THIRD QUARTER 2014

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FEDERAL RESERVE BANK OF RICHMOND

Birds *of a* Feather

Does the HAWK-DOVE distinction still matter in the modern Fed?

High School Dropout Dilemma

Raise the Minimum Wage?

The Geography of Unemployment

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DEPARTMENTS

WEB EXCLUSIVE: Interview with Dani Rodrik

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President's Message

Financial Learning is a Lifelong Process

Individuals today face a broad array of difficult financial choices, such as deciding how to pay for college or a home or calculating how much to save for retirement. Yet surveys reveal that many consumers lack the confidence and knowledge to make these financial decisions.

Efforts to provide economic and financial education have expanded in recent years. Nearly all states have made economics and personal finance part of their K-12 education standards. Here in the Fifth District, North Carolina, Virginia, and West Virginia require high school students to take a personal finance class before graduating. National organizations like the Council for Economic Education also provide tools for financial educators and students.

Research suggests that knowledge of core financial concepts, such as how to calculate compound interest, is associated with an individual's ability to navigate tough financial choices. For example, those who are able to make interest rate calculations are much more likely to save for retirement and are less likely to have difficulty paying off debt.

Providing this information to students from a young age helps build a foundation for the decisions they will make later in life. But it is important to also recognize that financial education is a lifelong process that requires ongoing attention and updating. The knowledge students receive in school may be far removed from the time when they are faced with key financial decisions, and their circumstances likely will have changed during this period.

A sound understanding of fundamental economic concepts is critically important for making informed financial choices. At their core, many important financial decisions are about economic principles. Being able to calculate interest may help an individual understand the cost of a home mortgage, but without an understanding of opportunity cost — the value of an alternative choice that a person has forgone — it is difficult to fully consider the merits of buying a home versus renting. Here at the Richmond Fed, we've developed resources to help individuals learn core economic and financial concepts, which you can find by visiting the Education page of our website, richmondfed.org/education.

Another reason to focus on core skills such as these is that each person is different. Financial education designed only to guide students toward "correct" choices presupposes that some decisions, like taking out a high-interest loan, are a mistake. But it is difficult for an outside observer, such as an educator or policymaker, to know enough to determine when another individual is making an unwise choice. For example, someone with little savings may find that a short-term high-interest loan is the best option for fixing a car if the car is that person's only means of reaching work.

Recognizing that financial knowledge decays over time and that people are different can inform how we approach financial education for working adults. In addition to educating Americans during their school years, we should focus on providing information to individuals about major financial decisions as they are preparing to make those decisions. When consumers buy goods like a microwave or television, they have easy access to all the information needed to make a decision. Also, the consequences of making what later appears to be a poor choice are not necessarily very large. In contrast, major financial transactions, like purchasing a home or going to college, require more specialized knowledge that is not so easily obtained. And the consequences of those choices can be much more severe and long-lasting.

When people are making such important decisions they are especially motivated to learn about the choices they face. Research has found that providing even brief training during these "teachable moments" can be as effective at improving decision-making as more extensive training undertaken in the months prior.

Regulators can also help by requiring clear and explicit disclosure of significant information in financial contracts. Here, simplicity and concision are key. Consumer testing conducted by the Fed after the financial crisis revealed that contracts like home mortgages often could be written in a way that was more easily understood. Presenting the most significant terms of a contract explicitly and at the beginning, for instance, would help individuals to make more informed decisions.

In short, financial education efforts should avoid a narrow prescriptive approach based on the idea that policymakers know what's best for everyone. Instead, we should focus on providing the tools that assist individuals in choosing the best options for themselves. In addition, timely information about complex and consequential transactions can help households better understand their choices when faced with major decisions. **EF**

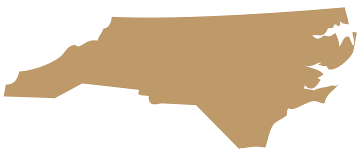
JEFFREY M. LACKER
PRESIDENT
FEDERAL RESERVE BANK OF RICHMOND

UPFRONT

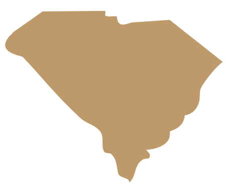
Regional News at a Glance

BY TIM SABLIK

MARYLAND — Maryland oysters are making a comeback. In 2009, the state lifted barriers to oyster farming. Since then, Maryland has issued leases covering thousands of acres of water. But some watermen complain that the farms disrupt fishing and have called on the state to limit licenses. Others have decided to go into farming themselves, taking advantage of state grants and loans that support such transitions.



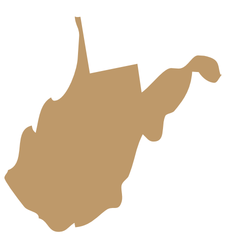
NORTH CAROLINA — On Oct. 14, the U.S. Supreme Court heard arguments in the case of *North Carolina State Board of Dental Examiners v. Federal Trade Commission* (FTC). The dental board issued cease-and-desist orders to teeth whitening services operated by non-dentists. The FTC argues that the board's actions violate antitrust laws, while the board contends that it is immune from those laws. Because six of the eight board members must be practicing dentists, critics argue that the board has an incentive to restrict competition.



SOUTH CAROLINA — Boeing Co. secured a lease for a new research and development center in North Charleston, S.C., in September. The center will employ between 300 and 400 workers. Separately, the company announced a new agreement with Japan's Toray Industries, which will supply carbon fiber for two of Boeing's passenger jet models. Toray will spend $865 million on a new carbon fiber plant in South Carolina.

VIRGINIA — Worldwide construction firm Bechtel Corp. plans to relocate as many as 1,100 employees from Frederick, Md., to its office in Reston, Va., in 2015. The move is part of the $39.4 billion company's global restructuring effort. Bechtel previously moved 625 jobs from Frederick to Reston in 2011.

WASHINGTON, D.C. — On Nov. 4, 70 percent of District voters approved a ballot initiative to legalize marijuana. The measure would allow residents and visitors to possess and grow small quantities of marijuana. But Congress' omnibus spending bill approved in December includes a rider blocking the use of federal funds to enact marijuana legalization, placing the future of the ballot initiative in question.



WEST VIRGINIA — In September, a federal bankruptcy judge approved a $2.9 million settlement against chemical producer Freedom Industries. The settlement benefits residents whose water was contaminated by a chemical spill in January. Freedom declared bankruptcy shortly after the spill. Other creditors have argued that the settlement will prevent them from recovering anything on their bankruptcy claims.

Birds of a Feather

BY TIM SABLIK

Does the hawk-dove distinction still matter in the modern Fed?

Fed watching can seem a lot like bird watching. "Behind the Fed's Dovish Turn on Rates," reads a recent *Wall Street Journal* headline; "Fed Hawk Down," reads the *Washington Post* announcement of the retirement of a Fed bank president. "Hawk" and "dove" have commonly been used by the financial press to describe Fed policymakers since the 1980s, and the term "inflation hawk" can be found as far back as the late 1960s. Both birds have even longer traditions as wartime metaphors. The dove has been a symbol of peace going back to biblical times, and leading up to the War of 1812, American politicians who advocated confrontation with Great Britain were labeled "War Hawks." But what do these terms have to do with monetary policy?

Hawk and dove are often used to describe a divide over the Fed's dual mandate of promoting maximum employment and price stability. Hawks are said to worry more about price stability and favor relatively tighter monetary policy to keep inflation in check. Doves are viewed as more open to the possibility that monetary policy can keep unemployment low and more inclined to use accommodative policy to attempt to do so.

The reason for the perceived divide is that the Fed cannot always achieve both objectives at the same time, at least in the short run. Expanding the money supply to boost aggregate demand during a recession can help lower unemployment, but it also can create inflationary pressure. By the same token, tightening can reduce inflation but it can also raise unemployment, as it did during the recession of 1981-1982.

In the past, Fed officials disagreed about the proper focus and targets for monetary policy. But has that debate changed today? In 2012, the Fed adopted an explicit long-run inflation goal of 2 percent, suggesting a consensus on the goal of price stability. In the wake of that decision, then-president of the Cleveland Fed Sandra Pianalto commented that the bird labels had become obsolete. "We now have agreement" on inflation, she said. "So I don't think the titles of hawks and doves are useful."

Have Fed officials all become birds of a feather now? Dissents at Federal Open Market Committee (FOMC) meetings in recent years would suggest otherwise. Indeed, while "hawks versus doves" is a simplification of the disagreements at the Fed, the terms do serve to highlight important differences in policymakers' economic forecasts and their confidence in the Fed's ability to influence the future path of the economy with monetary policy.

Inflation and Unemployment: A Tradeoff?

Economists have long understood that inflation and unemployment tend to move in opposite directions. But the

idea that policymakers could exploit this tradeoff to target specific levels of unemployment came to prominence in the late 1950s following a paper by New Zealand economist A.W.H. Phillips. Phillips traced the history of wages and unemployment in the United Kingdom over the previous century and found an inverse relationship — later dubbed the Phillips curve.

Massachusetts Institute of Technology economists Paul Samuelson and Robert Solow found a similar pattern for prices and unemployment in the United States. In a 1960 paper, Samuelson and Solow produced a Phillips curve that they presented as a "menu of choice between different degrees of unemployment and price stability." Although Samuelson and Solow cautioned that attempting to exploit this tradeoff could very likely shift the curve in the long run, policymakers in the 1960s latched onto the idea of manipulating the tradeoff to achieve maximum employment.

President Kennedy's economic team articulated this belief in the 1962 *Economic Report of the President*: "Stabilization policy — policy to influence the level of aggregate demand — can strike a balance between [price stability and maximum employment] which largely avoids the consequences of a failure in either direction." These economists recognized that policies designed to stimulate aggregate demand to lower unemployment would generate inflationary pressures, but they were optimistic that they could respond before inflation climbed too high.

Some economists at the time also went as far as to argue that policymakers should seek the lowest unemployment rate possible, even if it meant higher inflation. They viewed the costs of inflation as small and confined to the wealthy, compared with unemployment, which had a widespread effect. Leon Keyserling, an economist who served as chairman of President Truman's Council of Economic Advisers and as an economic consultant to members of Congress from 1953 to 1987, wrote in a 1967 journal article: "It is utterly unconscionable that we should ask millions of unemployed and their families to be the insurers of the affluent against somewhat higher prices."

But by the 1970s, steadily rising prices had become a concern for more than just the wealthy. A 1974 Gallup poll reported that 81 percent of Americans cited the high cost of living due to inflation as the country's biggest problem. Moreover, episodes of "stagflation" — simultaneously rising unemployment and inflation — further called into question the ability of policymakers to reliably exploit the Phillips curve tradeoff. Economists and Fed officials largely agreed that double-digit inflation was proving costly, but they disagreed over how

Richmond's Hawkish Tradition

In the Fed's flock, Richmond Fed President Jeffrey Lacker is often counted among the hawks by outside observers. While he joked in 2013 that he wouldn't mind being a different bird, such as one of the great blue herons he sees flying outside his office window, it's not hard to see why the hawk label has stuck. In 2012, he dissented at every FOMC meeting against the Fed's accommodative actions. In those dissents, he expressed concern that the Fed might fall behind on its price stability mandate and also voiced opposition to the purchase of instruments like mortgage-backed securities, which he argues constitutes fiscal rather than monetary policy since it directs credit to specific sectors of the economy. Ultimately, he argued, that could jeopardize the Fed's monetary policy independence and thus its ability to keep inflation low — a hawkish argument indeed.

Lacker is certainly not the first Richmond Fed president to object to the Fed's conduct of monetary policy. He currently ranks third in dissents by bank presidents, immediately followed by Robert Black at number four. Black was the first Ph.D. economist to serve as Richmond Fed president, starting in 1973. That decade was marked by vigorous debate among monetary policymakers about the cause of mounting inflation. Black drew from his own understanding of economics as well as the work of Richmond's growing staff of research economists (many of whom had a monetarist background) to argue that the main cause of inflation was the growth of the money supply. It was a view that was not widely held at the time, and Black's calls for substantial monetary tightening to rein in double-digit inflation put him at odds with members of the FOMC who favored a lighter touch. His stance was given credence by the disinflation that occurred through monetary tightening under Chairman Paul Volcker, and today the idea that inflation is largely a monetary phenomenon is part of the Fed's statement of principles.

Richmond's focus on price stability continued under Black's successor. Alfred Broaddus became president in 1993, having served as a key economic adviser to Black. Although inflation had fallen substantially by that time, Broaddus was concerned that the Fed might become complacent and lose the credibility on inflation that it had fought so hard to obtain. He maintained Richmond's hawkish tradition and was a vocal proponent of a singular inflation target, or at the very least a numeric inflation goal, as a way to anchor the public's expectations that the Fed would keep inflation low. While the Fed has not adopted the former, it did announce a long-run inflation goal of 2 percent in 2012.

In a 2012 interview, Lacker noted that the record left by Black and Broaddus was "a real inspiration" for him. Through speeches and dissents, he has often returned to the theme of price stability and the "hawkishness" with which the Richmond Fed has come to be associated. Indeed, Lacker recalled that when he dissented for the first time in 2006, then-Chairman Alan Greenspan told him: "I would've been disappointed if you hadn't." — Tim Sablik much the Fed could or should do to bring it down. Some, like Chairman Arthur Burns, argued that inflation was driven by other factors in the economy and that using monetary policy to combat it would result in even higher unemployment.

After the experience of the 1970s, as well as advancements in theory suggesting that expectations are an important determinant of inflation, economists now generally agree that there is no long-run tradeoff between inflation and unemployment. But there is still disagreement on how much the Fed can do to bring unemployment down in the short run. "It's a debate that has continued over time and still exists today," says David Wheelock, vice president and deputy director of research at the St. Louis Fed.

Monetary Policy Goals

At the crux of that debate is the Fed's ability to predictably affect unemployment in the short run. Economic theory suggests that when the economy is operating below its potential, monetary policy can stimulate growth without generating inflationary pressure. But economists are generally skeptical that we can accurately predict the economy's potential, and they differ on the cost of guessing wrong.

Stanford University economist John Taylor reframed this debate in 1993 when he proposed a mathematical formulation for how central bankers set nominal interest rates. Under this "Taylor rule," monetary policymakers respond to gaps in both inflation and employment targets. Policymakers assign weights to each of these responses, and while Taylor proposed that the weights be equal, it is clear that not everyone at the Fed agrees.

"Hawks argue that monetary policy can affect the unemployment rate but not as reliably as we would like," says Wheelock. "So the best that you can expect from monetary policy is price stability."

This suggests that hawks assign a larger weight to monetary policy responses to inflationary gaps, but it doesn't mean that they assign no weight to employment gaps. Instead, hawks argue that the Fed can best achieve maximum employment by focusing on price stability. William Poole, who served as president of the St. Louis Fed from 1998 to 2008 and was labeled a hawk, captured this idea in the title of a 1999 speech: "Inflation Hawk = Employment Dove."

"I put inflation as the Fed's primary objective, but by no means did I put employment as a nonobjective," says Poole. "The reason is that once you lose on the inflation front, then you lose the possibility of success on the growth objective. I think the 1970s demonstrated that."

These views have been echoed by other hawks, such as Philadelphia Fed President Charles Plosser. In an Oct. 16 speech, Plosser noted that economists do not know how to "confidently determine whether the labor market is fully healed or when we have reached full employment." Waiting to raise interest rates until it is clear the labor market has fully recovered risks falling behind on inflation, he said.

Doves, on the other hand, tend to be more willing to risk temporarily falling behind on inflation. "If you're uncertain about the natural rate of unemployment but you have a very high weight on policy responses to unemployment, that means you're more willing to test the waters," says Frederic Mishkin, a professor of economics at Columbia University Business School who served on the Board of Governors from 2006 to 2008 and was often labeled a dove. "If you overshoot a little bit and a little inflation occurs but you lowered unemployment, then doves see that as a good thing."

Recently, some Bank presidents have argued that the Fed should be willing to tolerate overshooting the 2 percent inflation goal because inflation has been consistently below that target in the last few years. In an Oct. 13 speech, Chicago Fed President Charles Evans remarked, "One could imagine moderately above-target inflation for a limited time as simply the flip side of our recent inflation experience ... hardly an event that would impose great costs on the economy." He proposed in 2012 that the Fed should commit to keeping interest rates near zero even after inflation reaches 2.5 percent or 3 percent. This was dubbed the "Evans rule" — a "dovish" alternative to the Taylor rule.

But hawk and dove are used to describe more than just policymaker preferences and risk tolerances. They are also used to describe how FOMC members vote on changes to the federal funds rate, the Fed's primary policy tool. Committee members who favor higher rates or raising rates sooner are labeled hawks, and vice versa for doves. In this context, the boundaries between hawks and doves are much more nebulous, as such decisions depend heavily on ever-changing forecasts of economic growth.

Looking Ahead

It is tempting to think of hawks as always favoring higher interest rates and doves always favoring lower. But Fed officials base their recommendations in large part on their expectations of future economic growth, and those expectations change as new information becomes available. This is particularly the case in times of economic uncertainty, such as the run-up to the financial crisis of 2007-2008. In the Aug. 7, 2007, FOMC meeting, Poole noted that markets were "very skittish," but he and others recommended keeping the federal funds rate "steady." Two days later, however, Poole had reassessed the need for action. At his request, St. Louis proposed lowering the discount rate — the rate it charges on loans to individual banks.

"I was a hawk, but I was a hawk who was ready to respond to changing conditions," says Poole.

Indeed, there are many instances of policymakers alternating between dovish and hawkish recommendations based on their forecasts of economic conditions, making it difficult to pin just one label to any Fed official. For example, when Janet Yellen first came to the Board in 1994, unemployment was falling, and by 1996 it had fallen below what many economists considered to be the natural rate. Yellen warned that the Fed needed to be concerned about inflationary pressure and should consider raising rates — a hawkish move. But during the recession of 2007-2009, Yellen faced very different economic conditions. Unemployment was elevated and inflation was low, and Yellen supported the Fed's low rates and quantitative easing. This prompted the financial press to label her a dove when she was nominated to succeed Ben Bernanke as chair.

More recently, Minneapolis Fed President Narayana Kocherlakota has been perceived as switching sides. In September 2011, he dissented against the Fed's efforts to lower long-term interest rates by purchasing bonds with long maturities (a procedure dubbed "Operation Twist"). Kocherlakota explained that inflation was approaching the Committee's stated goal of 2 percent and that the Fed should not risk diminishing its credibility to keep inflation on target by pursuing further expansionary policies. But in 2013, Kocherlakota noted that employment and inflation had both grown more slowly than he had previously expected. Given this new information, he began advocating more accommodative monetary policy to return inflation to the Fed's goal of 2 percent, along the lines of the Evans rule.

Poole says that differences in forecasts, rather than disagreements about the Fed's long-run objectives, are what account for much of the debate at the Fed today. "I think there has been a substantial convergence of views on what the objectives of monetary policy ought to be," he says. "The disagreement between hawks and doves today is more a matter of the judgment you bring to the table about the state of the economy and what risks you want to run."

Still, forecasts and preferences for the focus of monetary policy often go hand in hand. "Your forecasts are tinted by the glasses through which you view the world," says Mishkin.

A Broader Debate

The perception of the Fed as a feuding flock may also arise from the fact that debate among monetary policymakers has become much more public in the last 20 years. Prior to 1994, FOMC decisions were not made public until years after the fact. Over the same period, bank presidents have also become more vocal participants in the policy debate.

"Until relatively recently, it was rare for a Reserve Bank president to be a Ph.D. economist," says Wheelock. "This has led to the presidents having a stronger and more independent voice on monetary policy than they once did."

But the impulse to group policymakers on one of two sides can obscure more subtle disagreements. In a recent St. Louis Fed paper, Wheelock and former St. Louis Fed vice president and economic adviser Daniel Thornton catalogued dissents at the FOMC from 1936 through 2013. They grouped dissents as favoring either tighter or easier monetary policy, but Wheelock notes that not all of them fit neatly into one of those two buckets. For example, in the 1960s, the United States was still on a version of the gold standard and some Fed governors dissented because they were worried about a balance of payments deficit that might jeopardize gold reserves. During the recession of 2007-2009, Richmond Fed President Jeffrey Lacker supported the Fed's expansion of the monetary base, a dovish move, but he dissented over the decision to implement that policy through the purchase of assets like mortgage-backed securities rather than U.S. Treasuries.

There are also important points of agreement among Fed officials that the labels can gloss over. Doves are sometimes portrayed as being unconcerned with inflation, but all members of the FOMC seek to keep inflation expectations low and stable over the long run. "On that, there's no difference between hawks and doves," says Mishkin. "I'm certainly not as hawkish as Jeff Lacker is, but both of us were very strong advocates of inflation targeting. And both of us are equally concerned about unhinging inflation expectations."

Nevertheless, the idea of a split between two camps is likely to persist if for no other reason than the Fed's primary policy tool — the fed funds rate — moves in only two directions. And for the most part, monetary policymakers don't have the option of not taking a stand.

"When you get to an FOMC meeting, you have to make a decision given the best information you have," says Poole. "You need to be ready to change your mind, but you can't just say 'I'm going to wait until we do more studies.' That may work for an academic, but it won't work for a policymaker." **EF**

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Cracking Down on Fraud?

BY TIM SABLIK

In the wake of the financial crisis, President Obama established the Financial Fraud Enforcement Task Force. Led by the Department of Justice, the task force brought together financial regulators like the Federal Deposit Insurance Corporation (FDIC) and the Federal Reserve as well as law enforcement agencies like the Federal Bureau of Investigation in an effort to increase detection and prosecution of financial fraud. In a March 2013 speech, Michael Bresnick — then executive director of the task force — outlined a strategy that has since been dubbed "Operation Choke Point." Regulators would press banks to closely review their merchant accounts and weed out accounts held by fraudulent payment processors and other businesses in "high-risk" sectors.

The FDIC issued guidance on its website identifying categories of businesses that might pose "legal, reputational, and compliance risks" to banks. The list included illegal operations, such as Ponzi schemes and cable box descramblers, as well as businesses that are legal in many states, such as ammunition and firearm merchants and payday lenders. The FDIC stated that while many of these firms are reputable, as a whole they operate in sectors that have been increasingly associated with illegal or deceptive practices. According to the FDIC, these businesses often gain access to the payment system through nonbank payment processors and then charge consumers for "questionable or fraudulent goods and services." Banks are required to conduct due diligence of their customers under the Bank Secrecy Act (BSA), but nonbank payment processors are not subject to such laws and therefore may indirectly expose banks to greater risk.

In January, the Department of Justice filed suit against Four Oaks Fincorp and Four Oaks Bank & Trust Company in North Carolina for allegedly granting a payment processor that served several fraudulent online payday lenders direct access to the Automated Clearing House payments network. According to the complaint, Four Oaks received notifications from customers of the payday lenders that their accounts were subject to activity they did not authorize, and prosecutors argued that Four Oaks did not respond to these and other signs of fraudulent activity. Four Oaks agreed to pay $1.2 million to settle the charges.

Operation Choke Point has largely focused on such online payday lenders, which have increasingly been the subject of consumer complaints. In October, Pew Charitable Trusts released a report noting that those who borrowed online suffered much higher rates of fraud than storefront payday borrowers. Online lenders were also more likely than storefront lenders to issue threats to borrowers and engage in other illegal activity. A third of online borrowers reported unauthorized withdrawals from their bank accounts and two in five had their personal or financial information stolen. Pew noted that such practices were not universal, however. The largest online payday lenders were the subjects of very few complaints, and the majority of offenses were concentrated among lenders that were not licensed by all the states in which they operated.

In addition to licensing, several states regulate lending through usury laws limiting the maximum annual interest rate that lenders can charge. Some customers of online lenders reported interest rates far in excess of these limits — more than 1,000 percent in some cases. A few states, including North Carolina, ban payday lending entirely. But states have had difficulty enforcing the rules on unlicensed online payday lenders, which often operate out of other countries or through Indian tribes and claim not to be subject to state laws.

While regulators say that their efforts have been directed at these illegal lenders, some lawmakers argue that Operation Choke Point may go too far and unfairly punish legal lenders and merchants as well. In May and December, Rep. Darrell Issa, the chairman of the House Committee on Oversight and Government Reform, issued reports arguing that the Department of Justice and FDIC used Operation Choke Point to target legal but disfavored businesses like payday lenders. Citing emails among FDIC officials that suggested "personal animus towards payday lending," the reports argued that the FDIC acted inappropriately by injecting those beliefs into the bank examination process. At a July hearing, House Judiciary Committee Chairman Bob Goodlatte said that he had "received numerous reports of banks severing relationships with law-abiding customers from legitimate industries" that were designated high risk.

Studies have shown that payday lenders can fill an important niche for some consumers. Even consumers who have access to checking accounts or credit cards may choose to use payday loans if the fees are cheaper than the alternatives, such as overdrawing an account or failing to make credit card payments on time. Indeed, research by the New York and Kansas City Feds in 2008 and 2011 found that after North Carolina and Georgia banned payday loans, households experienced higher rates of bounced checks and bankruptcy relative to those in states that allowed payday lending.

In June, a major trade group representing payday lenders filed a lawsuit accusing financial regulators of attempting to drive payday lenders out of business. In the same month, Rep. Blaine Luetkemeyer on the House Financial Services committee introduced legislation to end Operation Choke Point. In response, the Department of Justice and FDIC agreed to launch a preliminary investigation of the program. The FDIC also removed the list of specific high-risk business categories from its guidance to depository institutions. **EF**

Editor's Note: The third paragraph reflects corrections made in May 2015 to details of the Department of Justice's suit. See online version of this article for more information.

JARGON ALERT

Disinflation

BY RENEE HALTOM

Many people know that "inflation" is a rise in the overall price level. Many people also know that "deflation" is a *fall* in the overall price level — that is, the rate of inflation is negative. But fewer people are familiar with the path from inflation to deflation: disinflation, a situation in which the inflation rate is falling. Like a runner who slows down but still propels forward, when there is disinflation, prices may still be rising, just at a slower rate than before.

Disinflation can be good news or bad news. It is a good thing if it comes from increases in productivity and technology, like those that helped keep inflation low in the late 1990s.

More commonly, disinflation is brought about by contractionary Fed policy. In such episodes, disinflation is intentional and welcome. This was especially the case during the most favorable disinflation episode in the Fed's history: the early 1980s, when inflation (as measured by the year-over-year change in the personal consumption expenditures price index) declined from more than 11 percent in early 1980 to an average of roughly 3.5 percent in 1985. Though high inflation hasn't been a problem since, the goal of tighter monetary policy is generally to produce modest disinflation to get inflation closer to the central bank's target.

There is even such a thing as "opportunistic disinflation," the name that former Fed Governor Laurence Meyer gave the monetary policy strategy of allowing the economy's inevitable recessions to ratchet down inflation over time. Under this strategy, the central bank would sustain boom periods with low rates but jump the gun slightly on raising rates after recessions to preserve the lower rate of inflation — and the reduced inflation expectations that help keep inflation down. The result would be gradual disinflation, with perhaps some short-term cost in terms of unemployment but long-term gains in reducing the distortions of inflation. Though some have suggested this was the Fed's strategy during the 1980s disinflation, the Fed is less commonly believed to have been following this strategy in the last 20 years, when inflation has generally been low. At those low inflation rates, opportunistic disinflation could risk reversing a recovery and tipping the economy into deflation — and large declines in the overall price level can be a self-perpetuating trap.

Policymakers tend to get particularly concerned about disinflation when inflation falls below 2 percent, the Fed's official goal since early 2012. In recent history, there have been two notable episodes of disinflation sparking deflationary fears. In 2003, when the economy was still limping out of the 2001 recession, core inflation — total inflation minus the volatile categories of food and energy, often a better measure of current inflation for policymaking purposes — fell steadily to 1.3 percent. And more recently, core inflation fell from 2.3 percent in mid-2008 to roughly 1 percent a year later; after climbing back up, it plunged to 1 percent again 18 months later.

In both disinflation episodes, many economists talked seriously about the risk of deflation. In 2002, former Fed Chairman Ben Bernanke, then a governor, made a famous speech outlining how to prevent something like Japan's decades-long bout with deflation. He said the chances of deflation were quite low but also that deflation is notoriously hard to predict. That's partly because monetary policy works with a lag and partly because it is not always obvious why inflation has fallen. For example, 2004 research by Richmond Fed economist Andrew Bauer and then-colleagues at the Atlanta Fed showed that the U.S. disinflation of the early 2000s was driven primarily by falling housing and car prices, for reasons unique to those sectors and unrelated to the economy's overall weakness.

Therefore, Bernanke said, the very best medicine for deflation is to never get into it in the first place. Put differently: Be vigilant in disinflation episodes for threats of deflation. The Fed lowered interest rates in 2003, with some Fed policymakers urging even larger cuts.

When the Great Recession hit in 2007, by contrast, there was little doubt that monetary policy should ease aggressively. After pushing interest rates to near zero in late 2008, the Fed added some unprecedented policies, such as massive asset purchases (often called "quantitative easing," or QE) to pump the banking system full of reserves and, hopefully, stimulate growth and mitigate any risk of deflation. When the disinflation trend resumed throughout 2010, the Fed initiated a second round of QE starting that November, and a third round began in September 2012.

Today the economy has recovered considerably; unemployment has finally fallen below 6 percent, and QE officially ended in October 2014. But inflation remains below the Fed's goal of 2 percent. The economy seems to have improved enough that most Fed policymakers have not expressed concern about continued disinflation or outright deflation. Instead, today's policy debate has centered on how quickly inflation is likely to return to the 2 percent goal — and accordingly, whether it is worth holding rates low for a lot longer, risking a little inflation to boost employment further. **EF**

ILLUSTRATION: TIMOTHY COOK

The Value of High School Employment

BY DAVID A. PRICE

Millions of American teens have gone through the coming-of-age ritual of running the fry station at a fast-food place, ringing up clothes at a store, or watching for trouble from the lifeguard's chair at the local pool. In return, they've gotten a modest wage, a chance for socializing, and work experience.

But the measured long-term economic benefits of that work experience have been going down sharply, according to a recent paper by Charles Baum of Middle Tennessee State University and Christopher Ruhm of the University of Virginia. While they don't come to firm conclusions about the cause of the trend, it may reflect broader changes in the labor market.

Most previous research has found that high school employment has a positive effect on future employment and wages. But in theory, it could equally have the effect of hurting a student's prospects by interfering with academic achievement. Baum and Ruhm seek to determine whether the net benefits of high school jobs changed over time by looking at data from the National Longitudinal Surveys of Youth, a set of long-term surveys taken by the Bureau of Labor Statistics. They analyze data on two sets of high school students approximately two decades apart: the survey's 1979 cohort, a sample of Americans who were high school students in the late 1970s and early 1980s, and its 1997 cohort, a sample of high school students in the late 1990s and early 2000s.

The researchers look at the wages of respondents at ages 23 to 29, or roughly five to 11 years out of high school, along with other measures of employment success. They take into account various family characteristics (such as parents' education) and characteristics of the individual's high school program. They control for individual ability using scores from armed-services tests administered to many high school students; for the 1997 cohort, they also use grades from eighth grade.

Their main finding is that over the period of the study, the predicted financial benefit from working 20 hours or more per week in the senior academic year of high school dropped almost by half. (They find no statistically significant effect from sophomore- or junior-year jobs.) For those who were students in the late 1970s and early 1980s, working in the senior year yielded an average long-term wage increase of 8.3 percent; for the students of the late 1990s and early 2000s, it was 4.4 percent. The change was felt most by women. "Work experience during the high school senior year continues to predict positive effects on labor market outcomes 5-11 years after the expected date of high school graduation," they conclude, "but these beneficial consequences have attenuated fairly dramatically over time."

Why the drop? Baum and Ruhm note that for the first group, high school work reduced the likelihood of later holding service jobs, which are typically lower-paid — while for the second group, it increased the likelihood of a service job. In addition, high school work was associated with less of an increase in adult work experience for the second group than for the first group. They estimate that at least five-eighths of the decline in the benefit of high school work is from these two effects, in roughly equal proportions.

They find that the returns to high school work were higher for the non-college-bound and declined the most for those students. For the non-college-bound, the students in the late 1970s and early 1980s who worked 20 hours or more per week in the senior year of high school saw an average increase in their future wages of around 13 percent, compared to 7 percent for those in the late 1990s and early 2000s. For the college bound, those in the first cohort saw an increase from high school work of 3 percent, while those in the second saw an increase of 2.2 percent.

The decline in the long-term payoff of high school employment has coincided with a decline in high school employment itself. Overall, the labor force participation rate of teens aged 16 to 19 dropped from 57.7 percent in January 1980 to 52.2 percent in January 2000. Beyond the study period, the rate continued to fall, reaching 34.6 percent in December 2014. The authors posit a number of possible reasons for the drop during the 2000s, including "increased competition for jobs from immigrants, former welfare recipients and other adults, as well as an increased emphasis on education and in the availability of financial aid for college."

With regard to the share of the declining benefit of high school work that their findings do not explain, the explanation could lie in the dramatic labor-market changes of the past several decades. These changes may have created forces influencing the benefits of high school work differently in the more recent period. Among the changes are the hollowing out of the labor market (that is, the decline that many believe has taken place in demand for middle-skilled labor) and the rising value of college degrees in the labor market. The authors suggest that the causes behind their findings, especially the concentrated effects on women, deserve closer study. **EF**

"The Changing Benefits of Early Work Experience." Charles L. Baum and Christopher J. Ruhm. National Bureau of Economic Research Working Paper No. 20413, August 2014.

When Economists Make Mistakes

BY JESSIE ROMERO

In 2010, Harvard University economists Carmen Reinhart (then at the University of Maryland) and Kenneth Rogoff published a paper concluding that economic growth stagnated when a country had very high public debt. "Growth in a Time of Debt" has been cited more than 250 times and was widely referenced by U.S. and European policymakers advocating austerity measures following the Great Recession.

So it made headlines in 2013 when Thomas Herndon, a graduate student at the University of Massachusetts Amherst, discovered a spreadsheet error in Reinhart and Rogoff's work — an error that Herndon, in a paper with his professors Michael Ash and Robert Pollin, said disproved the negative relationship between large debts and growth. (Reinhart and Rogoff have acknowledged the error but don't believe it alters the substance of their conclusions.)

"Growth in a Time of Debt" was published as part of the proceedings of the American Economic Association (AEA) 2010 annual meeting. While conference papers are reviewed by editors, they aren't subject to a formal peer review, the traditional imprimatur of academic publishing. But peer review isn't necessarily intended to catch simple data errors, and sometimes economics articles — including peer-reviewed ones — are later found to contain mistakes of one kind or another. Such incidents have raised the question: Who's checking?

To conduct a peer review, the editor of a journal asks other experts, known as referees, to read a paper to ensure that it's an important contribution to the field and that the conclusions are credible. Referees remain anonymous to the authors, so they feel free to offer their honest opinions.

Traditionally, social science journals also have maintained the authors' anonymity during the review process to prevent a referee from being swayed by an author's reputation (or lack thereof). But the wide dissemination of working papers online has made it easy to learn an author's name by entering the paper's title into a search engine. That led the AEA to drop such "double-blind" reviewing for all of its journals. An added benefit is that knowing who the authors are could help referees identify potential conflicts of interest.

Sometimes the system can be gamed. In July, SAGE Publications announced it was retracting 60 papers from the *Journal of Vibration and Control*, a well-regarded acoustics journal, after the discovery of a "peer-review ring." A scientist in Taiwan had created more than 100 fake identities in an online reviewing system, which authors then used to write favorable reviews of each other's — and sometimes their own — papers.

Nothing so nefarious is known to have happened in economics, but sometimes a discipline becomes clubby, says Penny Goldberg, an economist at Yale University and the editor of the *American Economic Review*. "Then you can end up in a bad equilibrium where people support each other and recommend acceptance even if the papers aren't very strong."

Authors aren't perfect, either. In a survey conducted by Sarah Necker of the Walter Eucken Institute in Germany, 2 percent of economists admitted to plagiarism, 3 percent admitted fabricating some data, and 7 percent admitted using tricks to increase the statistical validity of their work. Between one-fifth and one-third acknowledged practices such as selectively presenting findings in order to confirm their hypothesis or not citing works that refuted their argument. Referees and editors aren't necessarily on the lookout for such practices. "As an editor, my role is not to be the police," says Liran Einav of Stanford University. Einav is a co-editor of the journal *Econometrica* and an associate editor of several other journals. "If someone is doing something bad, hopefully the market is efficient enough that eventually they will get caught."

Editors also are under pressure to meet publication deadlines, as William Dewald, emeritus professor at Ohio State University and a former editor of the *Journal of Money, Credit, and Banking*, wrote in a chapter for the 2014 book *Secrets of Economic Editors*. As a result, "Some weaker papers slip through." And authors are under their own pressure to publish as many papers as possible, which may lead them to make mistakes.

When mistakes are found, it's often because someone tries to replicate the original study. Some top journals, including those published by the AEA, require authors to share their data and programs (with some exceptions for proprietary data), and many economists post data on their personal websites as well.

Some economists have argued that replications should be much more common in order to keep the profession honest. But there's the potential to overdo it. "Replication is very important and should be strongly encouraged, but we should realize if we spend too much time replicating other people's studies, it could generate a lot of noise," says Einav. "You could easily see how it gets into a spiral and researchers just spend all their time responding to the replicators. That's not very productive." Also, Einav adds, the mere possibility of replication might be enough to make economists extra careful.

Ultimately, the market is the final test. "If a question is interesting and policy relevant, then people will try to replicate the results," says Goldberg. "This is constructive — this is how science progresses." **EF**

Limiting Bank Size is not the Answer

BY LISA KENNEY

"Too Correlated to Fail." V.V. Chari and Christopher Phelan, Federal Reserve Bank of Minneapolis Economic Policy Paper No. 14-3, July 2014.

What's the best way to ensure that banks don't engage in the kinds of risky behavior that led to the bailouts of the 2007-2008 financial crisis? If you ask V.V. Chari and Christopher Phelan of the Minneapolis Fed, the answer is definitely not the conventional wisdom of limiting the size of individual banks.

Chari and Phelan argue, in a July 2014 policy paper titled "Too Correlated to Fail," that it is the risk profile of the entire banking system that matters, not the actions of a single large bank. They believe policies that focus on bank size are misguided and that bank regulation should be focused on "whether that particular bank's behavior is mitigating or aggravating the risk exposure of the entire system."

Two reasons that banks feel comfortable engaging in risky behavior are deposit insurance and government bailouts. These explicit protections (deposit insurance) and implicit protections (bailouts) are sources of moral hazard. Since someone else bears the cost of failure, creditors of banks are less concerned about the risk.

One of the most significant kinds of risk that banks engage in when they feel protected by bailouts is what the authors call "herding" — which in itself increases the likelihood of a crisis. Herding is when banks invest similarly, correlating their risks. When bailouts exist, it makes the most sense for banks to mimic one another, because if they fail together, they will all be bailed out together. If just one bank fails, there will not be a big enough crisis to warrant a bailout.

One example of this herding behavior is securitization, where banks sell claims to a pool of loans. The catch is that they sell these claims to other banks. So even though this action diversifies the portfolio of that one individual bank, it ensures that all banks hold very similar portfolios.

Given the propensity of banks to herd when bailouts exist, Chari and Phelan conclude that limits on bank size cannot effectively solve the moral hazard problem — a highly correlated system of small banks would fail as easily as a highly correlated system of large banks. Instead, regulators "need to understand what kinds of events are likely to threaten a significant fraction of the aggregate assets of the entire banking system."

"The Wage Growth Gap for Recent College Grads." Bart Hobijn and Leila Bengali, Federal Reserve Bank of San Francisco *Economic Letter* No. 2014-22, July 21, 2014.

In the wake of the Great Recession, wages for recent college graduates have remained flat while earnings for all full-time workers have increased at a steady pace. According to a recent San Francisco Fed *Economic Letter*, this data reveals a wage gap that is significantly larger and longer-lasting than wage gaps in previous recessions.

Why? Occupational distributions have remained stable between 2007 and 2014, so the gap can't be blamed on recent grads shifting to lower-wage fields. Instead, the authors find that the current wage gap is caused by limited wage growth across all occupations.

With this kind of widespread wage slowdown, the authors note that "potential graduates, seeing the difficulties faced by current graduates in finding any job…might interpret this as a signal that it is not worth going to college."

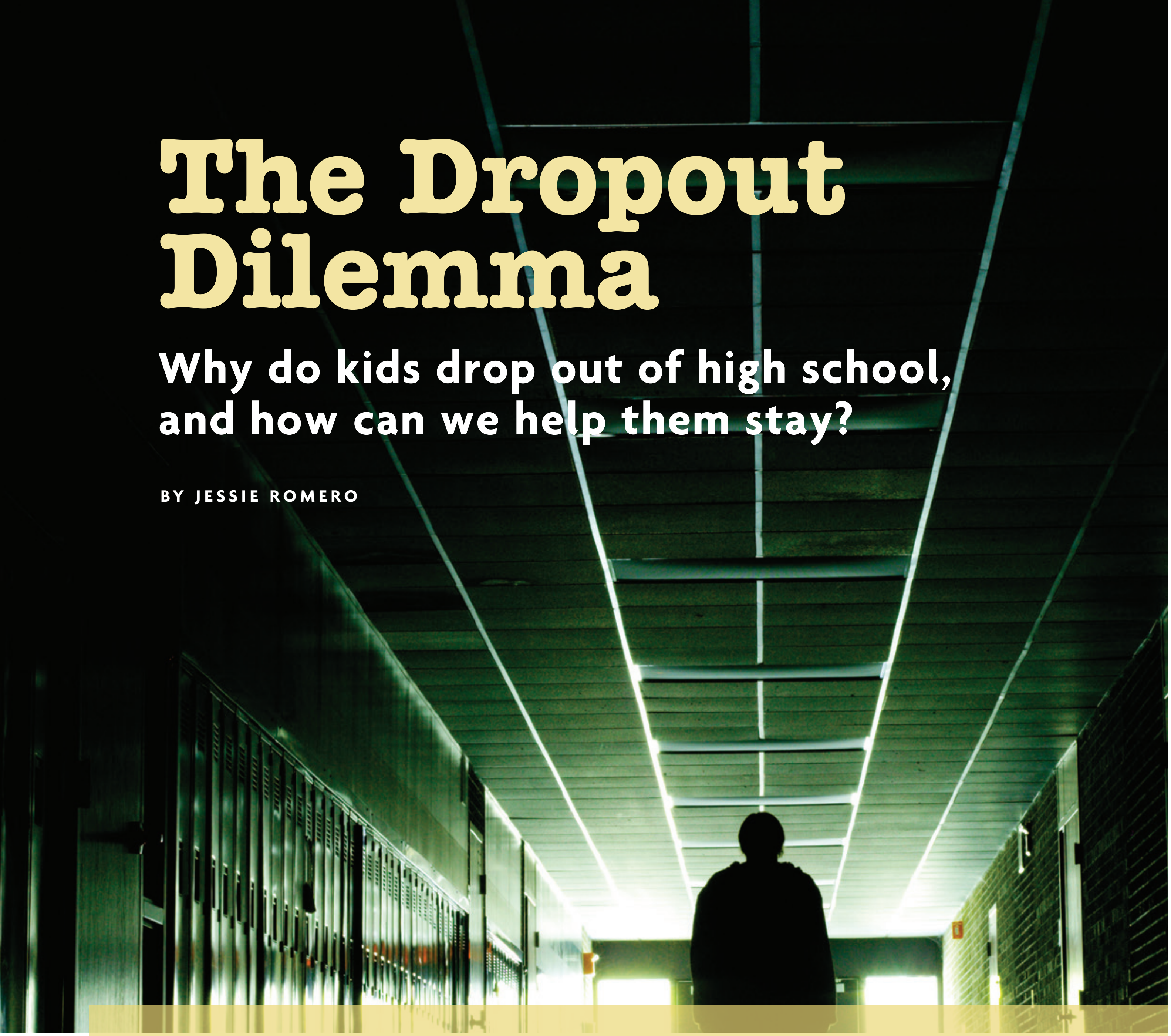
The false perception that there is now a low return on investment for a college education can hurt enrollment rates — which have remained stagnant in the United States over the last 20 years.

"Information Heterogeneity and Intended College Enrollment." Zachary Bleemer and Basit Zafar, Federal Reserve Bank of New York Staff Report No. 685, August 2014.

The possibility of such a misperception is explored in an August 2014 New York Fed Staff Report, which found that households generally underestimate the benefits and overestimate the costs of obtaining a college degree. The authors find that these beliefs directly influence whether a child in a household will attend college. This is particularly true in lower-income households as well as ones where the parents have not attended college themselves; the heads of these households tended to believe costs were much higher and benefits much lower than did higher-income, higher-educated households. The paper finds that "this is consistent with individuals' own experiences shaping their perceptions."

The authors believe information gaps may explain these misperceptions, as people tend to gather information from their local networks, which may be unreliable. In order to close these gaps, they suggest information campaigns that provide relevant information on the costs and benefits of a college education — particularly for disadvantaged households that have more skewed perceptions.

Expectations play a large role in decisionmaking, so ensuring individuals have the most accurate information about college is important for increasing enrollment rates. The benefits of a college degree still exist — despite the slow growth of wages for recent grads — as wage rates are still significantly higher for college graduates than for high school graduates. **EF**



The Dropout Dilemma

Why do kids drop out of high school, and how can we help them stay?

BY JESSIE ROMERO

Orangeburg Consolidated School District 5 serves about 7,000 students in rural South Carolina. More than one-quarter of its high school students fail to graduate within four years. Predominantly African-American, Orangeburg is not a wealthy area; median household income in the county is about $33,000, compared with $53,000 nationally, and the unemployment rate is 10.4 percent, nearly double the national average. Nearly 85 percent of the district's students qualify for free or reduced-price lunches, and many of their parents did not graduate from high school.

"Poverty is our biggest challenge," says Cynthia Wilson, the district superintendent. "We have students growing up in homes where no one is working, and it becomes a cycle we absolutely need to break by graduating more students."

Every September, teachers and volunteers visit the homes of students who haven't returned to school to find out why and to help them return; lots of kids in Orangeburg drop out because they don't have transportation, or they get pregnant, or they need to get a job. The district has started offering night classes for students who have children or have to work, and students also have the option of completing their coursework online — on laptops they've borrowed from the school, if necessary. Wilson and her staff are taking other steps to improve the district's academics, but they've learned that sometimes helping a kid to graduate takes place outside the traditional confines of school.

Is There a Dropout Crisis?

High school graduation rates in the United States rose rapidly throughout much of the 20th century. During the "high school movement," about 1910 to 1940, the share of the population with a diploma rose from just 9 percent to 51 percent. But around 1970, the averaged freshman graduation rate (AFGR), which measures the share of students who graduate within four years, began to decline, falling from 79 percent during the 1969-1970 school year to 71 percent by the 1995-1996 school year, where it remained until the early 2000s. This stagnation in graduation rates led to widespread concern about a "dropout crisis."

But the AFGR has improved over the past decade, reaching 81 percent during the 2011-2012 school year, the most recent year for which the Department of Education has published data. Another measure of high school graduation, the adjusted cohort graduation rate (ACGR), was 80 percent. (The Department of Education required states to report the ACGR beginning in 2010 to create more uniformity in state statistics and to better account for transfer students. Historical comparisons for this measure are not available.)

The improvement in the overall graduation rate obscures significant disparities by race and income. The ACGR for white students is 86 percent, compared with just 69 percent for black students and 73 percent for Hispanic students. Minority students also are disproportionately likely to attend a "dropout factory," which researchers have defined as schools where fewer than 60 percent of freshmen make it to senior year: 23 percent of black students attend such a school, while only 5 percent of white students do. The dropout rate for students from families in the lowest income quintile is four times higher than for those in the highest income quintile.

There is also significant regional variation; states with low graduation rates tend to be in the South and the West. In the Fifth District, Maryland and Virginia have the highest graduation rates, with ACGRs of about 85 percent. Behind them are North Carolina, with an 83 percent graduation rate; West Virginia, with 81 percent; and South Carolina, with 78 percent. Washington, D.C., has the lowest graduation rate in the nation: Just 62 percent of D.C. high school students earn a diploma within four years.

Despite the improvement in the national graduation rate, "crisis" is still the term many people use to describe the dropout situation. "People are severely disadvantaged in our society if they don't have a high school diploma," says Russell Rumberger, a professor of education at the University of California, Santa Barbara. "One out of every five kids isn't graduating. You could argue that any number of kids dropping out of school is still a crisis."

Why Graduating Matters

Several decades ago, the disadvantage wasn't as severe. "If this were the 1968 economy, we wouldn't worry nearly so much," says Richard Murnane, an economist and professor of education at Harvard University. "There were a lot of jobs in manufacturing then. They were hard work and you got dirty, but with the right union, they paid a good wage."

But as changes in the economy have increased the demand for workers with more education, differences in outcomes have become stark. The wage gap between workers with and without a high school diploma has increased substantially since 1970; over a lifetime, terminal high school graduates (that is, those who don't go on to earn college degrees) earn as much as $322,000 more than dropouts, according to a 2006 study by Henry Levin and Peter Muennig of Columbia University, Clive Belfield of Queens College (part of the City University of New York), and Cecilia Rouse of Princeton University. Dropouts also are less likely to be employed. The peak unemployment rate for people without a high school diploma following the Great Recession was 15.8 percent, compared with 11 percent for those with only a high school diploma. (Unemployment for college graduates peaked at just 5 percent.) Today, the rate for dropouts is still about 2 percentage points higher.

The differences between graduates and dropouts spill far beyond the labor market. Not surprisingly, high school dropouts are much more likely to live in poverty, and they also have much worse health outcomes. High school dropouts are more likely to suffer from cancer, lung disease, diabetes, and cardiovascular disease, and on average their life expectancy is nine years shorter than high school graduates.

High school dropouts also have a much higher probability of ending up in prison or jail. Nearly 80 percent of all prisoners are high school dropouts or recipients of the General Educational Development (GED) credential. (More than half of inmates with a GED earned it while incarcerated.) About 41 percent of all inmates have no high school credential at all.

The high costs to the individual of dropping out translate into high costs for society as a whole. Research by Lance Lochner of the University of Western Ontario and Enrico Moretti of the University of California, Berkeley found that a 1 percent increase in the high school graduation rate for males could save $1.4 billion in criminal justice costs, or $2,100

> **"Low-income kids start kindergarten way behind. That's a huge handicap that needs to be addressed."**
>
> **— Richard Murnane, Harvard University**

per additional male high school graduate. Other research estimates savings as high as $26,600 per additional graduate.

High school dropouts also generate significantly less tax revenue than high school graduates, while at the same time they are more likely to receive taxpayer-funded benefits such as cash welfare, food stamps, and Medicaid. While the costs vary by race and gender, Levin and his co-authors found that across all demographic categories the public health costs of a high school dropout are more than twice the cost of a graduate. In total, the researchers estimated that each additional high school graduate could result in public savings of more than $200,000, although they noted that their calculations do not include the costs of educational interventions to increase the number of graduates.

Raising the high school graduation rate could have economic benefits beyond saving the public money. In many models of economic growth, the human capital of the workforce is a key variable. That's because a better-educated workforce generates new ideas and can make more productive use of new technologies; more education thus equals more growth. Although this connection has been difficult to prove empirically, many researchers have concluded that the rapid growth in educational achievement in the United States during the 20th century, particularly the dramatic increase in high school education in the first half of the century, was a major contributor to the country's economic advances.

Is Dropping Out Irrational?

Economic models generally assume that people are rational, carefully weighing the costs and benefits of an action before making a decision. So given the large returns to education and the poor outcomes for workers without a high school diploma, why would anyone drop out?

Part of the answer might simply be that teenagers aren't rational. A growing body of neurological research has found that adolescents have less mature brains than adults, which contributes to more sensation-seeking and risky behavior. But while teenagers might be more impulsive than adults, they don't generally wake up one morning and suddenly decide to quit school; instead, there are a multitude of factors that over time could lead a student to decide the costs of staying in school outweigh the benefits.

One factor could be that teenagers place less value on the future benefits of an education. Research has found that "time preference," or the value a person places on rewards today versus rewards tomorrow, varies with age. Teenagers are more likely to prefer gratification today.

Students also might not expect the benefits of staying in school to be very large. Many low-achieving students wind up being held back a grade; for these students, staying enrolled in school doesn't actually translate into greater educational attainment. In a study of students in Massachusetts, Murnane found that only 35 percent of students who were held back in ninth grade graduated within six years; the students who dropped out might have perceived that staying in school was unlikely to result in a diploma. The same calculation likely applies to students who live in states where exit exams are required for graduation, as is now the case in about half the country. Students who don't expect to pass the exam have little incentive to remain in school. Multiple studies suggest that exit exams reduce high school graduation rates, particularly for low-income and minority students.

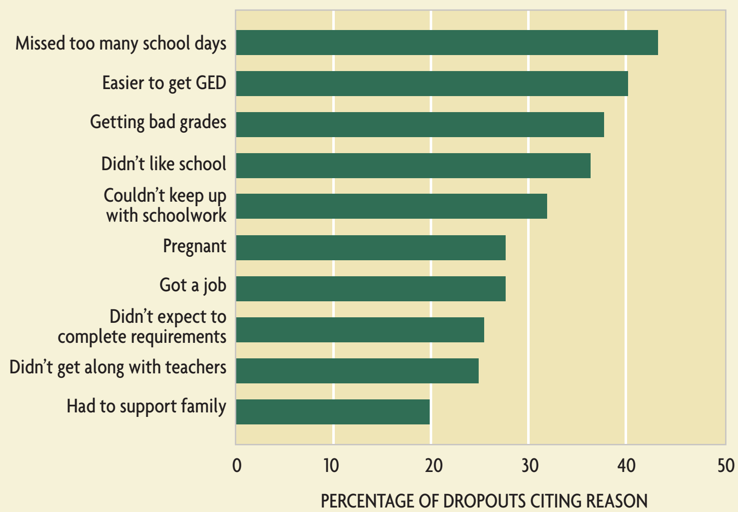
In April, South Carolina eliminated its exit exam requirement for future students and is allowing students who failed the exam in the past to apply retroactively for a diploma. That's a benefit for those students, but it poses challenges for educators. "If someone without a high school diploma has the opportunity to make $10,000 more by getting a diploma, you want them to have that opportunity," Wilson says. "But we have to find our ways to keep our students motivated to do more than just get by. We can't say anymore, 'You really have to learn this because you have to pass that test!'" In addition, exit exams were introduced to ensure that high school graduates had achieved a certain threshold of knowledge. Eliminating them poses the risk that graduates won't be adequately prepared for the workforce or for postsecondary education.

The increasing focus on college attendance at many high schools might also encourage kids to drop out. Students who aren't academically prepared for college or who don't want to attend may see little value in finishing high school if they perceive a diploma solely as a stepping stone to college. The focus on college prep might also contribute to the fact that many dropouts report feeling bored and disengaged from school.

For some students, the opportunity cost of attending school — the value of the other ways they could use their time — may be quite high. In a survey of high school students conducted by the Department of Education, 28 percent of female students said they dropped out because they were pregnant, 28 percent of all students quit school because they got a job, and 20 percent needed to support their family. (See chart.)

Getting bad grades or getting pregnant might be the most direct cause of a student's decision to drop out, but research suggests the reasons run deeper. Zvi Eckstein of the Interdisciplinary Center Herzliya (Israel) and Kenneth Wolpin of the University of Pennsylvania and Rice University estimated a model of high school attendance based on data from a national longitudinal survey and concluded that students who drop out of high school are different even before starting high school. In particular, dropouts are less prepared

Most Common Reasons for Dropping Out



NOTE: Percentages do not sum to 100 because students could list more than one response. The percent of students citing pregnancy refers to female students only.
SOURCE: Dalton, Glennie, Ingels, and Wirt (2009); Department of Education's Educational Longitudinal Study of 2002

and less motivated for school and have lower expectations about the eventual rewards of graduation.

Eckstein and Wolpin's conclusions are supported by a large body of research on the GED. Introduced in 1942 for returning World War II veterans, by 2008 the GED accounted for 12 percent of all the high school credentials issued in the United States. Although GED earners have demonstrated the same knowledge as high school graduates, they don't do much better than dropouts in the labor market and they're about as likely to end up in poverty or in prison. Research by James Heckman of the University of Chicago and other economists suggests this is because they lack the noncognitive skills, such as perseverance and motivation, that would have enabled them to graduate from high school. These are the same skills that contribute to success in the workplace.

The finding that students who drop out of high school have different initial traits than those who graduate raises an important question: Why are these students different? The answer may have its roots very early in life.

A large body of research has found that the early mastery of basic emotional, social, and other noncognitive skills lays the foundation for learning more complex cognitive skills later in life. Once kids fall behind, it's very hard to catch up; cognitive and behavioral tests as early as age 5 can predict the likelihood that a child will graduate from high school. Research also shows that poor and minority children (groups that tend to overlap) are much more likely to fall behind. In part, their parents might not have the time or money to invest in early childhood education. And the community as a whole might not offer the same resources as higher-income communities, such as parks and playgrounds, after-school programs, and positive role models.

The result is kids arriving at school without the academic or social skills they need to make progress toward graduation. About one-third of the students in the Department of Education survey said they dropped out because they couldn't keep up with the schoolwork, and nearly half of the students in a survey commissioned by the Bill and Melinda Gates Foundation said they were unprepared when they entered high school. That lack of preparation begins early. "Low-income kids start kindergarten way behind. That's a huge handicap that needs to be addressed," says Murnane.

Changing the Calculation

What can educators do to tip the cost-benefit calculation in favor of staying in school? Evidence on what actually works is thin, in part because it's difficult to make school reforms that lend themselves to rigorous impact evaluations. But there are some strategies that appear to be effective.

Sometimes, all a student needs is to attend a better high school. Several studies have shown that black students' graduation rates increased as a result of court-ordered desegregation in the 1960s, 1970s, and 1980s, which sent black students to higher-quality schools. Conversely, graduation rates decreased with the end of court-mandated desegregation in Northern school districts. A study of the Charlotte-Mecklenburg, N.C., schools found that graduation rates increased by 9 percentage points for low-income and minority students who won a lottery to attend a higher-performing high school.

Of course, it's not mathematically possible for every student to move to a better high school. One approach to reforming existing schools is the "Talent Development" model, which groups incoming ninth graders into small "learning communities" taught by the same four or five teachers. The students take extra English and math classes and participate in a seminar focused on study skills and personal habits. After freshman year, the students study in career academies that are intended to combine academics with the students' interests. An impact evaluation of the first two schools to implement the program, both in Philadelphia, found that on-time graduation increased by 8 percentage points.

As the inclusion of career academies in the Talent Development model suggests, more career and technical education could help make school more relevant for some students and teach them about post-high school options other than college. "Career and technical education can provide a new way of teaching core academic skills using a pedagogy that is much more project-oriented and hands-on and is of interest to kids who don't pay attention to traditional college preparatory approaches," says Murnane.

Orangeburg recently opened up its career certificate programs to students attending "alternative school," a separate school for kids with disciplinary problems. Previously, students were required to earn re-admittance to their home schools before they could apply for the programs. "For a large number of our dropouts, alternative school was their last stop," says Wilson. "But working toward a certificate is a great motivator" to stay in school.

Research also suggests that students are more engaged and have higher achievement when they attend small schools, generally defined as fewer than 400 students. The average high school in the United States has about 850 students; in many states the average is more than 1,000 students. Beginning in 2002, New York City closed about 20 large low-performing schools and replaced them with more than 200 small schools. A study of 105 of these schools found that the four-year graduation rate increased from 59 percent to 68 percent; the effect on graduation rates was especially strong for disadvantaged students.

Many states also are experimenting with charter schools. At least 42 states and Washington, D.C., now allow charter schools, and the number of students enrolled in them increased 80 percent between 2009 and 2013, although they still serve only about 4 percent of the country's schoolchildren. Overall, according to research directed by Margaret Raymond at Stanford University, students in charter schools show more improvement in reading than students in traditional public schools and do at least as well in math. While Raymond's research doesn't study the effect on graduation rates specifically, to the extent that students drop out because they are not academically prepared, charter schools might help. Of course, not all charter schools are high quality. "There are some terrific ones, for sure," says Murnane. "But there are many that are not so good."

But even the most effective programs have relatively modest results. More than half of the students who participated in a Talent Development program in Philadelphia still failed to graduate, and the graduation rate after New York City's reform was still well below the national average. The lesson to take away from high school reforms may be that high school reform isn't enough.

A Lifetime Approach

Given the importance of early educational experiences, sending children to preschool might be one of the best ways to increase the likelihood they eventually graduate from high school. Multiple studies of high-quality early education programs, such as the Perry Preschool study in Ypsilanti, Mich., and the Abecedarian project in North Carolina, have shown that they have substantial long-term effects for low-income children — not only higher academic achievement and graduation rates, but also higher earnings as adults, reduced criminality, and lower rates of teen pregnancy. (See "Babies, Brains, and Abilities," *Region Focus*, Fourth Quarter 2011.) Early childhood education isn't a cure-all, however. "It's not a substitute for high school reform," says Murnane. "But it would sure make high school reform easier."

One risk is that the academic gains from preschool are erased if a child subsequently attends a low-quality elementary school. That points to the need for interventions at every level of schooling. And as Rumberger notes, "There are some populations where we need to increase the graduation rate by 20 or 30 percentage points. We have evidence of successful interventions in preschool, in elementary school, in middle school, and in high school. If we really want to tackle this problem, we have to compound these interventions."

Tackling the problem may also mean addressing the challenges children face outside of school. While students drop out of school for many reasons, poverty is the common denominator for many of them; not only are poor children more likely to be academically unprepared, but they're also more likely to get sick, to lack parental support, or to have children themselves. "Those are incredible burdens to overcome," says Rumberger. "To the extent we don't improve economic conditions among certain populations in our country, we're unlikely to improve the graduation rate sufficiently."

Not everyone agrees that better economic conditions are a prerequisite for increasing academic achievement. There is considerable debate, for example, about the efficacy of the Harlem Children's Zone in New York, which combines charter schools with community services in an effort to address the panoply of problems facing poor children and their families. Students who attend the Zone's charter schools show significant academic improvement, but it's unclear if that's a result of the schools alone or if the other services are an essential component. Still, there is evidence that assistance for low-income families, such as food stamps or the Earned Income Tax Credit, has positive long-term effects on their children. "We have to do a better job of supporting low-income families," says Murnane. "It's a necessary condition for giving kids in these families a better shot at a good life." **EF**

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How the Geography of Jobs Affects Unemployment

Why job accessibility is limited for some groups and what it means for anti-poverty policies

BY FRANK MURACA

In postwar America, many families moved away from urban centers into the rapidly developing suburbs. Culturally, these new communities were associated with economic opportunity, signifying middle-class values and upward mobility.

The path to economic mobility is no longer a highway leading from downtown to the suburbs. For example, the number of suburban residents in poverty may now exceed the number of urban-dwellers in poverty. According to the Brookings Institution, suburban poverty rose from 10 million in 2000 to 16.5 million in 2012, compared to an increase in urban poverty from 10.4 million to 13.5 million over the same period (see chart).

This geographic picture of opportunity and wealth adds complexity to questions about whether unfortunate circumstances, such as poverty, might be determined in part by where someone lives. To be sure, where one chooses to live is about more than job opportunities, which are weighed against housing options, commuting costs, lifestyle choice, social networks, and more. In equilibrium, housing prices and wages should make households indifferent among locations. In other words, some people might choose to live far away from jobs, possibly accepting a costlier commute, because they are "compensated" by factors such as lower housing costs.

But the places where people are distributed by market forces seem to lead, in some cases, to worse labor market outcomes. An explanation of those outcomes was first identified in 1968 as an account of how black unemployment rates were elevated by discriminatory housing policies. That explanation, commonly known as the "spatial mismatch hypothesis," posits constraints on where people are able to live.

The scope of spatial mismatch research has broadened beyond discrimination. Researchers seek to understand the constraints that certain households face when deciding where to live, helping to explain phenomena like prolonged unemployment, lower wages, longer commutes, and geographically concentrated poverty. This research may shed some light on how anti-poverty programs could take geography into account to be more effective.

Why Geography Matters

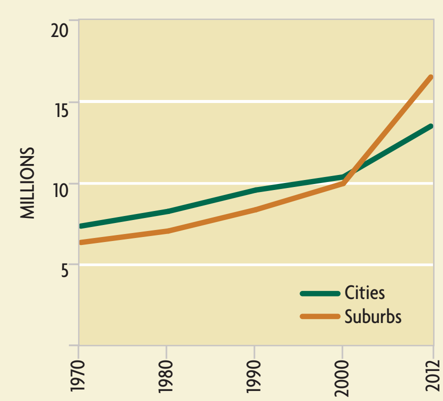
During the 2000s and 2010s, jobs have been moving out of the city center. A Brookings Institution report in 2009 by Elizabeth Kneebone found that, between 1998 and 2006, 95 out of 98 metro areas saw a decrease in the share of jobs located within three miles of downtown. As of 2006, 45.1 percent of employees in the largest 98 metro areas worked more than 10 miles away from the urban center, compared with only 21.3 percent who worked within three miles of downtown. Kneebone concluded that there has been a trend of job decentralization regardless of whether a community has seen economic growth or stagnation.

"Job decentralization trends do not move in lock-step with the economic cycle; jobs continued to shift towards the fringe in almost every major metro area, regardless of overarching economic circumstances between 1998 and 2006," wrote Kneebone. "Therefore, though the current downturn [in 2009] may slow the long-term trend, it is unlikely on its own to reverse the patterns documented here."

A separate 2010 Brookings report by Steven Raphael, a public policy professor at the University of California, Berkeley, and Michael Stoll, a public policy professor at the University of California, Los Angeles, concluded that population and employment decentralization go hand in hand: People and jobs tend to follow each other. The degree to which this relationship holds is different for each demographic group, however. The tie between population and employment decentralization appears to be weakest for minority groups, with poor blacks being the least likely to follow jobs out into the suburbs. Additionally, poor minorities who do move out to the suburbs are more likely to live away from job-rich areas. Raphael and Stoll found that 72 percent of suburban whites lived in job-rich communities, while only 63 percent of blacks and 54 percent of Hispanics lived in such areas.

The magnitude of these correlations across demographic groups is far from certain, especially when considering the effect that the 2007-2009 recession has had on residential choices.

Poor Populations in Cities and Suburbs, 1970-2012



NOTE: Covers 95 large metro areas
SOURCE: Brookings Institution analysis of Decennial Census and American Community Survey data

But they are curious in light of the fact that unemployment rates also tend to be higher for these seemingly less mobile groups. Some minority groups have long had higher unemployment rates than whites — a pattern that continues today — with 4.8 percent of white workers unemployed as of December 2014 compared with roughly 6.5 percent of Hispanics and 10.4 percent of blacks.

The Spatial Mismatch Hypothesis

In 1968, John Kain, then an economist at Harvard University, was one of the first economists to draw a relationship between the geography of jobs and unemployment. Prior to his research, some economists had tried to measure the effect of discrimination on unemployment for blacks while others wanted to know the extent of racial discrimination in the housing market. Kain published an article in the *Quarterly Journal of Economics* titled "Housing Segregation, Negro Employment, and Metropolitan Decentralization," in which he was one of the first to suggest that there could be a relationship between the two issues. "Possible interactions between housing segregation and nonwhite employment and unemployment have been all but ignored," he wrote. Kain hypothesized that black unemployment may be affected by the high cost of reaching jobs outside residential areas, lower quality information networks, housing discrimination, and possible discrimination by employers outside black neighborhoods.

Spatial mismatch received more attention through the latter half of the 20th century with the rising social and economic problems of urban cores, and it has received renewed emphasis recently as jobs have migrated across the urban-suburban spectrum.

Measuring spatial mismatch, however, is not an easy task. Kain and other economists who have looked into this question have pointed to a number of challenges in trying to measure how geography plays into unemployment when there are many other non-geographical factors that go into hiring an employee. For example, residents of a community that is distant from a job-rich area might also have less education or job skills. Where does the impact of education stop and distance begin?

Moreover, we don't necessarily know where a given person's potential jobs are located. "One challenge in teasing out the relationship between job geography and individual labor market outcomes is that it is intrinsically difficult to characterize the relevant spatial distribution of job opportunities of an individual," says Fredrik Andersson, an economist in the U.S. Treasury Department's Office of the Comptroller of the Currency who has studied the issue.

Andersson is a co-author of a 2014 paper that attempts to control for many of these underlying variables by using recently released data on mass layoffs in certain communities. The conclusion of that research was that even while controlling for several different characteristics, including job search characteristics, residential choice, and commute times, prospective employees who live far from flourishing job markets have a much harder time finding work when compared to those who are in close proximity to those job markets. Black workers were found to be 71 percent more sensitive to the distance of jobs than whites, and 35 percent more sensitive in finding a job that paid 90 percent of the earnings from their previous job. Though the extent to which certain groups are unable to follow jobs out into the suburbs is uncertain, enough evidence exists to ask why minorities, on average, do not relocate to job-rich communities to the extent whites have.

What Drives Spatial Mismatch?

While economists like Andersson have provided more evidence for the existence of spatial mismatch, other researchers have tried to understand the specific barriers that restrict certain groups, particularly ethnic minorities, from relocating to job-rich communities.

One barrier is information. Economists have considered whether living in certain geographic locations can reduce one's information about possible job opportunities. Yves Zenou, an economist at Stockholm University, studied social networks in black communities that were geographically distant from job centers. Building on earlier research that studied networks and employment outcomes, Zenou concluded that minority communities have far less access to the kinds of relationships that lead to employment. Zenou found that ethnic communities relied more heavily on strong ties with those who are also more likely to be unemployed, and "it is therefore the separation in both the social and physical space that prevents ethnic minorities from finding a job."

Another barrier is access to credit. Richmond Fed economist Santiago Pinto, in a 2002 article, studied how financial constraints might limit mobility for those who wish to move to job-rich areas. His research showed that restrictions on borrowing were an important factor in how households decided to move, and that those barriers were blocking labor from following jobs into suburban communities.

"It is commonly thought that individuals have only limited opportunities to borrow against future labor income," Pinto says. "These constraints have consequences for moving decisions. This means that people who cannot borrow will be restricted in terms of their capability of changing residence location."

Not all economists are convinced that geography is central to the story of minority unemployment. In 2008, David Neumark, an economics professor at the University of California, Irvine, University of Maryland economics professor Judith Hellerstein, and Melissa McInerney, now a professor at the College of William & Mary, offered an alternative to the spatial mismatch hypothesis: "The problem is not a lack of jobs, per se, where blacks live, but a lack of jobs into which blacks are hired." They tested this hypothesis using data that compared the education levels needed for surrounding jobs and the education levels of workers in the local labor market. They found that black male employment was much more strongly associated with the density of jobs in which minorities had traditionally been employed than it was for whites.

The spatial mismatch hypothesis would predict the lower employment of blacks is attributed to the distance between available jobs and where blacks live. These researchers found that lower employment could be better explained by a lack of jobs that had historically been open to them. "Pure spatial mismatch is not an important component of lower black employment rates," they wrote. "Instead the spatial distribution of jobs available to blacks — or racial mismatch — appears to be much more important."

Of course, jobs are not the only drivers of residential choice. Andersson notes that the benefits of living closer to job-rich communities are dependent on the characteristics of the communities and individuals. "For instance, the boost in income from a low-paying job may not be sufficiently large for an unemployed worker if the job requires relocation to a more expensive community," Andersson says.

Policy Implications

In the years after the spatial mismatch hypothesis was proposed, most economists studying the issue have found a robust relationship between job location and labor market outcomes and economic well-being. The magnitude of that relationship is still widely contested, but economists generally agree that spatial mismatch exists and is driven by a number of factors, including differences in job prospect networks, access to loans, and transaction costs.

Researchers who have studied spatial mismatch have prescribed a number of policy solutions to improving employment outcomes for disadvantaged communities. The question for policymakers is how to weigh such programs against their costs.

For example, it may be desirable to attack some sources of spatial mismatch for social reasons. In part, that's what anti-discrimination laws do. Other causes of spatial mismatch may be cheap to reduce. For example, it may be relatively easy to improve the flow of information between communities, strengthening the network for employment knowledge.

Other proposed policies are more costly, making their net benefit less clear. Kneebone and Alan Berube of the Brookings Institution, in their 2013 book *Confronting Suburban Poverty in America*, argued that regional communities, both urban and suburban, should collaborate to develop ways of connecting high unemployment areas with high job density areas. Again, improving information could be a cheap way of doing so. More costly measures might include expanding public transportation networks to connect certain populations with jobs.

Since credit constraints have been a concern, some states have piloted voucher programs to help people relocate to neighborhoods with greater job prospects. Maryland's Live Near Your Work Program, launched in 1998, offered workers $3,000, funded equally by the state, the city, and the employer, toward the purchase of a house located within five miles of the person's workplace and within one of Maryland's targeted residential development zones. Surveys from participants showed shorter commute times and a switch to less costly commuting habits, such as walking to work. The program's funding ran out in 2002, but it survives in Baltimore, where as many as 200 people per year receive grants across nearly 85 participating employers. While the program benefited recipients, and may even have improved their labor prospects, it did so at a cost.

The tension of many programs countering spatial mismatch is that the costs of the effort are borne broadly but the benefits are enjoyed only by recipients. In that sense, spatial mismatch is largely a distributional consideration that policymakers have to evaluate like any other.

No matter the cost, what works for one area may not work for another. "From a theoretical standpoint, some local policies may serve as a coordination device that induces firms and individuals to locate in a specific area," Pinto says. "The literature is, however, inconclusive about which specific policies are effective and can achieve the desired objectives. The literature on downtown revitalization programs has faced similar issues. While some policies seem to work in attracting households back to downtown areas in some specific locations, the same policies have been unsuccessful elsewhere."

While it has been 46 years since Kain first highlighted the relationship between the geography of jobs and unemployment, many economists continue to debate the degree to which they are related, especially when considering specific demographic groups. Although there may be differences of opinion as to its magnitude, economists generally agree that spatial mismatch exists and is driven by a number of factors, including differences in job-related networks, access to loans, and transaction costs. Understanding the impact that residential location has on job availability may help policymakers find ways of limiting the barriers between affected communities and employment opportunities. **EF**

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RAISE THE WAGE?

Some argue that there's no downside to a higher minimum wage, but others say the poor would be hit hardest

BY WENDY MORRISON

Calls to raise the minimum wage can be found anywhere from political speeches to the lyrics of popular rap artist Kanye West. In the past few years, many efforts to raise the minimum wage have been made on the national, state, and even local level, including a drastic local minimum wage hike to $15 in Seattle, a bill to increase the minimum wage to $10.10 in Maryland, and an indexed $10.10 minimum wage proposal endorsed by the White House. Critics of the policy claim that economic theory clearly supports their position, while supporters claim that the empirical evidence is all over the map and point to numerous examples of research that seem to fly in the face of past theoretical conclusions about the minimum wage. If there are seemingly compelling theoretical and empirical justifications both for and against the minimum wage, who should policymakers listen to? Does a minimum wage make low-income workers, the group its proponents desire to help, better off, worse off, or some of each?

The Decline of the Historical Consensus

Until around 20 years ago, there was a substantial divide between public opinion and opinion within the economics profession on the minimum wage. While minimum wage laws have historically enjoyed a good degree of support among the public, dating back to the first minimum wage legislation following the Great Depression, there had been a longstanding consensus among economists that minimum wages have adverse effects on low-skilled employment. A 1979 *American Economic Review* study reported that 90 percent of academic economists believed that minimum wage policies generally cause higher unemployment among low-skilled workers. By 2000, however, only 73.5 percent of respondents to an update of the survey agreed wholly or partially with that claim.

The historical consensus that minimum wages cause unemployment stemmed from the conclusions of the textbook competitive labor market model, in which the minimum wage acts as a price floor. The price floor is set above the wage employers would be willing to pay to low-productivity workers like teenagers and the less educated, so the quantity demanded of these workers decreases. This view was famously articulated in Nobel Prize-winning economist George Stigler's seminal 1946 article, *The Economics of Minimum Wage Legislation*. Responding to the federal minimum wage proposal of 1938, Stigler argued that the legislation could reduce employment by as much as several hundred thousand workers.

Today, however, Stigler's view does not command the near-unanimous assent that it once did. In a 2006 survey of 102 studies on the minimum wage, economists David Neumark of the University of California, Irvine and William Wascher of the Federal Reserve Board of Governors noted that past estimates on employment elasticities — the percent change in employment corresponding to a unit change in the minimum wage — range from significantly negative to slightly positive. Neumark is quick to note, however, that "most of the evidence says there are disemployment effects" and that claiming the evidence is all over the map is misleading.

In their recent book *What Does the Minimum Wage Do?*, however, Dale Belman of Michigan State University and Paul Wolfson of Dartmouth College argued in a meta-analysis on the subject (that is, a study of studies) that "employment effects [of minimum-wage increases] are too modest to have meaningful consequences for public policy in the dynamically changing U.S. labor market," according to the book's website. Why have study results been so varied? Several explanations, both theoretical and empirical, have been offered. The current state of opinion among economists is unclear, and uncovering the root of the decline of the consensus is difficult. One likely factor, however, is the recent variation in state-level minimums and the opportunity such variation provides for new methods of comparative study.

Monopsony in the Labor Market

The work often considered as the beginning of the modern minimum wage debate is an oft-cited 1994 *American Economic Review* article, in which David Card of the University of California, Berkeley and Alan Krueger of Princeton University looked at the effects of minimum wage increases on fast-food workers in mid-Atlantic states and controversially found that the minimum wage seemed to increase, rather than decrease, employment. While publishing their paper, Card and Krueger had alleged a publication bias in the economics profession and suggested that some of the historical consensus about the minimum wage could be attributed to a predisposition on the part of scholars and editors toward favoring research that found significant negative effects over work that showed neutral or positive effects.

To explain the unconventionally positive employment effects they detected, Card and Krueger suggested that the labor market may not be as competitive as economists had previously thought and that one explanation might be a degree of "monopsony" in the market, a classic type of market failure. Just as firms may have monopoly power in markets where they are the sole seller of a good, firms may also have monopsony power in the labor market if they are effectively the sole buyer or employer.

In a competitive market, wages are determined by supply and demand, all firms pay the given competitive wage, and the cost at the margin of one extra worker is simply that wage. When firms are the sole buyer of labor, however, they have the ability and the motive both to pay wages that are too low given the productivity of their workforce and to restrict employment. The key is that a monopsonist's labor demand affects the market wage in a way that an individual competitive firm's demand doesn't — that is, they are price-setters, not price-takers.

In other words, if a monopsonist demands just one extra worker, she ends up increasing the market wage for all workers, as her demand *is* the market demand. In this way, the added cost of an extra worker *increases* for every worker hired, a phenomenon known as increasing marginal cost. The cost of one extra worker, or her cost at the margin, will not just be the added wage but the wage increase across her entire workforce. She will therefore under-employ as well as underpay.

By setting a minimum wage above what the monopsonist is paying, the government essentially makes the extra cost per worker the same for all workers, meaning the monopsonist's costs at the margin are constant instead of increasing with each added employee. Facing these constant marginal costs, the employer will increase her workforce in order to profit maximize. It follows, then, that a well-placed minimum wage could induce the monopsonist to both raise wages and hire more.

How plausible is it that monopsony actually exists in the low-wage labor market? On this question, economists disagree.

But how plausible is it that monopsony actually exists in the low-wage labor market? On this question, economists disagree. In a 2010 Princeton working paper, Orley Ashenfelter and Henry Farber of Princeton University and Michael Ransom of Brigham Young University argued that monopsony power is likely pervasive in labor markets. According to their paper, an example of a labor market monopsonist in practice would be a "'company town,' where a single employer dominates." Citing evidence that labor supply is inelastic — in other words, that workers are not highly responsive to changes in their wages — they argued that monopsonistic employers are able to use this inelasticity to their advantage and that the "allocative problems associated with monopsonistic exploitation are far from trivial."

Daniel Aaronson of the Federal Reserve Bank of Chicago, Eric French of the Federal Reserve Bank of Chicago and University College London, and James McDonald of the U.S. Department of Agriculture disagree. In a 2007 article in the *Journal of Human Resources*, they found that the evidence surrounding price changes after minimum wage hikes is inconsistent with the monopsony model. They reasoned that, if the minimum wage increases employment under the monopsony model, it should straightforwardly lead to increased production. This increase in supply should lead to lower prices for the good produced. "Because [monopsonists] will hire on more workers, they'll sell more hamburgers; because they sell more hamburgers, we thought the price should actually fall after a minimum wage hike," says French.

After examining the response of restaurant prices to increases in the minimum wage, however, they found that the opposite was true. Instead of falling, prices rose, a result consistent with the competitive model in which firms pass the extra labor costs on to consumers.

The Hungry Teenager Theory

Another explanation mentioned frequently in the media is the theory that increased wages for some workers stimulate demand for goods produced by low-income workers and offset or even reverse negative employment effects. In the academic literature, this theory has been referred to as the "hungry teenager" effect. The theory first appeared in a 1995 *Journal of Economic Literature* article by economist John Kennan of the University of Wisconsin-Madison, who argued that if a typical minimum-wage worker, such as a teenager, spent his extra wages on minimum-wage-produced goods, then the extra demand could offset any disemployment effects. That increased demand for minimum wage goods would raise their prices. French explains that according to this model, "Firms receive an increase in demand at the exact same time that they have to pay higher wages, which could seriously blunt the effect of higher wages in terms of how many workers a firm might have to shed."

One issue with the theory is that the income effect, the extra consumption spurred by an individual's rise in income, may be dominated by a substitution or price effect, in which a consumer substitutes a good in favor of others when the relative price of that good rises. Many low-income workers (in this example, teenagers) will have higher incomes as a result of the minimum wage, but goods produced by those workers (in this example, hamburgers) are also now more expensive, causing all consumers to buy fewer of them. "Minimum wage advocates always say those price effects won't have any effect on demand," Neumark observes, "but that raises the question of why companies wouldn't raise the price before the minimum wage goes up?"

Another issue, according to French, is that although "household spending actually does go up a lot amongst households with minimum wage workers after a minimum wage hike," goods like hamburgers that are produced by minimum wage workers just aren't that big a share of their budgets. "For that reason, an explanation that claims the minimum wage truly causes that big of an income effect," says French, "just doesn't really work."

In order for the theory to work, the benefit to low-income workers would need to be enormous, and low-income workers would need to spend all or almost all of those earnings exclusively on goods produced by other low-income workers. "It's certainly *possible* to write down a theoretical model in which the additional wages paid to low-wage workers increases consumption by so much that employment doesn't fall," says economist Jonathan Meer of Texas A&M. But "it seems extraordinarily unlikely — the assumptions necessary are practically laughable."

Substituting Low-Skilled Workers for High-Skilled

Another major theoretical explanation for the modest disemployment effects is known as labor-labor substitution. This theory speculates that firms respond to minimum wage hikes by adjusting the make-up of higher- and lower-skilled workers in their workforces. While readjusting a production process may be difficult in the short run, firms may be able to swap out low-skilled workers for higher-skilled workers more quickly as the former become comparatively more expensive.

If this were the case, we would expect to see decreased demand for lower-skilled workers and increased demand for higher-skilled workers in response to a minimum wage increase, meaning the effect on the overall level of employment would be muted — but the changes would hurt the low-skilled. Citing evidence from a 1995 NBER working paper he co-authored with William Wascher of the Federal Reserve Board of Governors, Neumark explains that it can be hard to tease out the effects on the low-skilled workers from the net effects on general employment; despite modest changes to net employment levels, "what happens to those you're most trying to help can still be pretty severe."

Data Problems?

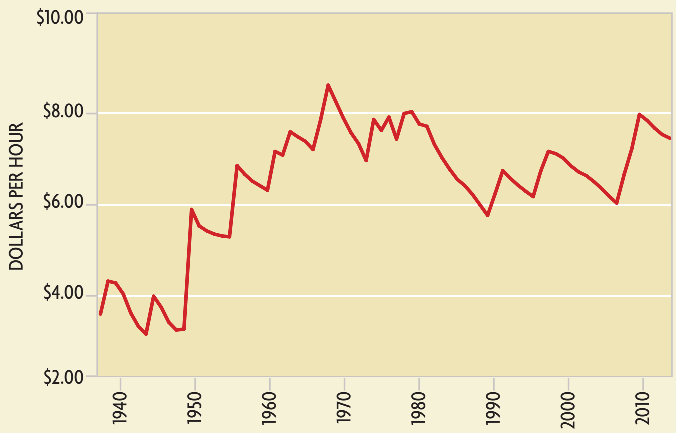
In addition to competing theories about the nature of the labor market, questions have arisen about the means of measuring and interpreting the data surrounding minimum wage and its effects. Several major empirical challenges may affect the ability of economists on both sides of the issue to get an accurate picture of the policy's consequences. One potential issue concerns inflation. Currently, almost four-fifths of all states and the federal government do not index their minimum wages to changing price levels, meaning that the real values of the minimums are eroded over time (see chart), until another one-time nominal increase changes their value. Meer says that even though the United States has not had significant inflation in recent years, the real effects of nominal minimum wage increases are washed away over time. "Over the course of the data we examine, we show that minimum wage increases are eroded fairly quickly relative to comparison states," he says.

As a result, economists turned to measuring the short-run effects of the policy on employment levels. If the effects of minimum wage policies were not immediate, however, then measuring only short-run adjustments of employment levels would not capture the true effect of the policy. Isaac Sorkin of the University of Michigan argued that production processes and labor demand may be slow to adjust to changing conditions in the labor market. He noted that while some argue that turnover among low-skilled workers is high, these frequent changes reflect changes in the identity of workers, not in total labor demand, which is likely much less flexible. Similarly, Meer and his Texas A&M colleague Jeremy West argued that because labor demand may be slow to adjust, we should expect to see the minimum wage affect job growth trends rather than change the absolute level of employment. In other words, the minimum wage may affect the number of future jobs created, rather than the current number of people employed.

Furthermore, many also control for the growth trends themselves in an attempt to account for any differences in employment levels that could be the result of trends before the policy was enacted. This means that much of the literature may be missing the true effects of the policy. To demonstrate this point, Meer and West simulated data in which the minimum wage has serious negative effects on employment growth but no immediate effect on employment levels and showed how measuring levels and controlling for trends in employment growth can mask serious long-run negative effects.

Why not simply control for trends in the period leading up to a minimum wage hike and then examine the differences

Federal Minimum Wage, 1938-2013 (in 2013 dollars)



NOTE: Inflation adjustment based on personal consumption expenditure (PCE) index.
SOURCE: Bureau of Economic Analysis; Pew Research Center; U.S. Department of Labor Wage and Hour Division

in trends instead of discrete levels afterward? "The issue is that there are so many changes and they are so frequent that there is no distinct 'pre' period," says Meer, making it very difficult to find an appropriate counterfactual. Indeed, the challenge of finding a counterfactual or control group for states that change their minimum wage policies appears to be a more general empirical problem. "We never really observe what would have happened otherwise," cautions Neumark, "and therefore we somehow have to proxy with the data, which is always a challenge."

Without an appropriate counterfactual or control group established, data can't give researchers reliable information about cause and effect. Earlier this year, for example, news sources across the country reported on data from the Bureau of Labor Statistics (BLS) that found a correlation between states that had raised their minimum wages and relatively faster job growth. In order to establish any causality, however, an economist would need a counterfactual comparison, and while the BLS data may be suggestive, it tells us nothing definitive about the effect of the minimum wage and could potentially be very misleading.

Is the Minimum Wage an Effective Policy Tool?

Finally, to the extent that the minimum wage is intended to act as an antipoverty policy, it is also important to consider who actually makes the minimum wage and how it affects the lowest-skilled, most vulnerable workers. There has been a good deal of controversy over competing demographic claims, as some commentators paint a picture of minimum wage workers as predominantly middle-class teenagers, while others respond that there are many minimum wage workers struggling to support families as the primary breadwinner.

Both arguments have a degree of truth to them. According to a report released by the BLS in March, about 2.5 percent of all workers in the United States make at or below the minimum wage. Many of them are full-time adult workers, the group most likely to be breadwinners. At the same time, however, minimum wage workers are disproportionately young and part time. Despite being only 19.9 percent of total wage workers, young workers (those under 25) are 50.4 percent of minimum wage workers. Despite being only 26.9 percent of total wage workers, 64.4 percent of minimum wage workers are part time.

Additionally, the minimum wage does not target the poor specifically, as almost a third of minimum wage workers — 29 percent — live in households making more than three times the poverty income threshold, while less than one-fifth of them live in households whose incomes fall at or below it, according to a 2014 Congressional Budget Office report. In this way, even without causing large unemployment effects, the minimum wage would remain a blunt and ineffective tool for fighting poverty. "The fundamental problem with using minimum wages to increase the incomes of poor and low-income families is that the policy targets low-wage workers, not low-income families, which are not necessarily the same," wrote Neumark.

When compared with more targeted policies like the Earned Income Tax Credit and other transfer programs aimed at aiding only the poor, the minimum wage becomes harder to justify as an antipoverty measure. Furthermore, if firms respond to minimum wage hikes by swapping out low-skilled workers for higher-skilled workers, minimum wage policies could be boosting the wages of slightly higher-skilled workers, while hurting the very group the policy was designed to support. In short, though the evidence on the effect of the minimum wage on overall employment levels is varied, it is still likely a problematic tool for improving the living standards of the poor. **EF**

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Free to Speculate

BY KARL RHODES

British frontier policy threatened Colonial land speculation on the eve of the American Revolution

As Britain's secretary of state for the Colonies, Wills Hill, the Earl of Hillsborough, vehemently opposed American settlement west of the Appalachian Mountains. As the Pennsylvania Provincial Assembly's agent in London, Benjamin Franklin enthusiastically advocated trans-Appalachian expansion. The two bitter enemies disagreed about many things, and British land policy in the Colonies was at or near the top of the list.

In the late 1760s, Franklin joined forces with Colonial land speculators who were asking King George's Privy Council to validate their claim on more than 2 million acres along the Ohio River. It was a large western land grab — even by Colonial American standards — and the speculators fully expected Hillsborough to object. But instead of opposing the deal, Hillsborough encouraged the speculators to "ask for more land," Franklin reported, "*enough to make a Province.*"

It was a trick. Hillsborough knew the Privy Council frowned upon large land grants, so he reasoned that a much bigger proposal would have a much smaller chance of winning approval. But Franklin and his partners turned Hillsborough's tactic against him. They increased their request to 20 million acres only after expanding their partnership to include well-connected British bankers and aristocrats, many of them Hillsborough's enemies. This Anglo-American alliance proposed a new colony called Vandalia, a name that Franklin recommended to honor the queen's purported Vandal ancestry. The new colony would have included nearly all of what is now West Virginia, most of eastern Kentucky, and a portion of southwest Virginia, according to a map in *Voyagers to the West* by Harvard historian Bernard Bailyn.

Vandalia is perhaps the most important and intriguing tale of Colonial land speculation in the years leading up to the American Revolution. It dramatically highlights the growing tension between expanding American ambition and constricting British control.

"Hillsborough on the one side and the Vandalia speculators on the other correctly understood the immensity of the stakes involved," Bailyn wrote. "The problems of emigration (population drain from the British Isles) and expansion into the American west had become dangerously inflamed, and the connection between them was beginning to be widely understood."

Among the motivating factors for the American Revolution, the conflict between Colonial land speculation and British frontier policy typically is overshadowed by the "taxation without representation" mantra. But in the 1760s and 1770s, Britain's attempts to curb settlement in the trans-Appalachian region became a major threat to the political rights and economic interests of colonists, including most of the men who would become America's Founding Fathers.

The Proposed Province

SOURCES: The boundaries of Vandalia are from *Voyagers to the West* by Bernard Bailyn. The position of the Proclamation Line is from the *Historical Atlas of West Virginia* by Frank Riddel.

Vandalia also illustrates the chaotic struggle to obtain and retain land in the trans-Appalachian region. Everyone from wealthy speculators and royal governors to poor settlers and squatters — not to mention the indigenous people who lived there — prized the fertile fields and navigable rivers between the Appalachian Mountains and the Mississippi River.

For the white settlers, there also was a fundamental connection between land and independence, explains François Furstenberg, associate professor of history at Johns Hopkins University. "One of the requirements for independence — as it was understood in the 18th century — was to be a land holder. If you did not hold land, you were not independent."

Colonial Land Claims

It may seem unpatriotic to portray the Founding Fathers as land speculators. The term carries a negative connotation because land transactions — particularly large, sight-unseen deals — are hotbeds for fraud. But land speculation is not necessarily a bad thing.

"Land speculators are basically taking risks that other people don't want to take," explains Farley Grubb, professor of economics at the University of Delaware and an expert on early American land policy. "People may hate speculators when they appear to make a lot of money without working for it. But they are taking risks that allow people to liquidate land claims into something of more immediate value."

In Colonial America, this risk-reward trade-off was highly favorable to land speculators who had the right political connections. "Their basic business model was to acquire land from a public entity (initially the crown) at low cost and gradually sell the land to smaller investors," wrote Harvard economist Edward Glaeser in a National Bureau of Economic Research working paper, "A Nation of Gamblers: Real Estate Speculation and American History." The profit potential could be staggering.

"America has always been a nation of real estate speculators," Glaeser noted. "Real estate is a particularly democratic asset that attracts the mighty, like George Washington and Benjamin Franklin, and the modest, like the small farmers in Kent, Connecticut, who were buying and selling land parcels rapidly in 1755."

The French and Indian War — the North American theater of the Seven Years' War — dammed up land speculation at the Appalachian Mountains, but the eviction of the French from the trans-Appalachian frontier in 1760 opened the flood gates. Many Indian nations continued to resist Colonial incursion, but the population of the 13 Colonies was increasing rapidly, and westward expansion quickly escalated into major land rushes across the mountains.

"The population movement into uncultivated and legally unclaimed land excited feverish ambitions in land speculators in every corner of the Anglo-American world," Bailyn wrote. "Among them were most of the officials of colonial America, a large phalanx of British politicians and merchants, and planters and merchants everywhere in America, who were determined to get a substantial piece of the pie."

The British government, however, was reluctant to condone settlement of the land it gained from the French and Indian War. Heavily in debt from many years of global conflict, the British had no desire to continue fighting Indian nations on America's western frontier. So the Privy Council issued the Royal Proclamation of 1763, which prohibited settlers from moving beyond the Appalachian Mountains.

Colonial land speculators, including Washington, viewed the proclamation as a temporary measure to appease the Indians. Speculators continued to acquire western land rights from Colonial governments and Indian representatives. And in some prominent cases — such as Vandalia — they continued to lobby the British imperial government to validate those claims.

"People assume that the colonists woke up every morning in the 1760s and 1770s and asked, 'When are we going to be free?' And that wasn't the case at all," says Alan Taylor, professor of history at the University of Virginia. "The leaders of the Colonies, in particular, were deeply enmeshed in the institutions of the empire, and they were doing their best to exploit those institutions for their own benefit. They rather belatedly discovered in 1774 and 1775 that those institutions were no longer working in their favor."

The Vandalia Deal

The origins of the proposed Vandalia colony go back to a group of merchants called "the suffering traders," who demanded restitution for supplies lost to indigenous combatants during the French and Indian War. A group of Philadelphia speculators, led by Samuel Wharton, bought out most of the suffering traders' claims and swapped them for a claim on more than 2 million acres along the Ohio River southwest of Fort Pitt (present day Pittsburgh).

Representatives of the Six Nations of the Iroquois ceded this land to Wharton's group via the Treaty of Fort Stanwix, which was negotiated by Sir William Johnson, one of two superintendents of Indian affairs in the Colonies. Johnson, who was in cahoots with Wharton's group, exceeded his authority by extending the Royal Proclamation Line farther than his instructions from Hillsborough allowed. The Iroquois representatives also exceeded their authority by selling land that did not belong to them. They lived mostly in what is now New York, while the land they were ceding was in the Ohio Valley, which was populated primarily by the Shawnee and the Delaware.

In addition to questions of authorization and outright fraud, many such treaties were indeterminate in other ways, Furstenberg says. "When Native Americans sell land, they might be selling certain rights to the land — the right to hunt or farm on the land — but they don't fundamentally sell the land. It's a nonsensical concept to them, but a land speculator might bribe somebody to sign a piece of paper and then go back to his Colonial government and say, 'I now have the rights.'"

That approach was not an option for Wharton's group, however, because Hillsborough quickly challenged the Treaty of Fort Stanwix. So Wharton set sail for London, where he and Franklin asked the Privy Council to confirm the deal. Hillsborough fended them off for three years, but then his "ask-for-more-land" trick backfired. The Privy Council *approved* Vandalia, and Hillsborough resigned rather than implement the council's decision. "He had serv'd us by the very means to destroy us, and tript up his own Heels in the Bargain," Franklin wrote. An ecstatic Wharton, expecting to be named the royal governor of Vandalia, told his associate in the Colonies to start making plans to build a suitable seat of power for him in the Ohio Valley.

Just when it looked like Vandalia was on the brink of success, the Boston Tea Party poisoned the pond. And in June 1774, passage of the Quebec Act, which extended the boundary of Quebec to the Ohio River, made it clear that Vandalia would never win final approval from the British government.

By promoting a gigantic Anglo-American land speculating company, Franklin tried to realign the economic interests of British and American leaders, Taylor concluded in his forthcoming book, *American Revolutions*. "Instead, the frustration of that model widened the gap between the elites on the two sides of the Atlantic, hastening the rupture of the empire."

Economics or Politics?

Was the American Revolution about economic interests or political rights? After a long debate, economic historians generally have concluded that it was mostly political, but the two categories of motivation are often intertwined, Grubb notes, especially in the long run.

"While the world's attention was drawn to the question of the political and constitutional relations between Britain and America, these other problems were developing quickly and dangerously," Bailyn wrote. "First was the question of controlling settlement in the great new western land acquisitions."

The Royal Proclamation of 1763 was Britain's initial attempt to do that, but the proclamation does not receive much attention in history books as a motivating factor of the American Revolution. Most economists and historians focus more on the Quebec Act, the Quartering Act, and the various tax acts, Grubb says. "You could look at the Quebec Act as a pure taking of assets. Did that spark enough indignation to make people go to war? It was certainly one of the things."

In October 1774, Richard Henry Lee, a prominent Virginia statesman, told the Continental Congress that the Quebec Act was "the worst grievance" suffered by the colonists, Taylor wrote. "As an avid land speculator, Lee understood that the imperial crisis pivoted on issues of land as well as taxes."

Taylor views taxes and frontier policy as "two faces of the same problem, which was Parliament trying to exert itself as the sovereign legislature for the entire empire. The colonists were thinking to themselves, 'We don't want to be taxed by Parliament, and we don't want this money coming out of our pockets to pay soldiers who are going to restrain our efforts to expand into Indian country.'"

As a motivating factor of the Revolution, Furstenberg sees British frontier policy as "just as important, if not more important, than the things we normally hear about — trade policy, the Navigation Acts, coercive acts, etc."

Grubb notes that pre-Revolutionary rioting generally was sparked by taxation issues, not frontier policy, but Taylor says revolutionaries may have emphasized taxation because it was a unifying issue, while land policy was potentially divisive among Colonial leaders. Wharton and Franklin's plans for Vandalia, for example, conflicted with land claims held by prominent land speculators from Virginia.

Land of the Free

Land policy was almost as divisive during the Revolution as it had been before the Revolution. The Vandalia group "was very likely behind the attempt in the summer of 1776 to create a fourteenth commonwealth to be known as Westsylvania," wrote historian Otis Rice in *The Allegheny Frontier*. "Powerful forces, however, opposed the creation of a new commonwealth. With the Declaration of Independence at hand and a need for unity among the thirteen states, Congress had no intention of antagonizing two of its most important commonwealths (Virginia and Pennsylvania) by depriving them of western lands to which they held claim."

In 1779, some of the Vandalia partners asked Congress to recognize their claims in the Ohio Valley, but Congress had plans of its own for the trans-Appalachian region. Early in the Revolution, the delegates had started discussing the sale of western land as their best option for financing the war. But for this strategy to work, states with huge western land claims — most notably Virginia — would have to cede much of that territory to the federal government.

"The Articles of Confederation, which they were operating under, didn't get ratified until 1780, because Maryland, which had no claims to western land, said, 'We won't ratify this until you solve this problem,'" Grubb says. "I think Virginia was persuaded by its neighbor."

From 1781 through 1802, Virginia and six other states ceded 222 million acres of potentially salable land extending west to the Mississippi River, north to the Great Lakes, and south to Florida. "The U.S. Federal Government," Grubb says, "was born land rich." **EF**

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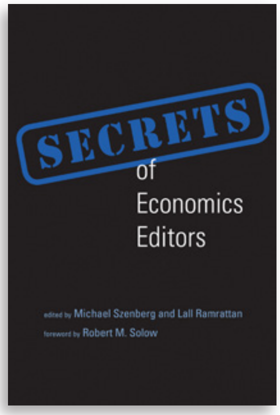
Publish or Perish



SECRETS OF ECONOMICS EDITORS
EDITED BY MICHAEL SZENBERG AND LALL RAMRATTAN
CAMBRIDGE, MASS.: THE MIT PRESS, 2014, 408 PAGES

REVIEWED BY RENEE HALTOM

Though economics blogs may be gaining readers, journals remain at the center of the profession. Publication in a top journal is a seal of approval that tells consumers of economics research where to direct their attention. It can bring visibility to a rising star and signal a veteran economist's continued relevance. Publications and citation counts are still the dominant way of measuring an economist's productivity for purposes of establishing tenure or promotions. And for future researchers, the profession's more than 1,000 journals catalog what the profession knew at a point in time.

Therefore, the editors of economics journals wield considerable power. They assign referees and make the final judgment on whether a paper is accepted. They keep referees on schedule and oversee the revision process. In doing all this, they set the tone for the journal and, article by article, help adjudicate scientific advancement itself.

Secrets of Economics Editors explores this vital function. The book features two dozen essays from current and past journal editors, ranging from top general-interest journals to regional and subfield publications. The contributors cover everything from how journals deal with plagiarism and errors — both reasonably rare problems — to competition within the publication industry and the persistent dominance of the highest-ranked journals.

Arguably the most important question about academic publishing is whether journals truly encourage and publish the best research. Opinions on this question differ, but the essays provide some of their most enlightening insights into the value and role of economics journals via anecdotes of the article review process itself, the topic to which the book devotes most of its pages. These stories convey both the subjectivity of the process and how seriously editors treat it.

For example, one of the editor's first and most important tasks is selecting referees, typically one to three per paper. The choice weighs depth and breadth, both of which are important but in different measures based on the aim of the journal. For a paper in a narrow subfield, such as neuroeconomics, it can actually be an asset to select a referee in a different field entirely since, if they are unconvinced by a paper's argument or importance, the median reader is likely to be too. In that sense, "the referee is always right," notes John Pencavel, who edited the generalist *Journal of Economic Literature*.

At the same time, referees are not immune to bias, and personalities matter a great deal. Campbell Harvey, former editor of the *Journal of Finance*, recalls keeping detailed records on past referees' timeliness, quality, and even specializations — asset pricing and corporate finance theorists are tougher reviewers, he reports — to aid both his referee-selection process and his interpretation of their reports.

Some editors have experimented with ways of speeding up the profession's notoriously slow response times — authors must sometimes wait a year or longer for a decision — often by finding faster ways of plucking unpromising papers out of the process. Some allow authors to forgo the "revise and resubmit" option in favor of a binary "accept" or "reject," which both promises a faster review and encourages authors to submit a more complete draft. Other editors issue "desk rejections," the practice of flatly denying a paper without consulting referees. Though authors in such instances bemoan the loss of a referee's feedback and are more likely to protest the decision, several of the book's editors maintain that their responsibility is to the journal and not to its aspiring contributors.

Given the diversity across journals in focus and practice, perhaps the only universal fact about editing is that it is not for the faint of heart. The sheer volume of submissions — more than 1,000 per year at some top journals — is both daunting and ensures a very low acceptance rate. R. Preston McAfee, formerly of *American Economic Review* and *Economic Inquiry*, estimates having rejected 2,500 papers in his career while accepting only 200. "Fortunately," he writes, "there is some duplication across authors, so I have made only around 1,800 enemies."

Also daunting is the responsibility of balancing decisiveness with an open mind. Authors and editors alike worry that journals "play it safe" by bypassing innovative but risky work in favor of marginal technical accomplishments on an established topic, which can ingrain mainstream thinking. At the same time, some infamous rejections — such as the 1970 "The Market for Lemons" paper that largely won George Akerlof the Nobel Prize — continue to haunt editors. (Perhaps worse, notes McAfee, Akerlof received three confidently smug rejection letters, providing an additional lesson in the wrong way to write them.) Fortunately, most editors report relatively few regrets.

Overall, the book provides outsiders with a rare glimpse into what is arguably still the primary venue of progress in the economics profession. The audience for such seeming minutiae may not be immediately obvious, but as Nobel Prize winner Robert Solow points out in his foreword, it includes anyone who has ever submitted to, been published in, or read an economics journal. In other words, just about the entire profession. **EF**

The Rising Tide of Large Ships

BY JAMIE FEIK AND ANN MACHERAS

In 1988, a new class of container ships, the American President Lines (APL) C-10, came on the market — the first class of ships that was too large to pass through the Panama Canal. Eighteen years later, in 2006, the Panama Canal Authority began a multiyear project to expand the canal so that these and other large ships will be able to make the passage between the Atlantic and Pacific oceans.

The expansion of the Panama Canal, expected to reach completion in late 2015, heralds much-anticipated shifts in the routes that goods take to arrive at their final destinations in the United States. This is because larger ships, up to double the size of those that can transit the Panama Canal today, will be able to navigate the canal once its new locks are opened. From the growing markets of Northeast Asia, Southeast Asia, and the Indian subcontinent, the first leg of the journey for most traded goods is the long maritime trip from overseas ports to U.S. ports on the East Coast, the West Coast, and the Gulf of Mexico. In particular, container shipments to East Coast ports, which include the ports of the Fifth District, may increase, particularly with respect to goods arriving from Northeast Asia (China and Japan).

The opportunity for East Coast ports to gain from the expansion of the Panama Canal depends on many factors, not the least of which is the depth of their channels. Several East Coast ports, including Norfolk, Baltimore, and New York, have channels that are deep enough to accommodate the larger ships today; Charleston, S.C., can also handle them, though only at high tide. But the Panama Canal project will not be the only source of growth for these ports. Larger ships making their passages through the Suez Canal, the other primary route for Asian trade, are already calling at East Coast ports that can accommodate them. The expansion of the Panama Canal may accelerate this trend, but the use of big ships is already well under way.

Waterborne Trade is Growing

Merchandise trade between the United States and the rest of the world is expected to more than double between 2012 and 2040, according to estimates from the Federal Highway Administration's Freight Analysis Framework. Over this period, imports are expected to grow at a compound average annual growth rate of 2.9 percent, while exports will grow even faster, by 3.9 percent.

With this growth will come growth in oceangoing freight. Measured by volume, the majority of U.S. trade is carried on oceangoing vessels, with the exception of trade with Canada and Mexico, which is transported mostly by truck or rail, or by water via the Great Lakes. Among U.S. major trading partners, imports from China are expected to grow faster than those of any other region of the world; nearly all trade with China is transported by water. Indeed, the push for shipping lines to use larger ships has been motivated by China's growing trade with the United States, Europe, and other regions of the world. Because waterborne shipping is so critical to the movement of goods from China to the United States, the Panama Canal expansion will have its greatest potential effect on this aspect of U.S. international trade, primarily by increasing volume in the trade route from Northeast Asia to the East Coast.

Ships are Getting Bigger

In 2011, nearly 84 percent of oceangoing commodity trade between Northeast Asia and the United States was containerized. This has not always been the case, though. Since the inception of containerized cargo transport in the mid-1950s, the use of containers and dedicated container-carrying ships has grown dramatically, with clear cost advantages for many types of cargo that had previously been shipped by break-bulk methods, requiring each item to be loaded individually. In addition to the reduced cost of handling and avoidance of potential vandalism or waste, the use of intermodal containers allows for delivery of smaller shipments directly to customers via transfer to truck or rail. (See "The Voyage to Containerization," *Region Focus*, Second/Third Quarter 2012.) Initially, containers were used primarily for manufactured goods, but starting in the 1980s, certain agricultural products also switched to the containerized mode of shipment. From 2002 to 2012, the number of container vessel calls at U.S. ports rose by 16.6 percent. During this time, Fifth District ports saw an increase in container vessel calls of 11.7 percent. (See chart.)

As the number of container vessel calls has risen, so has the average size of container ships. Vessel size is typically measured by TEUs, 20-foot equivalent units, which references the standard length of a container. In 2006, container ships of size 5,000 TEU or greater accounted for just 17 percent of container ship calls at U.S. ports, but by 2011, this share had grown to 27 percent. (See table.) Because of the importance of the Panama Canal as a transit between the Pacific and Atlantic oceans, size categories for vessels have used the maximum size of ships that can fit through the Panama Canal as a reference point, defining the Panamax size as a vessel that can carry 4,000 to 5,000 TEU. Similarly, when the Panama Canal expansion project is complete, the new size limit will be 13,000 TEU, establishing a new size category called Post-Panamax or New Panamax (5,001 to 13,000 TEU). Finally, beyond the limits of the newly expanded Panama Canal, there are ships that will push the limits of the Suez Canal called Suezmax (from 13,001 to 18,000 + TEU).

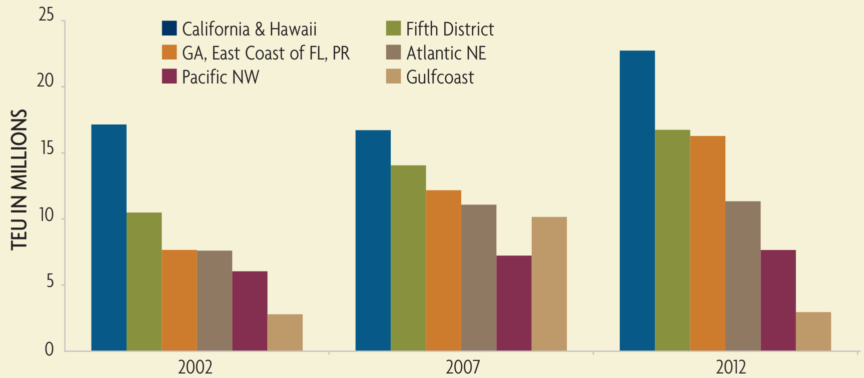
One such extreme ship is the *CSCL Globe*. When delivered to China Shipping Container Lines in late 2014, it became the largest container ship in the world — and the company has four more of the 19,000 TEU ships on order. The *CSCL Globe* is as large as four soccer fields. Like other Suezmax vessels, it will be able to transit the Suez Canal, but not the expanded Panama Canal.

The Panama Canal is Expanding

The Panama Canal expansion project will add a third traffic lane and set of locks, at an estimated cost of $5.25 billion, to allow for the passage of ships more than twice as large as it can handle now. In addition, the expanded locks and channels will allow a greater number of ships to pass through the canal, thereby doubling capacity. The ambitious project involves deepening and widening the canal entrances, constructing two new complexes (one on each end of the canal), excavating a new north access channel for the Pacific locks, and elevating Gatun Lake's maximum operational level. In addition, the navigational channels through Gatun Lake and the connecting waterway, Culebra Cut, will be deepened and widened to allow for two-way passage of vessels.

Construction for the expansion project began in 2008, with completion planned for 2014, but the project has experienced delays due to labor disputes and technical problems with the locks. Completion is now expected by the end of 2015, with the first ships making passage in January 2016.

Vessel Calls (TEUs) on U.S. Ports by Region



SOURCE: U.S. Maritime Administration 2002 – 2012 Total Vessel Calls in U.S. Ports, Terminals and Lightering Areas Report: Commercial Vessels over 10,000 deadweight tons (DWT)

Containership Calls at U.S. Ports by Size

Vessel Size (TEUs)	2006	2011	Percent change 2006-11	2006 share of total	2011 share of total
<2,000	4,143	4,547	9.8	21.2	20.6
2,000-2,999	3,985	2,856	-28.3	20.3	12.9
3,000-3,999	3,333	2,327	-30.2	17.0	10.5
4,000-4,999	4,782	6,400	33.8	24.4	29.0
>4,999	3,344	5,959	78.2	17.1	27.0
Total	19,587	22,089	12.8	100.0	100.0

NOTE: TEU = 20 foot Equivalent Unit
SOURCE: *Vessel Calls Snapshot, 2011,* U.S. Department of Transportation Maritime Administration, November 2013

What Determines the Route?

The arrival of cargo at a port is only the beginning of the sophisticated multimodal freight transportation system that serves producers and consumers all over the United States, regardless of distance to a coast. Some container ships from Northeast Asia enter directly through West Coast ports to final destinations across the United States, using a network of port terminals, railways, and highways to reach points as far as the East Coast. Alternatively, shipments may enter ports on the East Coast for intermodal transport to destinations there and further inland.

Container shipments from Northeast Asia headed for the East Coast and eastern inland destinations have shifted away from West Coast ports and toward East Coast ports. From 2000 to 2011, the movement of containers by rail from the West Coast rose by 25 percent. But while the volume from West Coast ports to the Midwest and South Central regions increased by 64 percent, the volume to the East Coast declined by 49 percent. Ports on the East Coast and Gulf Coast received 31 percent of total container shipments from Northeast Asia in 2011.

Three factors determine how goods are moved: reliability, transit time, and transportation cost. For goods moving by container ship, reliability may be more a factor of trust and experience with a particular shipper and is therefore somewhat subjective. Transit time and transportation cost, however, are directly measurable and easy to compare across different routes. The Panama Canal expansion will generate lower shipping costs per container to East Coast ports because of the economies of scale accompanying larger ships; this may lead to a shift in routing away from West Coast ports and intermodal transit and in favor of routing to the East Coast. Although larger ships also serve West Coast ports, the longer waterborne portion of the trip through the Panama Canal to the East Coast offers relatively more savings.

On the other hand, total transit times may be as much as nine days longer to reach the East Coast via the Panama Canal relative to routing through the West Coast ports. For example, it could take 16 days to route goods from Northeast Asia to Chicago by way of the port of Seattle, compared to 25 days for shipment through the Panama Canal and then to Norfolk. The significance of the time difference for the routing decision depends very much on the product being shipped. For goods of relatively low value, the transit time

Value of U.S. All Waterborne Imports from Northeast Asia – 2010

Cargo Segment	U.S. Value (Millions 2010 $)	U.S. Tons (Thousands)	$/kg	Percent Arriving Through a West Coast Port
Containerized	345,150	54,790	6.30	70.9
Low Value	100,762	30,103	3.35	66.2
High Value	244,388	24,687	9.90	76.5
Bulk/Other	26,410	32,524	0.81	49.9

SOURCE: *Panama Canal Expansion Study, Phase I Report, U.S. Department of Transportation Maritime Administration, November 2013*, p. 108

for delivery may not matter as much and this would favor the East Coast route via the Panama Canal, but for relatively high-value goods, a faster transit time is more essential: Time is money. Higher-value imports from Northeast Asia for which a waterborne route makes sense will likely continue to arrive via West Coast ports even after the Panama Canal expansion is complete. (See table.)

So, where does East meet West? Consultants and researchers have estimated a dividing line called the "transportation cost equivalence line" where it is equally cost effective to ship through West Coast ports combined with intermodal transportation as it is to ship through East Coast or Gulf ports. By recent estimates, this line runs about 300 miles from the East Coast, which means most regions of the United States are served more cheaply through West Coast ports. (See map.) With the opening of the Panama Canal, this line may shift westward as the larger capacity of post-Panamax ships lowers the cost per TEU, although efficiency gains at West Coast ports and along the intermodal routes could offset this movement.

The region near the transportation equivalence line is considered to be the most competitive for service through ports on either coast. Large metropolitan areas in this region that generate the most intense interest include Atlanta and areas up through Detroit and Ohio, where East Coast ports stand to gain share, and Chicago, where it is more likely that the West Coast route will win out. These are large metropolitan areas that drive significant demand on the part of consumers and industry.

The Rail Factor

West Coast ports benefit from cost efficiencies for rail on the cross-country eastbound routes. Generally, goods are transported to inland destinations such as Chicago, Memphis, and Dallas by double-stack trains, providing an obvious cost advantage over single-stack cars and trains. In addition, the large container volumes arriving in West Coast ports allow for transfer to larger unit trains, carrying a single type of commodity all bound for the same destination. Unit trains provide cost savings and faster shipping times because they can make nonstop runs between two terminals, avoiding the need to switch cars at intermediate junctions.

These efficiencies are not as easily obtained in the more congested East Coast region, which leads to a heavier reliance on trucking as the primary mode of inland container transport for East Coast ports. For a number of eastern metropolitan markets that are 300 to 500 miles inland, rail enjoys cost advantages, and these areas would be precisely the target markets for liner operators that want to leverage the capacity of Post-Panamax vessels. The drive to provide this lower-cost rail alternative, in addition to environmental objectives and other factors, has already led to improvements in rail infrastructure.

Railroads on the East Coast, specifically Norfolk Southern and CSX, have projects underway to increase rail capacity and efficiency in anticipation of increased intermodal traffic from East Coast ports. From the railroad's perspective, it doesn't matter if the increase in traffic is organic or stems from growth in world trade or the Panama Canal expansion. In order to move more freight more quickly, railroads will need to be able to carry the shipping containers double-stacked — an endeavor complicated by the many tunnels and bridges that obstruct passage. Through private and public partnerships, projects to upgrade the railroad infrastructure are reducing these possible bottlenecks and better linking the ports on the East Coast with inland markets.

One such project, the Heartland Corridor, completed in 2010, was an investment project undertaken by Norfolk Southern with state government support. The Heartland Corridor connects the Port of Virginia to the Midwest states — clearing overhead obstacles from Norfolk to Lynchburg, through West Virginia and on to Columbus, Cincinnati, and Chicago. Another corridor investment project involving Norfolk Southern, the Crescent Corridor, runs from the Port of New York through Lynchburg, Charlotte, Atlanta, and Memphis to New Orleans. CSX's National Gateway is another multistate project that parallels the I-95 corridor between North Carolina and Baltimore, then along the I-70 corridor between Washington, D.C., and Pittsburgh and on to Northwest Ohio. These projects represent significant opportunities for cost savings and stand to benefit all parties involved, from the railroad companies, to the port authorities, shippers, and finally consumers.

Are East Coast Ports Ready?

The effect of larger vessels passing through the Panama Canal from Northeast Asia to the East Coast will depend not only on the cost savings of an all-water route and efficiencies on the intermodal segment but also on the capacity of East Coast ports to accommodate the increased volume of cargo. Factors such as channel depth, terminal capacity and infrastructure, access to intermodal operations, and productivity will determine whether the East Coast ports can fully utilize the efficiency offered by post-Panamax vessels.

Many ports on the East Coast are constrained by channel depth, as post-Panamax vessels require a channel of around 50 feet. Norfolk, Baltimore, and New York are currently the only ports with 50-foot channels, although the 45-foot channel depth at the port of Charleston can service some post-Panamax vessels at high tide. While the channel of the Port of New York/New Jersey is deep enough for the larger vessels, the ships will not be able to call at the port until the height of the Bayonne Bridge is raised to allow the high stacks of containers to pass under it — a project currently underway and expected to be open to post-Panamax vessels by the end of 2015. Other East Coast ports, such as Savannah, Miami, and Charleston, have projects underway to deepen channels and expand terminal capacity for post-Panamax vessels.

Meanwhile, the terminals at Norfolk and Baltimore are already serving post-Panamax vessels coming through the Suez Canal. Both terminals are equipped with giant super post-Panamax cranes — taller than a 14-story building and able to reach 22 containers across a container ship and lift more than 185,000 pounds of cargo. Efficiency of port operations benefits the port itself by generating higher revenues but also provides savings to shippers that want to minimize transit time for their cargo. Other efforts include expanded container storage to allow for the discharge and temporary storage of containers as well as improved gate processing to move trucks in and out more quickly. All of these improvements are essential to provide service to larger ships and increased volumes of cargo.

Clearly, policymakers believe increased port activity will generate economic benefits for the regional, and even statewide, economy. It is difficult, however, to quantify the potential regional benefit due to the uncertainties regarding the ultimate volume of increased container traffic to the ports resulting from the Panama Canal expansion.

A study of the likely economic and fiscal effect on the Greater Baltimore region considered two possible scenarios for increased container volume at the Port of Baltimore — on the lower end, volume rises by 10 percent over current levels, while on the higher end, it rises by 25 percent. According to the study, prepared for the Economic Alliance of Greater Baltimore by Towson University's Regional Economic Studies Institute (RESI), the increase in containerized volume could, in the low-end scenario, add an estimated 107 jobs and $5.5 million in wages; in the high-end scenario, the growth would bring 266 jobs with an additional $13.9 million in wages. Employment growth stems from the jobs created directly at the port as additional workers are hired to handle cargo, plus other jobs created by associated businesses in warehousing and distribution and other business services.

The RESI study was motivated by a proposed public-private partnership investment in a rail intermodal facility in southwest Baltimore that would have improved rail access given the local tunnel obstructions that limit the use of double-stacked containers. Proponents believe that the facility is critical to the ability of the Port of Baltimore to capture increased container volume resulting from the expansion of the Panama Canal. In fact, the RESI study predicted a loss of 50 percent of the Port of Baltimore's containerized cargo traffic, and an associated contraction in employment, wages, and tax revenues, if the project does not proceed. In late August, the state of Maryland withdrew its funding for the project due to concerns of citizens living in the vicinity of the proposed intermodal facility.

Transportation Cost Equivalence Line

The transportation cost equivalence line defines where it is equally cost effective to ship through West Coast ports combined with intermodal transportation as it is to ship through East Coast or Gulf ports.

SOURCE: CBRE Port Logistics Group, "Transportation Cost Equivalence Line: East Coast vs. West Coast Ports" (July 2014)

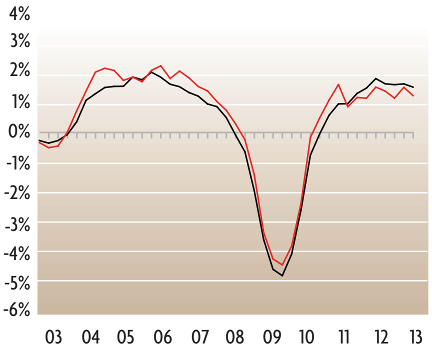
Conclusion

Significant investments are taking place in East Coast ports and the railways that serve them to accommodate the increase in large ships that will arrive when the Panama Canal expansion is complete. It is important to bear in mind that large ships are already coming through the Suez Canal to those ports on the East Coast that can handle them. Growing trade with Southeast Asia and the Indian subcontinent will only accelerate the trend toward larger ships calling on the East Coast. How ready ports are in terms of channel depth may not matter as much as where our growing trade is originating from, where goods are destined for in the United States, and what types of goods are being shipped. Cost savings will affect shipping routes on the margin, but trade volumes are expected to increase over the next 25 years so the East Coast ports will benefit even if they don't steal market share from the West Coast. **EF**

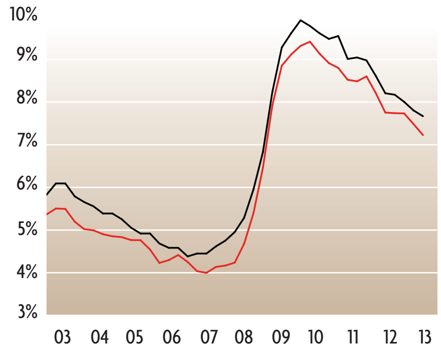
State Data, Q1:14

	DC	MD	NC	SC	VA	WV
Nonfarm Employment (000s)	**746.0**	**2,605.0**	**4,090.6**	**1,918.9**	**3,765.8**	**765.6**
Q/Q Percent Change	-0.2	0.0	-0.2	0.1	0.0	0.1
Y/Y Percent Change	0.3	0.5	1.4	1.9	0.0	0.2
Manufacturing Employment (000s)	**0.8**	**104.0**	**441.9**	**228.2**	**229.2**	**47.7**
Q/Q Percent Change	-7.7	-1.2	-0.2	-0.1	0.0	-1.7
Y/Y Percent Change	-20.0	-2.9	-0.2	2.5	-1.0	-1.7
Professional/Business Services Employment (000s)	**156.1**	**420.9**	**563.6**	**240.2**	**663.4**	**66.5**
Q/Q Percent Change	0.3	0.6	0.1	0.2	-0.7	1.8
Y/Y Percent Change	0.4	0.7	4.2	2.4	-3.0	2.8
Government Employment (000s)	**237.2**	**506.2**	**715.8**	**352.0**	**706.3**	**154.1**
Q/Q Percent Change	-0.8	0.6	-0.5	-0.1	-0.5	-0.5
Y/Y Percent Change	-2.2	0.3	-0.3	0.0	-0.5	0.3
Civilian Labor Force (000s)	**370.3**	**3,108.9**	**4,665.0**	**2,166.0**	**4,274.3**	**795.2**
Q/Q Percent Change	0.7	0.0	0.0	-0.2	0.9	0.6
Y/Y Percent Change	-1.0	-1.0	-1.2	-1.1	0.8	-0.9
Unemployment Rate (%)	**7.4**	**5.7**	**6.5**	**5.9**	**4.9**	**6.0**
Q4:13	7.8	6.2	7.2	6.8	5.3	6.2
Q1:13	8.6	6.8	8.6	8.1	5.6	6.8
Real Personal Income ($Bil)	**46.0**	**299.3**	**359.1**	**161.6**	**378.3**	**61.6**
Q/Q Percent Change	1.0	0.6	1.0	0.7	0.6	0.3
Y/Y Percent Change	2.2	1.0	1.4	2.4	1.1	0.7
Building Permits	**1,217**	**3,604**	**11,022**	**6,937**	**6,286**	**377**
Q/Q Percent Change	26.4	-16.3	-10.6	22.7	10.0	-11.3
Y/Y Percent Change	263.3	-5.6	-2.2	33.2	-9.4	-26.7
House Price Index (1980=100)	**676.7**	**417.1**	**306.7**	**307.5**	**403.7**	**220.1**
Q/Q Percent Change	3.1	0.7	0.6	0.3	0.3	0.0
Y/Y Percent Change	11.3	2.6	2.0	1.2	2.2	1.8

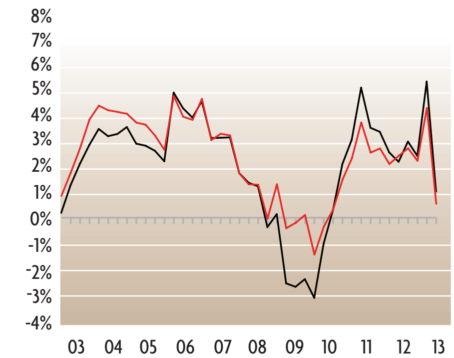
Nonfarm Employment
Change From Prior Year
First Quarter 2003 - First Quarter 2014



Unemployment Rate
First Quarter 2003 - First Quarter 2014

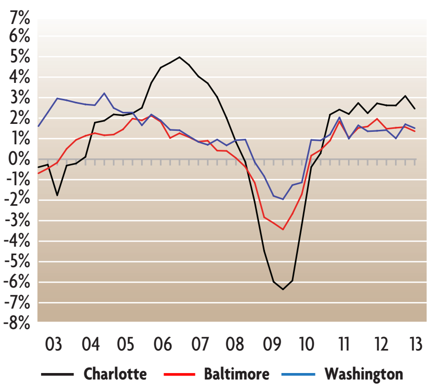


Real Personal Income
Change From Prior Year
First Quarter 2003 - First Quarter 2014

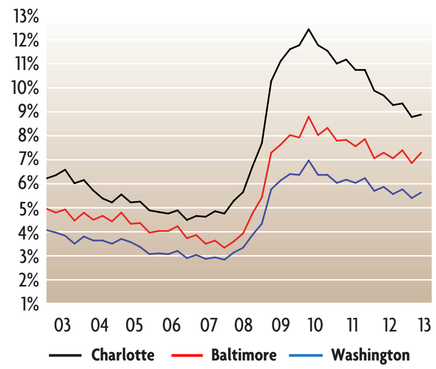


Fifth District **United States**

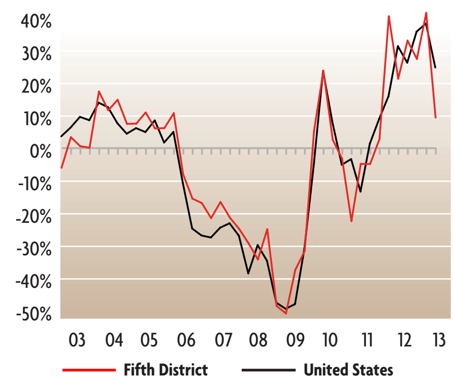
Nonfarm Employment Major Metro Areas
Change From Prior Year
First Quarter 2003 - First Quarter 2014



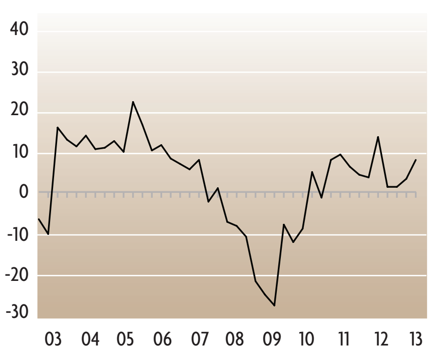
Unemployment Rate Major Metro Areas
Change From Prior Year
First Quarter 2003 - First Quarter 2014



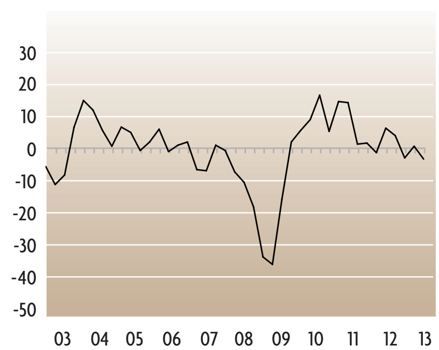
Building Permits
Change From Prior Year
First Quarter 2003 - First Quarter 2014



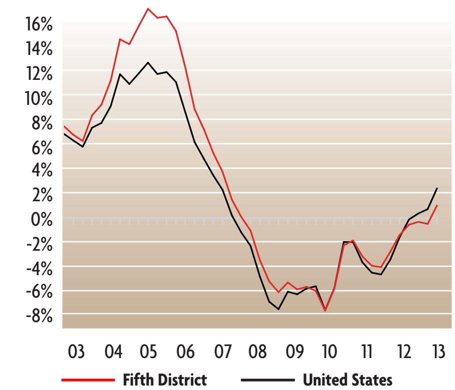
FRB—Richmond Services Revenues Index
First Quarter 2003 - First Quarter 2014



FRB—Richmond Manufacturing Composite Index
First Quarter 2003 - First Quarter 2014



House Prices
Change From Prior Year
First Quarter 2003 - First Quarter 2014



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.

For more information, contact Jamie Feik at (804)-697-8927 or e-mail Jamie.Feik@rich.frb.org

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, Q1:14

	Washington, DC	Baltimore, MD	Hagerstown-Martinsburg, MD-WV
Nonfarm Employment (000s)	**2,488.4**	**1,325.3**	**102.3**
Q/Q Percent Change	-1.5	-2.0	-2.6
Y/Y Percent Change	0.3	1.0	-0.5
Unemployment Rate (%)	**4.8**	**6.0**	**6.4**
Q4:13	4.8	6.0	6.4
Q1:13	5.6	7.2	7.5
Building Permits	**6,605**	**1,209**	**155**
Q/Q Percent Change	18.5	-10.4	-33.8
Y/Y Percent Change	54.8	-33.2	-10.4

	Asheville, NC	Charlotte, NC	Durham, NC
Nonfarm Employment (000s)	**174.6**	**881.1**	**286.6**
Q/Q Percent Change	-1.9	-1.2	-1.1
Y/Y Percent Change	2.6	2.4	2.0
Unemployment Rate (%)	**4.8**	**6.5**	**5.0**
Q4:13	4.8	6.5	5.0
Q1:13	7.0	8.8	6.7
Building Permits	**291**	**3,658**	**632**
Q/Q Percent Change	-21.6	-12.0	-8.3
Y/Y Percent Change	5.4	2.4	22.0

	Greensboro-High Point, NC	Raleigh, NC	Wilmington, NC
Nonfarm Employment (000s)	**343.7**	**549.3**	**141.8**
Q/Q Percent Change	-2.1	-1.1	-1.2
Y/Y Percent Change	0.3	3.7	3.9
Unemployment Rate (%)	**6.8**	**5.2**	**6.6**
Q4:13	6.8	5.2	6.6
Q1:13	9.1	7.0	9.0
Building Permits	**436**	**2,559**	**574**
Q/Q Percent Change	-11.6	-17.2	-44.2
Y/Y Percent Change	16.6	-2.4	-17.2

	Winston-Salem, NC	Charleston, SC	Columbia, SC
Nonfarm Employment (000s)	**206.3**	**308.0**	**361.1**
Q/Q Percent Change	-2.5	-1.2	-1.4
Y/Y Percent Change	0.0	1.0	1.2
Unemployment Rate (%)	**6.1**	**5.1**	**5.4**
Q4:13	6.6	5.7	6.1
Q1:13	8.2	6.7	7.2
Building Permits	**297**	**2,142**	**942**
Q/Q Percent Change	47.8	100.4	5.6
Y/Y Percent Change	9.6	43.7	0.7

	Greenville, SC	Richmond, VA	Roanoke, VA
Nonfarm Employment (000s)	**315.2**	**635.0**	**156.8**
Q/Q Percent Change	-0.7	-0.6	-2.0
Y/Y Percent Change	2.7	1.8	-0.1
Unemployment Rate (%)	**4.8**	**5.3**	**5.2**
Q4:13	5.7	5.5	5.4
Q1:13	6.7	6.2	6.0
Building Permits	**922**	**785**	**64**
Q/Q Percent Change	39.7	-19.1	-61.4
Y/Y Percent Change	31.7	-17.6	-41.3

	Virginia Beach-Norfolk, VA	Charleston, WV	Huntington, WV
Nonfarm Employment (000s)	**739.6**	**142.9**	**113.1**
Q/Q Percent Change	-1.8	-1.9	-2.1
Y/Y Percent Change	-0.3	-1.6	0.7
Unemployment Rate (%)	**5.5**	**5.7**	**6.5**
Q4:13	5.7	5.6	6.7
Q1:13	6.3	6.5	7.2
Building Permits	**993**	**2**	**43**
Q/Q Percent Change	22.4	-91.7	-14.0
Y/Y Percent Change	-49.9	-95.6	330.0

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Opinion

The Long View of the Labor Market

BY JOHN WEINBERG

Sometimes a single dramatic event — a natural disaster, say, or a financial crisis — affects our economy in a highly visible way. It's only natural to then focus on that event when trying to make sense of current conditions. But focusing too closely on extreme events can draw our attention away from slower-moving, more persistent forces in the economy.

The Great Recession is a case in point. Although the unemployment rate recently dipped below 6 percent for the first time since 2008, many people have questioned whether this represents a genuine improvement in the health of the labor market. They note that labor force participation has declined dramatically since 2009 and is now at its lowest rate in more than three decades. Certainly, some of the people who quit the labor force in recent years did so because they were discouraged about the likelihood of finding a job. But the decline in labor force participation actually started around 2000, well before the most recent recession, and research by Richmond Fed economists and others suggests it is driven in large part by long-term demographic changes, such as the aging of the baby boomer generation.

Many people also have been concerned about the slowdown in GDP and wage growth compared with pre-recession levels. They view the Great Recession as a wrench in the works of the economy that spurred major deviations from historical trends and has pushed us far below our potential. But it's possible that what we are experiencing now is not an anomaly but rather the result of longer-term changes in how the labor market functions.

The aggregate numbers we use to describe the labor market, such as the number of jobs created or the unemployment rate, mask a tremendous amount of activity beneath the surface. Jobs are constantly being both created and destroyed as firms expand and contract, and workers are constantly moving between jobs and companies. This reallocation of jobs and workers tends to be good for the economy, helping to move resources from less-productive to more-productive businesses and helping workers make better (and higher-paying) matches with employers.

But beginning around 1990, according to research by Steven Davis at the University of Chicago and John Haltiwanger at the University of Maryland, the rates of job and worker reallocation in the United States started to decline significantly. The causes of this decline are varied and in some cases benign. For example, one factor is the shift from "mom-and-pop" stores to big-box retailers, which tend to have much less movement of jobs and employees. That shift has also been accompanied by huge increases in supply-chain efficiency and lower prices for consumers, developments that many would argue are positive.

But there may also be less favorable aspects to these changes. Since 2000, there has been a large decrease in the number of high-tech startups and young firms. Such firms contribute disproportionately to job creation and destruction rates, and they were also an important source of innovation and productivity growth during the 1980s and 1990s. To the extent that the declines in reallocation are driven by changes in the high-tech sector, they may be a factor in the slower productivity growth we are experiencing.

Government policies, such as stricter employment-protection laws or licensing requirements, may also play a role. In the 1950s, about 5 percent of employees had jobs that required a government license; by 2008 the share had increased to 29 percent. And during the 1970s and 1980s, courts made a series of decisions providing exceptions to the employment-at-will doctrine. While these measures may have other beneficial effects, they've likely had a negative effect on the fluidity of the labor market.

As Davis and Haltiwanger note, less job and worker reallocation equals fewer new job opportunities. That means unemployed workers will tend to remain unemployed for longer, and employed workers will probably have a harder time moving up the ladder or changing careers. In aggregate, the result is likely to be lower employment and slower wage growth — exactly what we are seeing today.

The Great Recession was a cataclysmic event in our country's economic history. But not all of our present economic conditions can be attributed to that event. Changes in the labor market appear to have begun well before the recession and have likely played a large role in the disappointing nature of the recovery. That means we may need to reconsider what's "normal" when assessing the economy's current performance.

But it doesn't mean we must remain gloomy. The American economy has demonstrated tremendous resilience in the past, and our workforce has a strong track record of discovering new sources of innovation. And there are signs the economy is gaining momentum: GDP growth was strong in the second and third quarters of 2014, and job growth has averaged nearly 250,000 per month over the past year. These data contributed to the Federal Open Market Committee's decision to end quantitative easing and to move toward more traditional monetary policy. Taking the long view of the labor market suggests that we may need to temper our expectations in the present, but it also suggests we should remain optimistic about the future. **EF**

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

Next Issue

The Sharing Economy

A slew of Web startups have launched the "sharing" economy, allowing individuals to act as hoteliers by renting out their homes to travelers and to provide car services similar to taxis. These new markets may increase social welfare by giving use to underutilized assets. But critics argue that these businesses have gained an unfair advantage over incumbents by ignoring regulations designed to protect consumers.

Money Talks

Legal changes in campaign finance have made it possible for people, corporations, and unions to increase their support of political activity. But are they actually spending more — and are they getting anything for their money?

Craft Brewing

Craft breweries — small, independent beer producers — have multiplied sharply over the last three decades. And craft beers are growing in popularity. Research has shed light on the unique structure of the craft brewing industry, including its emphasis on cooperative competition, and the reasons for its success.

Federal Reserve

The 19th century classical economists Walter Bagehot and Henry Thornton are often credited with having written the guides on crisis management for central banks. Some historians argue that they have been misinterpreted, however — including by the Fed during the 2007-2008 financial crisis. How can the teachings of the classical economists be applied to 21st century financial markets?

Economic History

Early in the 20th century, automobiles powered by internal combustion surpassed electric vehicles (EVs) to win one of the most dramatic technological competitions of the industrial age. Runner-up technologies often don't last long, but EVs found niche markets and continued to improve. Could they make a significant comeback, or are motorists locked in to internal-combustion cars?

Interview

Claudia Goldin of Harvard University discusses the gender pay gap, the changing landscape of U.S. education, and how economics is like detective work.

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