create detailed resolution plans will enable us to map out the risks and interdependencies, and determine whether or not an institution's size and complexity would prohibit an unassisted resolution. Living wills will provide us with an actionable roadmap.

Skeptics also have argued that living wills are little more than window dressing, an exercise that will be ignored should an institution actually become distressed. This claim, however, only reinforces the point that it is vitally important to do the work necessary to ensure that the plans offer attractive and realistic options for regulators.

The process for creating and having the Fed and FDIC assess living wills is not intended to place inordinate restrictions on an institution's ability to take appropriate risks, or to try to make them perfectly safe from failure. Failures are going to happen despite the best efforts of regulators. With living wills, however, robust contingency planning takes place to ensure that they can occur without major disruptions to the financial system. Living wills are an important tool to help us restore market discipline, rein in the government safety net, and truly end the problem of too big to fail. **EF**

JEFFREY M. LACKER
PRESIDENT
FEDERAL RESERVE BANK OF RICHMOND

You'll notice that this magazine, formerly *Region Focus*, is now called *Econ Focus*, a name that we believe better reflects the magazine's mix of both national and regional coverage. But only the name has changed — *Econ Focus* will continue to bring you clear explanations of economic trends and important policy questions. Thank you for reading and for your continued engagement with the work of the Richmond Fed.

Skin in the Game
Redskins' Complex Deal Involves Many Players

Last year, the Washington Redskins football team held its summer training camp at Redskins Park in Ashburn, Va., while, 100 miles to the south, dozens of preschoolers romped on the playground at Tot Lot Park in Richmond, Va.

The level of play was vastly different, but the pros and the peewees were connected by a complex chain of economic development incentives.

Beginning this summer, the Redskins are moving their summer training camp from Ashburn (in Northern Virginia's Loudoun County) to Richmond for at least the next eight years. The team selected Richmond after the city agreed to build a $10 million complex that the Redskins will use for about one month each summer. In an overlapping deal, the team agreed to keep its headquarters and year-round training facilities in Ashburn in exchange for $4 million from the state and $2 million from Loudoun County. The money will go toward renovating the existing facilities.

Richmond courted the Redskins primarily to generate tax revenues, directly and indirectly, from visitors who will come to watch the team practice.

PHOTOGRAPHY: WASHINGTON REDSKINS

Redskins quarterback Robert Griffin III signs autographs on fan appreciation day during last year's summer training camp.

An economic impact study by Richmond-based Chmura Economics and Analytics projected that visitors to the training complex will spend $4.3 million in the city during the 2013 camp. The study assumed that 100,000 people will visit the facility and that 40 percent of those people will stay an average of two nights in the area.

Richmond had little more than one year after the Redskins' announcement to develop facilities for the training camp. The city quickly leased 16 acres behind the Science Museum of Virginia from the state and started looking for private sector partners to help defray the cost of building the complex and moving the team back and forth between Richmond and Loudoun County each summer.

In October, the city unveiled plans for the Bon Secours Washington Redskins Training Center, a joint venture between the city's economic development authority and Maryland-based Bon Secours, a nonprofit health care company that owns four hospitals in the Richmond area. The training center will include football fields, parking spaces, observation areas, and a 40,000-square-foot building with a field house for the Redskins and a sports medicine and rehabilitation center for Bon Secours.

The city transferred $10 million to its economic development authority to pay for the construction. It plans to recoup its investment primarily via lease revenues and sponsorships — including more than $6.3 million from Bon Secours over 10 years.

In exchange for Bon Secours' commitment, the city agreed to grant the health care company a 60-year lease on a vacant school property — the location of Tot Lot Park — near Bon Secours St. Mary's Hospital. The city also agreed to help the company develop a medical office building and fitness center near Bon Secours Richmond Community Hospital in a medically underserved area of the city.

On the vacant school property, Bon Secours plans to spend $24 million to build a 75,000-square-foot medical building. The company will lease the site for $33,000 per year, including $28,000 that the

city will use to maintain public playing fields on the property. The company and the city will work together to relocate Tot Lot Park and make it more accessible for disabled children.

The mayor's announcement of the deal said the money Bon Secours would save by leasing the school site instead of buying it would be "directed to the construction costs of the Washington Redskins practice fields and the development of Richmond Community Hospital in the East End."

The statement prompted criticism that the lease arrangement was designed to circumvent the city's policy of returning money from the sale of school properties to the school system. In response, the city agreed to dedicate much of the projected tax revenue from Redskins-related projects (nearly $5.4 million over 10 years) to the school system. Bon Secours promised to contribute an additional $1 million to Richmond schools over 10 years to fund projects related to the company's mission of promoting health and fitness.

As of early March, the Bon Secours Washington Redskins Training Center was taking shape quickly, and the medical building on the school property was in the preliminary planning stage. The new location for Tot Lot Park was still undetermined. — Karl Rhodes

This One Goes to 11

Eight More States Join the Court Battle Against Dodd-Frank

Another Fifth District state has joined the lawsuit against the federal government challenging the constitutionality of the Dodd-Frank Act. On February 13, the attorney general of West Virginia, along with attorneys general from seven other states, signed on as a plaintiff. They join South Carolina, Michigan, and Oklahoma, which became plaintiffs last September. This latest action brings the total number of states involved to 11.

The case began last June, when State National Bank of Big Spring, a small Texas bank, and a pair of nonprofit advocacy groups, the 60 Plus Association and the Competitive Enterprise Institute, filed suit in federal court in Washington, D.C. These three plaintiffs contend that Congress violated the U.S. Constitution's separation of powers by delegating too much power to the Bureau of Consumer Financial Protection and the Financial Stability Oversight Council, new regulatory bodies created by the Dodd-Frank Act. The Council, for example, determines which financial firms are so big or complex that they should be designated "systemically important financial institutions," or "SIFIs." According to these plaintiffs, the SIFI designation codifies "too big to fail," the belief that regulators will never allow very large banks to fail for fear of economic upheaval. Market participants who understand this might lend to SIFIs more cheaply than they would to small banks like State National Bank of Big Spring.

The states have limited their challenge to the Orderly Liquidation Authority, the FDIC's new power to unwind systemically important financial firms on the brink of failure, including those that had not previously received SIFI designation. They contend that this new regime allows the federal government to take over and dismantle failing companies without any opportunity for interested parties, such as creditors and shareholders, to object in court. This, the attorneys general insist, is a government taking of private property without due process of law, a violation of the Fifth Amendment. They base their takings argument on potential risk to their respective states' pension funds. If the FDIC were to liquidate a financial firm through Orderly Liquidation, they argue, the process would sacrifice the traditional creditor rights and safeguards of the Bankruptcy Code. Pension fund holdings would likely be "arbitrarily and discriminatorily extinguished."

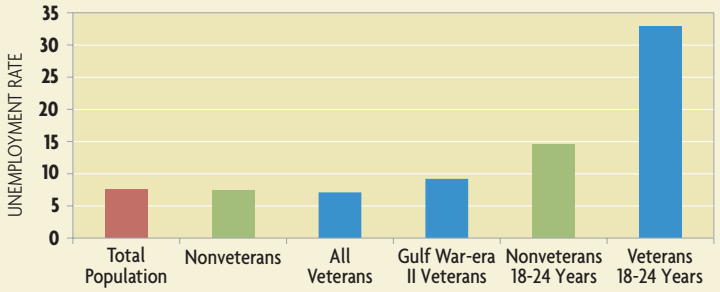
The federal government has moved to dismiss the lawsuit, noting that many of the injuries the plaintiffs have described are either too indirect or too speculative. Some observers say the states' takings and due process arguments might prove to be the plaintiffs' strongest. If these arguments withstand the motion to dismiss, the states will need to show that the judicial review of the Orderly Liquidation process is too limited. In the meantime, the original plaintiffs reasserted their opposition to the government's motion, insisting that their injuries are "concrete" and "imminent." The government responded on April 9 that the plaintiffs lack standing because their injuries are "entirely hypothetical." A decision is expected later this year. —Keith Goodwin

Employment After Deployment
Transferring Military Skills to the Private Sector

At the end of their enlistments, members of the military leave the front lines of war only to face the front lines of the labor market. There are more than 11 million veterans in the U.S. labor force, and 783,000 of them are without work.

The job search might get easier for some veterans, thanks to a new training program that seeks to connect 100,000 service men and women to skilled manufacturing jobs by 2015. The "Get Skills to Work" initiative, a collaboration between the nonprofit Manufacturing Institute and major manufacturers, is an attempt to solve two problems at once: a shortage of skilled manufacturing workers and high unemployment rates among certain veteran groups. According to the institute, 600,000 skilled manufacturing jobs are unfilled. Partners include manufacturing giants General Electric, Alcoa, Boeing, and Lockheed Martin, which together already employ 64,000 veterans. The training sessions are scheduled to occur in 10 states in 2013, including at technical and community colleges in Greenville and Charleston, S.C., and Durham, N.C. The Carolinas are home to almost 1.2 million veterans.

Young Vets Are Prone to Unemployment



NOTE: Gulf War-era II veterans are those who have served since 2001.
SOURCE: Bureau of Labor Statistics, March 2013 data

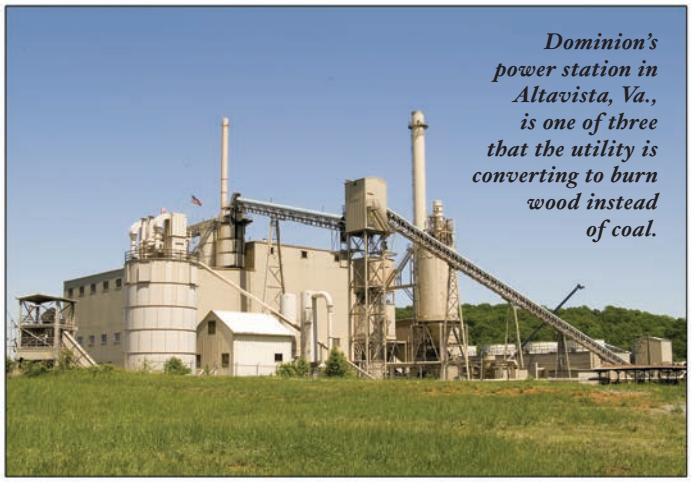
"From a veteran's perspective, the problem is being able to translate their skills into civilian terms," says Bryan Goettel of the U.S. Chamber of Commerce. To address this issue, Get Skills to Work is creating an online badge program that equates the military's skills codes to manufacturing occupation codes and matches veterans with employers.

While the overall veteran unemployment rate is below that of the population as a whole — 7.1 percent compared to 7.6 percent as of March 2013 — certain subgroups are more at risk. Members of the "Gulf War-era II," which includes veterans of Iraq and Afghanistan, face a 9.2 percent unemployment rate. For veterans under 25, a group that includes many of the Gulf War-era II vets, 32.9 percent are jobless. (See chart.) Many of these veterans have not graduated from college and have only a military career on their resume.

Get Skills to Work joins several recent public and private efforts to boost post-military hiring. In 2009, President Barack Obama approved a hiring initiative for the federal government, after which the share of veterans as a percent of civilian hires went from 24 percent in 2009 to more than 28 percent two years later. In 2011, Congress approved tax credits of up to $9,600 for businesses that hire veterans. The Chamber of Commerce's "Hiring Our Heroes" program hosts job fairs, trains veterans on skill marketing, and encourages businesses to hire veterans. Within a year of launching its hiring campaign in March 2012, the program garnered commitments from businesses to hire more than 210,000 veterans. Separately, Wal-Mart, the world's largest private employer, pledged in January 2013 to hire 100,000 veterans over the next five years. Still, more than 160,000 people leave active military duty each year — and many of them will be joining their fellow service members looking for work.

— Renee Haltom

More Than a Campfire
The Fuel of the Future…Is Wood?



Dominion's power station in Altavista, Va., is one of three that the utility is converting to burn wood instead of coal.

High-tech solar panels and wind turbines get most of the attention as sources of renewable energy, but relatively low-tech wood is gaining traction. Energy-dense wood pellets are made of wood scraps and compressed sawdust, and burn more cleanly than firewood. Some power companies, including in the Fifth District, have started converting plants to run on wood pellets, while consumers continue to heat their homes by burning pellets in specially designed stoves.

Bethesda, Md.-based Enviva is playing a big role in meeting the demand for wood as a renewable fuel. The company operates one wood pellet plant in Hertford County, N.C., and is building two additional plants in Northampton County, N.C., and Southampton County, Va., that should be completed this year.

Enviva has a contract to supply wood chips to Dominion Virginia Power, which is converting three of its coal-fired power stations in Virginia to use wood by the end of 2013. This will help Dominion meet the state's voluntary goal for 15 percent of the company's electricity sales (as of 2007) to come from renewable resources by 2025.

Most of the production from Enviva's new pellet production plants will be sent to Europe, however. In general, the demand for wood pellets is growing outside of the United States. American pellet producers exported 1.96 million metric tons of their product in 2012, a 52 percent increase from 2011.

"Displacing coal with biomass power from wood pellets is one of the most cost-effective ways to meet renewable energy targets related to the European Union's [goals] for energy and climate change," noted economist Seth Walker in the February 2013 edition of the *RISI Wood Biomass Market Report*. By 2020, the EU aims to reduce greenhouse gas emissions by 20 percent from 1990 levels, increase the share of renewable energy to 20 percent, and increase energy efficiency by 20 percent. In contrast, the United States provides tax incentives for the production of renewable energy but has set no federal production goals for utilities.

Where do Enviva and other pellet producers get their raw material? A lot of it comes from harvesting hardwood trees. "Typically, the smaller parts of the tree — tops, limbs and branches — have been left in the woods as scrap," says Ronnie James, a senior vice president at First Citizens Bank who regularly works with agribusiness firms in the Greenville, N.C, metropolitan area. For wood pellet manufacturers, these scraps are just the right size to be chipped and hauled away for their use.

Smaller trees that had been pushed down or run over also are being snatched up by pellet manufacturers, adds James. "This not only leaves a cleaner site, but also provides additional income for the landowner and logger."

Normally, logging companies don't sell to wood pellet manufacturers. But when they were hurting from the housing market slump, the demand from pellet manufacturers "came at an opportune time," says Mary Ellen Aronow, senior forest economist at Hancock Timber Resource Group, which owns timberland in Virginia and the Carolinas. "When you take the smaller trees out to make room for the bigger trees, we need a market for that thinning material."

Recently, interest in converting to bioenergy has slowed, according to Aronow. With natural gas production rising and prices falling, thanks to hydraulic fracturing, power plants configured to use either wood pellets or natural gas are increasingly choosing the latter, noted the *RISI Wood Biomass Report*. As a result, there was an oversupply of pellets and other wood-based biomass as of the first quarter of 2013.

But analysts still predict that wood pellet demand will at least double by 2020. If that happens, timber producers aren't the only ones who could benefit. "New equipment is needed to chip wood in order to meet processor demands," explains James. "Transportation also could be affected positively as more drivers for road tractors may be needed to haul chips."

— Charles Gerena

PHOTOGRAPHY: DOMINION VIRGINIA POWER

FEDERAL RESERVE
When Talk Isn't Cheap

BY RENEE HALTOM

Can the Fed create economic growth ... just by talking?

For all the obsessive attention given to the fed funds rate, the short-term interest rate that is the Fed's primary tool for influencing the economy, the rate is relatively unimportant in the scheme of things. Just ask Fed Chairman Ben Bernanke.

"Other than managers of bank reserves and some other traders in short-term funds, few people in the private sector have much interest in the funds rate *per se*," he explained in 2004. Instead, he said, what drives the bulk of economic activity is long-term interest rates, which are determined by markets rather than directly by the Fed. Those range from five-year car loans to 30-year mortgages, as well as corporate bond rates and the prices of interest-sensitive long-term assets such as housing and equities.

So how does the Fed have such powerful influence over the economy if its main policy lever is not directly relevant to most economic transactions? The answer is expectations. Long-term interest rates are determined in part by what financial markets expect monetary policy to do in the future, since the interest rate on a long-term loan depends on the short-term rates that are expected to prevail over the loan's life. That makes expectations for fed funds rates of the future more relevant to economic activity than the rate's level in the present. That also means most of the effect of changes to the fed funds rate comes before the decisions are actually made, when private forecasters start to anticipate them and build them into long-term rates.

As a result, the Fed is very careful about its communication with the public, providing as much information as possible about future policy through speeches, policy statements, and press releases without unduly committing to a course of action that could change and therefore disrupt financial markets.

Lately, Fed communications have had an even more important role. The target fed funds rate has been set essentially to zero since December 2008 in response to the Great Recession. The Fed has limited scope to push the fed funds rate lower; negative nominal interest rates are technically possible, but some argue they would significantly disrupt financial markets. Instead, with the economic recovery still weak, the Fed has tried to keep long-term interest rates low by creating the expectation that the fed funds rate will stay at zero for a long time to come, through what's known as "forward guidance" about future policy. But communications are an inherently imprecise tool, so a central bank's words can hurt if policymakers are not careful.

Embracing Expectations

To speak clearly about policy, a central bank must have a coherent framework for thinking about it. The lack of such a framework kept monetary policymakers more or less silent in the decades after the gold standard collapsed, according to Fed history expert and former Richmond Fed director of research Marvin Goodfriend, now at Carnegie Mellon University. Many central banks engaged in virtually no communication with the public until the 1990s, giving the Fed a reputation it is still trying to shake for running the economy by pulling intentionally mysterious policy levers like the wizard in Oz. The Fed has fought that perception over the last 20 years by being increasingly open about its views on policy. Areas of disagreement used to include the root causes of inflation and how much power policymakers had to manage business cycles. What helped resolve these and other questions was a greater appreciation among economists for the role of expectations in driving economic activity.

It wasn't that economists didn't always believe expectations were important; it's just that they are exceedingly difficult to model mathematically. To model any decision that spans time, as virtually all economic questions do, one needs a theory of how expectations are formed. But expectations are unobservable and shaped by countless, sometimes subtle bits of information. And then one has to factor in the effects of policy on a person or a firm's behavior, which requires a way to capture the circularity in which people's knowledge of policy changes behavior, but policy's effect on behavior might in turn change policy.

Early economists wanted to deal with expectations but didn't know how. As a result, expectations didn't appear in the first formal theories of macroeconomic stabilization policy, with economists figuring, as John Maynard Keynes did, that the economy was beholden to "waves of optimism and pessimism" that were important but undefinable. But theories that didn't deal with expectations sometimes led economic policy astray. In the 1960s and 1970s, monetary and fiscal policies were based on the Phillips curve, the empirical regularity in that period where inflation and unemployment usually moved in opposite directions. This pattern in the data suggested to policymakers that they could always achieve a lower rate of joblessness simply by bumping up the rate of price increases. Unfortunately, those policies only showed, contrary to the Phillips curve, that inflation could rise without any beneficial effect on unemployment, in the 1960s as policymakers failed to anticipate the inflationary effects of some combined efforts to simulate the economy, and in the 1970s as the Fed failed to adequately tighten policy in response to oil price shocks, cementing inflation into the public's expectations.

An impressive number of Nobel Prizes were awarded to economists — Milton Friedman, Edmund Phelps, Robert Lucas, Edward C. Prescott, Finn Kydland, and Thomas Sargent — who developed theories of expectations in the 1960s, 1970s, and 1980s. This body of work provides some of the best examples of how economic theory can improve real-world policy. Expectations in models went from nonexistent to "adaptive" — people expecting what happened in the past to continue — and from there to "rational." Rational expectations, still the dominant model today, suggests that people form expectations for some future variable by looking at the relevant decisionmaker's incentives. For example, since the central bank is charged with managing inflation, people form inflation expectations by considering how the central bank will address that issue. (People might not be able to do the same calculus that economists can, but the theory says they act through intuition as if they do).

For policy, the primary outcome of this work was the realization that the Phillips curve was a temporary trade-off at best; inflation would reduce unemployment only if it came as a surprise, tricking people into thinking they were getting paid higher real wages than they were, and thereby leading them to consume more and spur employment. But surprising people, especially repeatedly, is hard to do. Not only do expectations for future inflation help determine the inflation rate today — for example, people demand higher wages if they expect prices to rise — but also people can rationally anticipate when a central bank has an incentive to create inflation. Therefore, the central bank can keep inflation expectations, and thus actual inflation, anchored only by following an anti-inflation policy rule and making that rule well known to the public.

This research suggested that central banks should reverse their tradition of being opaque. Prior to the 1990s, the Fed didn't so much as announce its policy decisions to the public, let alone explain those decisions or provide a hint of future policy. But the public's tolerance of secrecy was also waning. The Fed was sued in the late 1970s for publication of the policy directive, the marching orders of the Federal Open Market Committee (FOMC) to the trading desk in New York. The Fed eventually won in courtrooms, but not in the eyes of Congress. In the early 1990s, Rep. Henry Gonzalez (D-Tex.) led a charge to publicize details of the Fed's policy meetings. Many scholars made cases for transparency on democratic grounds, if not also on economic ones.

The Fed's reason for its eventual decision to announce policy for the first time, in 1994, was more immediate: It hadn't raised rates in five years and feared the move would disrupt markets. The Fed has become considerably more transparent since then. The FOMC's post-meeting press release, known as the FOMC statement (see sidebar on page 8), started including an assessment of the likely future course of interest rates in 1999. A few years later, it began to reveal how each member voted.

Fed communication now extends far outside the FOMC statement. Meeting minutes help markets anticipate what will be done before the next meeting. Individual FOMC members give speeches to explain how their views compare to the consensus. Four times per year, the Fed publishes three-year projections for GDP, unemployment, and inflation created by the staffs of each FOMC member. That's a composite of 19 different forecasts if all the seats of the FOMC are filled, indicating the extent to which there is uncertainty on the economy's health. Where Fed chairmen used to decline interviews as a rule, Chairman Bernanke started holding regular press conferences in 2011 and has even appeared on the television program *60 Minutes*. Most recently, the Fed for the first time provided quantitative information about its plans by announcing in January 2012 a goal of 2 percent average inflation and stating that it viewed an unemployment rate between 5.2 percent and 6 percent as the best sustainable rate the current structure of the economy could achieve.

> Sometimes communication *is* the policy.
>
> – Fed Vice Chair Janet Yellen
> April 2013

Making Policy Predictable...

The Fed's moves have become so predictable that markets have a pretty good idea of what will happen by the time the FOMC meets. A 2006 study by San Francisco Fed economist Eric Swanson found that financial markets and private forecasters became less surprised by FOMC decisions after the Fed started announcing them. Private forecasts of the fed funds rate grew more precise even several months before an FOMC meeting, and markets became more certain about their forecasts as evidenced by the hedges made on them. In contrast, forecasts of variables like GDP and inflation did not grow more precise over the same period, suggesting that the improvement was due to a better understanding of the FOMC's objectives and not more economic certainty in general during that time.

Yet there are several reasons why central banks can't be entirely transparent about future policy. For one thing, the economic forecast is uncertain. Central bankers must make all statements contingent on future developments, which accounts for the notorious precision and many terms of art with which the Fed speaks. That has given central bankers a reputation for being indecipherable, and sometimes for good reason. Former Fed Chairman Alan Greenspan would intentionally speak in riddles in his testimonies before Congress, a venue in which he was obligated to respond to questions that had no clear answer. "Every time I expressed a view, I added or subtracted 10 basis points from the credit market," he told *Bloomberg Businessweek* in August 2012. So when asked a nuanced question, "I would continue on resolving the sentence in some obscure way which made it incomprehensible."

A perhaps clearer way for a central bank to provide

information about the future is to give markets an idea of how it would react to different economic environments — what economists call the central bank's policy rule or reaction function. This gives markets a sense of the central bank's overall strategy given several possible contingencies — what rational expectations say people need to form accurate expectations about the future — rather than just the near-term outcome of that strategy under present conditions, as a rate forecast alone would provide. Markets are said to "do the work of the central bank" when they can infer from incoming economic data how the Fed is likely to move, pricing in policy changes before they actually take place and allowing the Fed to stabilize the economy with fewer costs. In a 2001 book, former Fed Vice Chairman Alan Blinder and several coauthors argued that bond rates had begun moving up and down according to the economic forecast, acting as a macroeconomic stabilizer even when the fed funds rate changed little. Donald Kohn, another former Fed Vice Chairman, and economist Brian Sack, formerly of the New York Fed, showed in 2003 that the Fed Chairman's bi-annual testimonies before Congress, which tend to focus on longer-term issues affecting monetary policy, affected 10-year Treasury yields, a signal that markets have more clarity about how the Fed is likely to behave even far into the future.

Central banks have come to appreciate that the public's awareness of monetary policy's longer-term goals helps the central bank to achieve them. For example, with the Fed's strong anti-inflation reputation, inflation expectations remained low through events such as rising oil prices in 2005 and aggressive monetary policy since the recent recession. In the past, such events might have spun inflation expectations out of control and driven inflation higher, so an awareness of the Fed's goals may have allowed the Fed to avoid some costly rate increases. Of course, the Fed's goals have been credible only because they tend to prove accurate; talk is followed up with action.

... In Unpredictable Times

It is, of course, harder to make policy predictable in extraordinary times. Today the Fed is contending with an inability to lower rates further — since the fed funds rate is at the

The Voice of the FOMC

Lately, the FOMC's policy announcements have included these key components. (Historical FOMC statements are available at http://www.federalreserve.gov/monetarypolicy/fomccalendars.htm)

Press Release
Release Date: March 20, 2013
For immediate release

Factors Considered by the FOMC	Information received since the Federal Open Market Committee met in January suggests a return to moderate economic growth... Inflation has been running somewhat below....
Economic Outlook	Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects that, with appropriate policy accommodation, economic growth will ... the Committee continues to see downside risks to the economic outlook. The Committee also anticipates that inflation over the medium term likely will run at...
Information About Other Actions	To support a stronger economic recovery and to help ensure that inflation, over time, is at the rate most consistent with its dual mandate, the Committee decided to continue... Taken together, these actions should...
	The Committee will closely monitor incoming information on economic and financial developments in coming months. The Committee will... until such improvement is achieved in a context of price stability...
New Policy Decision and Forward Guidance	To support continued progress toward maximum employment and price stability, the Committee expects that a highly accommodative stance of monetary policy will remain appropriate for a considerable time after the asset purchase program ends and the economic recovery strengthens. In particular, the Committee decided to keep the target range for the federal funds rate at 0 to 1/4 percent and currently anticipates that this exceptionally low range for the federal funds rate will be appropriate at least as long as the unemployment rate remains above 6-1/2 percent, inflation between one and two years ahead is projected to be no more than a half percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored. In determining how long to maintain a highly accommodative stance of monetary policy, the Committee will also consider other information, including additional measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial developments. When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent.
Vote	Voting for the FOMC monetary policy action were... : Voting against the action was... who was concerned that...

so-called "zero bound" — and with doubts about whether monetary policy is the appropriate medicine for the economy's weakness. At the dawn of the financial crisis, the Fed realized that "the FOMC could not simply rely on its record of systematic behavior as a substitute for communication," Fed Vice Chair Janet Yellen said in an April 2013 speech.

Another challenge to making predictable policy is that, since the crisis, there has been open disagreement within the FOMC not only about the best policy rule to follow, but also whether it makes sense to be operating under a single rule to begin with. "The simple rules that perform well under ordinary circumstances just won't perform well with persistently strong headwinds restraining recovery and with the federal funds rate constrained by the zero bound," said Yellen in November 2012. That same month, Philadelphia Fed President Charles Plosser, a longtime advocate of policy rules, argued that, with the Fed's powers of communication as an aid, unusual times are no reason not to have a rule in place. "I would argue that we use the rules as guides and then explain why the zero lower bound might suggest deviating from the prescriptions of those rules when appropriate."

Some argue the zero bound calls for a particular kind of deviation from the policy rule. The idea comes from a 2003 study that has recently garnered a lot of attention. Gauti Eggertsson of the New York Fed and Michael Woodford of Columbia University devised a model in which the central bank can boost economic activity at the zero bound by making a credible promise to keep rates at zero even after the economy recovers — that is, for longer than the policy rule would call for. The promise invites the private sector to borrow and spend because they expect that their incomes will recover before rates go back up. But essential to the strategy is that markets believe the central bank will follow through with making "too easy" policy in the future. That's not such an easy thing to convince the public of. After the central bank has enjoyed the boost to economic activity created by expectations, it's obvious that it will want to raise rates to contain inflation. Since the central bank can change course later, the public may dismiss its statements as mere "cheap talk." Thanks to people's ability to form expectations rationally, this is a problem faced by any party that wishes for inherently costless words to affect future outcomes, and an entire class of game theory research — beginning with work by Vincent Crawford and Joel Sobel in the early 1980s — was geared toward understanding how parties can make "cheap talk" credible.

One way a central bank might be able to overcome cheap talk is by making strong public statements, since its credibility would be damaged if it didn't follow through. And since the Fed has substantially ramped up its statements about the future since hitting the zero bound, many people suspect the Fed has been following the Eggertsson and Woodford strategy, though it has not explicitly said as much. Those announcements of forward guidance have appeared primarily in the post-meeting FOMC statements, and they have all but promised that rates will stay low for the foreseeable future. (They are not an outright promise since all policy decisions are contingent on future developments.) In December 2008, the FOMC stated that rates were likely to stay low "for some time," changed to "an extended period" in March 2009. In August 2011, the FOMC for the first time provided a calendar date of likely future policy changes: The statement said rates were likely to stay low at least through mid-2013. In January 2012, the date was pushed to late 2014, and in September 2012, it was pushed to mid-2015. Also in September 2012, the Fed added that rates would likely stay low even *after* the economy strengthened — precisely the sort of commitment that Eggertsson and Woodford prescribed — which the FOMC later suggested would be after unemployment falls to 6.5 percent provided that inflation doesn't rise above 2.5 percent.

Preliminary studies have found that forward guidance has initially been credible. Recent research by Swanson and San Francisco Fed President John Williams found that when the Fed hit the zero bound in December 2008, private forecasts expected rates to stay there for only a few quarters. But after the Fed introduced a calendar date in August 2011, private sector forecasts pushed the date of monetary policy "liftoff" out to seven quarters or more. Yields on 10-year Treasuries immediately dropped by about three-tenths of a percentage point.

It is too soon to know how much this talk affected economic activity, but forward guidance appears to have been successful in substantially pushing down long-term interest rates, even when it was accompanied by no change in the fed funds rate. At the same time, this type of forward guidance presents two ironically opposing risks to the economy: First, that forward guidance will signal that the Fed has backed off from its inflation objectives, permanently upending inflation expectations. And second, that people will take the Fed's commitment to easy policy as a sign that the economy is in worse shape than they thought, causing them to scale back spending as a precaution. These risks are absent in models, which assume the central bank's true intentions are perfectly clear.

Use Your Words

The FOMC statement continues to evolve at a rapid pace. In December 2012, the FOMC dropped the reference to a calendar date through which the fed funds rate was expected to stay at zero. In place of the calendar date, the FOMC tied the course of future policy to specific economic thresholds. It stated that rates were likely to stay low until unemployment fell below 6.5 percent (compared to today's rate of near 8 percent) as long as the market's medium-term inflation projections didn't rise above 2.5 percent (compared to its average of just under 2 percent since the recession).

These actions, too, have not been without criticism from within the FOMC. Richmond Fed President Jeffrey Lacker argued that the Fed has a limited ability to reduce unemployment for long, and a single indicator can't provide a

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JARGON ALERT

Sticky Wages

BY RENEE HALTOM

No, sticky wages aren't what happens when you do the payroll while eating a honey bun. Rather, sticky wages are when workers' earnings don't adjust quickly to changes in labor market conditions. That can slow the economy's recovery from a recession.

When demand for a good drops, its price typically falls too. That's how markets adjust to ensure that the quantity of willing suppliers equals the quantity of willing buyers. In theory, things are no different when the good in question is labor, the price of which is wages.

It is natural to think that wages should fall in a recession, when demand falls for the goods and services that workers produce. Assuming that the supply of labor does not change, reduced demand for labor should translate into lower wages, until everyone willing to work at the going wage has found employment. Of course, what we tend to observe in a recession instead is unemployment, sometimes on a mass scale.

One possible explanation for why unemployment occurs is that wages are sticky; they are slow to produce equilibrium in the market for workers. The prices of some goods, like gasoline, change daily. But other prices appear to be sticky, perhaps because of menu costs — the resources it takes to gather information on market forces.

Wages are thought to be sticky on both the upside and downside. But economists have long observed that wages are especially unlikely ever to fall, even in very severe recessions, a phenomenon called "downward wage rigidity." The reasons for downward wage rigidity are unclear. The prevalence of unions was once a common hypothesis — but unions have since declined, yet rigidity is still with us. Some economists thought employers might hold wages artificially high to encourage productivity. Others suggested that existing "insider" employees prevent unemployed "outsiders" from bidding down wages by threatening to disrupt the productivity of the competing workers. Evidence for these possible explanations is scant, however. In the 1999 book *Why Wages Don't Fall During a Recession*, Yale University economist Truman Bewley concluded, after hundreds of interviews with business insiders, that the key reason for downward rigidity might simply be that pay cuts are too damaging to morale, even more so than outright layoffs.

It's hard to say just how sticky wages actually are since it is impossible to know what the "correct" wage should be. Stickiness can be estimated, however, by looking at the number of workers who report no change in wages over the course of a year. When there is an unusual spike in that number, especially if it occurs during a recession, a reasonable conclusion is that many employers would like to give a pay cut but are instead just keeping wages constant.

San Francisco Fed researchers Mary Daly, Bart Hobijn, and Brian Lucking looked at this measure of wage stickiness for 2011. They found that wage changes did not rest on a normal, bell-shaped distribution: Many workers experienced modest wage increases, while only a handful experienced wage declines. In addition, there was a large number who experienced a wage change of precisely zero. The number of workers with unchanged wages climbs in recessions; it reached 16 percent in 2011, according to the Census's Current Population Survey, by far the highest proportion in 30 years. And unlike in previous recessions, the spike in downward wage rigidity occurred across a broad range of skill levels, suggesting that downward wage rigidity is especially prevalent today. (One caveat is that employers may not consider the current wage to be the true cost of labor. A 2009 study by Richmond Fed economist Marianna Kudlyak argued that the true cost of labor incorporates the future path of wages given the current state of the economy, and found that this broader measure of labor costs varies much more with economic cycles than seemingly sticky wages.)

Today's low rates of inflation exacerbate downward wage rigidity. Modest inflation gradually erodes nominal wages, and so is a way for employers to cut real wages without really having to cut them. Therefore, inflation can help the labor market achieve equilibrium. However, when inflation is very low, an employer might have to actually cut wages in dollar terms to reduce real wages. Since managers and workers alike appear to dislike wage cuts, sticky wages in an environment of low inflation means the employment recovery is likely to be slower. In fact, the recent recession's hardest-hit industries — manufacturing, finance, and especially construction — experienced the greatest increase in wage rigidity, according to Daly, Hobijn, and Lucking.

Wage stickiness is one of numerous explanations for unemployment. For example, economists believe there will always be some minimum level of joblessness because it takes time for workers to search for the best jobs. To the extent that unemployment results from sticky wages, there may be a role for policy to improve outcomes. That's one of the reasons why the degree of wage and price stickiness is an important and charged empirical question. **EF**

ILLUSTRATION: TIMOTHY COOK

From Housing Bust to Baby Bust?

BY JESSIE ROMERO

Kids are expensive. Economists typically assume that children are a "normal" good — one for which an increase in income leads to an increase in demand. (Yes, economic theory treats even children as "goods.") Thus, it seems logical that people with more wealth would tend to have more kids. But, in fact, many studies have found a strong negative correlation between income and fertility, at both the country and the family level.

The relationship between income and fertility is far from straightforward. For example, as women's wages have increased, so has the opportunity cost of their time, making children more expensive. This could lead families to shift their spending to goods other than children (a so-called "negative substitution effect") to an extent that outweighs the positive income effect of higher wages. People with high incomes also tend to live in places with a high cost of living, which could limit their disposable income or make child care and schooling very expensive. It's also possible that people not planning to have children are more willing to move to places with a high cost of living (where they might earn commensurately higher incomes) because they expect to have relatively low expenses compared to couples planning for children.

"Do Family Wealth Shocks Affect Fertility Choices? Evidence from the Housing Market." Michael F. Lovenheim and Kevin J. Mumford. *Review of Economics and Statistics*, May 2013, vol. 95, no. 2 (forthcoming).

Michael Lovenheim of Cornell University and Kevin Mumford of Purdue University explore the relationship between family housing wealth and fertility in their forthcoming article "Do Family Wealth Shocks Affect Fertility Choices? Evidence from the Housing Market." Unlike income shocks such as a raise or job loss, changes in house prices do not affect the opportunity cost of a parent's time or change the allocation of household work between parents. Any relationship between housing wealth and fertility is thus more likely to be causal, not just a correlation, according to the authors.

The authors' data come from the University of Michigan's Panel Study of Income Dynamics (PSID), a household survey that began in 1968. Lovenheim and Mumford look specifically at women aged 25-44 during the years 1985 through 2007; about 54 percent of women in the PSID own their own homes. The trend in housing price changes during this period is overwhelmingly positive. To isolate the effect of housing wealth on fertility, the authors control for factors including age, education, marital status, family income, the number of other children, city, the state unemployment rate, and real income per capita.

Lovenheim and Mumford find that a $100,000 increase in the value of a woman's home over the prior two years raises her likelihood of having a child by 17.8 percent. An increase of $100,000 over four years raises the likelihood by 16.4 percent. While these might seem like small marginal changes, the authors note that in the context of the early-2000s housing boom and the low baseline level of fertility, the increase in fertility is economically significant. They calculate that the run-up in house prices between 1999 and 2005 increased overall fertility by between 8.6 and 12.8 percent.

The change in fertility might actually reflect other economic conditions that are correlated with house price changes. The authors thus estimate their model for renters, who experience the same economic variation as homeowners without housing wealth changes. The effect on renters is small, which suggests that the link between house price changes and homeowners' fertility is indeed real.

What if people planning to have children intentionally move to areas with amenities such as parks or good schools that make home values more likely to rise? To check if this phenomenon is skewing their results, the authors reestimate their equation using a method that restricts the price growth rate to be the same in all areas each year. They find that selective migration is not causing bias in their estimates.

Historically, housing wealth has not been especially liquid, which might lessen its impact on behavior. But Lovenheim and Mumford speculate that the increased availability of home equity loans and lines of credit in the 1990s and 2000s increased household responsiveness to price changes. As expected, the authors find that the fertility response more than tripled over the sample period.

If households responded to the housing boom by having more children, did the housing bust afterward lead them to have fewer? The authors' data end in 2007, but the few price declines in their sample suggest that people are less responsive to falling prices. As they note, however, the declines in their sample were not accompanied by the large reductions in the liquidity of housing wealth that characterized the recent bust, so it's likely that the effect would have been larger after 2007. A recent study by the Pew Research Center found that the U.S. birthrate fell 8 percent between 2007 and 2010, but sorting out the causes of that decline will be a matter for future research. **EF**

COVER STORY

Since the recession, long lines are the norm at many agencies that provide assistance to low-income families.

Drawing the Line

New measures of poverty illustrate just how hard it is to define who is poor

BY JESSIE ROMERO

In 1964, President Lyndon Johnson launched a "War on Poverty" — an ambitious legislative agenda that created programs such as food stamps, Medicare, Medicaid, and Head Start, to name just a few. At the time, no official measure of poverty existed. But just one year earlier, a Social Security Administration economist named Mollie Orshansky had published an article titled "Children of the Poor," in which she presented an income threshold based on a subsistence level of food spending. President Johnson's new Office of Economic Opportunity adopted Orshansky's threshold for statistical and planning purposes, and by 1969, the measure with some slight revisions had become the government's official statistical definition of poverty.

Orshansky derived the threshold from the Department of Agriculture's "economy" food plan, which detailed the bare minimum a family could spend on a nutritionally adequate diet. The average family in the 1960s spent about one-third of its income on food, so she multiplied the economy-plan level of spending by three to determine the poverty threshold — $3,165 for a family with two parents and two children in 1963. (Orshansky also calculated equivalent thresholds for dozens of subcategories of family types.)

But the progenitor of the official poverty measure never intended for what she called her "crude indexes" to become a general definition of poverty. Instead, Orshansky's goal was to assess the ability of various demographic groups to provide for their children by linking family income to food costs. As she wrote in a 1988 retrospective, "The utility of the SSA poverty index owes much to an accident of timing: It appeared when needed. The link to nutritional economy and food-income consumption patterns endowed an arbitrary judgment with a quasi-scientific rationale it otherwise did not have."

Yet Orshansky's measure remains the official definition today, largely unchanged except for adjustments for inflation and family size. The current threshold for a two-parent, two-child household is $23,283.

For decades, the official poverty rate has been criticized by economists, policymakers, and activists from both the left and the right. A variety of incremental improvements and wholesale changes have been proposed by both federal and private sector researchers. What these research efforts show, however, is not that one definition of poverty is unequivocally correct, but rather how challenging poverty is to define.

The Official Poverty Threshold

The poverty rate is a widely cited gauge of the health of the economy, and trends in the rate are used to justify new policies and evaluate the effectiveness of existing policies. For example, in 1993 President Clinton used the rate as a marker for his proposed expansion of the Earned Income Tax Credit (EITC); he pledged that full-time work at

PHOTOGRAPHY: RICHARD NEWSTEAD/FLICKR/GETTY IMAGES

minimum wage plus the EITC should be enough to lift a family above the poverty line. More recently, the poverty rate has been viewed as an alarming signal of the effects of the 2007-09 recession. In 2010, the rate reached 15.1 percent — comprising 46.2 million people — the highest rate in nearly two decades. In 2011, the most recent year for which there are data, the rate remained elevated at 15 percent.

States in the Fifth District are faring both better and worse than the nation as a whole. Poverty rates in 2011 in Maryland and Virginia were 9.3 percent and 11.4 percent, respectively, and North Carolina was near the national average, at 15.4 percent. But West Virginia, South Carolina, and Washington, D.C., had some of the highest poverty rates in the nation: 17.5 percent, 19.0 percent, and 19.9 percent, respectively. (See chart.)

The official poverty thresholds also determine the eligibility for and allocation of funding across more than 80 federal programs, ranging from helping rural areas improve their water and waste disposal systems to providing free breakfast and lunch to low-income school children. (This number includes many federal programs that determine individual eligibility according to the poverty guidelines developed by the Department of Health and Human Services, simplified versions of the Census Bureau's official thresholds.) The largest program that uses the official poverty threshold to determine individual eligibility is food stamps, formally known as the Supplemental Nutrition Assistance Program (SNAP), which paid out $74 billion in benefits in 2012.

Picking the Target

In theory, measuring poverty is a simple task. "If your needs exceed your resources, you're poor. If your resources exceed your needs, you're not poor," says Timothy Smeeding, an economist at the University of Wisconsin-Madison and director of the Institute for Research on Poverty. But in practice, "all those measures are subjective" — making the task far more complicated.

Researchers must make a number of decisions about how to measure resources: Should they count pre- or post-tax income? Should they include in-kind transfer benefits? What about assets? And how should they account for differences in family size or regional variations in the cost of living? Then they must decide where to set the threshold for need, a decision that is inherently arbitrary. "There's nothing magic about [setting the threshold]," says Bruce Meyer, an economist at the University of Chicago. "It isn't something that comes down on a tablet from Mt. Sinai."

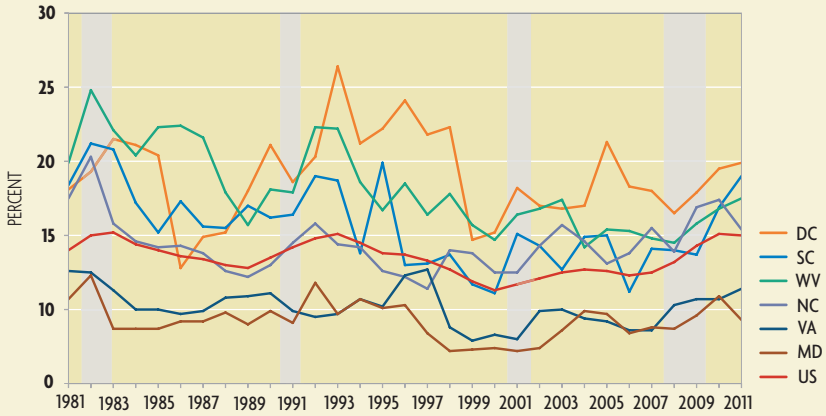
A fundamental question is whether the threshold should be absolute or relative. An absolute threshold is adjusted only for inflation; the real value of the threshold remains constant from year to year, making it useful for tracking the level of poverty over time. But an absolute measure will not reflect changes in the standard of living, or shifting attitudes about what it means to be poor. Televisions and cars were luxuries in 1963 — when the U.S. thresholds were established — but today are viewed by many as necessities, as Meyer and James Sullivan of the University of Notre Dame noted in a 2012 *Journal of Economic Perspectives* article.

A relative poverty measure addresses this concern by setting the threshold relative to a metric that changes with society's standard of living. The United Kingdom, for example, sets the poverty threshold at 60 percent of the country's median income. Such a measure better captures how the poor are faring compared to the rest of society.

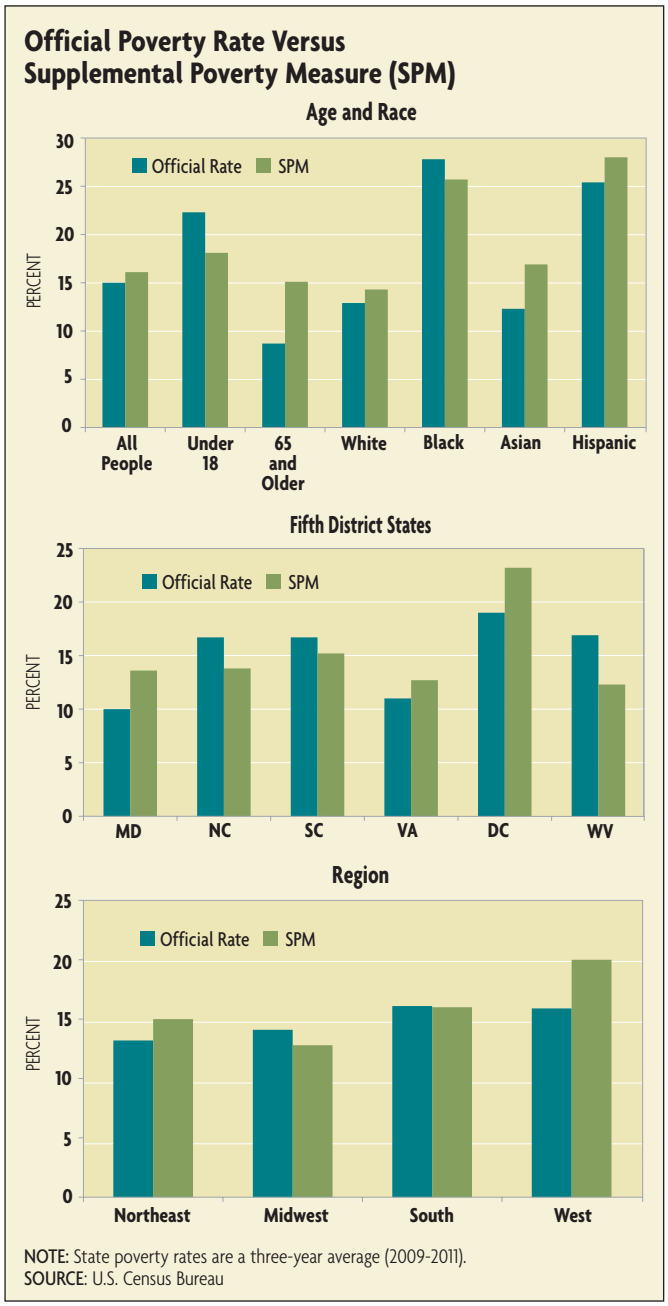
While absolute measures are criticized for holding the level of need constant, relative measures are criticized for not really measuring need at all. Instead, some researchers contend, relative poverty measures actually are a measure of inequality. For example, a relative poverty measure could change dramatically with swings of the business cycle. During the 1990s and early 2000s, incomes were rising very rapidly in Ireland, but they rose more quickly in the middle of the distribution than at the bottom. As a result, the relative poverty rate increased even though people at the bottom actually were earning much more than they had just a few years earlier. In addition, a constantly moving target makes it difficult to assess the effects of anti-poverty policies over time. "If you're continually changing the goal posts, it's hard to know where you are relative to the goal line," Meyer says.

The official U.S. poverty rate uses pre-tax money income as its resource measure, and the threshold is absolute, adjusted only for inflation since 1963. (Some economists believe that the threshold is effectively relative because it is tied to the Consumer Price Index, which might overstate inflation; the thresholds thus could be rising faster than actual inflation.) Both of these characteristics have been widely faulted for painting an inaccurate picture of poverty in the United

Official Poverty Rates, U.S. and Fifth District



NOTE: Shaded areas denote recessions.
SOURCE: U.S. Census Bureau



NOTE: State poverty rates are a three-year average (2009-2011).
SOURCE: U.S. Census Bureau

States. Pre-tax money income, for example, doesn't include expenses or in-kind benefits, and thus doesn't reflect the actual disposable income available to a family. In addition, critics say that the official thresholds have "defined deprivation down." The poor today are poorer relative to the rest of society than they were a half century ago: In 1963, the poverty threshold for a family of four was about 50 percent of U.S. family median income. Today, it's closer to 30 percent.

At the same time, however, the official poverty rate doesn't reflect that the poor appear to be better off in absolute terms than they were in 1963, according to Nicholas Eberstadt, an economist and political scientist at the conservative American Enterprise Institute. In his 2008 book *The Poverty of "The Poverty Rate,"* Eberstadt found that the trend in the poverty rate contradicted trends in other indicators of well-being. Since the early 1970s, for example, the poverty rate has increased while the infant mortality rate and the number of people who are nutritionally deprived have decreased. In addition, according the Eberstadt, a poverty-level household in 2001 was more likely to have central air conditioning or a television than a median-income family was in 1980.

The Supplemental Poverty Measure

The limitations of the official poverty rate have been recognized from the beginning. As Orshansky herself wrote in her pioneering 1963 article, "There is need for considerable refinement of the definition or standards by which poverty is to be measured, if we are to trace its course with assurance." Numerous economists, statisticians, and other researchers have thus spent decades grappling with questions ranging from data collection to philosophy.

In 2011, the Census Bureau unveiled the Supplemental Poverty Measure (SPM), which attempts to address many critiques of the official poverty rate. The SPM will not replace the official rate, but will be released alongside it each fall. The first major difference is that instead of pre-tax money income, the SPM counts cash income plus tax credits and in-kind benefits such as food stamps, school lunches, heating and housing assistance, and WIC, a nutrition program for women and children. It then subtracts work expenses such as transportation or child care, out-of-pocket medical expenses including insurance premiums, and child support paid to another household.

Another major change is to the threshold for need. The new threshold is based on expenditures on food, clothing, shelter, and utilities, or FCSU, by different types of family groups. The line is drawn at the 33rd percentile of FCSU spending, multiplied by 1.2 to account for additional basic needs and adjusted for various family sizes. The thresholds will be revised each year according to the five-year moving average of FCSU expenditures; this method is designed to ensure that the thresholds change with time, but more gradually than if they were pegged to annual data. The SPM also includes regional adjustments for housing costs, so a family living in New York City has a higher threshold than a family in Oklahoma.

The SPM poverty rate is 16.1 percent; about 3.1 million more people are counted as poor than under the official threshold. Underlying this increase are dramatic changes in demographic groups. The poverty rate for children under 18 decreases from 22.3 percent to 18.1 percent, since many in-kind benefits are targeted toward children. But including medical costs causes the poverty rate for the elderly to nearly double, from 8.7 percent to 15.1 percent. The poverty rates for white, Hispanic, and Asian people increase, while the poverty rate for black people decreases. A number of factors could contribute to these differences, including different participation rates in benefit programs or the likelihood of having health insurance. Hispanics, for example, have low rates of health insurance coverage, which

could increase their out-of-pocket medical spending.

There also are significant regional changes. Poverty increases in the Northeast and West, reflecting the higher cost of living in these regions, but decreases slightly in the Midwest and South. In the Fifth District, SPM poverty is higher than official poverty in Washington, D.C., Maryland, and Virginia, and lower in North and South Carolina and West Virginia. (See chart.)

Because the SPM includes in-kind benefits, it better illustrates the effects of government anti-poverty programs. The poverty rate without the EITC would rise to 18.9 percent; without food stamps it would be 17.6 percent. The effects are especially noticeable for children. Child poverty would be 24.4 percent without the EITC, 21 percent without food stamps, and 19 percent without the school lunch program.

The SPM also underscores how many people have difficulty making ends meet, even if they aren't officially poor. The share of people with incomes between 100 and 150 percent of the poverty line increases from 10 percent to 17 percent under the SPM — to a total of 57 million people. More than 10 million people were lifted out of poverty into near-poor status, but more than 26 million people were brought down by the inclusion of taxes and expenses. "The programs that reduce poverty at the bottom are very well targeted at the poor. They really help people at the bottom. But if you move above the poverty line the benefits phase out. And the higher up you go, the more of your income is earnings, so you have more work and child care expenses," says Smeeding.

Challenges to the SPM

The SPM is not intended to replace the official poverty rate; instead, it was designed as "an additional macroeconomic statistic providing further understanding of economic conditions and trends," according to the Census Bureau. Given the many programs that make use of the official poverty rate, replacing it with the SPM would be both administratively and technically challenging. Because the official rate and the SPM have different standards of need and measures of resources, a program that sets eligibility at, say, 130 percent of the official poverty line might have to determine a new standard using the SPM. The SPM also could complicate funding allocation to states, for example by penalizing states with low costs of living or generous benefits programs and that thus have lower poverty rates than under the official measure. "Are we going to penalize the states that do a great job for the poor, and give them less money? Or should we look at poverty before taxes and benefits, and see where the need is?" asks Smeeding.

In addition, some critics of the SPM believe that the measure both adds and subtracts the wrong people. For example, child and elder poverty rates are about the same under the SPM, but the Department of Agriculture's food-insecurity index shows more than twice as many children as elderly people at risk, notes Shawn Fremstad, a senior research associate at the liberal Center for Economic and Policy Research. "Adding a child to your household costs a lot more than adding another adult," Fremstad says, a fact that might not be picked up by the SPM's family-size conversions. Moreover, Fremstad asks, "Are we really capturing the need kids have for care, for development beyond subsistence needs?"

Conversely, the increase in elder poverty relative to the official poverty rate might not be all that it appears. Much of the increase is driven by large out-of-pocket medical expenses, which lower disposable income. But it's possible that the elderly have high medical expenses in part because they choose to allocate their resources toward health, by purchasing expensive insurance plans or having procedures that aren't covered by insurance. "It is difficult a priori to determine whether most out-of-pocket medical spending reflects those with lower health status or those who have greater resources and makes choices to spend more on out-of-pocket health costs," Meyer and Sullivan wrote in their 2012 article. In fact, neither the official poverty rate nor the SPM might be suitable for measuring elder poverty. "An income measure is particularly poor at capturing the well-being of the elderly because many older households are living off their savings, which don't count as income," Meyer says. "And the vast majority own their own home and have a car. They get a flow of services from these resources that don't require income or current spending."

The SPM also underscores how many people have difficulty making ends meet, even if they aren't officially poor.

Overall, Meyer and Sullivan's analysis suggests that the people newly counted as poor by the SPM are likely to have a higher standard of living than those who are no longer counted as poor. (A person could be officially poor but not SPM poor if he has very low income, but receives many in-kind benefits. A person could be SPM poor but not officially poor if she has income above the official poverty threshold, but also has high medical or child-care expenses.) For example, those newly counted by the SPM are more likely than those no longer counted as poor to be a homeowner, to own a car, and to live in a household headed by a college graduate; they also tend to live in larger homes and have more amenities such as air conditioning, dishwashers, and computers. This suggests that the SPM is not accurately capturing those who are truly the worst off.

Alternative Poverty Measures

Both the official poverty rate and the SPM are income-based measures. But income is not the only way to measure a person's well-being. One option might be to use consumption, which takes account of the fact that some people

have savings or own durable goods such as houses or cars. Consumption is thus a better reflection of lifetime resources than income at a point in time. Or, as Meyer says, "The reason you care about income is because it allows you to consume, so you might as well look at consumption," Meyer says.

Meyer and Sullivan constructed a measure based on consumer expenditures, including an annual value of home and car ownership for households with these items. They found that people who are consumption poor under their measure but not officially poor (that is, people who have incomes above the official poverty line but low consumption, perhaps because of high expenses) tend to score lower on many measures of well-being than those in the opposite situation — those who are officially poor but not consumption poor (they have low incomes but high consumption). On average, the consumption-poor live in smaller homes with fewer amenities and are less likely to own their own homes, and the head of the household is less likely to be a college graduate. The consumption measure thus does a better job of identifying people who are truly disadvantaged, according to Meyer and Sullivan. They also found that consumption poverty fell 8 percentage points between 1980 and 2010, while the official poverty rate rose 2 percentage points; the poor today tend to have a higher standard of living than the poor of the past.

Just as an income-based measure might include families who have low incomes but are able to smooth consumption via savings, a consumption measure could exclude people who have low incomes but are consuming via credit. It's likely that the measure would balance over time, however, since people who are borrowing today will have to pay it back tomorrow, leading to lower future consumption. Moreover, people close to the poverty line tend to have very little credit and debt.

Because savings allow a person to consume even with low income, another gauge of poverty is assets. An asset-based measure reveals a family or individual's vulnerability to a sudden loss of income. About half of U.S. households do not have enough financial assets to maintain them above the official poverty line for at least three months, according to research by Smeeding and Andrea Brandolini and Silvia Magri of the Bank of Italy.

Another way to measure poverty is not in terms of a single number, but rather as the ability to maintain "a minimum decent standard of living. It's a quality of life concept," says Fremstad. The European Union, for example, not only counts the number of people below 60 percent of median income, but also tracks measures of "material deprivation" and "inclusion." Material deprivation is the inability of individuals or households to afford the goods and activities that are typical in a society at a given point in time; the purpose of the measure is to reflect a consensus about what items constitute necessities. According to the United Kingdom's Family Resources Survey, for example, necessities include a warm winter coat, keeping the home in a "decent state of decoration," and having enough toys and games for a child's development. The concept of inclusion is even broader, and refers to a person's ability to participate in economic, social, and cultural activities. Social inclusion is difficult to measure — "I think it's hard to get a handle on what it means in a practical sense," says Fremstad — but many researchers believe that the United States would benefit from a more holistic approach to poverty measurement.

The debate over poverty measurement highlights that no single measure can be sufficient for all purposes. For example, both relative and absolute poverty are valuable. "It's important to know how the poor are doing relative to everyone else, but it's also important to know if people are doing better than they were," Smeeding says. Similarly, income, consumption, and assets all shed light on the multiple types of hardship faced by different groups of people. In the end, of course, changing the words doesn't change the reality; a new definition of poverty doesn't alter the material circumstances of those who find themselves in a new category. But the continuous effort to refine the measures is an important step toward understanding who is poor and how they can best be helped. **EF**

Readings

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To Be Clear

Muddy language can be costly

BY BETTY JOYCE NASH

Many multipage agreements, notices, and forms are crowded with microscopic print and convoluted text, a powerful deterrent to readers. Complexity is still the rule rather than the exception, but readability may be on the rise.

In the United States, clear communication is the law under the Plain Writing Act of 2010, which applies to public letters, notices, and forms from federal agencies. Though earlier legislation, such as the Paperwork Reduction Act of 1980, encouraged plain language in connection with other goals, the 2010 law's sole focus is requiring agencies to write clearly. Some states — and nations — had attacked bureaucratic language even earlier. For example, Canada's federal and provincial "plain language" efforts date back to the 1970s; Sweden's laws are all written in plain language. New York State enacted a plain language law in 1978 for consumer transactions.

The movement toward disclosures and plainer communication has waxed and waned in the United States since the 1970s era of consumer protection laws. Today, it's waxing in both the public and private sectors. This language transformation won't happen overnight, however, says Annetta Cheek, board chair and a founder of the Center for Plain Language, which grew from a group of like-minded government employees.

"Taking traditional bureaucratic stuff and issuing it in plain language is hard work, and the government doesn't have a lot of people skilled at it," she says.

It is hard. Try finding a shortcut for "default," for instance, a word with several meanings. But how can people make decent decisions if writers bury critical content in jargon and tangled sentences?

Plain Benefits

Writing simple language is anything but simple. The range of tools includes using active voice, succinct language, common words, short sentences, headings, and tables and figures. Even then, complicated concepts can remain elusive, depending on the audience, without additional explanations and examples.

Michael Masson and Mary Anne Waldron, University of Victoria professors of psychology and law, respectively, tested traditional notions of plain language. Their study, published in *Applied Cognitive Psychology* in 1994, found that simply removing archaic terms and "legalese" from contracts had little value. But simplifying language and shortening sentences did improve reader comprehension. "By using more familiar words we made more concepts accessible to readers, and by using shorter sentences fewer demands were placed on working memory capacity," the researchers noted.

Even so, some participants responded erroneously when asked to answer questions and paraphrase material. The results suggested that, "quite apart from the constraints of language, nonexperts have difficulty understanding complex legal concepts that sometimes conflict with prior knowledge and beliefs," Masson and Waldron concluded. This indicates that plain language is not only challenging to write, but also that it may not always solve comprehension problems, especially if it is approached in a superficial way.

Simplifying legal language is a mission for Joseph Kimble, a professor at the Thomas M. Cooley Law School. He has worked for years, he jokes, to "poison the well of legalese at its source." He teaches legal writing and has written three books about plain language. The latest, published last year, is *Writing for Dollars, Writing to Please: The Case for Plain Language in Business, Government, and Law*.

Measurable benefits of plain language are substantial, according to Kimble. Simplified memos, agreements, and notices take less time to understand, so they require less staff time. Examples range from plainly written user's manuals to clearer memos for U.S. naval officers.

One such case is that of a U.S. Veterans Benefits Administration letter that went to 320,000 veterans who needed to update information about their life insurance beneficiaries. The response rate for previous letters had never exceeded 43 percent, but the plain language version, with a revised structure and clean design, had a 66 percent rate of response. Staff time saved (because the agency had fewer beneficiaries to identify and locate) amounted to $4.4 million in 1999 dollars.

Likewise, the Internal Revenue Service has trained employees and revised more than 100 of its taxpayer notices and guides, no small feat given the arcane U.S. tax code. For example, a child care tax credit notice went from five to three pages. The revision used bold type, clear, concise language, and the pronouns "we" and "you" to clarify the taxpayer's responsibility. Overall, IRS results from improved writing include reduced penalty and interest payments and improved taxpayer compliance, according to Terry Lemons, director of its office of communications. Taxpayers are less frustrated and report higher levels of satisfaction because they're less confused and their cases are resolved sooner.

The Holy Grail

Private firms are looking harder at communications not only for clarity's sake but also to court consumer satisfaction. Even if clear benefits to firms aren't easily calculated, clear communications promote customer loyalty and trust. People feel cheated if they suffer financial penalties and consequences because they didn't understand their obligations.

Before-and-After Example from a Financial Privacy Statement

BEFORE:
If you prefer that we not disclose nonpublic personal information about you to nonaffiliated third parties, you may opt out of those disclosures, that is, you may direct us not to make those disclosures (other than disclosures permitted by law).

AFTER:
We share personal, nonpublic information about you to third parties that are not affiliated with us unless you tell us not to (opt out).

And that hurts business.

"This isn't just dollars and cents, it's also a matter of looking at a document and saying, 'That's straightforward. Nobody's trying to pull the wool over your eyes. That company deals straight with its clients and customers,'" Kimble says. "The benefit to the readers produces benefits for companies; obviously they are related."

Cutting the number of customer service calls is a "holy grail" of plain language, says Deborah Bosley, an associate English professor at the University of North Carolina, Charlotte and a consultant on plain-language issues. Besides meeting regulatory requirements, a well-written document answers customer questions rather than raising more.

Private firms are also building plain language efforts into corporate cultures. For example, Chase Bank has revamped its credit card agreement. In 2010, the Center for Plain Language named Chase's agreement as a finalist for a "WonderMark" award, which means the document was among the "least usable." This unflattering distinction described six pages of what Joan Bassett, a senior director at Chase, calls "mice" type, typography slang for very small print.

Chase got the message and got to work. "If you look at the old agreement, with paper-thin, 'mice' type — it's very legal-heavy," Bassett says. The redesigned agreement comes as a booklet, organized with tabs for easy reference. Information is displayed in tables that use larger print.

Testing helps Chase tweak plain language communications. "Consumers found it [the new agreement] easier to navigate and they understand it better." So far, customer satisfaction has improved, specifically with regard to the communications, she says, according to internal measures by J.D. Power and Associates, a marketing information services firm.

Chase worked with its legal team to make the new document as consumer friendly as possible while meeting regulatory requirements. "You really have to dig into what is driving confusion, what's driving the lack of transparency," she says. "You want to understand the whole process." (The revised agreement was recognized with a "TurnAround" award from the Center in 2011.)

Financial documents are prime candidates for simplification. For example, the Pew Charitable Trusts has developed a plain-language model of checking account statements, adopted by Bank of America and other financial institutions.

Financial disclosures can be particularly complex. The Canadian government in 2009 amended its disclosure regulations for credit products to include a plain language provision, requiring that the language be "clear, concise, and not misleading." Earlier, the Canadian Bankers Association in 2000 had adopted a voluntary plain language code of conduct — the Plain Language Mortgage Documents CBA Commitment — covering mortgages.

Clear and simple language, though, is only one step along the way to comprehension, especially in financial matters. The way information is disclosed and framed may influence whether and how much people borrow.

Context and Complexity

A study by two University of Chicago Booth School of Business professors, Marianne Bertrand and Adair Morse, evaluated the way that additional information and presentation affects payday borrowers' decisions. Their paper appeared in November 2011 in the *Journal of Finance*.

The authors designed three types of disclosures based on behavioral principles from psychology and economics literature to investigate "possible cognitive lapses payday borrowers might be making," according to the paper. For instance, the researchers placed interest rates in context by comparing those of payday lenders to rates on car loans, credit cards, and subprime mortgages.

They found that borrowers in all groups reduced borrowing amounts. Those who received information about fee accumulation compared to other types of loans over a four-month span were 5.9 percentage points less likely to borrow during subsequent pay cycles, an 11 percent decline relative to the control group. (Payday lenders may charge rates of 400 percent or more for these short-term, high-risk loans, which can provide needed liquidity to some households but also have the potential to lead to significant debt-to-income burdens.)

Clearly written, understandable, and organized content also can educate people about their health, maybe even save lives. People who don't understand drug labels or a set of instructions — those with limited or poor health "literacy" — have worse health outcomes, according to Karen Baker, senior vice president at Boise, Idaho-based Healthwise. The nonprofit has produced, since 1975, health information, tools, and services for hospitals, clinics, insurers, government agencies, and medical practices. The ultimate audience for Healthwise, though, is the patient who uses that content to make health decisions and change behavior.

"We know that people with low health literacy access health services more, have a hard time sticking to a treatment plan, and are readmitted more," Baker says. "They are less likely to understand the need for screenings and preventive care. All that drives up costs." The costs of low health literacy range from $106 billion to $238 billion a year, according to a 2007 report for which the lead author was the late finance economist John Vernon of the Department of Health Policy and Management at the University of North Carolina, Chapel Hill.

Healthwise has built plain language into its genes, Baker says. "If you walked in here tomorrow and asked about plain

language, you would get an answer from anybody on the staff." They write, design, and organize content and, finally, test it extensively using a professional organization.

"We want to make sure that if we want feedback on instructions for using an asthma inhaler that we are testing people who have asthma," Baker says. "Do we need to change something? Is it informational? Do we think we have it right? We consider all that feedback that helps make our products and our assets better."

Plain language helps people participate fully in decisions that affect well-being, whether it's physical health or financial health. More plain language efforts are under way, public and private; a federal law covering the writing of agency regulations, in committee since last January, may be next.

There's a snowball effect along with a willingness to take plain language seriously. "I think the people who have embraced the idea of plain language are using what, to some, is an onerous regulation, to their own advantage," Bosley says. "The smarter companies understand this is a marketing opportunity for them because every piece of material that comes out of an institution is a piece of marketing."

Even though consumer finance and other regulations have mandated clearer statements and disclosures, plenty of dense text remains in a wide range of contracts and agreements — construction contracts to cell phone agreements to warranties. Until plain language dominates most documents, it's not a bad idea to keep the magnifier handy and read the fine print. **EF**

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FEDERAL RESERVE *continued from page 9*

complete picture of labor market conditions — so for both reasons, the unemployment rate is an inappropriate basis for policy changes. Plosser argued that, while the thresholds provide a clear near-term forecast for the fed funds rate and in that sense could improve transparency, thresholds do not equip financial markets to understand how policy will behave after the thresholds are met.

The debate reflects not only that communications are an inherently imprecise policy tool, but also that monetary policy is an imprecise science. In deciding how and what to communicate, the Fed must balance the benefits of making policy predictable with the risk that too much specificity, like thresholds for a limited set of economic variables, will obscure the fact that a complex array of data is behind policy decisions. The recent FOMC minutes reveal that the committee continues to discuss the risks and benefits of new communication strategies, and Chairman Bernanke even established a subcommittee headed by Yellen in 2010 to analyze these very questions, because with limits on movements in the fed funds rate, "sometimes communication *is* the policy," she said in April.

Among the questions on the table: While the Fed has become clearer about its thinking in the moment and has adopted quantitative long-term goals, should it adopt an explicit policy rule that defines how it will behave to achieve those goals? Could it communicate a rule in a way that reduces uncertainty but allows policymakers to deviate from the rule when appropriate? And when is deviation appropriate? While the Fed has made significant beneficial strides in communication over the last two decades, the last several years prove that there are many more issues still on the table. **EF**

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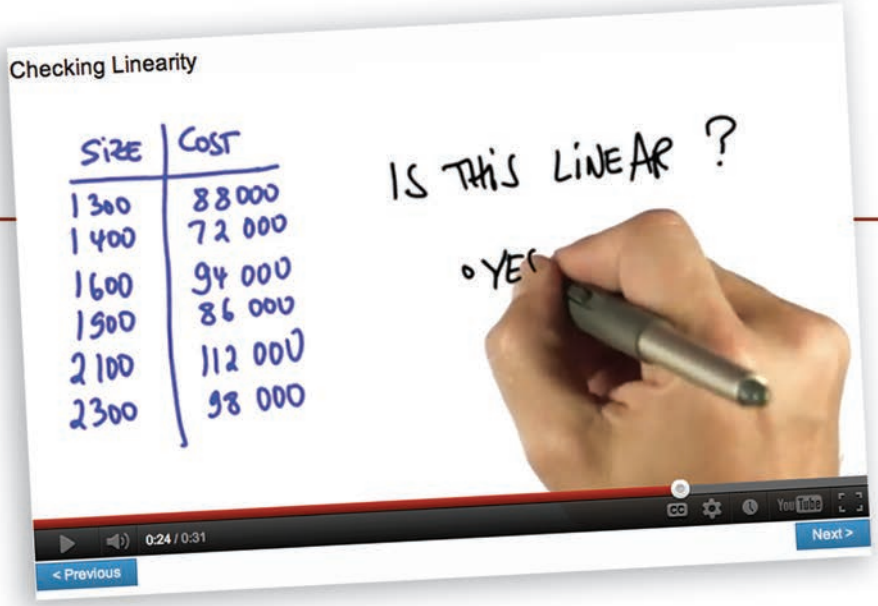
Are Online Classes the Future of Higher Education?



Many online professors follow Salman Khan's lecture method of writing on the screen while they explain concepts, as shown in this video from Udacity.

COURTESY OF UDACITY

Taking College **Out of the Classroom**

BY TIM SABLIK

The structure of college hasn't changed much in the last century. Higher education is certainly more accessible today, allowing more graduates to earn a significant wage premium in the workplace. But tuition costs have increased steeply, prompting some students to search for alternatives. Over the last decade, the average published tuition at public four-year colleges rose by 5.2 percent per year after adjusting for inflation. Tuition at public four-year schools is now about 3.6 times higher in real terms than it was in 1982-1983; tuition at private four-year schools is about 2.7 times higher (see graph). Students have turned to loans to fund the growing expense of higher education, which has increased the debt burden new graduates carry with them into the workforce. (See "Debts and Default," *Region Focus*, Fourth Quarter 2010.)

Some educators have also begun to question whether this time-honored method of instruction is the most effective way to transfer knowledge. In their book *Academically Adrift*, Richard Arum and Josipa Roksa, professors of sociology at New York University and the University of Virginia, respectively, examined survey results from college students to quantify the amount of learning that goes on at American universities. The authors looked at data from the Collegiate Learning Assessment, which measures learning based on the results from a performance test and two analytical writing tests. They found very little improvement in critical thinking and writing skills in the first two years of students' college careers. From the start of their freshman year to the end of their sophomore year, students improved an average of 7 percentile points on the assessment, meaning a student that started college in the 50th percentile might have only advanced to the 57th percentile by the end of their second year. For nearly half of the students surveyed, there were no statistically significant gains, making it unclear whether most students learned anything at all. And measured learning was not much higher by the time students graduated.

One new education platform purports to answer both concerns by offering top-notch training for a bargain price: the MOOC.

What is a MOOC?

The first online classes in the United States began appearing in the early 1980s, and even before that, researchers had discussed how computers might expand the reach of traditional teaching. Early efforts at online education tended to resemble physical classrooms transplanted to the digital world, but with less interaction. Teachers posted lectures in text form, and limitations in technology inhibited the sort of dialogue possible in a physical classroom.

Today's MOOCs — massive open online courses — promise to overcome the limitations of early online education. Providers of MOOCs are less interested in replicating the existing classroom infrastructure and more interested in creating their own. One of the pioneers in the modern MOOC movement is Salman Khan, who founded the nonprofit Khan Academy in 2008. Through videos he records himself, Khan has taught more than 40 million students, making him one of the most wide-reaching teachers in history. The advancement of online video distribution and broadband internet access allows millions of students to virtually sit down one-on-one with Khan for brief lessons on a variety of topics. The price of admission? Zero.

Khan has inspired instructors in higher education to go online as well. In the fall semester of 2011, Sebastian Thrun, who at the time was a professor at Stanford University, taught a class on artificial intelligence with Peter Norvig, Google's director of research. The class was simultaneously offered online for free to anyone who wanted to register. In total, 160,000 enrolled. Students at Stanford who signed up

for the physical class were also given the option to watch the content online rather than attend class, and the majority did so. Those students scored a full letter grade higher on average than students who had taken the traditional class in the past. After the experience of teaching the course, Thrun left Stanford to start his own for-profit MOOC, Udacity Inc.

In the beginning, Udacity was a garage company of sorts. "It was really just four people operating out of Sebastian's guest house," recalls David Evans, a professor of computer science at the University of Virginia who served as Udacity's vice president of education. The site now offers over a dozen courses on topics ranging from computer science to building a startup, all for free. Evans taught one of the inaugural classes, Computer Science 101, which enrolled 94,000 students.

"Until recently, most online education has been sort of a pale substitute for in-person education," says Evans. "It was trying to replicate the classroom experience of watching a long lecture and maybe having some synchronous discussion. And technology allows us to do more interesting things than that now."

Of course, online classes still present some unique challenges. Providing individual attention to thousands of students is an impossible task, even with advancements in technology. Evans says the huge scope of MOOCs can actually help in that regard.

"One nice thing about a class like this is the class scale and the diversity of students means that almost all questions get answered quickly by other students in the class, often within 15 seconds of a question being posted in the discussion forums," says Evans.

If the initial response is unsatisfactory, other students will soon chime in with their own answers, says Evans. And the professors can get involved as well. When Udacity first launched the Computer Science 101 class, all of the students took the same units together, allowing Evans and his teaching assistants to hold virtual office hours to answer questions from students. Many students in MOOCs have also formed in-person study groups at coffee shops and libraries with classmates who live in their area.

Major universities have started to recognize the growing demand for education alternatives too. Coursera partners with 62 universities that offer free courses taught by their faculty. The Massachusetts Institute of Technology and Harvard University founded edX as an outlet for their free online courses, and they have since been joined by nearly a dozen other major universities.

Moreover, technology enables individual instructors to create and host their own MOOCs at low cost. Tyler Cowen and Alex Tabarrok, economists at George Mason University who co-author the blog Marginal Revolution, started their own online source for economics education called Marginal Revolution University in September 2012.

"The main driver of blogging and Marginal Revolution University is the desire to communicate ideas to a broader audience," says Cowen. "We think that if we have the best economic content, sort of like the 'Khan Academy of economics,' we'll have a role in the future of education."

The MOOC movement has captured a lot of attention, but will it transform traditional higher education?

Building a Better Classroom

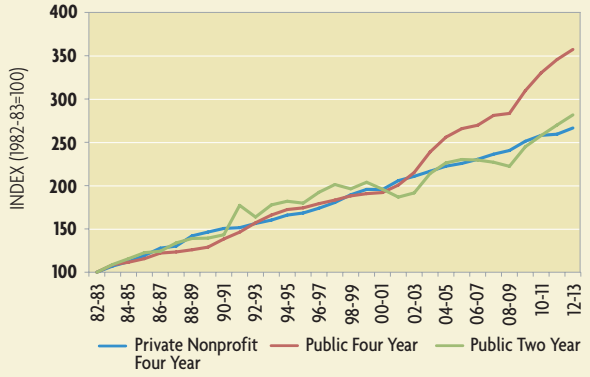
To be competitive, online education must suit the needs of students seeking an alternative or supplement to traditional education. On this front, studies are promising. Ithaka S+R, a nonprofit consulting and research group focused on studying the use of technology in education, conducted a randomized experiment in which they assigned some students to traditional college classrooms and others to hybrid classes where students learned mostly online but also met for one hour each week face-to-face with the instructor. On average, the researchers found no significant differences in learning — in terms of course completion, grades, and performance on a standardized test of course material — between the two groups of students.

"This seemingly bland result is in fact very important," noted the researchers. It suggests that transferring most classroom education online does not impair student learning. In another review of several studies on online education, the U.S. Department of Education (DOE) found that, on average, students in online classes performed as well or even slightly better than students in traditional classrooms. Students in hybrid classrooms, like the ones studied by Ithaka S+R, performed even better, according to the DOE.

These findings are encouraging for the future of MOOCs. Modern technology allows teachers like Thrun, Evans, or Cowen to reach many times the number of students they might see in a lifetime of classroom instruction. If these students can learn the same material just as successfully, then the upside to MOOCs could be very high.

While MOOCs have certainly proven that they can attract large audiences, the number of students who actually completed courses is another matter. Evans' initial Udacity class had 94,000 students enroll, but only 9,700 finished.

Inflation-Adjusted Published Tuition and Fees Relative to 1982-83



NOTE: Tuition and fees in the chart are expressed as a percentage of the prices in 1982-83, which are indexed at 100. So, tuition and fees for public four-year schools in 2012-13 are 357, or 3.57 higher than in 1982-83.
SOURCE: *Trends in College Pricing*, ©2012 The College Board. www.collegeboard.org

"Certainly you would like to have much more than 10 percent of students starting a class successfully finish it," says Evans. "On the other hand, because the costs of getting started were so low, that is a pretty reasonable rate."

Evans notes that many students never even watched the first video, since registering is free and requires only a few minutes. He says that after the initial drop-off, most students left after the fourth unit out of seven.

"That's where it gets into some of the deeper computer science ideas," says Evans. "It may be something that is less compelling for people who just wanted to understand a little bit about programming."

In that sense, the flexibility of online classes is a plus, allowing students to learn as much or as little as they like or dabble in new fields of study with little upfront cost or commitment. On the other hand, some argue that the economies of scale made possible by online education are a mixed blessing. "It's not the 'O' in MOOC that worries me, it's the 'M,'" says economist Arnold Kling, who formerly taught at George Mason University and served on the staff of the Fed's Board of Governors. He now teaches economics and statistics at the Melvin J. Berman Hebrew Academy in Rockville, Md. Kling wrote an article in *The American* in which he was critical of placing too much faith in MOOCs as the solution to improving higher education.

"I think online education has a role. But my basic view is that students are different. The more an educational technology is adapting to the individual student, the more productive it is," says Kling.

Taking a one-size-fits-all approach of simply posting videos online, as many MOOCs have, is not likely to yield great results, argues Kling. He advocates a "many-to-one" approach, in which courses are more adaptive and tailored to the individual student. He notes that this is already starting to happen, as Khan has championed a "flip the classroom" approach, where students watch lecture videos at home and then use class time to work on problem sets and receive help where they are struggling.

"It's great because you have students working on problems with each other," says Kling, who has used the method in his classes. "Their thought process is the thought process of someone who's learning, so that's better than just getting my thought process as someone who has done this for years."

Valuing Digital Degrees

Even if digital classrooms are effective, the for-profit MOOCs still must find a way to translate free classes into a sustainable business model. And even the nonprofit ones are likely to thrive only if they create economic value for students. But how does higher education create value?

It is clear that for the median graduate, college does pay. According to a 2010 study from the College Board Advocacy and Policy Center, the median college graduate with a bachelor's degree makes nearly $22,000 more per year working full-time than the median high school graduate, roughly a 65 percent wage premium. What is less clear is where this value comes from. One view is that college graduates learn valuable knowledge and skills in the course of obtaining their degree and this makes them more productive members of the labor force. As a result, employers are willing to pay them a higher wage for their higher productivity. If knowledge accounts for most of the value of a college degree, then the evidence on the efficacy of online education is encouraging for the future of MOOCs. Online education appears to provide a comparable level of learning for a fraction of the cost, which would make it an attractive option for students.

So what has prevented college students from leaving campuses in droves to sign up for free MOOCs? Signaling theory may provide the answer. That theory posits that the value of college education comes primarily from the information it imparts to potential employers. Workers have varying levels of ability, which potential employers cannot easily discern. A college degree provides a signal for employers that a worker possesses certain abilities, and under signaling theory it is the credential that matters most — and an online education without a credential to validate the student's ability would have little value in the job market.

The jump in wage premium enjoyed by college graduates versus those with only some college education suggests that there is significant value in holding a degree (see chart). That value also seems to diminish as workers are better able to signal their ability through work experience. Andrew Hussey, an economist at the University of Memphis, looked at students in Master of Business Administration (MBA) programs. Many of these programs require candidates to have some work experience, but the amount of prior experience varies greatly among students. Hussey postulated that if signaling does not matter, then the returns from the MBA program should be roughly the same for students after controlling for their years of work experience. He found that the wage premium from an MBA diminishes for students with more work experience, suggesting that students who have worked longer have already signaled their abilities and thus earn less value from the signaling provided by the MBA.

"I think if the credential is what matters and online education cannot offer an equivalent credential, then it's just not going to go anywhere," says Kling.

The evidence is not clear-cut, though, as other studies have pointed to skills gained in college having a larger impact on the wage premium. What seems more likely is that the value from higher education stems from a combination of learning and signaling. Thus, in addition to looking at ways to improve how they teach, MOOCs have begun to address the need for credentials.

In February, the American Council on Education (ACE) approved five courses offered on Coursera as eligible for college credit. Students pay fees to take a proctored exam and receive a transcript from ACE that they can use to apply for credit at a physical school. Two of those courses are offered by Duke University, which has also announced that it will collaborate with other schools on a new online platform

to offer courses that Duke students can take for college credit. Udacity has partnered with Pearson VUE to allow students to take independently proctored certification tests, for a fee. It has also partnered with a number of companies in the computer industry, such as Google, and offers a service to share student resumes with potential employers.

"One potential business model is to have companies sponsor classes," says Evans. "They get a lot of value from this in terms of students learning to use their technology. The business model would have students take a set of courses through us and build up something comparable to an academic transcript. We will have a very detailed record of the student's performance in the class as well as their social contributions, and employers would pay a recruiting fee for these referrals."

Credentialing could offer a path for MOOCs to be financially sustainable, but only if the credentials are accepted in the marketplace. Although Cowen says MRU is financially stable since it is small and its costs are low, he suspects some form of accreditation will be necessary for larger-scale operations to thrive.

"My guess is, if those courses are accredited by legitimate schools, people will pay, and those companies will make money," says Cowen. "If not, people won't pay enough to keep that whole thing up and running."

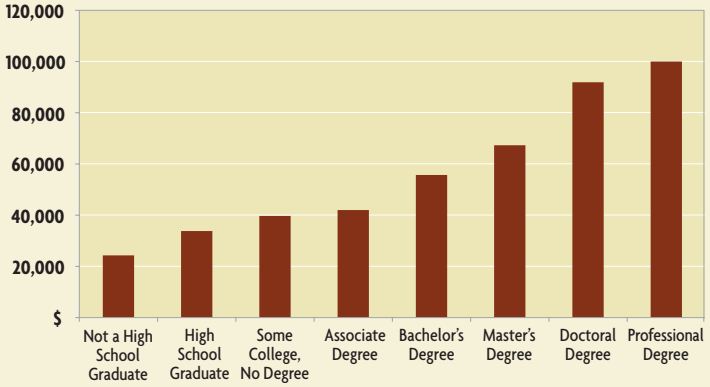
You Say You Want a Revolution?

If MOOCs can provide accepted credentials and develop sustainable business models, then aren't brick and mortar schools hurting themselves by partnering with them? Most of those involved in the movement don't see it that way.

"I don't think we'll ever replace face-to-face education," says Cowen, noting that George Mason has been very supportive of MRU. "I think smart schools will move toward hybrid models. They'll hire fewer instructors of particular kinds, but I'm not sure the demand for instructors has to go down. What the instructor does has to change. It will be more about motivation and less about just repeating lectures, which I think is actually how it should be."

Evans agrees that online education is more likely to augment brick and mortar schools than replace them. "But at the same time, there's a huge population that is not being served by the traditional universities today, and if the success of open education makes traditional universities question some of the things they do, I think that would be a great thing," he says.

Median Pretax Earnings of Full-Time Workers Ages 25 and Older



SOURCE: *Education Pays*, ©2010 The College Board. www.collegeboard.org

The broad reach and open access of MOOCs have been particularly valuable for students in developing countries. For example, schools in India have turned to the videos on Khan Academy to supplement their shortage of teachers and textbooks.

"Online classes are gaining popularity in India," says Satyakam, a 31-year-old master's student at the National Institute of Technology in Kurukshetra, India, who is taking a class on Udacity. "Recently my friend visited one of the premiere engineering colleges in India on a recruitment drive for his company and some of the students used these courses as a main source of learning." Satyakam plans to use the material from online courses to help him start an Internet company.

For students with little access to quality education, MOOCs could be a "lifeline," says Cowen. But to get the most out of education, he feels some in-person instruction is needed. "The naive idea that you just put it up and then the world soaks up all this knowledge, I don't think is where it's at. There's some percentage of people who do great with that, but that's a minority. There's another much larger group that needs this hybrid model, with good teachers and care and motivation, and we cannot do that for the whole world. Other educational institutions have to pick up the ball and run with it."

In the United States, online education seems more likely to supplement traditional classrooms, which could be what traditional universities are counting on. Even so, the hybrid classrooms of the future may not so closely resemble those of a century ago.

"We're optimists," Cowen says. **EF**

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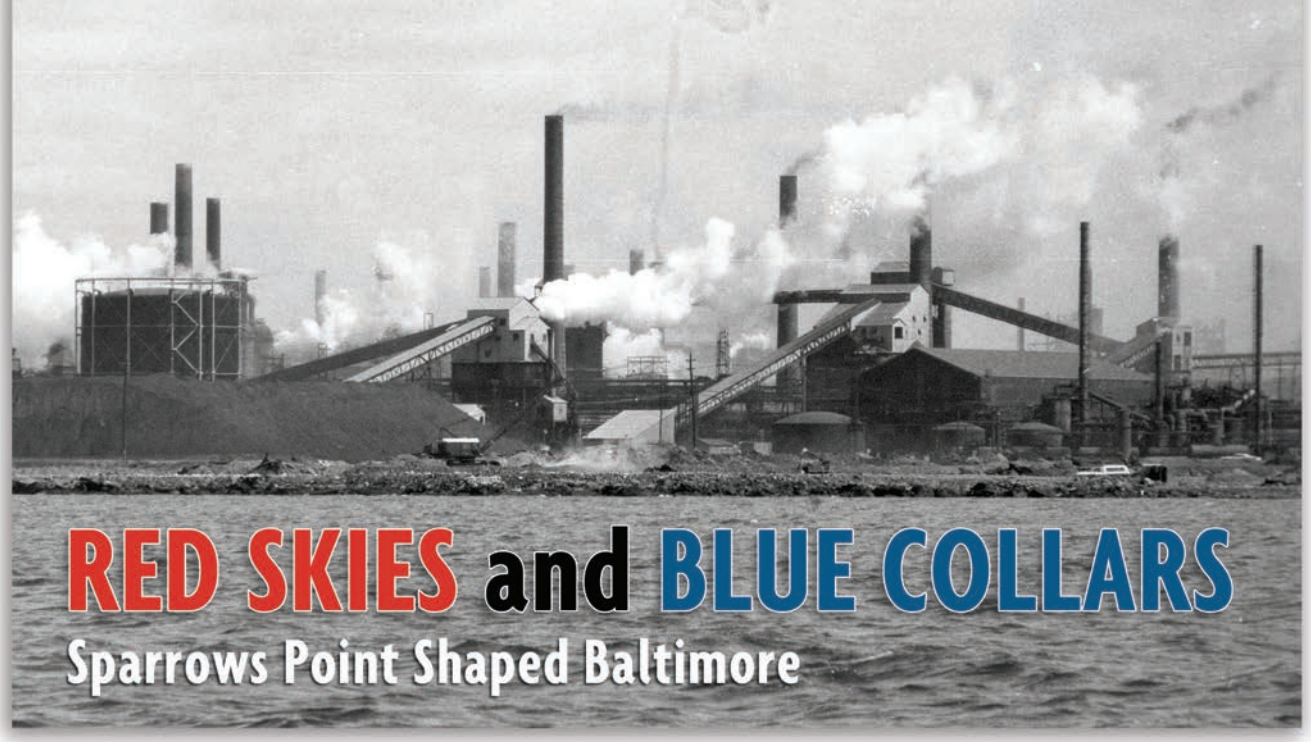

RED SKIES and BLUE COLLARS

Sparrows Point Shaped Baltimore

A 1976 view of Sparrows Point's coke ovens, which were closed in 1992 for air-quality reasons. The ovens converted coal into coke, the fuel used to fire steelmaking furnaces.

BY BETTY JOYCE NASH

Kevin Nozeika lost his job of 16 years at Sparrows Point last summer when the steel company's fourth owner in a decade, RG Steel, went bankrupt. His father retired from another now-departed Baltimore steelmaker. Nozeika worked there, too, with 2,000 others, until it closed. "I'm an old hand at shutting down steel mills in the Baltimore area," Nozeika jokes. He started working in steel just before his 20th birthday. He's now 44.

Sparrows Point's flaring furnaces reddened the skies above Baltimore Harbor for more than a century. Workers made steel for rails, bridges, ships, cars, skyscraper skeletons, nails, wire, and tin cans.

It was a remarkable run. "If you look at Sparrows Point's history, there were times when the different generations of blast furnaces, or the rolling mills, or the coke works were the biggest in the world," says David Hounshell, a professor of industrial history at Carnegie Mellon University. Even as late as 1995, the Point's "Beast of the East," its last big blast furnace, reached record output — 3.4 million tons.

At its 1957 peak, the company made Maryland's biggest payroll, for 30,000 workers. Many of them lived in the shadow of the hulking steel works — in the unincorporated town of the same name — others in Baltimore City or the nearby neighborhoods in the suburb of Dundalk. As steelmaking grew, matured, and declined in the United States, the plant that once symbolized blue-collar Baltimore changed the city — its footprint, population, and economy.

Today, smokestacks tower over rows of empty gray mills. Rusting locomotives line chain link fences, and it's the Johns Hopkins Institutions — "eds and meds" — that comprise Maryland's biggest private payroll.

Sparrows Point grew into its own 3,000-plus acre city-state, where raw iron ore was transformed into finished steel, and nearby manufacturers like General Motors, Western Electric, Signode Strapping, Thompson Steel, Continental Can, and Crown Cork and Seal employed thousands.

Once the site was nothing but desolate marshland jutting into the Chesapeake, but as historians often say, geography is destiny.

Forging an Industry

The Pennsylvania Steel Co. in 1887 sent its engineer, Frederick Wood, to scout the East Coast for a site conveniently located to receive iron ore shipments from the firm's captive Cuban mines; there, they'd transform the iron into steel for rails. Sparrows Point lay 100 miles closer to Cuba than Philadelphia and 65 miles closer to western Pennsylvania's bituminous coal fields. The Point also had deep water and its swamps were flat and easily filled.

Industrialists were nurturing their first infant — steel. Wood built this subsidiary of Pennsylvania Steel, known then as the Maryland Steel Co., for $7 million; his brother, Rufus, built the town of Sparrows Point for $700,000. (The brothers had grown up in a company town themselves, in Lowell, Mass.) From the start, the company sought and received political favors giving it government-like powers, including the right to run its own police force and prohibit alcohol consumption.

The company, backed by the Pennsylvania Railroad, made steel rails and ships using the first steelmaking breakthrough, the Bessemer oven, which allowed large-scale steel production — 20 tons of steel in 20 minutes. "By 1910, the railway track rolled at the plant had spanned Mongolia, climbed the Andes, breached the pampas of Argentina, and descended into the tunnels of the London Underground," wrote Mark Reutter, in *Making Steel: Sparrows Point and the Rise and Ruin of American Industrial Might*.

PHOTOGRAPHY: MARK REUTTER

Skilled workers were imported from the steel towns in Pennsylvania — Johnstown, Steelton, Homestead, and others. But the plant also relied on workers from eastern Baltimore, already a hub for canneries, immigrants, and domestic migrants, white and black. Families who lived in the company town of Sparrows Point had their own schools, including the first kindergarten in the South, even a separate one for black children, and their own dairy, bakery, and slaughterhouse.

Sparrows Point got plenty of military business in both world wars, in no small part because of its location near the Atlantic.

The work was perilous and backbreaking and dirty, but the living in the company town was cheap. A company store sold groceries and just about everything else until it closed in 1944 when the plant expanded. In 1956, the company flattened about a third of the town's homes for the same reason. In 1974, the company razed the rest of the town to make room for the biggest blast furnace in the western hemisphere, the "L" furnace.

Early on, black and white immigrant men lived in a "shantytown" beside the steel furnaces, four to a shanty. In the town proper, most workers lived in duplexes, with few houses for black workers.

Blacks represented about a third of the workforce over the plant's history, according to Reutter. Blacks were segregated; their homes had no indoor plumbing. That beat life in Georgia, the Carolinas, and Virginia, from where many of them had migrated.

"It was certainly a way up for these guys who were working essentially as sharecroppers, where there was no future," Reutter says. "There was terribly institutionalized racism, but there was that everywhere."

Charles Mandy, who is 71 and black, started at Sparrows Point in 1960 checking railcars loaded with various materials and notifying the rail yard master when they needed hauling off. Back then, blacks and whites used separate locker rooms. His uncle worked there, too. "If you had a family member working there, you had a better chance of getting on." He did well there and retired as a shipping supervisor in 2005.

Inside the company town of Sparrows Point, white workers lived in 500-square-foot brick and frame row houses on sycamore-lined streets.

Elmer Hall was born and raised there. His father and his father's three brothers had migrated from Virginia to Sparrows Point to get work during the Depression. "We all had one thing in common," he says of the families living so close together. "We had the same boss."

Superintendents lived in multistoried homes, with wide porches and carved banisters inside. "Just to give you some idea of the houses on any block of 'B' and 'C' streets, where the superintendents lived, there were six houses on a block there and 32 on a block on my street," says Hall, who lived on Beechwood Street. He can still name every resident who lived on Beechwood. Nobody moved unless they died. His dad paid $23 a month until the family moved, displaced by the new blast furnace. "If you never moved, they never raised your rent," he recalls.

The town of Sparrows Point, by most company town standards, was in some ways progressive, providing education and leasing land to churches for $1, with baseball and football teams, Boy Scouts, Christmas and Halloween parades, playgrounds, and carnivals. Yet there was no local government. Company towns were common in that era: automotive suburbs in Detroit, the Pullman factory town outside Chicago, New York's satellite towns in New Jersey, as well as steel towns in the Midwest and textile towns in the North and South. Between 1880 and 1890, about 100 manufacturing suburbs grew up with industrial America, wrote Reutter in his book. The town of Sparrows Point died only when the company flattened it.

Even now, the spirit of the town lives on the Facebook page called "I grew up in Sparrows Point, Md."

"For all the red soot and belching smokestacks, it was a wonderful place for a kid to grow up," Hall remembers. "I have nothing but wonderful memories of the place as a kid, fishing off piers, crabbing, swimming at the bathing beach, riding my bike all over Sparrows Point. You couldn't do much without word getting home before you even arrived because somebody was watching — in a good way."

Hall grew up and left. In 1942 when Hall was born, Sparrows Point was pouring steel and building ships for wartime.

From Heyday to Doomsday

Sparrows Point got plenty of military business in both world wars, in no small part because of its location near the Atlantic. In the middle of World War I, in 1916, Bethlehem Steel, led by Charles Schwab, bought Sparrows Point. Schwab had built "Aunt Beth," as the Sparrows Point workers came to call it, into a power by making guns and armor plate for Central and South American countries and selling weapons to Britain and France before the United States went to war. The company also defied neutrality by arranging for a Canadian shipyard to make submarines for Britain, wrote Reutter in his book. By war's end in 1918, the nation's steel production had almost doubled, to 44.5 million tons. Sparrows Point alone produced 366,000 tons of steel that year.

By Dec. 8, 1941, when the United States officially entered World War II, the Roosevelt administration had already anticipated a steel shortage and had arranged two months earlier to finance additional capacity of 10 million tons. The government agreed to fund a million tons of steelmaking at Bethlehem Steel alone, half of which would expand

Sparrows Point, at a cost of more than $20 million.

Between 1941 and 1944, the Point produced about 2.4 million tons of steel a year. In 1941, the plant built a shipyard under a government contract on the west side of Baltimore Harbor where workers would make 384 of 2,500 "Liberty" ships, a critical link in supplying overseas troops. Employment at Bethlehem's Fairfield Shipyard, on the west side of Baltimore Harbor, reached 60,000 during the war.

Yet even amid wartime production — Bethlehem Steel was the nation's top war contractor — there were hints of steel's decline. "World War II was a war where steel was hugely needed, but it was no longer the most advanced material," Reutter says. Emerging technologies, particularly in flight, depended on lighter weight materials and electronics. Aviation led wartime innovations. They grew from startup flight companies formed in World War I — Grumman, Lockheed, Boeing, and others. Steelmakers were largely left behind, in terms of advancing new technologies and ideas, though steel output was so great they had steel to spare — 2.5 times as much production as in World War I.

The domestic steel industry also was not forced to innovate in the way many companies abroad were: None of the U.S. steel plants were bombed during the war; Japan and Europe, meanwhile, rebuilt their steel industries from scratch, with the latest available technology.

War changed life on the factory floor too. Women had worked as crane operators and machine tenders during World War II, but lost those jobs in 1945; the only jobs open to them afterward were in the sheet and tin plate mills. The Point's first tin mill had opened around 1917, and served thriving waterfront canneries that sprang up in the late 19th century to preserve oysters, tomatoes, and corn from the fertile fields of the Eastern Shore. The women's job was to check — by eye and touch — for defective tin. If they found holes, spots, or pits, they quickly "flopped" the tin sheet into the appropriate bin, sometimes at a rate of 30 a minute. They were known as "tin floppers" for the sound the tin made as it hit the bin. In the 1950s, opportunities for women at the plant closed still further as the tin floppers were automated out of their jobs.

Other wars, including the Cold War, required steel too. "In the heyday of the 1950s, you have a strong program of both guns and butter," Hounshell says. The United States was building domestic interstate highways, bridges, and skyscrapers, and the cold war brought construction contracts for armaments and infrastructure at overseas bases.

Production at Sparrows Point reached a record high of 6.6 million tons in 1968, during the Vietnam War, and declined from there. Even as the plant and the industry as a whole were prospering, executives were making decisions that would cause the fortunes of Sparrows Point to take a turn for the worse.

Bethlehem Steel became blinded to threats to its future, Reutter says, perhaps on account of its success. Substitute products, imports, and declining demand were biting steelmakers, but the industry failed to respond. For example, steel production fell to less than 60 percent of capacity in the 1958 recession, yet the company raised prices. The oil company Esso Standard Oil, a predecessor of today's ExxonMobil, converted quart oil cans to aluminum in 1960, partly because of rising tin plate costs. Even the beer industry converted from tin cans to aluminum. Construction projects used less steel and more reinforced concrete for highways, bridges, and buildings. "Engineers found that great economies could be achieved by reducing overall weight, for example, by using fewer structural girders in a large building," Reutter wrote in his book.

And then there was plastic. Carmakers switched to plastic-coated stainless or other metal trim, known as "plated plastic."

It didn't help that the firm was slow to adopt new technology. In the 1950s, Sparrows Point built another open hearth furnace rather than a faster oxygen furnace. That technology converts up to 350 tons of iron to steel in 40 minutes, compared to 10 to 12 hours in an open hearth furnace.

"The next innovation — and this is not rocket science — was the electric arc furnace to replace the blast furnace," says Reutter. The major industry players passed on this innovation, too, because at first the lower-grade steel they produced only served low-end product markets. But the technology improved, opening the door to competition from the smaller scale "mini-mills," which melt scrap steel from autos and appliances to make new steel.

Today, 60 percent of the world's steel comes from Asia. Half of the world's steel today is made from scrap, in minimills, and the biggest steelmaker in the United States is Nucor, based in Charlotte. Pittsburgh, once the steel capital of the world, hung onto 4 percent of the nation's steelmaking capacity, says economist Frank Giarratani of the University of Pittsburgh, because of the region's historically healthy cadre of suppliers. "We had not just equipment suppliers but engineering and materials suppliers. We're exporting stuff steelmakers use from this region to other parts of the United States."

That's not true in Baltimore, once home to several steelmakers. And it doesn't help Kevin Nozeika, who's watched three steelmakers exit Baltimore.

The New Baltimore?

"When I was a kid all three were still going and now all three are gone," Nozeika says. There's no job that will pay him the $25 an hour he was earning in steel. He's had some college, but not much. He knows that limits his options.

"I was looking for manufacturing jobs, but honestly, when I look at them and see what they pay I know there is no way I could live on that kind of money," he says. Companies are offering $8 or $10 an hour.

Some former Sparrows Point workers have found the situation overwhelming. One, Robert Jennings, a 59-year-old welder, committed suicide in January, reported Reutter in an article for *Baltimore Brew*, an online daily journal.

Though Baltimore, in many ways, is healthy, its shrinking

manufacturing base means it is often labeled a declining industrial metropolitan area. Jennifer Vey of the Brookings Institution, who has studied Baltimore's labor market, bristles a little at the notion. Heavy manufacturing work has gone from the nation's landscape, not just Baltimore's. "We've shifted away from an economy with a lot of blue-collar jobs that don't require education toward one that is more service oriented," she says.

Manufacturing now represents only about 4.8 percent of the metro Baltimore economy. "But that's 62,000 people working in manufacturing in Baltimore," Vey says. The diverse sector is dominated by small and midsized firms, including computer and electronics firms that are driven by the defense industry. (Older titans remain, though. Domino Foods' sugar refinery, with 500 employees, has occupied its storied waterfront location for about 90 years.)

The reasons why those firms stayed are the same as Frederick Wood's were back in 1887 — ports and proximity to markets. Location, location, location.

Still, there's no question that the old blue-collar jobs are dying. And that's a problem. Though median household income in the metro Baltimore area was $15,000 higher than the national average in 2010, and its unemployment rate lower than most of its metro peers, the jobs you can get without post-secondary education aren't easily replaced. Most, three-fourths, of low-income workers in Baltimore work in the service end of health care, education, retail, and the food and hospitality sectors.

At least Baltimore has cultivated economic variety. Its advantages include world-class hospitals and universities. "Baltimore has always had other things — now you have the whole biomedical sector," says Scott Holupka, senior research associate at the Johns Hopkins Institute for Policy Studies. In fact, the Johns Hopkins Institutions employ more than 46,000 people, excluding the students who work part-time, in Maryland.

But to compete in a global economy, Vey says, people need skills to get jobs in the growing sectors. That takes coordination among economic developers, high schools, private training firms, the public workforce system, and employers.

Vey suggests economic developers capitalize on exports to take advantage of purchasing power of other nations; on transportation — truck, air, and rail — which had expanded employment leading up to the recession; on the sectors of information technology, bioscience, and the "green" economy; and on that new kind of manufacturing, the one that's clean and requires fewer, tech-savvier workers.

Getting jobs that pay well in those sectors, though, is tough without an education. Overall, 28 percent of low-income residents have no high school diploma, much less post-high school training.

No one, in short, wants a dirty factory like the old Point except maybe the people who need those jobs. Ideas for the Point's re-use were recently floated by area architects and planners and published in Baltimore's weekly *City Paper*. They were far removed from the Point's industrial history: biotech and amusement parks linked by hydrofoil to the Eastern Shore, a port expansion with a cruise ship terminal and luxury hotels, dense housing, with parks featuring pollution-eating plants.

The Point struggled — and failed — over the years to meet state and federal environmental standards which are often blamed, with its other legacy costs and foreign imports, for the industry's demise.

Nozeika still can't believe Sparrows Point is probably history. "Everybody assumed when it went to auction another steel concern would buy it," he says. Hilco Industrial, a liquidator, bought it for $72.5 million, with a brownfield redeveloper, Environmental Liability Transfer. Hilco, which is selling all assets, offers the old "Beast of the East" on its website. No one has bought that. But in mid-December, Nucor acquired the most profitable component, its cold mill, not to crank up steelmaking at the Point, but to upgrade and replace parts at Nucor's own mills.

The sale killed off any hope of a revival. Nozeika is making other plans, and so are his friends from his steel days. Some, including Nozeika, are going into a federal program for displaced workers. After six months of classes, he may be back in manufacturing, only this time, with the technical skills to operate computerized machines. **EF**

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Where the Newly Created Money Went

Monetary expansion has led banks to park huge excess reserves at the Fed — for now

BY DAVID A. PRICE

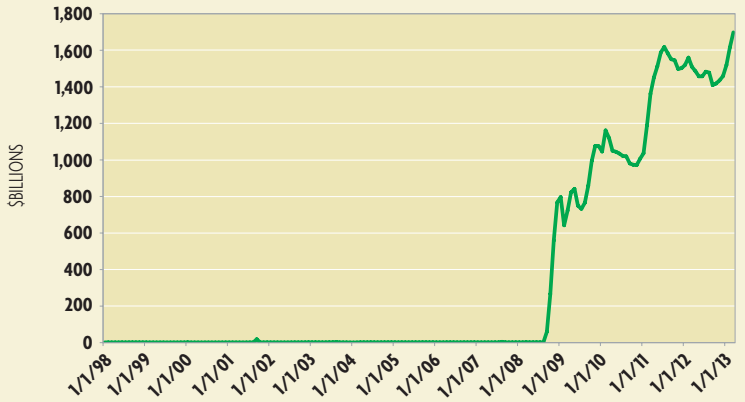
In response to the financial crisis of 2007-2008 and the recession of 2007-2009, the Fed has carried out an unprecedented monetary expansion by purchasing a variety of financial assets in large amounts, especially Treasury bonds and mortgage-backed securities. The monetary base, the total of bank reserves and currency, has more than tripled from June 2008 to March 2013.

Where, then, is the inflation? While the prices of some goods have increased, the general level of prices has remained stable; average inflation in 2012 was 2.1 percent, according to the Bureau of Labor Statistics. Given the magnitude of the monetary expansion that has taken place, why are we not swimming around in money like Scrooge McDuck?

The seemingly missing money can be found, for the time being, in an accounting entry at the Fed known as "excess reserves." This figure refers to the amount of reserves that banks and other depository institutions keep at the Fed beyond the level of reserves that they are required to maintain there. Before the financial crisis and recession, banks tended to hold a minimal amount of excess reserves. In the time since, however, excess reserves have skyrocketed 850-fold: from about $2 billion in mid-2008 to about $1.7 trillion in March of this year.

The significance of high excess reserves is that banks can draw them down to make loans, which in turn creates deposits — money — in the broader economy. Thus, if the Fed does not manage high excess reserves properly, they create the potential for high inflation. The $1.7 trillion dollar question is, can the Fed do it?

Excess Reserves



SOURCE: Federal Reserve Economic Data (Federal Reserve Bank of St. Louis)

Interest on Reserves to the Rescue

The Fed gained the ability to control the outflow of excess reserves in October 2008, when it received the authority to pay interest on both excess reserves and required reserves. Interest on reserves, or IOR, enables the Fed to make it more attractive to banks to leave their reserves parked than to lend them out. In effect, the Fed can use IOR to keep the velocity of money low.

IOR is a *MacGyver*-like adaptation of a tool that had been meant for other purposes. It was originally conceived as a way to eliminate the implicit tax that banks paid through maintaining required reserves without earning interest, a tax that economists viewed as distortionary. Milton Friedman had advocated it for this reason as early as 1959. IOR was also intended to free banks of the burden of moving their excess reserves each day from noninterest-paying reserves into interest-paying sweep accounts.

In the Financial Services Regulatory Relief Act of 2006, Congress authorized the Fed to begin paying IOR on Oct. 1, 2011. In May of 2008, however, in the midst of the financial crisis, the Fed asked Congress to move up the effective date. During the crisis, the Fed had been carrying out emergency lending to financial institutions on a large scale. The Fed neutralized this process in monetary terms by "sterilizing" the money that it was creating; that is, as it created money, it sold the same amount of Treasury bonds from its holdings to absorb an equal amount of money. (Technically, the New York Fed, acting on behalf of the Federal Reserve System, would sell the bonds and the reserve account of the trading counterparty would be debited, causing those reserves to, in effect, disappear.) The Fed was selling off its supply of Treasury securities quickly, however, and it was foreseeable that it would run out of sufficient Treasuries with which to sterilize its lending.

"The Fed had sold so many securities that most of those left in its portfolio were encumbered in one way or another," says Alexander Wolman, a Richmond Fed economist who co-authored a 2012 working paper on excess reserves with colleague Huberto Ennis. "Given that the Fed wanted to continue expanding its credit programs without lowering market interest rates, the answer was to start paying interest on reserves."

Congress granted the Fed's request in the Emergency Economic Stabilization Act of 2008, allowing it to begin paying IOR on October 1 of that year at its discretion. The Fed announced on October 6 that it would start doing so a few days later "in light of the current severe strains in financial markets." In addition to the longstanding efficiency rationales for IOR, the Fed explained, "Paying interest on excess balances will permit the Federal Reserve to expand its balance sheet as necessary to provide sufficient liquidity to support financial stability while implementing the

monetary policy that is appropriate in light of the System's macroeconomic objectives of maximum employment and price stability."

A Question of Timing

If banks believe that they can earn more by reducing their excess reserves, and if they appear likely to use their excess reserves to expand their activities faster than the economy is growing, the Fed can avoid the torrent of money simply by raising the interest rate that it pays on reserves. That is why high excess reserves do not necessarily set the stage for high inflation.

But is there a risk of the Fed getting the timing wrong? If it doesn't act quickly enough to raise IOR, or if it doesn't raise the rate enough, an unwanted rise in inflation or inflationary expectations could be the result.

For some economists, the likelihood of such a sequence of events is remote. "The FOMC [Federal Open Market Committee] meets every six weeks," says Stephen Williamson of Washington University in St. Louis. "You're not going to have a huge inflation instantaneously. They can head it off if they're willing to tighten at the appropriate time."

Ennis and Wolman of the Richmond Fed suggest, however, that high excess reserves create a greater timing challenge for the Fed than it normally faces. "Absent the excess reserves, banks would have to raise funds to make new loans," Wolman says. "People argue about whether the large quantity of reserves materially changes the sensitivity of the economy to the Fed messing up."

The issue is that with high excess reserves on tap, banks can increase lending quickly — "without having to sell assets, raise deposits, or issue securities," Ennis and Wolman wrote. Thus, they suggested, high excess reserves mean that an expansion can take place more quickly, perhaps before the Fed is ready to act on signals that it is happening.

Philadelphia Fed President Charles Plosser has also expressed reservations about the potential effect of high excess reserves, together with the scale of the Fed's balance sheet, in a speech in November. "It is difficult to identify the appropriate moment to begin tightening policy, even in the best of times," he said.

Indeed, the Fed's historical track record in that regard has reflected that in practice, the timing of monetary policy is an art as well as a science, and one that is conducted by human beings. For example, in a 2010 working paper, Andrew Levin of the Fed and John Taylor of Stanford University looked at the Fed's record in responding to inflation from 1965 to 1980, and found that "policy fell behind the curve by allowing a pickup in inflation before tightening belatedly." To be sure, however, the Fed today is more watchful of inflation than during that era.

In addition to the question of whether the Fed would know when to act, some see a question of whether the Fed would have the will to do so — and whether Congress would permit it. These observers are concerned that the Fed might consider the effect that rising interest rates would have on the cost of servicing the federal debt. Moreover, they are concerned that the Fed might be reluctant to raise rates when the time comes because as interest rates go up, the prices of assets held by the Fed will go down; the Fed, in turn, would experience significant losses.

"They've acquired long-maturity assets, and will acquire more, at very high prices, so there will be a capital loss on long-term bonds when the short-term interest rates go up," says Williamson. "That will not look good politically."

Increasing IOR would also reduce the Fed's remittances to the Treasury. At the end of each fiscal year, the Fed in effect turns over its unspent income to the taxpayers. The more interest that the Fed pays to banks, the less it has left over. A paper by five economists with the Fed's Board of Governors, released in January, found that the Fed's remittances to the Treasury have grown along with the growth of its assets, reaching nearly $90 billion in 2012, but projected that those payments may fall to zero for several years when the Fed increases interest rates and begins selling assets.

While the Fed is independent of Congress and the Executive Branch in setting monetary policy, there is concern that losses on the Fed's balance sheet or a temporary halt in remittances could create political conditions in which the Fed's independence may be curtailed.

Finally, as the amounts of IOR payments increase, those unappropriated payments to the banks might also be viewed as politically problematic in their own right. If the Fed were to raise the rate from its current 0.25 percent to 2.25 percent, for example, then at the present level of reserves, it would be paying the banks some $38.2 billion per year — up from zero in September 2008, and a far cry from the $359 million that the Congressional Budget Office forecast when Congress first approved the payments in 2006.

Yet the Fed's political independence has been tested before. Even those economists who are concerned about the potential for an inflationary scenario from the management of excess reserves agree that it is far from a foregone conclusion.

Wolman notes, "All we're saying is, 'Let's be careful.'" **EF**

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INTERVIEW

Christopher Carroll

Editor's Note: *This is an abbreviated version of EF's conversation with Christopher Carroll. For the full interview, go to our website: www.richmondfed.org/publications*

When the housing market took its precipitous negative turn in 2006, policymakers were plagued by a single nagging question: How much would a collapse in housing wealth drag consumer spending down with it?

There were two schools of thought. One was based on the notion of wealth effects, that wealth makes people feel richer, such that a dollar change in wealth pushes spending in the same direction by a few cents. The more ominous school of thought said that the unprecedented growth in consumption during the housing boom years was not due to wealth alone, but also a relaxation of credit constraints that gave people an increased ability to use their housing wealth for consumption. Take that cash cow away, research suggested, and consumption was likely to fall by two or three times as much as suggested by the wealth effect alone. A threat, indeed, for an economy comprised two-thirds by consumer spending.

Christopher Carroll, professor of economics at Johns Hopkins University, was one voice behind the more pessimistic estimates, and he says the evidence from the Great Recession has proved that view correct. Carroll is a long-time scholar of saving and consumption dynamics at the individual and aggregate level, studying questions that range from housing wealth effects to the consumption response of households to uncertainty, and from national saving patterns to the surprisingly modest spending of the wealthy. Much of Carroll's work came to the forefront of current events nearly simultaneously, leading to a second stint at the President's Council of Economic Advisers (CEA) that spanned the implementation of the historic 2009 American Reinvestment and Recovery Act — also known as the fiscal stimulus — an experience that Carroll describes as changing how he views public policy.

Carroll joined the faculty of Johns Hopkins University in 1995. In addition to serving twice on the CEA, he began his economics career as a staff economist at the Federal Reserve Board of Governors. Renee Haltom interviewed Carroll at his home in Columbia, Md., in February 2013.

PHOTOGRAPHY: LISA HELFERT

EF: How well did existing theories of the wealth effect hold up during the housing boom and crash? Did economists learn anything new?

Carroll: The theory was never particularly clear about how large wealth effects should be and what would be the channels. There was empirical evidence that when the value of some set of assets goes up, whether it's house values or stocks or total wealth, then there's subsequently a growth in consumption spending. You could interpret the change in spending as a consequence of wealth changing. An alternative interpretation is that everybody got more optimistic: They saw that the economy was improving, and that's why the stock market boomed — it was anticipating the movement in consumption. That's not really a causal story. So that was always an issue.

There was a substantial literature showing that subsequent movements in consumption after house price changes were bigger than those associated with the stock market. But it was never clear from that literature whether people spend more when their house value goes up because they feel richer, or whether a collateral constraint has been reduced. That is, when your house is worth more, you have a greater ability to get a home equity loan or a second mortgage or

refinance, and use your house as an ATM. Or you buy a new house and sell the old one, which bids up house prices further. There's a lot of research using local geographical data, especially by Atif Mian at Princeton and Amir Sufi at the University of Chicago, finding that in places where house prices went up a lot, debt and consumption spending went up.

So one thing that has become much clearer in the last couple of years is that a lot of the relationship between house price changes and subsequent spending really was the result of collateral constraints being loosened. That now seems to be a consensus while it was a speculative idea five years ago. And, of course, that's not sustainable, especially if house prices peak and then start going back down. Then you've got a real hangover afterward.

When there is a really dramatic change in the saving rate, either an increase that we saw in the Great Recession or the drop that we saw in the mid-2000s, that ought to be a danger signal for policymakers.

EF: Before the crisis, many economists were lamenting the long-term decline of the household saving rate, which went from about 10 percent of disposable income in the early 1980s to a low of 1.3 percent in 2005. You've noted that economists are hard to please: They worry about the current economy when consumers spend too little, and they worry about our long-term welfare when consumers spend too much. Is there a middle ground that would keep economists happy?

Carroll: What the saving rate is ultimately about is the aggregate capital stock and aggregate national wealth. You're not going to put much of a dent in that with two or three years of a low saving rate. But if a country's saving rate is low for 20 or 30 years, then you end up a lot poorer.

I do think that before the crisis our saving rate was lower than is wise or sustainable. There's an emerging consensus that the decline mostly reflected the fact that it was getting easier to borrow during that time. So I think that something did have to ultimately put an end to it, but exactly when was unclear. The problem from a macroeconomic point of view is when you try to reverse that all of a sudden. If we could have gradually inched the saving rate up 1 percentage point a year for 10 years, that would have been a healthy way to deal with the problem. But having it go up by 5 percentage points in the course of a year is a huge economic shock.

It would be very hard to come to an agreement about what an "equilibrium" saving rate should be. What's clearer is that when there is a really dramatic change in the saving rate, either an increase that we saw in the Great Recession or the drop that we saw in the mid-2000s, that ought to be a danger signal for policymakers. The economy really can't efficiently handle rapid changes in aggregate demand.

One way of saying a little bit more about that is to look at a longer history for countries that have been in a reasonably stable developed equilibrium for a long time. Most such countries tend to have personal saving rates somewhere in the 5 percent to 8 percent range. I think when our saving rate gets below that range for a sustained period of time, that's something that one ought to worry about. And it had for quite a while been below that range.

EF: What are the major unresolved puzzles in consumption theory? Are there areas where theory doesn't quite match up with reality?

Carroll: One is the research on default retirement contribution rates. There's an impressive body of new research that finds that people's retirement saving decisions are very much influenced by the default choices in their retirement saving plan. I recently discussed the latest paper in this literature at the National Bureau of Economic Research's Economic Fluctuations and Growth meeting in San Francisco. The authors had data that basically covered the entire population of Denmark; 45 million data points, and they could see people for 15 years. They found that if an employer has a default 401(k) contribution rate of 6 percent, 85 percent of people will just go with 6 percent, rather than changing the contribution rate or opting out. If the default is 10 percent, then 85 percent of people will go with 10 percent. I think the evidence for default contributions is just overwhelmingly persuasive.

That is a really big challenge to the economists' standard modeling approach, which is to say that people rationally figure out how much they need to have when they retire and they figure out a rational plan to get there. The problem is, now that we have discovered serious flaws in the rational optimizing model for how people make those decisions, we're kind of a bit at sea at being able to say, "Suppose we changed the tax rates on 401(k)s, or suppose we do this policy or that policy. What consequence would it have?" given that we don't know why people are making those decisions in the first place.

The explanation I proposed at the conference was to say that, within some range, people trust that their employer has figured this out for them. The job of the human resources department is to figure out what my default contribution ought to be, and it would be too hard to solve this problem myself, so I'm just going to trust that somebody else has done it. It's not different from when you take an airplane and you trust that the FAA has made sure that it's safe, or when you go to the doctor and you trust that the advice makes sense and is not going to poison you. Maybe people trust that the default option is going to be a reasonable choice for them.

That makes a little bit of progress in the sense that you

could think though under what circumstances one would expect people to trust that decision has been made well. Are people who are not very trusting less likely to go with the default decision? What are the forces that reinforce people's trust in the employers to make a good decision? What are the circumstances that encourage employers to make a decision that deserves to be trusted? Maybe the employer needs to have some fiduciary responsibility to have made a good decision. If people are going to trust the employer to make a good decision, we ought to make some effort to give the employer the incentives to actually make that good decision.

EF: What about puzzles at the macro level?

Carroll: I think there's a really big one for which the profession has not reached a consensus or even come close. That is the very strong relationship across countries going from high growth to high saving. The theory in every textbook says that if you know you're going to be richer in the future because you're a fast-growing country, why in the world would you save now, when you're poor, making your future rich self better off? It makes much more sense to borrow now since it'll be easy for you to pay off that debt in the future when you're richer.

The latest example that's on everybody's minds is, of course, China, a country that has grown very fast for the last 20 years and has had a saving rate that just seems to get higher every year. If China were the only example, then it might be plausible to say that the phenomenon reflects some unique aspect of China's history or culture. There are some papers that argue the one child policy has something to do with it, or it's the end of communism and the transition to capitalism, or that it's Confucian values. But what China is doing right now actually looks virtually identical to Japan 30 years ago. Japan didn't have a particularly high saving rate in the 1950s, and by the 1970s it had the highest saving rate in the world, and that was a period of high growth in Japan. It's also true in South Korea. It grew at a very rapid rate starting from the early 1960s, and its saving rate went up and up. We also see this in Taiwan, Singapore, and Hong Kong. And it's not just East Asian countries; the same is true of Botswana and Mauritius. It's also true in the opposite direction for European countries, which were growing pretty fast after World War II. That fast growth came to an end in the early 1970s, and afterward the saving rate declined, just as it declined in Japan after Japan slowed down starting about 1990. So it seems to be a pretty pervasive, large effect that is really very much the opposite of what you'd expect from the standard off-the-shelf models.

I have a couple of papers proposing that habit formation has something to do with it. There are a lot of Chinese people whose idea of a good standard of living was formed back in the 1960s and 1970s, when China was much poorer. If you have this reference standard in your mind, you might respond to rapid income growth by saving more because it's easier to save if you feel rich.

I have another paper that asks whether it's really about a precautionary motive. In that paper, a country makes a deal: In order to get the rapid growth, everybody is going to have to live with an economy that is constantly transforming itself, experiencing churn and creative destruction. All of the old ways of doing things have to be abandoned and everyone has to live through lots of disruptions. Then maybe the increases in saving reflect a precautionary motive.

In fact, what I really think is the right story is one that combines habit formation and a precautionary motive, such that they intensify each other. If I have these habits, then a good reason to resist spending when my income goes up is uncertainty over whether the factory that I'm working for will close down and I'll have to go back to my rural peasant roots. But in the academic publishing context, it's hard enough to introduce one novel thing in a paper.

EF: Milton Friedman's work in the 1950s on the "permanent income hypothesis," the idea that people smooth consumption over their lifetimes, was initially seen as a very important contribution. Yet many economists spent a lot of time in the 1970s and 1980s seemingly disproving his main predictions. What does that debate reveal about how economics is done?

Carroll: When Friedman wrote his famous book, the available mathematical tools were very primitive compared to what we know how to do today. So he used his gifts as a writer to lay out in good solid prose, of course supported by data and charts, his vision of how he thought things worked.

The book was very famous, so everybody wanted the prestige of being the one to formalize the model's main predictions. When you have a rigorous mathematical model, everyone can agree on what that model means. They might not agree on whether it's right as a description of how the world works, but they can all agree on what it says. So a big priority in the economics profession in the 25 years after Friedman wrote was coming up with the mathematical tools to analyze the optimal consumption choice problem that Friedman described informally. Friedman himself wrote a couple of papers trying to clarify his own views.

The first generation of those models had to make the radical simplifying assumption of perfect foresight: no uncertainty in the world, everyone knows what's going to happen for all of future history. There was a lot that those models said which was directly contradictory to things that Friedman said. For one thing, Friedman emphasizes the role of uncertainty and precautionary buffers, and he presents some data showing that people who face greater uncertainty tend to hold larger buffers. That, of course, is completely outside the cognizance of a perfect foresight model. Perfect foresight models also predicted that your spending out of a windfall shock to income — a 100 dollar bill on the

sidewalk — would be about one-tenth of the size that Friedman predicted. One reason is that Friedman defined "permanent income" to mean roughly what you would expect your income to be on average over a three-year period, whereas the perfect foresight model's definition was your entire income stream from now to infinity. The marginal propensity to consume is so low in perfect foresight models because you're spreading your windfall over all of history.

In the subsequent 25 years, we learned how to incorporate uncertainty seriously into the models, so we don't have to have this silly perfect foresight assumption anymore. And we have learned how to incorporate financial constraints. In the perfect foresight models, if you know your income is going to be high in the future, you can borrow 100 percent of that future income to finance your spending today. The moment that you get admitted to medical school, your spending should triple because you're going to have a high doctor's salary. In the real world, maybe the bank is not willing to believe that you're going to repay them if you go on a big spending spree right now. We now have the mathematical tools and technology to build in these kinds of constraints on people's access to their future income.

The combination of uncertainty and borrowing constraints pretty radically changes the implications of the mathematical models. And the thing that's really striking is that what you get is something that corresponds remarkably well to the words that Friedman wrote in 1957. Arguably, he had a very good mathematical intuition. He didn't know how to formalize that math, but he could see the contours of what optimal behavior looked like.

It's an interesting story, not only because it makes you think, "Boy, that Friedman guy was pretty smart," but also because now it's very hard to get anything published until you have already worked out the fully specified rigorous mathematical formulation. You can't just say, "Well, my intuition tells me something works like such and such, and it would be nice if somebody could work out the math for that in the future." Friedman was able to get away with that before the profession got so hung up on rigorous mathematical proofs. Today, for example, we discussed that maybe the reason people go with their employer's default retirement contribution is that they're trusting the employer to have worked out the problem. I could never publish a paper making that claim. I would need to have the formal dynamic optimizing model of trust, and the formal set of beliefs that people have about the trustworthiness of their employer, and the equilibrium determination of trustworthiness. What you can do is publish empirical papers that reject a rigid mathematical model as a test of that model, but then we're left in the nihilistic position of saying, "We know that this benchmark model that everyone understands is wrong, but until the complete fully specified alternative is generated in someone's brain, we can't propose half-baked theories that may have a lot of truth to them like Friedman did in 1957." I wish the profession would back off on that degree of rigidity. And maybe we have backed off a little bit.

That's one of the reasons blogs are where some of the most interesting economics is being done these days. That is an outlet where you can say, "Here's how I think this is working," and people can criticize you and point out places where you've made factual errors, but there's not the counterproductively high barrier to having something to say that we have in formal academic publishing.

Christopher Carroll

➤ Present Position

Professor of Economics,
Johns Hopkins University

➤ Other Positions

Senior Economist, President's Council of Economic Advisers (1997-1998 and 2009-2010); Staff Economist, Board of Governors of the Federal Reserve System (1990-1995)

➤ Education

Ph.D., Massachusetts Institute of Technology (1990)

➤ Selected Publications

Author of numerous articles in such journals as the *American Economic Review*, *Quarterly Journal of Economics*, *Econometrica*, *Journal of Monetary Economics*, and *Journal of Economic Perspectives*

EF: So, would you say the permanent income hypothesis is back in favor (if it was ever really out)?

Carroll: There's been a lot of evidence in the last 10 or 15 years confirming the basic dynamics that Friedman was talking about for how households make their year-to-year consumption saving choices. The term that is often used now for such models is "buffer stock saving" models, and I've written a number of papers on that topic. There are a lot of ways in which those models match our data reasonably well. So I suspect that a good description of the typical household's behavior is that they figure that their employer has got the retirement saving thing figured out, and they just go with whatever the default is, and then they do this buffer stock saving thing with respect to whatever money is left over. A lot of the data that we use to test these models have been really focused on the buffer stock aspect of things and has ignored the retirement saving part of things.

I think people who work in this area would say that the buffer stock model is a pretty good description of everything except for the retirement saving part of people's behavior. And the buffer stock saving model is essentially just providing the mathematical formalization of what Friedman was trying to say in 1957. So in that sense, I think the permanent income hypothesis has come into its own: We have a rigorous mathematical formulation of what Friedman was trying to say.

The terminology has changed somewhat. For a while, the

profession referred to the "permanent income hypothesis" as being the perfect foresight formulation that was developed after Friedman, but that I think is really inconsistent with what Friedman himself said. That's why what I'm speaking of tends to be called the buffer stock model today. Although my name is associated with the buffer stock terminology because I wrote some of the early papers on it, my own interpretation of it is that Friedman got it right and we've finally just figured out the math.

EF: You were a senior economist at the Council of Economic Advisers in 2009 and 2010. Was there a stark juxtaposition of views about the 2009 fiscal stimulus inside the CEA versus outside of it?

Carroll: I came on Aug. 1, 2009, so the stimulus had already been passed by the time I got there. A lot of what we were trying to do was monitor it, and figure out what effects it was having and how to explain those effects to the public. That was a difficult task. The public was not necessarily going to be persuaded by regression equations and statistical evidence. But it was a fascinating experience. When you're working at a job like that, of course, you read everything that's in the popular press and you see what's on TV. Seeing things from the two perspectives of being inside and the outside was interesting.

There's one particular point that I was struck by several times. The CEA tends to vet speeches that the president and sometimes other officials are going to make, and to help set the priorities for what's going to be in the speeches. A number of times we would help to reshape the speech to make sure that key points were highlighted, and the arguments that we thought were the soundest economic arguments were made. And then the president would go out and give the speech, and I would later hear from economist friends, who would write to me complaining, "Why didn't the president say this obvious point in the speech that he just made?" And that obvious point was the thing that the CEA had deliberately made sure was actually a highlight of the speech! But, of course, what your friend actually sees is the 15 seconds that gets excerpted on the news or some blogger's two-paragraph reaction to the president's speech.

So the narrowness of the communications channel is something that you get a very different perspective on from the inside. It has made me more circumspect in my own criticisms of the White House and the communications strategies they've pursued after I have come back to Johns Hopkins, because now I understand they might well agree with everything that I have to say on the subject and just not be able to get the message through. The president has a greater ability to express his point of view and get it heard than any other single person. But I think the extent to which even the president can't penetrate through the fog of information and the vast number of sources of data that people pay attention to is underappreciated.

EF: You've been the Placement Director for new economics Ph.D.s at Johns Hopkins since 2002. Given what you've described as an overemphasis on math relative to concepts in the economics profession, what can Ph.D. programs do to better prepare students to become effective professional economists?

Carroll: It's sort of an equilibrium problem. The profession demands a high level of mathematical expertise, and so nobody can responsibly back off of making sure that their students have that training. To do so would endanger their ability to get jobs.

I do think that the profession is much too insistent on the proposition that the only good economics is highly mathematical economics. For example, one of the most insightful things that I have read about the current crisis in Europe is not about the current crisis at all. It's a book called *Lords of Finance* by Liaquat Ahamed, about Europe in the interwar period and the collapse of the gold standard. It's a brilliant book. It includes all sorts of fascinating and compelling economics that I think really sheds light on the problems of the eurozone today, and there's not a single equation in it.

The profession ought to be more eclectic, I think. We ought to recognize that a much better knowledge of history, the history of economic thought, and insights from evolutionary psychology and all sorts of other fields have a lot to contribute. At present we, as a profession, are not willing to tolerate that. Partly it's an arms race problem in the sense that mathematical tools are easy to judge and rank people on. So we tend to focus on that.

I think most of my colleagues in the macro group at Hopkins would agree with most of what I have just said. What is a feasible choice for us in the current environment is to focus preferentially on real world policy questions. Of course, students need to have the ability to use the latest statistical techniques and to understand and to manipulate state-of-the-art models, but it's a real talent to be able to take those mathematical tools and use them to illuminate practical policy questions that the International Monetary Fund or the central bank or a fiscal policymaker might face. A lot of macroeconomics doesn't even try to address serious real world policy questions. Our department, for a variety of historical reasons, is full of people for whom I think those are the most interesting and important questions to study. That's for us, I think, the sweet spot. They use the full range of techniques that are available, but they use them to a purpose and not as a goal in and of themselves, which is often what they seem to become in the hands of many academics.

So that has been the response of Johns Hopkins in partial equilibrium. One consequence is that the students that we train tend to be particularly attractive to policy institutions like the IMF and the Fed and the European Central Bank and places where you need some ability to grapple with the real world. **EF**

Disney's America

BY KARL RHODES

A local zoning issue ignited a national firestorm when Disney tried to build a theme park in Virginia

Nick and Mary Lynn Kotz declared war on the Walt Disney Co. in the spring of 1994. They were sitting on the porch of their home near Broad Run, Va., reading the *Washington Post* and savoring their unspoiled view of the mountains that separate rural Fauquier County from suburban Prince William County.

The afternoon sun warmed the porch and illuminated the mountains, but the newspaper reminded them of what Disney was plotting on the other side of those bright blue ridges. The company had announced plans to develop 3,000 acres near the tiny town of Haymarket in the northwestern reaches of Prince William County. Phase one featured Disney's America, a history theme park and recreation area. Long-range plans called for a golf course, houses, hotels, and other unspecified mixed-use development.

Nick looked up from the newspaper and gazed at Thoroughfare Gap, the pass that Stonewall Jackson traversed to raid the Union supply depot at Manassas Junction in 1862.

The Disney invasion, Nick remarked, seemed like "a surprise attack."

"We've got to get the historians involved," Mary Lynn suggested. "Let's get in touch with Shelby Foote right now!"

Foote was a Southern author and historian whose fame had mushroomed after he appeared in Ken Burns' popular PBS documentary series about the Civil War. Mary Lynn did not know Foote, but she knew someone who did, and by afternoon's end, she had Foote's phone number. Networking was second nature to Mary Lynn, an accomplished writer and public relations pro. Nick, a Pulitzer Prize-winning journalist, also maintained an impressive list of contacts. Together, they marshaled a nationwide army of writers and historians to fight Disney's America at every tactical turn.

Despite their enthusiasm, the writers and historians — joined by preservationists and environmentalists — seemed no match for Disney, which enjoyed strong support from the Virginia governor, the Virginia General Assembly, and the Prince William Board of Supervisors. But in the final analysis, the pen, amplified by media relations expertise, proved mightier than the mouse.

The Debate Continues

Nearly two decades after Disney scrapped plans for Disney's America, the debate continues — both in Prince William County and across the country. Who should influence land-use decisions? In addition to local residents, should people in adjacent counties have a say? What about state and national governments?

One modern-day blog commenter described the 1990s confrontation as a "battle between Disney and almost everybody living in Virginia."

"Uh, no," a second commenter shot back. "It was really a battle between Disney and a very small, but very rich and influential group of Virginians."

The breadth and depth of opposition among Virginians at the time is still being debated, but there is little doubt that the anti-Disney movement emanated primarily from Fauquier and Loudoun counties. Three years after Disney backed down, Nick Kotz co-authored an article with fellow journalist Rudy Abramson titled "The Battle to Stop Disney's America." Their story focused primarily on Protect Historic America (PHA), the nonprofit organization that Nick and Mary Lynn started to fight Disney. The co-authors listed the PHA's initial organizers as residents of Fauquier or Loudoun. None of them hailed from Prince William.

"I would say that about 80 percent of the opposition came from outside the county," recalls Kathleen Seefeldt, who chaired the Prince William Board of Supervisors at the time. Inside the county, most residents welcomed Disney, and a clear majority of supervisors would have approved the project, she says. "We thought we saw a very good opportunity for nonresidential growth."

Prince William had been struggling for decades to diversify its real estate tax base. In the 1970s, when Northern Virginians started rezoning their dairy farms, "Fairfax County got the cream, and Prince William got the skim milk." That's how *Virginia Business* magazine described the situation in 1988. Fairfax attracted upscale malls, hotels, and office buildings, while Prince William became a bedroom community for people who could not afford to live closer to their jobs in Washington, D.C. Prince William's tax base was further constrained by large swaths of land that could never generate revenue: Nearly 19 percent of the county's acreage is owned by the federal government, most notably Marine Corps Base Quantico, Prince William Forest Park, and Manassas National Battlefield Park.

In the late 1980s, a developer acquired land adjacent to the battlefield park and proposed William Center, a 542-acre project that would have included a 1.2 million-square-foot mall. The county enthusiastically supported William Center, but local and national preservationists rallied against building a mall near a Civil War battlefield. Eventually the

This rendering of Disney's America shows replicas of the* Monitor *and* Merrimac *battling in the middle of a man-made lake flanked by a mocked up Civil War fort and a building resembling the Ellis Island Immigration Station.

federal government purchased the site, via "legislative taking," for $134 million ($249 million in today's dollars). The acquisition generated a huge profit for the developer, but it made Prince William's tax base even smaller.

Seefeldt recalls discussing the William Center project with Sen. John Warner shortly before Congress purchased the land. "I believe it was he who said, 'Can't you just move this project five miles down the road? Then there probably wouldn't be any problem.'"

Down the Road

Five years later and about four miles down the road, Disney assembled 3,000 acres to build its first theme park in the United States beyond the sunny climes of California and Florida. Disney's America would have been closer to Disneyland than Disney World in size, but opponents of the project associated Disney's America with the sprawling Disney World complex south of Orlando.

Disney's think-big approach had worked well in Florida, but in the early 1990s, the company was struggling to replicate that success with its new Euro Disney theme park in Paris. "Chastened by the rising costs of Euro Disney, we began to look for ways to develop smaller-scale theme parks," wrote CEO Michael Eisner in his memoir, *Work in Progress*. (He declined to be interviewed for this story.) After visiting Colonial Williamsburg and reading books about John Smith and Pocahontas, he became passionate about building a theme park based on American history.

When Eisner unveiled Disney's America in 1993, he said the company would "create a totally new concept using the different strengths of our entertainment company … to celebrate those unique American qualities that have been our country's strengths and that have made this nation a beacon of hope to people everywhere."

According to Disney's press release, the theme park would include a Civil War fort and village with nearby re-enactments of the battle between the *Monitor* and the *Merrimac* on a man-made lake. The release also named five other themed sections: Presidents' Square would celebrate "the birth of democracy and those who fought to preserve it." A section called "We the People" would interpret the American immigrant experience "inside a building resembling Ellis Island." Native America would pay tribute to the continent's first inhabitants with "a harrowing Lewis and Clark river expedition." Enterprise would highlight American ingenuity with a thrill ride called "Industrial Revolution." And Victory Field would let guests "experience what America's soldiers faced in the defense of freedom."

Disney projected that the theme park and recreation area alone would create nearly 3,000 jobs and generate $500 million in tax revenues for Prince William over 30 years. State and local officials were thrilled. Steady streams of tourists seemed like the perfect way to bolster the county's tax base. Tourists would generate more traffic, but they would spend their money and go home without requiring as many local services as residents do. Most of the Prince William supervisors enthusiastically supported the project, as did Gov. George Allen. The Virginia General Assembly even agreed to provide $163 million for transportation improvements and worker training to help seal the deal.

National Outcry

Soon after Disney announced its plans, leaders of the nonprofit Piedmont Environmental Council started looking for ways to scuttle the project. Based in Warrenton, Va., the council works to protect the historic and rural character of Virginia's upper piedmont region. The council focuses on nine counties, including Fauquier and Loudoun, but Prince William is just outside the organization's core territory.

Even so, the council has been engaged in land-use issues throughout Northern Virginia, including Prince William, says Council President Chris Miller, who coordinated the organization's opposition to Disney's America. The council produced "an alternative location map" with more than 20 potential sites where the council would have supported the theme park. Miller focused on land-use arguments against the Disney's America site, but he quickly realized that the PHA was helping the council's cause by portraying the theme park as a bastardization of American history. So the council helped raise some initial funding for PHA.

"Money just seemed to fall from the sky," Mary Lynn

recalls. More importantly, she and Nick enlisted the help of many well-known academic historians — including C. Vann Woodward of Yale, John Hope Franklin of Duke, and James McPherson of Princeton. They also recruited many famous writers, including Foote, David McCullough, William Styron, Roger Wilkins, and Tom Wicker.

While the PHA founders had strong NIMBY (not in my backyard) motives, some of the better-known historians and writers they enlisted opposed the project's theme as much, if not more, than its location. They expressed grave concerns about the "Disneyfication" of American history that they had witnessed in the company's movies and theme parks.

"Anything Disney has ever touched — whether it's fantasy or fact, whether it's Davy Crockett or whoever — has always been sentimentalized," Foote said in a 1994 interview with *Naval History Magazine*. "And every good historian, every great artist, knows that sentimentality is the greatest enemy of truth."

In his memoir, Eisner confessed that Disney's "first important misstep was the decision to call the park 'Disney's America.'" The possessive name "implied ownership of the country's history, which only antagonized our critics," he explained. "That was unfortunate because we were never interested in a park that merely reflected a Disneyesque view of American history."

Filmmaker Ken Burns had no objections to Disney's popular history theme. "I am in the same business," he wrote in the *Potomac News*. "Many in my generation have been drawn to history in part through the films of Walt Disney." Burns opposed the project because "it is in the wrong place. It will distract visitors from the real places of history, and it will damage the beauty and character of the area."

Edge City Averted?

So did Prince William County drop the brass ring of economic development or dodge the brass knuckles of suburban sprawl?

The project's opponents and proponents agreed on one thing. Disney's America would have transformed the town of Haymarket (population 460 at the time) and the county of Prince William (population 239,000 at the time). The PHA commissioned a study that predicted Disney's America would spur the development of a new edge city "equivalent to 17 others in the Washington area combined." The study also estimated that the project would attract 230,000 new residents who would overwhelm the region's existing infrastructure.

The edge city prediction was vastly overstated, Seefeldt says, and most of the projected population growth was going to happen with or without Disney's America. A theme park would have generated more traffic, she admits, but Disney would have contributed to building the necessary infrastructure. "All those transportation improvements have pretty much been put in place without any private sector assistance, and what we have out there now is a sea of rooftops," which created demand for several new schools.

Prince William residents will never know which vision of Disney's America was more realistic because in September 1994, the company abruptly abandoned the project. In his book, Eisner noted several issues that factored into the decision. He was devastated by the death of Disney President Frank Wells in April and distracted by the tumultuous departure of Disney Studios chief Jeffrey Katzenberg in August. Eisner also underwent bypass surgery. While he was recovering, the theme park's projected startup costs and revenues took a turn for the worse, but Eisner made it clear that widespread opposition to the project — mustered mostly by the PHA and the council — was the underlying reason for pulling the plug.

"I still believed that it was possible to get Disney's America built, but the question now was at what cost," he wrote. "The issue was no longer who was right or wrong. We had lost the perception game. Largely through our own missteps, the Walt Disney Co. had been effectively portrayed as an enemy of American history and a plunderer of sacred ground."

Prince William may have dropped the brass ring of economic development, but it did not dodge suburban sprawl. The sacred ground that preservationists saved from Disney's America instead became a golf course and country club along with several upscale subdivisions and retirement communities. Haymarket's population nearly quadrupled to 1,800, and Prince William's population grew to 419,000. As for the real estate tax base, commercial and industrial properties accounted for only 14.1 percent in 2011 — down from 16.7 percent in 1993.

Fauquier County has grown as well, but the county retains its rural and historic character. Nick and Mary Lynn Kotz still enjoy their unspoiled view of Thoroughfare Gap, and Mary Lynn bristles a bit when she recalls *Washington Post* stories that portrayed opponents of Disney's America as wealthy NIMBYs protecting their horse farms in Fauquier County. Nick and Mary Lynn don't raise thoroughbreds, they raise cows. "But mostly," she says, "we raise Cain." **EF**

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Policy Update

Under Pressure

BY TIM SABLIK

Economic sanctions, such as trade embargoes, have a long history as a tool of foreign policy. In the aftermath of World War I, economic sanctions were increasingly considered an alternative to war. World leaders hoped that placing economic pressure on nations by withholding access to goods or finances would allow individual countries or groups like the League of Nations (and later the United Nations) to resolve conflicts without bloodshed. Indeed, Woodrow Wilson optimistically remarked in 1919, "Apply this economic, peaceful, silent, deadly remedy and there will be no need for force."

Economic sanctions did not end armed conflict among nations. Nevertheless, they have been used by individual countries and coalitions to apply pressure short of military force and to demand anything from humanitarian reform to complete regime change. The United States has engaged in sanctions more than any other nation, over 100 times in the last century, according to data from the Peterson Institute for International Economics. Some U.S. sanctions have fallen short of the mark, such as the long-standing embargo against Cuba. In other cases, the government declared success and lifted sanctions, such as following the collapse of apartheid in South Africa after the United States and other nations imposed sanctions in the 1980s.

Most recently, the United States lifted restrictions against investment and trade with Myanmar, also known as Burma. Myanmar has been the subject of international scrutiny and sanctions since 1990, when its military suppressed democratic elections and imprisoned opposition party members, including Nobel Peace Prize winner Aung San Suu Kyi. In 2003, President George W. Bush signed into law a blanket ban on the importation of goods from Myanmar to put additional financial pressure on the nation's military leaders to institute democratic reform. In November 2010, Myanmar held its first election since 1990, and in December 2011, Secretary of State Hillary Clinton visited the country, meeting with political leaders and signaling a willingness to ease sanctions in response to more democratic reform. The next spring, Suu Kyi and several members of her party won election to Parliament, and Myanmar freed hundreds of political prisoners. The United States lifted most of its import restrictions in November 2012, just before President Barack Obama became the first sitting U.S. president to visit the country.

On the surface, the sanctions against Myanmar appear to have been at least partly successful. But how successful are economic sanctions generally, and how do social scientists measure their success? Gary Hufbauer, Jeffrey Schott, Kimberly Elliot, and Barbara Oegg of the Peterson Institute sought to answer that question in their book *Economic Sanctions Reconsidered*, a comprehensive study of sanction cases over the last century, updated in 2008.

"We would say in 25 to 30 percent of cases, there has been a resolution which we classified as successful," says Hufbauer. "Some people would say that's low, but diplomacy seeks a lot of objectives and they're not always achieved. So I think it is rather good for diplomacy."

Hufbauer says they looked at whether the stated goals of the sanctions were achieved and what role sanctions specifically played in achieving those goals. Determining the influence of sanctions on final outcomes is open to some interpretation, however. Robert Pape, a political science professor at the University of Chicago, has disputed many of the cases deemed successes by the Peterson study. He argued that the true success rate is actually lower than 5 percent, painting a much less optimistic picture.

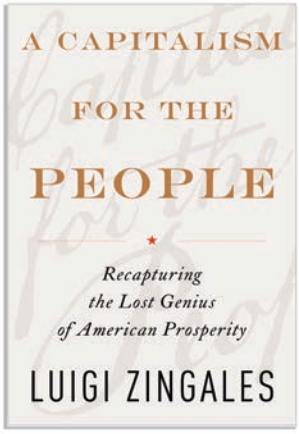
"Pervasive nationalism often makes states and societies willing to endure considerable punishment rather than abandon what are seen as the interests of the nation," wrote Pape. "Even when ... ruling elites are unpopular, they can still often protect themselves and their supporters by shifting the economic burden of sanctions onto opponents or disenfranchised groups."

Because of this and other factors, many critics have argued that sanctions can actually slow the pace of regime change. Hufbauer agrees that sanctions can reinforce the power of regimes that already have a large degree of control over the country. The sanctions that tend to be more successful, he says, are ones with more modest goals.

In the case of Myanmar, Hufbauer says that the Obama administration's willingness to remove sanctions in exchange for reforms short of regime change led to success.

"It was the withdrawal of the sanctions, the carrot aspect, which was successful," he says. "I would score it as success in a modest goal case. That's progress in this business."

Ultimately, it is difficult to say for certain whether the import sanctions (which the Peterson Institute estimated affected 1.7 percent of Myanmar's gross national product) were the primary catalyst for change. It is also unclear whether the reforms will last. Although Myanmar's government has released many prisoners, opponents claim that several hundred political prisoners are still incarcerated. In March, Myanmar declared martial law in four townships in response to sectarian violence between Muslim and Buddhist groups that began late in 2012. Additionally, reports of military strikes against rebels earlier in the year have also contributed to doubts about Myanmar's commitment to reform. **EF**



BookReview

Capitalism, Meet Politics

A CAPITALISM FOR THE PEOPLE
BY LUIGI ZINGALES
NEW YORK: BASIC BOOKS, 2012, 260 PAGES

REVIEWED BY DAVID A. PRICE

Economist Luigi Zingales of the University of Chicago's Booth School of Business is like a vocal moviegoer watching a horror film for the second time. He's the audience member who calls out, "No. Not the stairs. *Don't go up the stairs*."

Zingales, a native of Italy, argues in *A Capitalism for the People* that American economic policy is moving in a dangerous direction, toward the "crony capitalism" that he says he witnessed in his homeland. The term refers to an economy in which companies prosper on the basis of their influence with government officials rather than their ability to succeed in the marketplace. Companies with connections may gain in the form of public contracts, subsidies, bailouts, or regulatory protection against rivals. According to Zingales, the system is well entrenched in Italy; in a survey to identify the top factors in business success, managers there ranked "knowledge of influential people" number one.

"It has robbed my home country of much of its potential for economic growth," Zingales writes. "I do not want it to rob the United States as well."

While crony capitalism in the United States is not entirely new — Zingales cites congressional earmarks to specific recipients, which became widespread beginning in the 1980s, as an example — he contends that the movement toward cronyism has quickened here in recent years. But why was crony capitalism far slower to take root in the United States than overseas in the first place? Zingales contends that in countries with significant Marxist political parties, advocates of free-market policies had little choice but to throw in their lot with large businesses that sought to use government for their own ends. The United States did not face that problem. In addition, he says the federal structure of the U.S. government, which grants sizable powers to state and local governments, creates a check on cronyism by forcing jurisdictions to compete with each other.

Zingales does not explicitly indicate when he believes that this country's resistance to crony capitalism started to weaken. He regards the transition as having been well along by the time of the 2007-2008 financial crisis and its aftermath, however. The crisis brought a series of policies that Zingales regards as crony-capitalist in nature, including the Troubled Asset Relief Program, or TARP, which he calls "a pillage of defenseless taxpayers that benefited powerful lobbies," and parts of the Dodd-Frank Act of 2010.

The causes of the change, in his view, are many: Declining real incomes, combined with the rise of a superstar or "winner-take-all" economy, bred a loss of faith in free markets. In the financial sector, financial innovation made it easier to hide implicit subsidies to institutions, while the growth of the biggest banks made the concept of "too big to fail" more plausible to policymakers. The federal government became bigger, creating a greater incentive for businesses to loot it. Indeed, echoing Gordon Tullock, a pioneer in "public choice" analysis, Zingales says the rewards of rent-seeking are so great that companies' spending on lobbying and campaigns is, if anything, surprisingly low; the reason, he suggests, may be that "they are still in their learning phase."

The solutions he proposes center on curbing corporate involvement in politics: not through increased regulation of campaign finance, which he believes could not be effective within the constraints of Supreme Court decisions, but instead through measures that would curb lobbying. These include enforcing antitrust laws with a view to restraining not only the market power of firms, but also their political power — for instance, by imposing limits on lobbying as a condition of a merger that would create a politically powerful company. He favors a tax on lobbying. More ambitiously, he wants a law banning public subsidies to businesses, with enforcement through private class-action lawsuits. Looking beyond law, Zingales wants business schools to imprint on their students an aversion "opportunistic actions that are detrimental to society at large," among them the practice of lobbying for subsidies.

Although the economic benefits enjoyed by politically connected firms have been known to economists at least since George Stigler's famous 1971 article "The Theory of Economic Regulation," *A Capitalism for the People* gives a uniquely accessible and engaging account of the perils of cronyism. If it has a weakness, it is in its less developed policy prescriptions. What, for example, is limited by a limit on "lobbying"? At times, Zingales seems to include any effort to influence policy, even giving factual information to policymakers. Moreover, while teaching business students to abhor subsidies may well be worth trying, it would seem that most students have already made their ethical commitments by the time they reach that point in their education.

Yet Zingales' larger point is convincing: The most durable defense against crony capitalism is not laws, but a social consensus against it. If Zingales is right that cronyism is on the rise, then such a consensus surely will be harder to build once cronyism comes to be viewed, with resignation, as simply business as usual. **EF**

Leverage and the Fifth District Economy

BY R. ANDREW BAUER AND SONYA RAVINDRANATH WADDELL

The sluggish pace of the economic recovery in the past few years has been driven in part by unusually slow growth in consumption. Some economists have suggested that the rise in household indebtedness before the recession contributed to both the severity of the recession and the sluggishness of the recovery. These economists have analyzed the extent to which higher debt levels caused consumers to rein in spending during the recession and reduce consumption to lower outstanding debt (or "deleverage") during the recovery, leading to a deeper recession and a more tepid economic recovery. Although many of these studies looking at national data have found that larger increases in leverage led to more severe deterioration in consumer spending and labor market conditions, the situation in the Fifth District economy during the recession seems to have been different.

Economic Theory and Consumer Debt

Standard economic models tell us that a household's consumption is determined by its income, wealth, preferences, and return on savings. More complicated models will include a household's ability to borrow or the economic uncertainty it faces. In the simplest models, debt does not exert an influence on consumption independent of other factors. Instead, all that matters in these models for the levels of consumption and savings at any point in time is the "permanent" lifetime wealth of a household. And for most of us, this is primarily the present discounted value of incomes over our lifetimes.

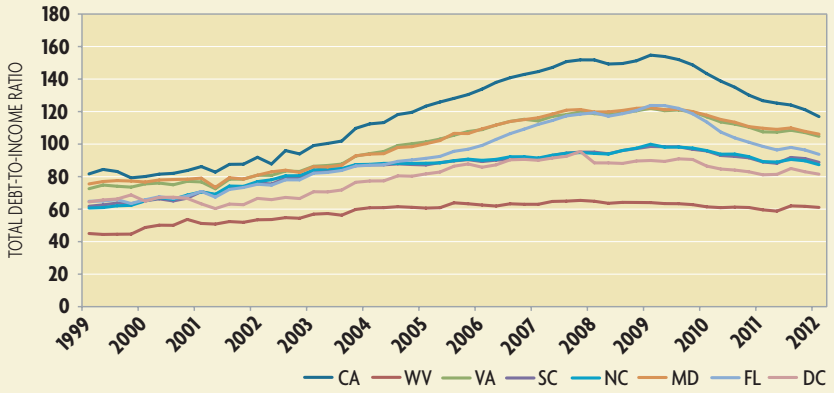
Yet there may be good reason to consider debt as an independent influence on household spending and saving decisions. For example, in a model where households try to keep their debt-to-income ratios under a target level, a decline in house prices that results in a fall in net worth could lead a household to reduce spending in order to pay down debt and move back to the leverage target. Indeed, this intuitive idea is captured in modern models of consumption and savings. Christopher Carroll of Johns Hopkins University outlined a model in a 1992 article in the *Brookings Papers on Economic Activity* in which households not only target a "buffer-stock" of wealth, but respond to increases in uncertainty (say, a greater risk of becoming unemployed) by attempting to move their financial wealth to higher target levels. (See his interview in this issue of *Econ Focus*, page 30.) In addition, the model suggests that consumers are reluctant to increase debt and that they become uncomfortable holding previously assumed debt when there is an increase in labor market uncertainty. As a result, when faced with greater uncertainty, consumers are more likely to reduce consumption in order to raise their level of wealth and/or reduce debt levels.

Leverage and Economic Outcomes

In the papers that have emerged from the housing crisis and its aftermath, there has been evidence that increases in household leverage were a driving factor in the consumption decline from 2007-2009. Atif Mian of the University of California, Berkeley and Amir Sufi of the University of Chicago have written a number of papers documenting the rise in debt to income in U.S. counties and analyzing the relationship between leverage and other economic outcomes. In a 2010 working paper, they found that household leverage predicts variation in mortgage default, house price movements, unemployment, residential investment, and durable goods consumption from 2007 to 2009. The recession began earlier and became more severe in counties with high leverage growth than in counties with low leverage growth.

In a 2011 paper with Kamalesh Rao of MasterCard Advisors, Mian and Sufi argued that households in high-leverage counties experienced a severe shock to their balance sheets in 2007 and 2008 as house prices in those areas declined, in aggregate, by almost 30 percent. This balance sheet shock was followed by a significant drop in consumption. They concluded that a one-standard-deviation increase in household leverage as of 2006 was associated, all else equal, with a 9 percent to 13 percent drop in durable goods consumption and a 5 percent to 8 percent drop

Leverage Ratios in Select States



SOURCES: Federal Reserve Bank of New York Consumer Credit Panel/Equifax, Bureau of Economic Analysis/ Haver Analytics (With calculations by the Federal Reserve Bank of Richmond)

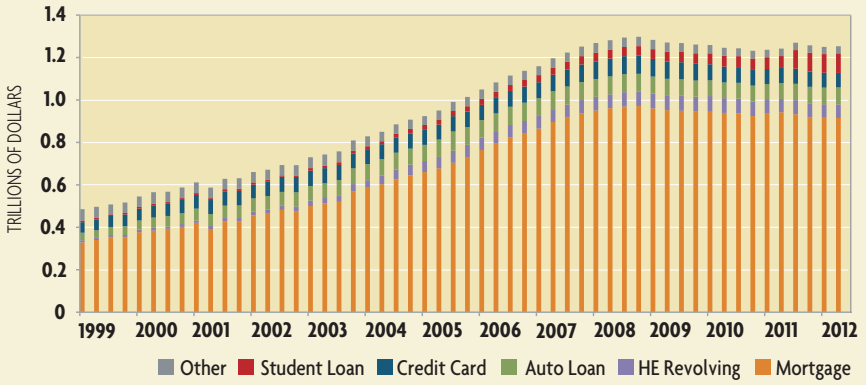
in nondurable goods consumption.

In a 2012 working paper, Karen Dynan of the Brookings Institution examined whether households with the greatest mortgage leverage reduced their spending the most. She found that following the collapse of real estate prices, highly leveraged households had larger declines in spending than their less-leveraged counterparts despite having smaller changes in net worth, suggesting that their mortgage leverage weighed on consumption above and beyond what would have been predicted by wealth effects alone.

Despite the findings of these papers, there is not unanimous agreement on the relationship between debt and consumption, independent of other variables. In a 2012 *Public Policy Brief*, Daniel Cooper of the Federal Reserve Bank of Boston defined deleveraging as a deliberate household balance sheet adjustment that lowers consumption beyond what would be predicted by changes in income and wealth. In his analysis, he found little evidence that deleveraging has had a sizeable effect on U.S. consumer spending. He wrote that consumption changes prior to, during, and following the Great Recession are consistent with those implied by fluctuations in household income and net worth using standard economic relationships. In fact, Cooper argued that households potentially underspent relative to income and net worth during the housing boom and overspent since the recession began.

The empirical literature, in short, provides somewhat diverging evidence concerning the role of leverage in the recession and recovery.

Total Debt Balance and Its Composition: Fifth District



SOURCES: Federal Reserve Bank of New York Consumer Credit Panel/Equifax (With calculations by the Federal Reserve Bank of Richmond)

Leverage and Economic Outcomes in States

The trend in the ratio of household debt to disposable personal income preceding and during the recession of 2007-09 has been well documented. According to Federal Reserve Board Flow of Funds Accounts (FF) data, household debt peaked at the end of 2007 at almost 130 percent of disposable personal income, declined abruptly, then rebounded to almost that high in the first quarter of 2009 before beginning a steady decline. The Equifax data (FRBNY CCP/Equifax) indicate a slightly lower peak — at about 115 percent — but the same rebound in the second half of 2008 before a steady decline beginning in the first quarter of 2009.

The Fifth District experienced a similar rise in debt, with the highest-leverage states of Virginia and Maryland peaking in the first quarter of 2009 at just more than 120 percent of total personal income. (See chart.) California and Florida are included in the chart to contrast the experiences of these states with those of the Fifth District states. (Because of data availability, we use total personal income for states rather than disposable personal income, which is the standard for U.S. debt-to-income calculations. If we use total personal income from FF data as our denominator in the U.S. leverage calculation, the debt-to-income peaks at about 103 percent.) In the end, states such as California, Florida, Nevada, and Arizona, which saw the largest real estate losses, have probably played a significant role in the findings of most of the empirical papers written on both household credit conditions and mortgage default in the past five years.

Not surprisingly, most of the rise in debt within the Fifth District was mortgage debt. (See chart.) From 1999 to the peak in the third quarter of 2008, total outstanding debt in the Fifth District rose by more than $800 billion, an increase of 166 percent. Nearly 80 percent of that increase was a rise in mortgage debt (either first mortgage or home equity installment loans). Although student loan debt rose more than fivefold, it still made up only 4.4 percent of the increase in debt and only just more than 3 percent of total debt at the end of 2008. These numbers are remarkably similar to those for the United States as a whole, where almost 77 percent of the $7.8 trillion debt increase from 1999 through the third quarter of 2008 was from rising mortgage debt.

Meanwhile, the decline in debt that occurred from the third quarter of 2008 to the first quarter of 2012 was also driven by a decline in mortgage debt. While total debt in the Fifth District fell by about $43 billion over the period (despite a $45 billion increase in student loan debt), outstanding mortgage debt dropped by over $52 billion. This decline was driven by the unprecedented number of foreclosures and mortgage write-downs that occurred over this period. In the United States as a whole, the decline in outstanding mortgage debt accounted for 98 percent of the $1 trillion net decline in outstanding debt from 2008 to 2012.

Because mortgage debt makes up most total household debt, it makes sense to start with housing markets when analyzing the effect of leverage on the broader economy of a state or locality. In fact, at the state level, there was a strong relationship between leverage and housing outcomes in the recession. The correlation between all U.S. states' debt to

income in the fourth quarter of 2006 and the change in house prices from 2007 through 2009 was -0.72, reflecting a strong and statistically significant negative relationship. The higher the debt-to-income level in 2006, the sharper the decline in house prices from 2007 through 2009. In addition, the states with the sharpest declines from 2007 to 2009 were also those with the biggest increases prior to 2007. In other words, the states that saw the sharpest house price growth in the years before 2007 (boom) were the states where homebuyers took on considerably more debt to buy a house and where house prices fell the most sharply (bust).

Leverage also appears to be correlated with labor market conditions at the state level. With a statistically significant correlation of -.57, the data indicate that among states, the higher the average leverage in 2006, the deeper the labor market deterioration from 2007 to 2009. This is similar to the county-level result found in the empirical work of Mian and Sufi. Of course, correlation does not indicate causation; it is reasonable to think that the housing boom in states like California or Nevada resulted in both higher debt levels and a housing crash that hurt labor markets. In other words, it is possible that the only mechanism through which debt levels affected employment was through the housing market and that the driving force in the relationship between leverage and labor markets was the few states that saw sharp booms and busts. Indeed, the relationship between leverage and employment is the strongest in California, Arizona, Nevada, and Florida; excluding those four states alone pushes the correlation between leverage in 2006 and change in employment from 2007 to 2009 to -0.40, in addition to a reduction in statistical significance. This is not solely the result of a change in sample size — the correlation does not decline to the same extent with the exclusion of any other four states. In fact, the relationship between leverage and labor markets strengthens with the exclusion of four Fifth District states: Virginia, Maryland, North Carolina, and South Carolina. The relationship between leverage and house prices, however, is relatively consistent. Looking at state-level data, then, it appears that the states with the largest housing busts strongly influence the overall relationship between leverage and employment.

Counties in the Fifth District

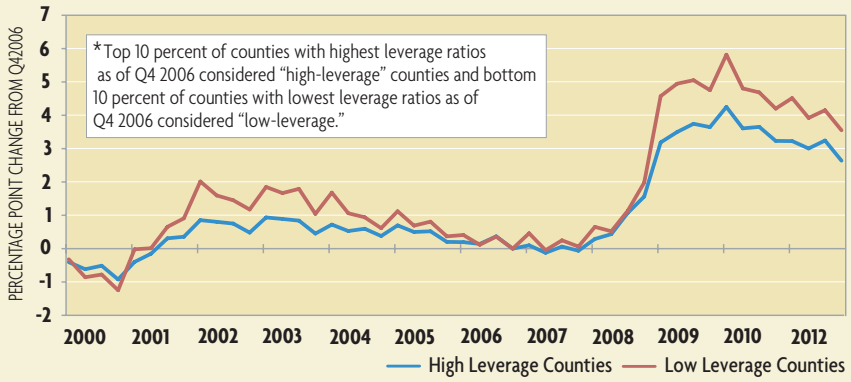
Household debt-to-income levels vary considerably across counties in the Fifth District. Since Maryland and Virginia experienced the greatest increase in household leverage prior to the recession, it is not surprising that the majority of highly leveraged counties in the District are in those two states. The Carolinas and West Virginia had markedly fewer highly leveraged counties than Virginia and Maryland. In fact, in the fourth quarter of 2006, 18 of the 25 most leveraged counties or cities were located in Virginia or Maryland. (For a corresponding table, please see this article on our website at www.richmondfed.org/publications.) Leverage varied notably within both states, however. Prince George's and Charles counties in Maryland had the highest debt-to-income levels, with 240 percent and 230 percent, respectively. In contrast, the Maryland counties with the lowest debt-to-income levels were Allegany County (110 percent) and Garrett County (120 percent). Although county debt-to-income levels were generally higher in Maryland than in Virginia, there were a number of Northern Virginia counties with extremely high levels. Prince William and Loudoun counties, for example, had the highest percentages at 280 percent and 260 percent, respectively. At the same time, there were a number of Virginia counties with debt-to-income percentages below 100 percent.

So what are some explanations for the differences in leverage across Fifth District counties? As already illustrated in the state analysis, local housing market conditions play an important role in household debt levels. Those areas of the District where home prices rose the fastest also experienced the greatest increase in leverage due to higher levels of mortgage debt. This partly explains the higher leverage percentages in Northern Virginia and Maryland counties and cities. The average increase in home prices across Maryland counties was 132 percent from the beginning of 2001 through the fourth quarter of 2006. In Northern Virginia, home prices increased by 162 percent in Prince William County and by 123 percent and 135 percent in neighboring Loudoun and Stafford Counties, respectively. In contrast, in those counties where there was less increase in leverage, home price increases over the period were more moderate. Home prices rose by roughly 40 percent across counties in North Carolina, 49 percent in South Carolina, and 73 percent in West Virginia, for example. For the entire Fifth District, the correlation between home price changes from the first quarter of 2001 to the fourth quarter 2006 and increases in debt-to-income ratios over the same period was fairly strong at 0.51.

A related factor that likely influenced household debt levels was the strength of the local economy. In other words, just as standard models suggest that increases in unemployment risk lead to attempts by households to reduce debt, they imply that stable employment prospects allow households to carry debt. Although Northern Virginia and Maryland counties saw the sharpest housing boom and bust in the Fifth District, these counties also have strong labor markets, with lower unemployment rates, higher job growth, and greater income growth than other areas. For example, the unemployment rate in the fourth quarter of 2006 was 3.8 percent in Maryland and just 2.1 percent in Northern Virginia — compared to 4.8 percent, 6.2 percent, and 4.4 percent in North Carolina, South Carolina and West Virginia, respectively. Stronger labor markets and income prospects may have helped households to assume greater debt loads than those in areas with weaker labor markets and income prospects. In fact, the correlation between debt-to-income levels and unemployment rates in the fourth quarter of 2006 was -0.43, indicating a relatively strong negative relationship between labor market conditions and household leverage.

Fifth District counties that experienced an increase in leverage from 2000 to 2006 were more likely to experience a sharp fall in home prices between 2006 and 2009. The correlation between the two was -0.54. This is a relationship found in previous empirical studies, such as in Mian and Sufi's 2010 paper. Unlike in that study, however, increases in leverage in the Fifth District did not seem to have a negative impact on housing construction. The correlation between leverage increase from 2000 to 2006 and the change in housing permits from 2006 to 2009 was slightly positive (0.20). Once the recession began, the decline in construction activity was relatively widespread across the District with little distinction between counties with high or low leverage.

Change in Unemployment Rate for High- and Low-Leverage Counties*



SOURCES: Bureau of Labor Statistics, Federal Reserve Bank of New York Consumer Credit Panel/Equifax, Bureau of Economic Analysis/Haver Analytics (With calculations by the Federal Reserve Bank of Richmond)

In fact, an initial look at household finances suggests that household leverage did not have a considerable impact on the Fifth District economy during the recession. Some of the studies cited earlier found that increases in leverage led to more severe declines in consumer spending and labor market conditions during the recession. Those effects were not readily evident in the data for the Fifth District, however. The correlation between an increase in leverage between 2000 and 2006 and the change in the unemployment rate from the end of 2006 through 2009 was negative — opposite the result found in some studies. There were a number of counties in the Fifth District that had large increases in leverage prior to the recession, yet relatively smaller increases in the unemployment rate during the recession. In addition, the relationship between increasing leverage and the change in employment between the end of 2006 and the end of 2009 was positive, suggesting that areas with greater increases in leverage prior to the recession also had stronger employment conditions. There seems to be no relationship between changes in leverage and the change in the number of establishments between 2006 and 2009.

Increases in leverage within the Fifth District may have reflected stronger local economies and income prospects in addition to rising home values and increased mortgage debt associated with the housing boom. As a consequence, when the housing market collapsed and the recession began, the impact of higher levels of consumer indebtedness was partially buffeted by a more resilient local economy and relatively stronger income prospects.

In fact, labor market conditions worsened to a greater extent in low-leverage counties (the bottom decile of counties, by debt to income) during the recession than high-leverage counties (the top decile of counties, by debt to income). The average increase in the unemployment rate from the end of 2006 to the end of 2009 was roughly 6 percentage points in low-leverage counties, while in high-leverage counties, the increase was 4 percentage points. (See chart.)

Housing construction, as measured by housing permits, showed little difference between high- and low-leverage counties during the recession. Prior to 2006, permit activity was considerably higher in the high-leverage counties, reflecting the heightened activity during the housing boom, while for low-leverage counties the level of activity was only moderately higher in 2003 to 2005. During the recession, in contrast, the decline in permits for both high- and low-leverage counties was fairly similar in depth and duration. This is notable given the very different path of home prices. As expected, home prices rose more quickly and fell considerably faster and further in high-leverage counties than in low-leverage counties.

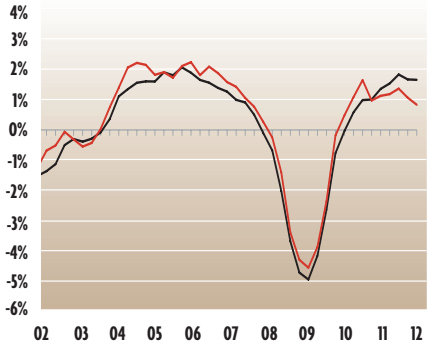
Conclusion

Debt-to-income levels varied considerably across the Fifth District during the recession and recovery, driven in part by changes in housing market conditions as well as by the strength of local economic conditions. Not surprisingly, those areas within the Fifth District that experienced large house price increases also experienced sharper increases in mortgage debt and leverage. Increases in leverage did not necessarily translate to a more severe downturn during the recession, however. In fact, some areas that experienced the largest increase in leverage were areas with relatively stronger economic performance. Further work will continue to investigate the robustness of these initial observations as well as contrast these observations with some of the previous empirical findings. **EF**

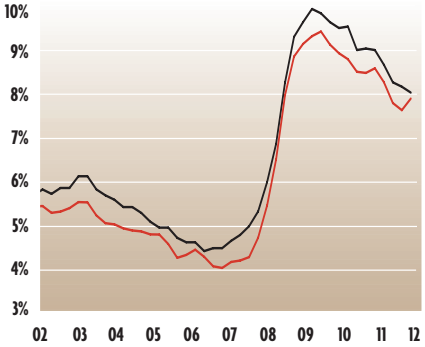
State Data, Q3:12

	DC	MD	NC	SC	VA	WV
Nonfarm Employment (000s)	**733.8**	**2,573.8**	**3,954.0**	**1,853.2**	**3,721.4**	**750.4**
Q/Q Percent Change	-0.5	-0.1	0.0	0.1	0.0	-1.0
Y/Y Percent Change	0.9	0.9	0.8	0.9	1.1	-0.8
Manufacturing Employment (000s)	**1.0**	**110.6**	**438.1**	**223.4**	**226.9**	**47.1**
Q/Q Percent Change	-6.3	-0.9	0.4	0.4	-1.1	-1.9
Y/Y Percent Change	-6.3	-2.6	0.7	2.3	-1.0	-5.0
Professional/Business Services Employment (000s)	**148.5**	**412.6**	**522.4**	**233.5**	**667.0**	**63.3**
Q/Q Percent Change	-1.7	1.3	0.8	-0.6	0.3	-0.2
Y/Y Percent Change	-0.8	3.9	1.9	1.7	1.1	1.0
Government Employment (000s)	**242.0**	**510.5**	**691.8**	**342.5**	**710.1**	**150.3**
Q/Q Percent Change	-1.7	0.4	-1.4	0.5	-0.8	-1.5
Y/Y Percent Change	-0.9	0.4	-0.5	0.0	0.3	-1.5
Civilian Labor Force (000s)	**355.0**	**3,076.0**	**4,656.7**	**2,136.5**	**4,328.9**	**799.5**
Q/Q Percent Change	0.9	-0.3	-0.1	-0.7	-0.2	-0.6
Y/Y Percent Change	3.7	0.2	0.0	-1.0	0.4	0.1
Unemployment Rate (%)	**8.8**	**7.0**	**9.6**	**9.5**	**5.9**	**7.5**
Q2:12	9.3	6.8	9.4	9.1	5.6	6.9
Q3:11	10.5	7.2	10.7	10.4	6.4	8.1
Real Personal Income ($Mil)	**40,582.5**	**262,901.7**	**309,769.4**	**139,743.3**	**331,564.2**	**55,428.0**
Q/Q Percent Change	-0.1	0.1	0.0	0.3	0.1	-0.2
Y/Y Percent Change	1.5	1.4	1.4	2.0	1.2	1.6
Building Permits	**1,302**	**3,724**	**11,442**	**4,611**	**6,653**	**450**
Q/Q Percent Change	30.7	12.1	-5.5	-15.9	-3.0	-22.9
Y/Y Percent Change	46.5	15.4	45.9	26.7	8.0	-13.0
House Price Index (1980=100)	**587.3**	**407.5**	**301.4**	**305.4**	**396.9**	**216.0**
Q/Q Percent Change	1.3	1.2	0.9	0.7	1.0	0.9
Y/Y Percent Change	3.5	-1.1	-1.5	-0.7	-0.3	0.6

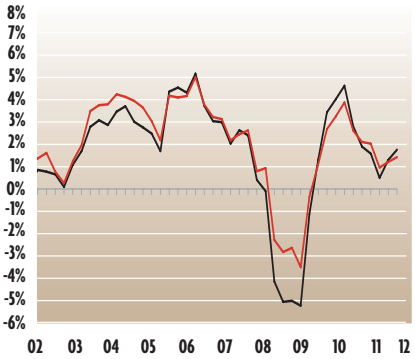
Nonfarm Employment
Change From Prior Year
First Quarter 2002 - Third Quarter 2012



Unemployment Rate
First Quarter 2002 - Third Quarter 2012

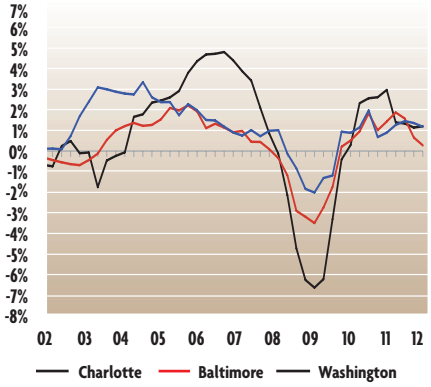


Real Personal Income
Change From Prior Year
First Quarter 2002 - Third Quarter 2012

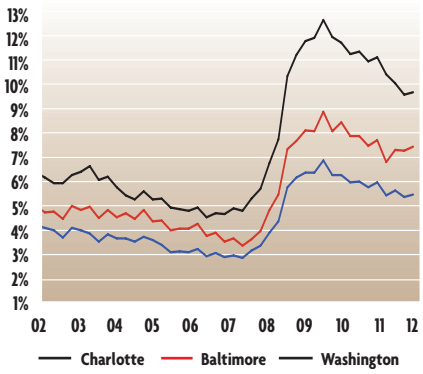


Fifth District — United States

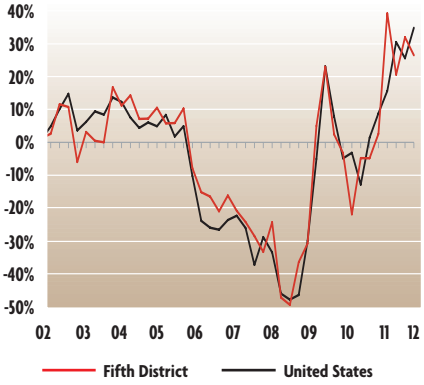
Nonfarm Employment Metropolitan Areas
Change From Prior Year
First Quarter 2002 - Third Quarter 2012



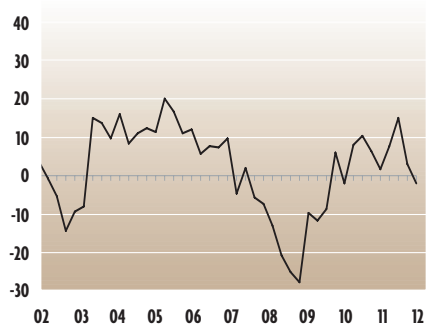
Unemployment Rate Metropolitan Areas
Change From Prior Year
First Quarter 2002 - Third Quarter 2012



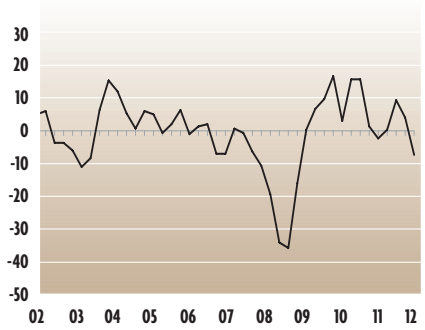
Building Permits
Change From Prior Year
First Quarter 2002 - Third Quarter 2012



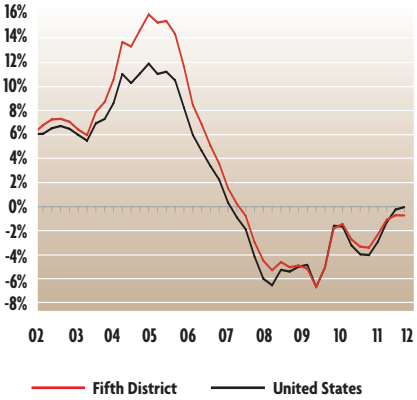
FRB—Richmond Services Revenues Index
First Quarter 2002 - Third Quarter 2012



FRB—Richmond Manufacturing Composite Index
First Quarter 2002 - Third Quarter 2012



House Prices
Change From Prior Year
First Quarter 2002 - Third Quarter 2012



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) Building permits and house prices are not seasonally adjusted; 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, Q3:12

	Washington, DC	Baltimore, MD	Hagerstown-Martinsburg, MD-WV
Nonfarm Employment (000s)	**2,461.8**	**1,298.5**	**99.4**
Q/Q Percent Change	-0.3	-0.6	-0.8
Y/Y Percent Change	1.2	0.3	1.8
Unemployment Rate (%)	**5.4**	**7.3**	**7.9**
Q2:12	5.5	7.3	8.0
Q3:11	5.9	7.4	9.0
Building Permits	**5,534**	**1,742**	**199**
Q/Q Percent Change	-4.4	11.5	30.1
Y/Y Percent Change	14.6	35.6	27.6

	Asheville, NC	Charlotte, NC	Durham, NC
Nonfarm Employment (000s)	**170.8**	**835.2**	**277.6**
Q/Q Percent Change	-0.3	-0.6	0.2
Y/Y Percent Change	1.5	1.2	2.1
Unemployment Rate (%)	**7.8**	**9.7**	**7.5**
Q2:12	7.8	9.5	7.6
Q3:11	8.5	11.0	8.2
Building Permits	**384**	**3,150**	**1,172**
Q/Q Percent Change	4.1	0.9	149.4
Y/Y Percent Change	10.0	68.6	122.4

	Greensboro-High Point, NC	Raleigh, NC	Wilmington, NC
Nonfarm Employment (000s)	**345.9**	**522.6**	**134.7**
Q/Q Percent Change	-0.7	0.4	-1.1
Y/Y Percent Change	2.1	2.8	-2.3
Unemployment Rate (%)	**9.9**	**7.6**	**10.0**
Q2:12	9.8	7.8	9.8
Q3:11	11.1	8.7	10.9
Building Permits	**360**	**2,581**	**839**
Q/Q Percent Change	-24.5	-14.8	25.0
Y/Y Percent Change	-20.2	81.9	62.9

	Winston-Salem, NC	Charleston, SC	Columbia, SC
Nonfarm Employment (000s)	**203.4**	**301.8**	**352.1**
Q/Q Percent Change	-1.3	0.2	-0.4
Y/Y Percent Change	-1.1	2.1	2.3
Unemployment Rate (%)	**9.0**	**7.7**	**8.3**
Q2:12	9.0	7.7	8.1
Q3:11	9.9	8.6	9.1
Building Permits	**174**	**978**	**895**
Q/Q Percent Change	-65.5	-48.2	-22.8
Y/Y Percent Change	-49.6	26.5	25.2

	Greenville, SC	Richmond, VA	Roanoke, VA
Nonfarm Employment (000s)	**300.8**	**616.1**	**155.8**
Q/Q Percent Change	-1.0	-0.4	-0.2
Y/Y Percent Change	-1.2	1.1	0.0
Unemployment Rate (%)	**7.9**	**6.4**	**6.1**
Q2:12	7.7	6.2	6.0
Q3:11	8.6	7.0	6.6
Building Permits	**585**	**1,244**	**94**
Q/Q Percent Change	-1.5	33.5	-22.3
Y/Y Percent Change	41.6	44.0	-4.1

	Virginia Beach-Norfolk, VA	Charleston, WV	Huntington, WV
Nonfarm Employment (000s)	**748.3**	**147.9**	**115.0**
Q/Q Percent Change	0.1	-0.4	-0.9
Y/Y Percent Change	0.8	-0.5	2.3
Unemployment Rate (%)	**6.5**	**6.9**	**7.1**
Q2:12	6.4	6.5	7.2
Q3:11	7.1	7.3	8.3
Building Permits	**1,475**	**39**	**12**
Q/Q Percent Change	18.2	-18.8	33.3
Y/Y Percent Change	4.7	-9.3	-42.9

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OPINION

On Economic History and Humility

BY JOHN A. WEINBERG

Economists have been arguing about the ability of monetary policy to affect real economic activity when the Fed has already pushed short-term interest rates close to zero, a condition known as the "zero lower bound." This debate remains important as the recovery from the Great Recession continues to yield disappointing results in terms of economic activity and, especially, employment — results that have persisted despite a lengthy period of accommodative monetary policy.

For many Fed leaders, including Federal Reserve Board Governors and presidents of Federal Reserve Banks, this state of affairs underscores the limits of our knowledge about the effects of unconventional monetary policy; moreover, it counsels in favor of a degree of humility when considering the course of future policy. For example, Chairman Bernanke, while supporting continued action by the Fed to attempt to stimulate the economy through monetary policy, noted in his December press conference that "we are now in the world of unconventional policy that has both uncertain costs and uncertain efficacy or uncertain benefits."

> Disappointing results in terms of economic activity underscore the limits of our knowledge about the effects of unconventional monetary policy.

I find this point of view persuasive — but it has generated controversy. Some observers, such as Christina and David Romer of the University of California, Berkeley, have pointed to past instances in which the Fed's monetary policy was, in their view, the product of too much humility. By this, they mean that policy was not sufficiently aggressive in one direction or another, and Fed leaders justified their restraint on the basis of doubts about the likely costs and benefits of more ambitious moves. The first of these episodes is the early Great Depression period of 1929-1933, when the Fed rejected monetary expansion and, in fact, allowed the money stock to fall by 26 percent. The second is the inflationary 1970s (prior to the chairmanship of Paul Volcker), when Fed leaders believed that the rising price levels of the time could not be tamed through contractionary policy.

These critics of the Fed draw a line from the early Depression and the 1970s to Fed policy of the past several years and to the cautionary public statements of Fed policymakers during that period. They have cited, for example, Chairman Bernanke's statement in October that "monetary policy is not a panacea," and the statements of Reserve Bank presidents at various times, including Richmond Fed President Jeffrey Lacker, that further accelerating monetary expansion would increase the risk of inflation.

Comparisons across historical episodes can be instructive, and are in fact essential if policymaking is to improve over time. But in this regard, the differences between episodes are at least as important as the similarities. A key difference between the earlier episodes and our more recent experience is in the behavior of prices. In both of the earlier periods, the doubts expressed by some policymakers and other observers about the Fed's ability to have an effect included doubts about its ability to affect the path of the price level — to stem the deflation of the early 1930s or the inflation of the 1970s.

In the early stages of the Great Depression, many saw the gold standard as taking the control of the price level entirely out of the hands of the Fed's monetary policy. In the 1970s, inflation was seen as being driven by an array of nonmonetary forces, and many thought that monetary action to bring down inflation would have unacceptably high costs in terms of economic activity and employment. By contrast, the consensus today is that monetary policy most certainly can increase or decrease nominal price levels. Indeed, the Fed has since taken pains to maintain credibility regarding inflation, recognizing that only monetary policy can affect the general level of prices over time.

The question now, rather, is the extent to which the central bank can affect real activity — particularly employment — without putting its hard-won credibility for price stability at risk. Many observers favor continued monetary expansion on a large scale, on the belief that economic slack will restrain any incipient inflationary pressures. Others argue that, in view of the magnitude of the monetary and fiscal policy tools that have already been employed, it is not clear that the Fed can remedy the situation, while avoiding other hazards to the economy, by increasing what it has already been doing. Given that people on both sides of the issue are necessarily reaching their conclusions on the basis of limited information about the use of unconventional tools, it is appropriate that all of us do so with an awareness of the limitations of what we know. But such prudence does not reflect doubts about the ability of monetary policy to affect inflation.

Far from believing that monetary policy doesn't matter, as critics have suggested, Chairman Bernanke and others involved with monetary policymaking have acted both with boldness and with circumspection precisely because they are mindful of the power of monetary policy — power that has led to both good and bad results in history. Responsible leaders owe the public nothing less. **EF**

John A. Weinberg is senior vice president and director of research at the Federal Reserve Bank of Richmond.

Next Issue

Is China Cheating at Trade?

Many trade economists think China holds its currency artificially weak relative to the dollar to make its exports cheaper for the rest of the world. Economists agree less on the policy's effect on U.S. trade, jobs, and consumers — and therefore what, if anything, should be done about it. Regardless, the policy may be brought to an end by mounting imbalances it creates for China itself.

Caring for the Mentally Ill

Recent tragedies raise questions about how society cares for people with serious mental disorders. Significant changes in the provision of care over the last 50 years reveal that mental illness makes the economics of health care even more complex. Have we gotten closer to understanding how society should devote resources to mental health?

Green Jobs

Policies to promote "green jobs" seem like an obvious solution to both the nation's high unemployment rate and growing concerns about global climate change. But defining a green job is a difficult task, and it's not certain that their promotion is the most efficient way to help either the environment or the economy.

Economic History

Economic history isn't always the history of progress. In the decades leading up to the Civil War, the domestic slave trade flourished in Virginia. Supply and demand for human assets facilitated the rapid transfer of slave labor to cotton-producing states in the Deep South and the continuation of the "peculiar institution."

Federal Reserve

The Fed has relied on a variety of rules to guide its monetary policy over the years. Rules help set the market's expectations of future monetary actions, but not all of them have resulted in optimal economic performance. In many ways, the history of the Fed can be viewed as the search for the best monetary rule — one that helps meet the central bank's goals of "maximum employment, stable prices, and moderate long-term interest rates."

The Profession

Female economists have won high-profile awards in recent years, but they're underrepresented in the field as a whole by some measures. Women hold only one in eight tenured professor positions, and earn only one-third of economics Ph.D.s, even though women earn the majority of U.S. doctoral degrees overall. In the first installment of this new department, we ask: Why do relatively few women enter the field?

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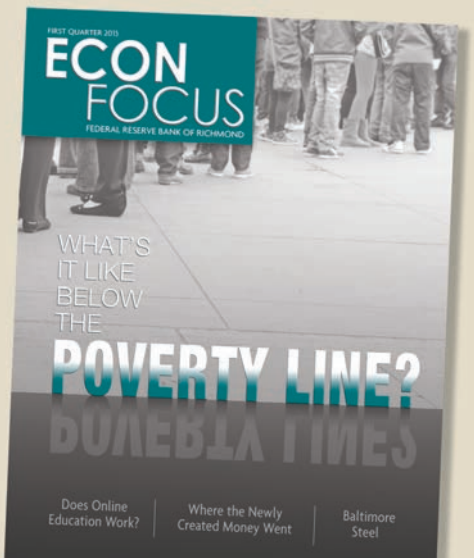

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The Richmond Fed periodically estimates the size of the safety net — most recently in February 2013 using data as of Dec. 31, 2011.

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