

SECOND QUARTER 2016

# ECON FOCUS

FEDERAL RESERVE BANK OF RICHMOND

# Tomorrow's Lenders?

**Online nonbank lenders are  
growing fast, but questions remain**



Do State Tax Cuts  
Attract Business?

Overseeing  
the Fed

Interview with  
Josh Lerner

# ECON FOCUS

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## Minority Unemployment and the FOMC

The Federal Reserve is getting critics' attention these days due to the debate over when and how rapidly it should raise its benchmark interest rate. Some have pointed to the fact that minority unemployment tends to be substantially higher than unemployment of whites, and they argue that these populations will be hurt the most if the Fed tightens monetary policy. To see these differences, we need to go back no further than the October jobs report, which estimated white unemployment at 4.3 percent, compared to 8.6 percent for blacks and 5.7 percent for Latinos.

This is a long-standing challenge. Narayana Kocherlakota, the former president of the Minneapolis Fed, has noted that for more than 40 years black unemployment has been roughly 1.9 times greater than the overall rate. In response to these disparities, some observers, such as AFL-CIO chief economist William Spriggs, have called for the Fed to continue keeping policy rates near zero to bring joblessness among minorities down and closer to the rate of whites. This, they argue, would be a better definition of "maximum employment" — half of the Fed's monetary policy mandate — than one based on just aggregate numbers. As an example, some point to the late 1990s and early 2000s: While aggregate unemployment fell below 4 percent, black unemployment dropped to an all-time low of 7.6 percent and real wage growth of blacks averaged 2 percent annually, compared to 1.7 percent for whites.

These historic disparities merit a serious discussion. But in this case, the proposed cure may well be worse than the disease. What the critics' argument overlooks is the risk that is posed if the Fed overshoots and runs the economy so "hot" that inflation pressures rise quickly. If this were to happen, the Fed would need to respond by raising rates to counteract those pressures. But when it's lifting rates rapidly, it can be difficult to calibrate the proper response. Rising inflation expectations may also require a more forceful Fed response. And history has shown that the Fed has sometimes gone too far in those situations, pushing the economy into recession.

A case in point was the early 1980s, under the chairmanship of Paul Volcker. In response to the spike of inflation of the late 1970s, the Fed aggressively sought to shrink the growth of the monetary base and allowed interest rates to rise. By December 1980, the effective federal funds rate reached almost 20 percent. These drastic measures eventually tamped down inflation, but they also led to a recession. And as was the case in previous recessions, minorities suffered far more than whites in the downturn. Whereas national unemployment climbed to more than 10 percent in 1983, it rose to almost 22 percent for blacks.

Once inflation stabilized in the early 1980s, the Fed sought to avoid a repeat of this scenario by seeking to anchor inflation expectations and act pre-emptively when necessary. One of the best-known examples was our decision to raise interest rates in 1994-1995, when headline inflation appeared calm and the economy had recently come out of a downturn. Despite that tightening, economic growth remained robust and unemployment dropped further.

More fundamentally, however, this debate is about what monetary policy can accomplish. Over time it can achieve price stability, which, in turn, can promote growth and employment by providing a steady environment that facilitates longer-term investment decisions. By contrast, the policy tools that are well-suited to target specific distributional outcomes are primarily fiscal, such as public spending on education, infrastructure, and workforce development — and these policies are outside the Fed's purview. Fiscal policy decisions are not just more powerful to achieve these ends; it is far more appropriate that they are made by elected officials, because the democratic process reflects the public's trade-offs and priorities.

In short, if we want to consider the effect of monetary policy on disadvantaged populations, we need to realize it cuts both ways. There may be greater short-term benefits from expansionary policy for those Americans, but they would also face greater long-term risk from those same policies. In light of this risk, it's not obvious that the Fed should tilt policy one way or the other. The underlying reality is that monetary policy is a blunt instrument — just one short-term interest rate — and as such, it's ill-designed to address a multiplicity of distributional issues. **EF**



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**MARYLAND** — Baltimore-based Under Armour will open a 1.3 million-square-foot distribution facility in Baltimore County in the location of the former Sparrows Point steel mill. (See “Red Skies and Blue Collars,” *Econ Focus*, First Quarter 2013.) The facility will focus on Under Armour’s e-commerce business, which the company said grew 44 percent in the second quarter of 2016. Under Armour said the facility will employ about 1,000 people and will be the company’s fourth distribution center in the United States. It is expected to open in the summer of 2018.



**NORTH CAROLINA** — In August, the state Supreme Court ruled that Carthage, N.C., had unlawfully charged residential homebuilders “impact fees” for water and sewer systems in developments. In Carthage, the approval of land for subdivisions led to immediate charges for water and sewer expansion even if the builder never connected to the system. If the fees were not paid, Carthage would refuse building permits. The court ruled that state law “clearly fails to empower the Town to impose impact fees for future services.”



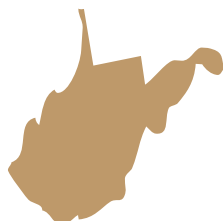
**SOUTH CAROLINA** — The aerospace industry contributed \$19 billion to the state’s economy in 2016, a \$2 billion increase from 2014, according to an economic impact study sponsored by the South Carolina Council on Competitiveness. The study, conducted by University of South Carolina economist Joseph Von Nessen, found that the aerospace cluster contributed 100,000 jobs, paying an average salary of \$70,000, 69 percent higher than the state average. The study said aerospace companies with fewer than 500 employees plan to grow their workforce by 31 percent by the end of 2017.



**VIRGINIA** — Sales of Virginia wine reached a record high this year, according to figures from the Virginia Wine Marketing Office, with 6.6 million bottles sold in FY 2016. This is a 6 percent increase over FY 2015 and a 34 percent jump since 2010. Sales at the state’s 285 wineries — Virginia ranks fifth nationally in number of wineries and grape production — grew 7.3 percent. The sale of Virginia cider also increased, up 52 percent over FY 2015. In 2012, the wine and cider industries contributed an estimated \$750 million annually to the state economy.



**WASHINGTON, D.C.** — In an attempt to streamline regulatory processes for D.C. businesses, the Department of Consumer and Regulatory Affairs launched in August the D.C. Business Center, a website that allows businesses to apply for a basic license, renew a license, and submit documentation and payments, among other tasks. The site uses a licensing wizard to tell prospective business owners what licenses and supporting documentation are required to start their business in the District. The site focuses on the kinds of basic licenses most frequently issued, such as those for restaurants, single-family rentals, and contractors.



**WEST VIRGINIA** — Towns hit hard by coal industry layoffs will receive help in the form of federal grants aimed at stimulating economic development. The POWER Initiative involves 10 federal agencies granting \$38.8 million to 29 economic and workforce development projects spread among several Appalachian states, including West Virginia. Fifteen of the selected projects are in West Virginia, including two that span multiple states. Officials estimate the grants will create or retain 3,400 jobs.

# New Rules for Nest Egg Advisers

BY CHARLES GERENA

The shift from traditional pensions to defined contribution plans and IRAs has put more people in charge of their nest eggs. In response, IRA holders have turned to broker-dealers, insurance companies, pension consultants, and other firms for help.

Often, these advisers charge hefty fees over the life of the investment, and their staffs may receive commissions and other forms of compensation for recommending investment vehicles that may not give clients the biggest bang for their buck. As a result, savers may be earning 1 percentage point less annually than they would have otherwise, according to a 2015 estimate from the President's Council of Economic Advisers.

To address this potential misalignment of incentives, new rules from the U.S. Department of Labor (DOL), which go into full effect in January 2018, impose stricter standards of conduct on a broader array of retirement investment advisers. "We are putting in place a fundamental protection into the American retirement landscape," said Labor Secretary Thomas Perez when the rules were announced in April 2016. "A consumer's best interest must now come before an adviser's financial interest."

Conflicts of interest are common in a market economy. For example, a real estate agent hired by a young couple looking for a cheap fixer-upper may instead steer them toward a newer, more expensive house he is trying to sell for another client. Or, a physician may send a patient for follow-up bloodwork at a diagnostic lab that she has a financial interest in.

"Societies rely on various devices to manage these conflicts," wrote Joel Demski, an emeritus professor at the University of Florida and accounting researcher, in a 2003 article in the *Journal of Economic Perspectives*. "Some activities are prohibited, such as an auditor engaged with an explicit pay-for-performance contract, while at other times, we rely on disclosure of relationships."

The DOL's new rules take both of these approaches. First, if a bank, broker-dealer, or insurer is paid for recommending an investment, the firm is considered a "fiduciary investment adviser." Such firms can continue to benefit from commissions, revenue sharing arrangements, and other forms of compensation as long as the pay is deemed "reasonable."

In addition, they must adhere to standards of conduct defined under the Employee Retirement Income Security Act of 1974 for pension and health plan administrators.

These tougher standards are aimed at ensuring that investment advice is impartial and in the best interest of customers. For example, currently brokers are only required to recommend products that are "suitable" for an investor's needs or risk tolerance, even when there are conflicts of interest at play.

Second, fiduciaries will be obligated to acknowledge their status and the status of their employees. They will also have to disclose material conflicts of interest and document their adherence to the standards of conduct.

There has been a lot of discussion about how the DOL's rules will affect the retirement investment industry. What about the broker who volunteers to provide general information on saving for retirement at a Rotary Club meeting? Such communications may be considered "educational" and not a recommendation.

As for their impact on individuals planning for their golden years, the rules may prompt some retirement investment advisers to move their clients from commission-based accounts to accounts that charge an ongoing flat fee based on the size of assets invested. This has already been happening. In 2014, 35 percent of the average adviser's assets under management were in accounts that charged a flat fee,

according to PriceMetrix, up from 26 percent in 2011. The problem is such fee-based accounts may turn out to be more expensive for savers who are in it for the long haul and rarely make changes to their portfolios.

Worse, savers with only small accounts may be dropped as clients by investment advisers. A recent report by Morningstar predicted that many of these people will turn to lower-cost ways to manage their retirement savings, such as index-based funds and online investment services (known as "robo-advisers") that use algorithms to create an investment portfolio automatically.

The net effects of the DOL's rules, for the companies that provide advice and for the clients they serve, are unknown. But they will certainly ripple through the financial services industry.

It's no wonder that a multitude of industry participants and groups — including the Securities Industry and Financial Markets Association and the National Association of Insurance and Financial Advisors — have filed lawsuits to block implementation of the DOL's new rules. In addition, a bill introduced by Rep. Jeb Hensarling, R-Texas, in September 2016, the Financial CHOICE Act, would reverse the rules. **EF**

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The net effects of the DOL's rules ... will certainly ripple through the financial services industry.

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## Who's the Boss?

### How Congress holds monetary policymakers accountable

BY RENEE HALTOM AND JESSIE ROMERO

In 1956, Federal Reserve Chairman William McChesney Martin Jr. stood before the Senate Committee on Banking and Currency to have his reappointment to the Board of Governors confirmed. Sen. Paul Douglas, D-Ill., went to great lengths to remind Martin who was in charge: “Mr. Martin, I have had typed out this little sentence which is a quotation from you: ‘The Federal Reserve Board is an agency of the Congress,’” he said. “I will furnish you with Scotch tape and ask you to place it on your mirror where you can see it as you shave each morning.” In 2013, Chairman Ben Bernanke was asked if he had any advice for incoming chair Janet Yellen. “The first thing to agree to,” he replied, “is that Congress is our boss.”

In fact, though, Congress does not dictate or audit monetary policy decisions. Instead, lawmakers establish general goals for monetary policy and evaluate its effectiveness over time — a structure designed by Congress itself to keep monetary policy free of political pressure.

In recent years, the Fed has come under intense scrutiny as a result of its unconventional policy responses to the financial crisis of 2007-2008 and the ensuing recession. While many observers credit the Fed with protecting the U.S. economy from an even worse outcome, others believe the central bank has displayed a troubling lack of transparency and accountability. These critics have proposed a number of reforms to increase congressional oversight of the Fed. But how does Congress currently hold the Fed accountable? And what is the right balance between monetary policy independence and accountability? As with so many relationships, the answer is: It's complicated.

#### A Balancing Act

Both research and history have shown that when monetary policy is divorced from politics — and thus, for instance, from the pressure that might be exerted by politicians hoping to stimulate the economy before an election — monetary policymakers have more credibility in maintaining low and stable inflation and are better able to focus on that long-term goal. At the same time, monetary policy decisions have far-reaching consequences; thus, the public reasonably expects the Fed to be accountable to elected officials.

Policymakers have attempted to resolve the tension between independence and oversight by giving the Fed independence in the use of its policy instruments — that is, allowing the Fed to set interest rates or apply other monetary policy tools without congressional input or approval — while allowing Congress to determine monetary policy objectives and review the Fed's performance over time. In

economics parlance, the Fed has “instrument independence” but not “goal independence.”

This does not mean that the Fed has always acted independently; the Fed's relationship with the legislative and executive branches has evolved over the past century. But especially since the early 1950s, the Fed has increasingly asserted its independence from Congress and the president. At the same time, in more recent decades, the Fed has made a number of changes to be more transparent. Some of those changes have been dictated by law, such as requiring the Fed's monetary policymaking body, the Federal Open Market Committee (FOMC), to report to Congress twice per year; others have been initiated by the Fed itself, such as issuing a detailed statement after each FOMC meeting and holding press conferences four times per year.

What's the right amount of independence? That's a question economists are still trying to answer. Although the consensus is that independence is beneficial, researchers have not yet pinned down precisely which aspects of independent governance structures — other than the absence of overt, frequent demands from elected leaders — contribute to better policy outcomes. In addition, macroeconomic outcomes depend on many factors: It's difficult for researchers to disentangle whether those outcomes result from different economic circumstances, policy strategies, mandates, or political environments. That makes it hard to say whether or not the current amount of congressional oversight is effective, not to mention if a change in oversight would be more effective.

#### The Big Club Behind the Door

Congress has both implicit and explicit tools for ensuring the Fed is meeting the goals lawmakers have established. For example, the Senate has the ability to approve — or delay approving — presidential nominations of many of the Fed's leaders, including the Fed chairman and the governors who compose the majority of the FOMC. Especially when there is a strong partisan divide, senators have been able to signal their dissatisfaction with monetary policy by delaying the approval of Fed leaders. In 1996, for example, Sen. Tom Harkin, D-Iowa, held up Alan Greenspan's confirmation for a second term as chairman for months to protest what he and some other Democrats viewed as Greenspan's focus on inflation at the expense of economic growth.

Congressional hearings are another form of oversight. The Federal Reserve Reform Act of 1977 required the Board of Governors — in practice, the chairman — to appear before Congress twice per year. (Fed governors and regional Bank presidents also testify before congressional

committees occasionally, on an array of topics.) The nature of those hearings has changed over time. In the late 1970s, when both inflation and unemployment were high, committee members were relatively quick to challenge rhetorically the Fed's independence and decisionmaking, according to research by Cheryl Schonhardt-Bailey of the London School of Economics and Political Science and Andrew Bailey of the Bank of England. But during the period known as the Great Moderation, from the mid-1980s to the mid-2000s, committee members increasingly used the hearings to talk about topics other than the Fed, such as the United States' international competitiveness, education policy, and the activities of Fannie Mae and Freddie Mac — perhaps to use the Fed chairman as expert support for their positions in other policy debates.

The ultimate source of Congress' authority is its ability to amend the Federal Reserve Act, the law governing the Fed. Lawmakers have amended the Act many times over the past century, including some major changes to the conduct of monetary policy. (See box.) In addition, lawmakers can try to steer the central bank via proposed legislation (even if members know it won't pass), public statements, and even implicit threats.

These measures add up to what Stanford University political scientist Barry Weingast has dubbed “the big club behind the door,” meaning that the threat of punishment — whether directly via amendments to the Act or through more indirect means — should, in theory, push the Fed to understand and comply with congressional wishes. In this view, the absence of visible struggle suggests congressional dominance rather than congressional impotence. This view also suggests that overt efforts to reform the Fed aren't actually about trying to improve the Fed's performance, since the Fed already has plenty of incentive to keep Congress happy. So what are reform attempts actually about?

### Assigning Responsibility

Economists and others traditionally have been concerned that members of Congress might favor accommodative monetary policy to boost employment and output in the short run — but according to one theory, individual lawmakers might not have much incentive to try to influence the Fed. In the seminal 1974 book *Congress: The Electoral Connection*, political scientist David Mayhew of Yale University modeled politicians as “single-minded seekers of reelection,” meaning they are motivated to pursue activities for which they can take credit in the eyes of voters. But because Fed policies affect many regions and many aspects of the economy, no single legislator can credibly claim to have directly influenced them. So self-interested lawmakers actually should not have much interest in monetary policy.

Alternatively, the same electoral incentives could spur politicians to use the central bank as a scapegoat if the economy turns sour or if interest rates get uncomfortably high — whether or not those outcomes are actually the result of monetary policy missteps.

## Milestones in Monetary Policy Governance

- **The Banking Act of 1935** created the modern Federal Open Market Committee, a body of board members and a rotating subset of Reserve Bank presidents. The Act effectively removed monetary policy as the exclusive purview of Reserve Bank presidents and centralized it in the FOMC.
- **The Treasury-Fed Accord of 1951** allowed the Fed to pursue independent monetary policy, ending a period of low interest rates at the Treasury's behest to ease war financing.
- **The Federal Reserve Reform Act of 1977** established the Fed's dual monetary policy mandate and required the Board of Governors to testify before Congress twice per year. **The Humphrey-Hawkins Act of 1978** required the Board also to submit written reports.
- **The Dodd-Frank Act of 2010** significantly expanded the Fed's supervisory powers over financial institutions while limiting the Fed's emergency lending authority. The Act also directed the Government Accountability Office to audit the Fed's governance structure and its lending programs during the financial crisis and required the Fed to disclose the details of discount window loans.

In recent work, Sarah Binder of George Washington University and the Brookings Institution and Mark Spindel of Potomac River Capital examined congressional scrutiny of the Fed by measuring the number of bills introduced to the House and Senate between 1947 and 2014. They found that lawmakers did appear to be motivated by economic conditions: The number of bills introduced spiked with the onset of recessions. Consistent with Schonhardt-Bailey and Bailey's results, Congress was notably quiet with respect to the Fed during the Great Moderation. (Binder and Spindel's research will be published in their forthcoming book, *Monetary Politics: Congress and the Federal Reserve, 1913-2016*.)

Binder and Spindel also found differences between the two political parties. Democrats were more likely to introduce legislation when unemployment spiked, although this subsided somewhat after employment was officially added to the Fed's mandate in 1977. Republicans showed little interest in the Fed until the “stagflation” of the 1970s, perhaps reflecting their greater concern with inflation, which had been relatively low and stable since the end of World War II.

Some periods spur both parties to action. During the recession induced by the Fed under Chairman Paul Volcker in the early 1980s to bring inflation down from the double-digit levels it had reached, Democrats introduced bills increasing the number of presidential appointees on the board, which would have weakened the influence of Reserve Bank presidents and of the chairman. Republicans pushed for monetary policy audits and for synchronizing the chairman's terms with presidential administrations, “likely a GOP rebuke,” Binder and Spindel have written, “to the independent-minded Volcker,” whose recession probably contributed to Republican losses in the House of Representatives in the 1982 midterm elections.

## Under Pressure

Does the Fed respond to political scrutiny? The evidence is mixed. Between 1973 and 2008, Binder and Spindel found little evidence that the Fed attempted to appease Congress by lowering interest rates when legislative activity targeting the Fed increased. But other research suggests the Fed has factored political threats into its policymaking.

While economists generally believe that a mistaken understanding of the forces driving inflation, and of the relationship between inflation and employment, was at the heart of the Great Inflation and the stagflation of the 1970s, political pressure also may have played a part. In a 2016 article in the *Journal of Money, Credit and Banking*, Gregory Hess of Wabash College and Cameron Shelton of Claremont McKenna College concluded that during the 1970s, the Fed lowered the federal funds rate more than warranted by economic conditions in response to bills that threatened the Fed's power.

Research by Charles Weise of Gettysburg College also finds evidence of political motivations. In a 2012 *American Economic Journal: Macroeconomics* article, Weise reviewed FOMC meeting transcripts from 1969-1982 for statements referencing the political implications of monetary policy. He concluded that monetary policy was about 25 basis points lower than it would have been, given economic variables, during periods when the chairman expressed feeling pressure for loose policy and 25 basis points higher when there was pressure for tight policy. Even Volcker — arguably the most famous inflation hawk of all time — urged the committee when he was its vice chairman to back away from policy that would be appropriate “if we were living really in an apolitical climate.”

Sometimes, Weise notes, political pressure might actually motivate the Fed not to comply with Congress' wishes. By 1982, Congress and the president were pushing for easier monetary policy. But some FOMC members believed a change in policy would be “politically suspect” and damage the Fed's credibility. (Later that summer, inflation began to ease off and the Fed finally lowered the target for the federal funds rate.)

Congress also has pressured the Fed to use monetary policy tools for nonmonetary purposes. “What would Congress have to do to indicate that it wishes the Board to change its policy and give greater support to the housing market?” asked Sen. William Proxmire, D-Wis., in a 1968 hearing. Proxmire went on to imply that Congress would change the law if it had to. In that case, the Fed complied voluntarily by purchasing debt issued by federal housing agencies rather than risking new legislation that could have permanent effects.

The Fed also was very cognizant of Congress as it moved toward adopting an explicit inflation target, as Binder and

Spindel document. Bernanke wanted the Board to announce a target when he first joined the Board in 2002, but other FOMC members were concerned that Congress might perceive the Fed as straying from its dual mandate. In 2009, Bernanke received explicit advice from Rep. Barney Frank, D-Mass., that such a move in the middle of the Great Recession would seem politically tone deaf. In the end, the 2 percent target wasn't adopted until 2012, when employment had somewhat recovered.

## Gathering Steam

Binder describes the relationship between Congress and the Fed as interdependent. “Congress doesn't want to be responsible for monetary policy,” she says. “It needs someone to blame when things go wrong. But the Fed's independence is contingent on keeping Congress on its side.”

That's been a difficult task in recent years, with both political parties expressing dissatisfaction with various aspects of the Fed's response to the financial crisis and Great Recession. Reform proposals have been wide-ranging, including subjecting monetary policy to government audits; requiring the FOMC to follow a monetary policy rule; restricting the Fed's emergency lending powers; and changing the appointment process for Reserve Bank presidents. Some also have proposed going back to the drawing board altogether and appointing a longer-term commission to study monetary policy reforms.

Some of these proposals have garnered bipartisan support, potentially increasing the likelihood of legislative action. In both 2012 and 2014, more than 300 House members from both sides of the aisle voted in favor of “audit the Fed” legislation that would enable the Government Accountability Office to audit the Fed's monetary policy decisions. The bills didn't make it out of the House, and a stand-alone vote in the Senate in January 2016 failed to reach cloture, but the fact that the issue came to a vote nearly 40 years after Congress explicitly prohibited such audits sent a clear signal that such scrutiny was back on the table.

To be sure, there is still room for the Fed to continue to increase its transparency and accountability. But given the uncertainty surrounding the appropriate balance between independence and accountability, it's not clear that more direct oversight would necessarily improve the Fed's performance. And there might be other costs. “As Congress gets more willing to attack the Fed, does that put the Fed in a weaker position to protect itself from congressional incursions that may have policy implications?” Binder asks. “If we think there's economic value to the Fed's reputation and credibility, then these attacks on the Fed do have consequences.” **EF**

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# Will Poor Countries Catch Up?

BY ERIC LaROSE

**“Relative Income Traps.”** Maria A. Arias and Yi Wen, Federal Reserve Bank of St. Louis *Review*, vol. 98, no. 1, First Quarter 2016.

Absolute poverty has declined dramatically around the world over the past quarter-century. For some observers, this trend validates neoclassical convergence theory, which posits that capital flows and technology spillover to low- and middle-income nations will cause their income levels to catch up to those of developed nations. In absolute terms, it is true that many developing economies have been consistently experiencing income growth. Thus, it would seem they are escaping low- and middle-income levels and converging to American living standards.

Or are they? Most of the literature has focused on absolute notions of convergence, but a recent paper by two St. Louis Fed economists redefines this concept in relative terms. They find that most developing countries have not seen their income levels, as measured by real per capita GDP, increase as a percentage of U.S. levels. The researchers conclude that, excluding the Asian Tigers, the probability of developing countries remaining behind the United States is close to 100 percent in the long run.

The researchers believe prevailing explanations, which emphasize the importance of institutions and barriers to technology diffusion, inadequately account for this apparent contradiction to convergence theory. Instead, they argue that developing countries should follow the Asian Tigers’ example by enacting policies that increase domestic market size in order to support industry.

**“Changes in Labor Participation and Household Income.”** Robert Hall and Nicolas Petrosky-Nadeau, Federal Reserve Bank of San Francisco *Economic Letter* No. 2016-02, Feb. 1, 2016.

A notable economic trend so far this century has been the decline in the U.S. labor force participation rate (LFPR) for all individuals over age 16, which had an unusually steep drop from 67.2 percent to 62.4 percent between 2004 and 2013. Economists propose various explanations such as an aging population and a changing welfare system.

In a recent San Francisco *Economic Letter*, economists Robert Hall and Nicolas Petrosky-Nadeau propose an additional factor — “the changing relationship between household income and the decision to participate in the labor force.” Using data from the Census Bureau’s Survey of Income and Program Participation (SIPP), they develop a probability model to analyze changes over time in the likelihood that an individual with certain demographic characteristics

will participate in the labor market.

As might be expected, their model shows a much lower LFPR for low-income households than for high-income ones. Surprisingly, however, the researchers find that the recent drop in the LFPR among prime working-age individuals (aged 25 to 54) has been led by higher-income households; households in the poorest income quartile “added 0.7 percentage point to the total participation rate between 2004 and 2013,” whereas households in the highest and second-highest income quartiles *subtracted* 1.6 and 2.1 percentage points, respectively. Likewise, high-income households have led the drastic 9.6 percentage point drop in the LFPR among workers aged 16 to 24.

Also, SIPP data seem to contradict arguments that an aging population largely explains this decline. Workers 55 and older saw a 3.1 percentage point increase in their LFPR between 2004 and 2013.

**“The Limited Macroeconomic Effects of Unemployment Benefit Extensions.”** Gabriel Chodorow-Reich and Loukas Karabarbounis, Federal Reserve Bank of Minneapolis Working Paper No. 733, April 2016.

In 2008, Congress authorized emergency unemployment compensation in response to high unemployment rates. Combined with state-level extended benefits, the measure caused the duration of unemployment insurance (UI) benefits to increase from 26 weeks to an unprecedented 99 weeks in some states. Many opponents of these extensions predicted that they would delay economic recovery by effectively subsidizing unemployment; others argued that such benefits would help the unemployed maintain their previous consumption levels, thus accelerating economic recovery by increasing total consumer spending.

A recent working paper by two researchers from the Minneapolis Fed attempts to determine the macroeconomic effects of these UI extensions. Most states normally offer 26 weeks of UI as regular benefits and provide extended benefits based on state unemployment rates. Because unemployment rates are measured in real time for these purposes, they are prone to measurement errors. The researchers exploit these measurement errors to isolate the effects of benefit extensions.

Overall, they find results “inconsistent with either large negative or positive effects of benefit extensions on macroeconomic aggregates including unemployment,” concluding that UI extensions “increased the unemployment rate by at most 0.3 percentage point” during the Great Recession. These conclusions are consistent with previous literature. (See “Expanding Unemployment Insurance,” *Econ Focus*, Second Quarter 2014.) **EF**

# Helicopter Money

BY ERIC LaROSE

Since the global financial crisis, central bankers around the world have considered and sometimes used a number of unusual policy tools, including quantitative easing (QE) and negative interest rates, in an attempt to stimulate economies and fight deflationary pressures. Now some economists and policymakers are thinking about adding another item to this toolbox: helicopter money.

No, the use of helicopter money wouldn't involve money actually falling from the sky. But it would involve a much more direct method of getting money into the hands of citizens than central banks have used before. Under traditional expansionary monetary policy, the Fed attempts to stimulate the economy indirectly by lowering the interest rates faced by banks, causing them to borrow and make more loans. In turn, the interest rates faced by businesses and consumers decrease, providing economic stimulus. In contrast, helicopter money would consist of the central bank creating money and then distributing it directly to the public through fiscal transfer payments — for instance, by financing a government spending increase or tax cut or, more drastically, by mailing a check directly to each household.

The idea of helicopter money stems from a 1969 essay by Milton Friedman, who envisioned a hypothetical scenario in which a helicopter drops \$1,000 on a community in a one-time event that doubles every individual's cash balances. In the long run, Friedman concluded, this event would do nothing more than double the nominal price level. But in the short run, Friedman believed the "helicopter drop" could increase real output, since prices would take time to adjust and firms might initially mistake inflation for real price increases.

Economic events over the past quarter-century have caused the idea to be taken more seriously as a possible tool to increase both output and inflation. In the mid-1990s, Japan began experiencing deflation, and in a famous 2002 speech, Ben Bernanke mentioned helicopter money as a possible last resort for the Fed to fight deflation should it ever reach the United States. Over the past few years, more figures have publicly discussed the idea as near-zero interest rates have weakened the ability of conventional monetary policy to further stimulate aggregate demand. Although a close aide to Japan's prime minister has opposed it, many experts speculate that the Bank of Japan may pursue this policy in the coming years.

In addition to lowered interest rates, the Great Recession saw the use of QE, in which central banks use newly created money to buy assets from financial institutions. Conceptually,

helicopter money is quite similar — some supporters call it "QE for the people." Many believe that QE failed, however; they argue that banks did not increase lending to consumers in response to this massive liquidity increase, blunting its effects. In contrast, helicopter money could get around this problem by eliminating the middleman and putting money right in the hands of consumers, possibly providing stronger stimulus than QE. As Columbia University economist Michael Woodford put it, "the fact people get an immediate transfer should lead them to believe that they can afford to spend more."

The primary argument against the use of helicopter money is perhaps as much about politics as economics. Helicopter

money is essentially a merging of fiscal and monetary policy, because new money is being created by central banks but distributed in the form of fiscal transfers. Central banks lack the authority to cut taxes or increase government spending. In this regard, helicopter money could threaten the independence of central banks by giving politicians some control over the money supply and the ability to finance increased government spending by printing money rather than with present or future tax hikes. Even if helicopter money were promised as a one-time occurrence,

politicians could always come back for seconds. Any short-run benefits of helicopter money could be greatly outweighed by the long-run harm of reduced monetary independence, which most economists strongly agree makes monetary policy less effective over time and creates inflationary pressures.

Additionally, helicopter money's effects may be hard to predict because its success depends largely on its ability to shape consumer behavior and inflation expectations. If consumers see such a policy as a sign of desperation, they may actually lose faith in the ability of central banks to conduct effective monetary policy, leading them to save the money instead of spending it — making helicopter money a failure. On the other hand, helicopter money, through its effects on expectations, could end up raising inflation well beyond annual 2 percent inflation targets.

Some politicians and economists in Europe and Japan are pushing to make Friedman's thought experiment a reality, and time will tell whether the European Central Bank and the Bank of Japan heed their advice. But in the United States, at least, it's doubtful that the Fed will begin coordinating policy with Congress anytime soon — in June, Fed Chair Janet Yellen said it might be considered only in a "very abnormal, extreme situation." **EF**



ILLUSTRATION: TIMOTHY COOK

# Was China Behind a Manufacturing Decline?

BY ERIC LaROSE

Since 2000, the number of Americans employed in manufacturing has decreased by nearly 30 percent, falling from roughly 17.3 million to 12.3 million. In the past few years, many politicians and pundits have blamed this decline on trade liberalization and new free trade agreements, particularly with China.

While economists express virtually unanimous agreement that the aggregate benefits of freer trade outweigh the aggregate costs, trade can still adversely affect certain groups. Indeed, numerous studies have found that manufacturing workers are hurt by increased import competition resulting from free trade agreements. In a July 2016 *American Economic Review* article, Justin Pierce of the Federal Reserve Board of Governors and Peter Schott of Yale University build upon this literature by examining whether one specific policy promoting freer trade with China has indeed hurt American manufacturing employment.

The authors focus on the establishment of Permanent Normal Trade Relations (PNTR) between the United States and China, passed in 2000 and effective in 2001. The

1930 Smoot-Hawley Tariff Act had set high “non-NTR” tariff rates for nonmarket economies such as China, but in 1980, China began receiving annual waivers allowing it the normal NTR rates. Such waivers were not considered inevitable but rather subject to frequent congressional votes and threats to end China’s NTR status. By permanently setting tariffs at relatively low NTR levels, the establishment of PNTR in 2000 thus eliminated a major source of uncertainty for firms seeking trade with and investment in China. Since PNTR’s implementation coincided with the decline in manufacturing employment, the authors investigate the causal effect of this specific policy on employment from 2001 to 2007.

Pierce and Schott define an industry’s “NTR gap” as the difference between its non-NTR tariff rate and its NTR rate for Chinese imports — that is, the difference between the industry’s rates before and after 1980. Industries with larger NTR gaps are more affected by this policy change and thus might be expected to have a larger response to it. The authors use data from the Bureau of Economic Analysis to calculate industry-level NTR gaps and from the Census Bureau’s Longitudinal Business Database to gather employment and industry data from individual firms.

Using this annual data from 1990 to 2007, the authors estimate an equation examining whether higher NTR gaps lead to larger employment losses following PNTR’s implementation. They find a negative and statistically significant

relationship between the imposition of PNTR and manufacturing employment. Although their identification strategy does not allow for an exact estimate of the share of the manufacturing employment decline accounted for by PNTR, Pierce and Schott conclude that “moving an industry from an NTR gap at the 25th percentile (0.23) to the 75th (0.40) of the observed distribution” produces an economically significant employment loss.

To strengthen these findings, the article examines other trends contemporary with the PNTR implementation that have been proposed as sources of this employment loss, such as policy changes in China, declines in unionization, and the bursting of the tech bubble. In response, the authors implement several control variables and still find a statistically and economically significant negative impact of PNTR

on manufacturing employment. Additionally, they examine manufacturing employment during this period in the European Union, which had granted the equivalent of PNTR to China back in 1980, two decades earlier than the United States. They find comparatively little man-

ufacturing employment loss in the EU, providing further evidence against alternative explanations to PNTR.

What explains the contribution of PNTR to this employment decline? The paper proposes four possible mechanisms. First, the reduced uncertainty created by PNTR may have encouraged firms to buy goods from Chinese rather than American manufacturers. Second, PNTR may have led to production offshoring. Third, lower expected future tariffs may have led to the substitution of capital for labor among domestic firms and a shifting away from labor-intensive product lines, since the United States has a comparative advantage in capital whereas China has one in labor. Finally, offshoring by one portion of a supply chain due to PNTR may lead to offshoring of other portions of the same chain.

Evidence indicates that all four of these mechanisms can partly account for the effect of PNTR on manufacturing employment. Thus, industries with larger NTR gaps experienced not only lower employment levels but also “increased imports from China, and higher entry by U.S. importers and foreign-owned Chinese exporters” as well as “shifts toward less labor-intensive production.” Overall, these effects point to the strong role played by trade policy uncertainty in firm behavior; with the previously high uncertainty over future tariff rates nearly eliminated by PNTR, firms have stronger incentive to establish trade relationships with China. **EF**

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# Tomorrow's Lenders?

**Online nonbank lenders have experienced tremendous growth. What promises, and perils, do they hold for the financial system?**

BY TIM SABLİK

**T** rue to its name, Prosper reported a good year in 2015. It originated \$3.7 billion in consumer loans, more than half its total since it began operations in 2006. Prosper isn't a bank, though. It's one of a growing number of new alternative lenders that are part of the broader "fintech" movement bringing a Silicon Valley startup spirit to the world of consumer and small-business finance.

Like most of its peers, Prosper boasts sleek web and mobile platforms and promises to connect borrowers quickly with the funds they need at a competitive and transparent price. And judging by the growth in this sector over the last two years, consumers have been increasingly taking these lenders up on that offer. According to an April study by the University of Cambridge's Centre for Alternative Finance and the University of Chicago's Polsky Center for Entrepreneurship and Innovation, online lenders more than tripled their lending volume between 2014 and 2015, from \$11.7 billion to \$36.5 billion. The bulk of this lending has been to consumers. (See chart).

This growth has been driven by both supply and demand factors. On the demand side, consumers and small-business owners are attracted to the ease of use and variety of options offered by alternative lenders. On the supply side, these firms claim to gain a cost and speed advantage over traditional lenders by forgoing physical branches and using advanced algorithms to instantly analyze huge swaths of new consumer data. Additionally, alternative lenders present a new opportunity for investors hoping for higher returns in a low interest rate environment.

But with expansion has come questions. Do these firms enjoy an advantage over traditional firms because of new methods and technology or because they have avoided costly financial regulations and oversight? As this sector has grown and evolved, financial regulators like the Office of the Comptroller of the Currency (OCC), the Treasury Department, the Federal Deposit Insurance Corporation (FDIC), and the Fed have begun asking in earnest: What opportunities and risks do these firms present for consumers, traditional lenders, and the financial system as a whole?

## A Marketplace for Loans

Alternative lenders began with a simple, and old, idea: connect savers with borrowers. The challenge lies in convincing savers to lend money to strangers when the latter know more about their likelihood of repaying than the former. Traditionally, banks have served as middlemen for these transactions. Savers make deposits that become the bank's liabilities. The deposits are federally insured, alleviating the need to worry about repayment. Banks use those deposits to fund loans, taking on the burden of assessing borrowers' risk so that savers don't have to. Banks then earn a profit on the spread between the interest they charge borrowers and the risk-free interest they pay depositors.

Many of the new online lenders connect savers and borrowers in a more direct way. Borrowers that come to Prosper or rivals like Lending Club are offered loan terms based on their credit history and other factors. Once approved to appear on the platform, these loans are listed on the site and investors can choose to invest in portions of any number of loans. Those savers earn a return based on the performance and riskiness of the loan, while the lending firm earns a fee from matching the two parties and facilitating the transaction. This peer-to-peer or marketplace lending draws on the power of the crowd, similar to funding websites like Kickstarter that pool hundreds of individual small-dollar donors to fund a big project.

Not all alternative lenders follow the same model, though. "Balance sheet" lenders like OnDeck,

a leading alternative lender to small businesses, are much closer to traditional banks. They hold a significant portion of their loans on their own balance sheet and earn revenue from the performance of those loans. Investors hold stock in OnDeck rather than investing in individual loans.

While they have been billed as disruptors to banks, the similarities of some of these online platforms to traditional players somewhat belies that image. In fact, many alternative lenders depend on traditional institutions to originate their loans. Borrowers that apply for a loan from Lending Club, for example, actually receive a loan from a brick and mortar bank (WebBank in Salt Lake City, Utah, which partners with several online lenders). By having a bank originate the loan, marketplace lenders can piggyback on its charter without obtaining one of their own. The bank then sells the loan to the alternative lender after a few days, which in turn securitizes the loan for sale to its investors.

Still, online lenders have innovated on the traditional underwriting model by looking at more than just credit scores. Alternative lenders say they analyze borrowers' social media accounts, educational histories, and online commerce sales at Amazon or eBay to glean more information not captured by traditional metrics. In theory, this information leads to a more accurate risk assessment of borrowers, allowing alternative lenders to price riskier loans more profitably and lower-risk loans more competitively than traditional lenders. Additionally, since individual investors rather than the firm bear the risk of the loans, marketplace lenders can hold less capital against their loans compared to traditional banks, further reducing their operating costs and passing those savings on to borrowers.

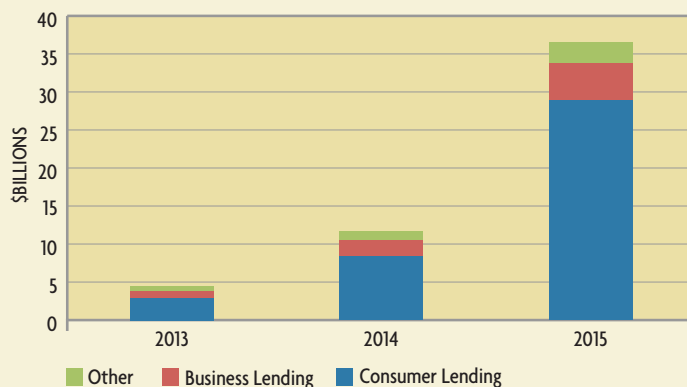
In recent years, online lenders have attracted funding from large institutional investors. For example, in 2010, Lending Club's investor base was entirely composed of individuals. By 2015, that number had shrunk to just 20 percent, with institutional investors and individuals acting through an investment vehicle or managed account making up the rest. Low loan losses and interest rates have attracted investors seeking solid returns, according to a 2015 report on the sector by Goldman Sachs.

This increase in investor participation is in part thanks to provisions in the Jumpstart Our Business Startups Act of 2012. "More people are eligible to invest in startups now in a broader way," says E.J. Reedy, a senior fellow at the University of Chicago's Polsky Center. "At the same time, you've got consumers that are more used to dealing with online platforms and are not as tied to a traditional bank branch. And you also have advances in algorithms and other technologies to provide scoring on loan applications. All of these things coming together have allowed for this kind of surge to happen."

### Filling the Gaps

By analyzing new sources of consumer data, these firms may be able to reach new consumers and businesses that have been underserved by traditional financial firms. At least, that's the hope.

### Market Volume of U.S. Alternative Lenders



NOTES: "Other" category includes marketplace real estate lending, various forms of crowdfunding, and invoice trading.

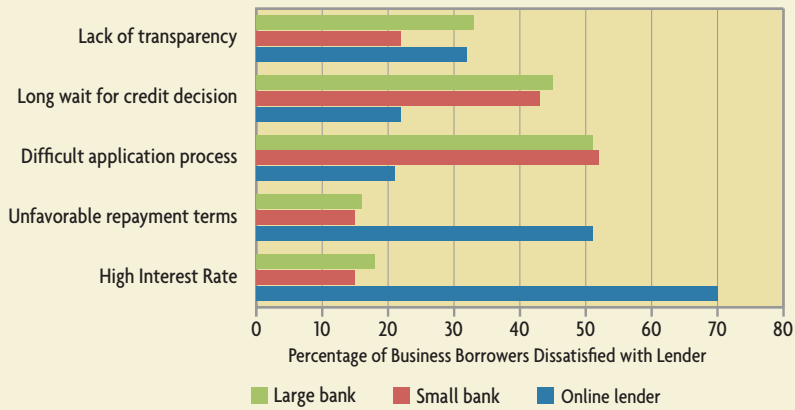
SOURCE: "Breaking New Ground," University of Cambridge Centre of Alternative Finance and University of Chicago's Polsky Center for Entrepreneurship and Innovation.

But for the most part, the typical borrower at an alternative lender looks a lot like the typical borrower at a traditional bank. For example, 80 percent of Prosper's loans are to borrowers with high credit scores, according to a 2016 study by the Treasury Department. What is drawing these individuals to online lenders rather than banks? According to surveys, borrowers rate the speed and ease of use of these new lenders relative to traditional banks very highly. This is particularly true among younger borrowers, who, according to a 2015 survey by Morgan Stanley Research, were most likely to have used or heard of alternative lenders. Price seems to be another draw. Morgan Stanley found that as much as 85 percent of marketplace loans to consumers are being used to refinance some form of existing debt, suggesting that borrowers are able to get better rates refinancing their debt with these new lenders.

Indeed, many alternative lenders have built their businesses on being able to identify low-risk borrowers better than traditional lenders. SoFi began in 2011 as a platform for alumni of Stanford University's Graduate School of Business to make loans to current students of the program. Today, its main service is providing student loan refinancing options to recent graduates from any accredited university or graduate program. Loans from the Department of Education carry the same terms for all students. SoFi advertises better rates for students who are employed with a steady income and who can demonstrate good financial history.

While having additional options is certainly beneficial to creditworthy borrowers, what about those who have historically fallen through the cracks? A growing number of startups are targeting these borrowers as well. LendUp, a San Francisco-based firm, recently raised funding to provide credit cards to less creditworthy borrowers. Additionally, alternative lenders have targeted small-businesses owners who have had trouble obtaining credit from banks. Traditionally, small businesses have relied on local community banks for loans, but the number of community banks has been falling steadily for decades. (See "Who Wants to Start a Bank?" *Econ Focus*, First

## Reasons for Borrower Dissatisfaction



NOTE: Survey respondents could select multiple reasons.

SOURCE: "2015 Small Business Credit Survey," Federal Reserve Banks of New York, Atlanta, Boston, Cleveland, Philadelphia, Richmond, and St. Louis.

Quarter 2016.) Both small and large banks have pulled back from making smaller loans in general since they carry the same costs as larger loans but fewer profits.

"The problem is that those are the loans that most small businesses want," says Karen Mills, a senior fellow at Harvard Business School and the former administrator for the Small Business Administration under President Barack Obama.

Part of the recent tightening of credit by traditional lenders was driven by uncertainty immediately following the financial crisis of 2007-2008. But while banks slowly loosened lending standards during the recovery, the July survey of senior loan officers on bank lending practices conducted by the Federal Reserve Board of Governors shows tightening again for large- and small-business lending. In a 2014 paper on the state of small-business lending with Brayden McCarthy (now a vice president at online lending marketplace Fundera), Mills argued that this retrenchment reflects structural impediments on traditional lenders. And in addition to the costs to banks for making smaller loans, there are costs to businesses for going the traditional route.

"The theory is you sit down with your banker and go over what kind of loan you need, and that's how you get the loan that's right for you," says Mills. "The problem is that it's a very cumbersome process that requires big time commitments for the small-business owner." Moreover, a business owner may have to go through that process multiple times to get the funds they need. According to the Fed's 2015 Small Business Credit Survey, only about half of businesses that applied for a loan from a bank received all the money they applied for.

### Balancing Access and Protection

While creditworthy borrowers have enjoyed savings by refinancing debt through alternative lenders, others have been less satisfied with the rates they've received. Of the 20 percent of firms in the Fed's Small Business Credit Survey that applied for loans from online lenders, more than 70 percent were approved for some credit. But those approved firms were on the whole unsatisfied with the high interest rates and repayment terms of their loans. (See chart.) According to the

Treasury's 2016 study, rates on consumer loans from online lenders can range anywhere from 6 percent to 36 percent annually based on the borrower's credit rating, compared to about 10 percent to 12 percent annually for a bank loan or credit card. Small-business loans at online lenders ranged anywhere from 7 percent to a whopping 98 percent annually in one case.

Concerns over high interest rates at online lenders mirror criticisms that have dogged other alternative suppliers of credit, such as payday lenders. A number of states have adopted usury laws capping allowable interest rates in order to limit these practices, though online lenders have found a way around these restrictions through their partnerships with brick and mortar banks. National and state banks that make loans to borrowers in other states only need to abide by their home state's usury laws.

By partnering with a bank headquartered in a state with no usury limit (such as Utah), platform lenders can effectively make loans at any interest rate across the country.

Some have argued that this violates the spirit of state usury laws. Last year, the U.S. Court of Appeals for the 2nd Circuit ruled in *Madden v. Midland Funding* that once a bank sells a loan (in this case, a credit card balance) to a nonbank, that nonbank does not enjoy the same exemption from out-of-state interest rate caps as the originating bank. This ruling calls into question the "valid when made" doctrine, which holds that a transaction between two parties that is considered not usurious when made cannot later become usurious. The implication of this decision is that alternative lenders that buy loans originated by banks could be subject to the usury laws of the borrower's home state rather than the bank's. In June, the U.S. Supreme Court declined to hear the case.

The debate over interest rate caps highlights their inherent tension. On the one hand, those laws are intended to protect borrowers with fewer options for credit from being exploited. On the other hand, preventing lenders from charging rates commensurate with a borrower's risk may dissuade them from lending to risky borrowers at all, denying credit access to the people usury laws are intended to help.

"To say that an expensive loan is inherently predatory, I don't think that's accurate," says Brian Knight, a senior research fellow at George Mason University's market-oriented think tank the Mercatus Center and previously head of the FinTech program at the Milken Institute in Santa Monica, Calif. "Some borrowers represent a sufficient risk that to get someone to lend to them, the rate is going to need to be higher. And the way to improve that cost is to facilitate competition so that prices can come down to an efficient market level. At the same time, we want to make sure that people have all the information they need to make an informed decision and ensure that there is no fraud."

Alternative lenders must already comply with federal and state consumer protection laws, such as the Truth in Lending Act, which requires lenders to fully disclose the

terms of loans to borrowers. And several business groups and online lenders came together last year to develop and endorse a Small Business Borrowers' Bill of Rights, which asserts that small-business owners have the right to clear and transparent loan terms and fair collection practices.

"The goal is to have thoughtful parameters around this market that do not get in the way of the innovation that has been helpful in filling the gap that traditional lenders have not been able to meet," says Mills.

### Oversight and Systemic Risk

Questions about consumer and business protections raises another question: Who oversees online lenders? But, Knight quips, the more appropriate question may be, "who doesn't oversee them?"

Banking regulators like the OCC, the Fed, and the FDIC have an interest because of those firms' relationships with banks. Online lenders must also register the securities they issue to investors with the Securities and Exchange Commission (SEC). And the Consumer Financial Protection Bureau (CFPB) has said it is accepting consumer complaints against online lenders.

Still, "there is a perception that some of these companies have been moving faster than regulators can keep up with," says Reedy. "We've definitely seen regulators in the last year move to clarify what the rules are." In addition to the Treasury, the OCC and FDIC have sought comments on and released reports about online lenders. The Fed, particularly the San Francisco Fed given its proximity to many of these startups, has also been studying them.

So far, financial regulators have largely taken a "wait and see" approach, though in August the FDIC announced a proposal to begin subjecting banks that partner with online lenders to greater scrutiny. This may be in response to concerns that some of the practices of online lenders could threaten the broader financial system through their bank partnerships. Some commentators have highlighted similarities in the way online lenders offload risk from their balance sheets to investors and the securitization practices that lay at the heart of the 2007-2008 financial crisis.

But it doesn't appear that the risks are entirely the same — at least not yet. Despite its impressive growth, the online lending market represents only a small fraction of the trillions of dollars in outstanding consumer debt. Moreover, the capital at risk in these ventures has been supplied by investors willingly undertaking risk rather than by traditional depositors whose deposits enjoy a taxpayer guarantee, says

Knight. Those investors have an incentive to be on guard for excessive risk-taking by the lenders, and they seem to have been active in trying to discipline bad actors so far, he adds. Investors hammered Lending Club earlier this year when it was revealed that its CEO had investments that constituted a conflict of interest and that it had wrongfully altered some loan applications. Lending Club responded quickly, firing its CEO and working to rebuild investor trust.

"I think the difference between now and 2007 is that there seems to be a lot more market discipline," says Knight. "Now that's not to say that if things keep growing that people won't get complacent. That's always a possibility. But I don't necessarily see that happening right now."

### Disruptors or Partners?

Lending Club is not the only alternative lender to have suffered a shakeup in recent months. Other major firms in the sector also reported losses over the summer as investors either pulled out or demanded higher returns on new loans to compensate them for risks that now seem higher than they initially believed. Financial commentators have also long warned that the underwriting models of these alternative lenders that rely on different consumer data have not been tested in a rising interest rate environment or during a downswing in the credit cycle. Recent troubles while interest rates and loan delinquencies are still relatively low has led many critics to sound the death knell for online lenders.

As the alternative lending space continues to evolve rapidly, it is too early to tell what form it will finally take. One possibility, says Mills, is that startups and traditional banks will increasingly find common ground for partnerships. Banks may find it cost-effective to outsource some of their technology needs to nimbler firms unencumbered by decades of legacy banking infrastructure. For example, in 2015, JPMorgan Chase decided to partner with OnDeck rather than develop a new online platform for small-business lending. For their part, online lenders gain access to banks' existing customer bases.

"It's very difficult for new players to find customers, particularly small businesses, because small-business owners are hard to reach — they are busy," says Mills. "Banks already have those customers. But for customers who want small-dollar loans, it's not cost effective for banks to serve them. So it seems like a good overlapping of needs."

Through partnerships, online lenders may yet reshape traditional finance — even if it's not quite the sweeping overhaul some had envisioned. **EF**

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# How Much Do State Business Taxes Matter?

States hope to attract businesses by cutting their taxes, but it's not clear how well it works

BY ERIC LaROSE

**O**n Jan. 1, 2016, North Carolina lowered its top state corporate income tax rate to 4 percent. One of the highest-taxed states in the South prior to a comprehensive tax reform package signed by Gov. Pat McCrory in 2013, North Carolina now has the lowest top state corporate income tax rate of the 44 states with such taxes.

“North Carolina’s tax reform was one of the three biggest state tax reforms in the last 30 years,” says Scott Drenkard, director of state projects at the Tax Foundation, a free-market-oriented tax policy research organization. But it’s hardly an isolated example; over the past several years, states across the country have been cutting taxes on businesses in an effort to foster economic growth. Within the Fifth District alone, West Virginia slashed its top marginal corporate net income tax rate from 9 percent to 6.5 percent between 2006 and 2014. And Virginia Gov. Terry McAuliffe recently proposed cuts for his own state, claiming that it needs to remain competitive with its southern neighbor.

## The Carolina Comeback?

The economic argument behind lowering state taxes on businesses is relatively simple: Everything else equal, lower tax rates in a state reduce the costs of doing business and consequently should make it more attractive for corporations to locate and expand there. North Carolina and Kansas are the two states that have perhaps embraced this philosophy the most since the end of the Great Recession. McCrory, for instance, echoed the view of many North Carolina lawmakers when he said that cutting business taxes would “help North Carolina compete for new businesses while growing existing ones.” Likewise, Kansas Gov. Sam Brownback argued that “pro-growth tax policy” would be a “shot of adrenaline into the heart of” his state’s economy.

Most businesses don’t actually pay taxes via the corporate income tax. More than 90 percent of firms, including S-corporations, sole proprietorships, and partnerships — what

most people consider “small businesses,” as well as some larger companies — are classified as pass-through entities, meaning their owners pay individual income taxes on their businesses’ profits; the corporate income tax only applies to profits on C-corporations, a category including most “big businesses.” For this reason, personal income taxes are also de facto business taxes, so state-level business tax reforms often target both personal and corporate income taxes.

North Carolina made cuts to both its personal and corporate income tax rates, lowering taxes for all businesses. But it also eliminated an income tax exemption on the first \$50,000 of net income for pass-through entities, a policy change that helped to create a more consistent business tax structure in the state even while dramatically lowering tax rates.

By most measures, North Carolina has had one of the stronger-performing state economies over the past few years and has experienced significant improvement in its performance relative to the rest of the nation. “At the beginning of the recovery, North Carolina’s GDP growth rate was 36th among the 50 states,” says Michael Walden, an economist at North Carolina State University. “By 2015, it ranked 10th.”

Last year, North Carolina’s real personal income grew about 3.9 percent, compared to the national average of less than 3.4 percent. The state’s unemployment rate, well above the national average from 2008 through 2013, equaled the national rate of 4.9 percent in June. Looking at all these figures plus statistics on housing, corporate equity, and other factors, a March 2016 *Bloomberg News* article concluded that the state “has gained the most economic ground over the past three years of any U.S. state.”

Many give North Carolina’s 2013 tax reforms much of the credit for this performance, arguing that they drastically improved the state’s business climate and encouraged more businesses to locate there. Prior to 2013, North Carolina had the highest top personal and corporate income tax rates in the Southeast. In response to these reforms, Drenkard



notes, the state has had the biggest-ever improvement in the Tax Foundation's annual state business tax climate rankings. "We used to rate North Carolina 44th in the country, which really stood out like a sore thumb in the South, and now we rank the state 15th," he says.

### **Trouble in Kansas**

Some states slashing business taxes haven't been as lucky as North Carolina. Kansas also implemented major business tax reforms starting in 2013. While these reforms didn't directly lower its top marginal corporate income tax rate of 7 percent, they did lower personal income taxes and, most importantly, completely eliminated the income tax on pass-through corporations. This policy change has meant that small businesses and S-corporations in Kansas no longer pay any income tax, even as larger C-corporations still face the state's relatively high 7 percent top marginal rate. The governor's office predicted that this would create more than 20,000 jobs in the state by 2020 and initiate an economic boom.

Instead, Kansas has seen extremely poor economic performance. The state's GDP shrunk during three of the four quarters of 2015, technically putting the state in a recession under one common definition of the term, and Kansas lost about 5,400 total jobs between February 2015 and February 2016. Between 2013, when the tax reforms went into effect, and the end of 2015, Kansas saw personal income growth of less than 4 percent, compared to over 6 percent from 2010 through 2012. This situation prompted Federal Funds Information for States, an organization tracking the impact of federal policies on state budgets, to rank the state's economy as the sixth worst in the nation.

Part of Kansas' troubles certainly results from recent declines in agricultural prices. But Kansas still lags behind its Great Plains neighbors such as Nebraska, which shares very similar demographic, geographic, and economic characteristics. Additionally, over 85 percent of recent job growth in the Kansas City metropolitan area has occurred in Missouri instead of Kansas. "It's difficult to identify the role Kansas' tax reforms have played in its weak economy, but it's very hard to argue that they've had the positive effects proponents predicted they would," says Peter Fisher, an economist at the University of Iowa and the Iowa Policy Project, a left-leaning think tank analyzing tax and budget issues.

What explains this huge difference between the experiences of Kansas and North Carolina? Some argue that North Carolina's tax changes were better for growth because they applied to and encouraged all forms of business activity. In this view, lowering overall business tax rates but eliminating the small-business exemption and other loopholes created both a more equitable and lighter tax burden. By leaving the corporate income tax unchanged but eliminating income tax on pass-through entities, Kansas effectively gave preferential treatment and exemptions to a certain category of businesses, argues Drenkard, creating perverse incentives in the process; since 2013, a large number of Kansas firms have reorganized themselves as pass-through entities to escape

paying taxes on profits. This trend suggests that the tax changes have likely encouraged companies to change their corporate statuses more than they actually stimulated additional small-business activity.

As a general rule, economists and tax experts prefer a simple business tax structure with lower overall rates to one with higher rates but riddled with loopholes, deductions, and incentives. Jason Furman, a former senior fellow at the Brookings Institution, summed up the rationale behind this principle of tax neutrality: "Generally the tax system should strive to be neutral so that decisions are made on their economic merits and not for tax reasons." Fisher agrees that "revenue-neutral reform that eliminates tax preferences and incentives while lowering rates would be sensible policy, though it is not clear that it would have much effect on growth."

### **A Changing Consensus**

Although there seems to be wide agreement among economists who have studied the issue that North Carolina-style tax reforms are preferable to Kansas-style ones, at least in terms of the incentives they create, the economics profession still remains divided over the true impact of broadly reducing statewide business taxes, as North Carolina did — even after grappling with this question for decades and conducting hundreds of studies on the matter. There has long been reason to believe that corporate income tax cuts probably have more of an effect on business activity than personal income tax cuts. A 1989 article in the *Southern Economic Journal* observed that when large corporations expand, they usually consider several potential sites, and tax rates may play some role in their decision. In contrast, smaller businesses usually form or expand where their owners already live; it is quite unusual for an individual to move to another state specifically to start a small business, let alone allow tax rates to influence where they move. "Among taxes that could have an impact on state economic growth, first and foremost would be the corporate income tax," says North Carolina State's Walden. A 2015 working paper by Xavier Giroud of the Massachusetts Institute of Technology and Joshua Rauh of Stanford University found that C-corporations are indeed more responsive, in terms of both employment and business creation, to corporate income tax cuts than are pass-through entities to personal income tax cuts.

Up through the 1980s, there existed a general consensus that, because state taxes were fairly small compared to federal taxes and other business costs, a state's corporate tax rates had no statistically significant effect on its wages, employment, or economic growth. This consensus in turn implied that personal income tax cuts failed to expand the business of tax-through entities too. In fact, economists believed that business tax cuts, at least at the state level, were mostly a zero-sum game, in a similar manner to targeted tax incentives. (See sidebar on next page.)

Since the mid-1980s, this consensus has broken down; a number of papers have found that state business tax cuts do have statistically significant positive economic effects, even

as other studies continue to find otherwise. For several decades, research on the topic faced several challenges, making it difficult to isolate the effects of state tax changes — for example, states often adjust tax rates in response to changing economic conditions, making it tricky to separate the effects of the tax change from those of the economic environment that led to the change. Some say the breakdown of this consensus has resulted from the use of increasingly sophisticated statistical techniques and methodologies allowing researchers to get around these problems. In an influential 1998 article in the *Journal of Political Economy*, University of Minnesota economist Thomas Holmes examined the effects of right-to-work laws on state economies by looking only at counties along state borders between states with and without such laws. This approach controlled for many economic factors in addition to policy changes between states, allowing Holmes to focus on causal effects of state policies. Since then, many economists have used this approach to examine other policies such as state

corporate and personal tax rates. In a 2015 working paper, Alexander Ljungqvist of New York University and Michael Smolyansky of the Federal Reserve Board of Governors examined counties along borders between states that either increased or decreased their corporate income tax rates. The authors found an interesting asymmetric result: State corporate tax increases led to “significant reductions in employment and income,” but decreases failed to boost economic activity.

There is disagreement among economists over whether cuts in state business taxes have *any* effect on a state’s economic performance, but they mostly agree that if they do, the impact is at most quite small. Syracuse University economist Michael Wasylenko conducted a literature review on the topic and summed up the majority view: “Taxes do not appear to have a substantial effect on economic activity among states,” except in hypothetical scenarios where one state’s business tax rates are exceptionally high compared to those of its neighbors and other similar states.

## Targeted Tax Incentives

In addition to cuts in overall state-level business taxes, state and local governments frequently use targeted tax incentives, which, as the name implies, are tax breaks designed to entice specific businesses to relocate to a region. For instance, in 2005, Texas state officials offered Samsung more than \$200 million in property tax rebates to get the company to locate near Austin. Currently, several Southwestern states are offering similar incentives to Facebook as the corporation looks to open new data centers. Although it’s nearly impossible to keep track of the total amount spent nationwide on these incentives, a 2012 *New York Times* report estimated this figure at more than \$80 billion per year.

Politicians hope that offering these incentives to businesses will sway their decisions about where to locate, thus providing jobs and other benefits for their respective states. If tax incentives do actually influence the location decision of a firm, then they create obvious and tangible benefits for the communities in which they locate. But most evidence suggests that, most of the time, targeted tax incentives do not sway location decisions; one report from the Institute on Taxation and Economic Policy concluded that “as many as 9 out of 10 hiring and investment decisions subsidized with tax incentives would have occurred even if the incentive did not exist.” This fact implies that states are essentially giving “free money” to large corporations.

Along these lines, many have likened these policies to subsidies or corporate welfare programs rather than to traditional tax cuts. Targeted tax incentives “do not improve conditions for business development but instead seek out specific businesses and cut them deals so they will develop,” argues Scott Drenkard of the Tax Foundation.

Even if tax incentives were widely effective in persuading firms to locate in certain communities, they would still be

hard to justify economically. Targeted tax incentives are a clear example of a zero-sum game — one community’s gain is an equally large total loss for everywhere else. In this case, the jobs and wages a community receives due to the incentive are balanced out by the fact that these jobs are taken from other locations in which businesses would have located instead.

Additionally, the positive benefits enjoyed by these certain communities may be only temporary. Companies receiving tax breaks to move to a municipality are always free to relocate or shut down when economic conditions change. During the Great Recession, General Motors closed over 50 of its properties for which it had received state and local tax breaks to build. Economist Jeffrey Dorfman of the University of Georgia has noted that in such instances, communities are often made worse off than they would have been if the company had never located there to begin with, since they are still stuck paying for now-unneeded infrastructure built to accommodate these businesses.

For these reasons, the use of targeted tax incentives is overwhelmingly opposed by economists and even groups such as the Tax Foundation that advocate for lower tax rates across the board. Economists at the Minneapolis Fed have even called for a federal ban on state and local tax incentives, arguing that this would save taxpayer money without inflicting overall economic harm, since businesses would still have to locate *somewhere*.

Despite the economic inefficiency of targeted tax incentives, they will likely remain popular policy. Nevertheless, state governments would probably see much better results from creating a better climate for all businesses than from giving handouts to specific ones.

— ERIC LAROSE

## Small Costs, Small Benefits

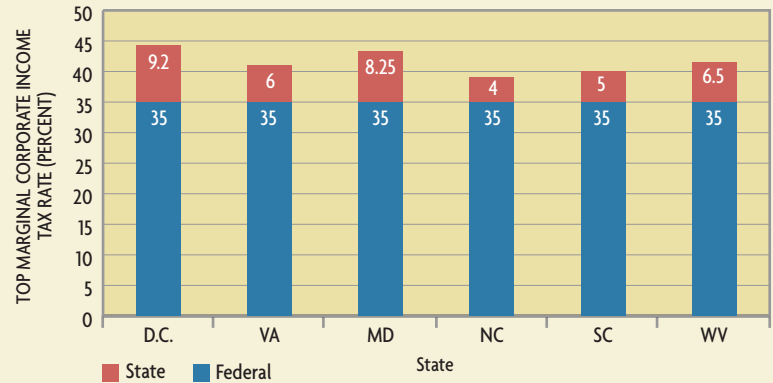
The most direct explanation for the fairly modest effects of state business tax cuts is what many economists have believed for decades: State-level personal and corporate income taxes are too small to be of much consequence to businesses. According to the Iowa Policy Project, total state and local business taxes constitute less than 2 percent of average total business costs across every state. Moreover, taxes on business income comprise only about 10 percent of the total amount paid in such taxes. In his literature review, Wasylenko estimated that a 1 percent decrease in total state taxes paid by businesses would eventually increase that state's GDP by about one-fifth of a percent. In practice, this means that, for instance, a 25 percent reduction in a state's business income tax rates would only increase its GDP by one-half of a percent — hardly the economic boom often hoped for by policymakers in such instances.

While supporters of tax cuts often say that by spurring economic activity they expand the tax base and partially pay for themselves, they almost always lead to a net reduction in tax revenue. Since 49 states are required to balance their budgets, this means either lower spending or tax hikes in other areas as well. As a result of Kansas' tax reforms, its tax revenues have plummeted; at the end of the 2016 fiscal year in June, the state had over a \$100 million budget shortfall, with tax collections for May alone nearly \$75 million less than expected. (North Carolina has not faced similar issues, partly due to heavy population growth and the elimination of certain tax exemptions.)

Many studies have found that increased state spending on items such as infrastructure and education does positively influence state economies, much more so than state tax cuts. If state tax cuts force budget cuts as well, then the effects may essentially cancel each other out. A 1990 article in the *Review of Economics and Statistics* found that tax increases had negative economic repercussions only when the increased revenue was used to fund transfer payments such as unemployment insurance or state welfare programs; likewise, tax cuts could be harmful if they forced cuts on health care, education, and infrastructure. Fisher argues that many studies on state tax rates find statistically significant results only because they hold state spending constant instead of taking into account the inevitable impact of tax cuts on budgets. It's possible that Kansas, which has cut millions of dollars in funding for higher education and been forced to delay numerous road improvement projects, may actually be made worse off by its tax cuts.

Of course, businesses pay federal as well as state taxes. A C-corporation faces a top state-level corporate income tax rate between 5 percent and 8 percent in most states, with Iowa having the highest rate at 12 percent. Likewise, a small-business owner usually pays a top state-level personal income tax rate of 3 percent to 7 percent and no more than 13.3 percent (in California). In contrast, the federal

## Top Marginal Corporate Income Tax Rates in Fifth District States



SOURCE: Federation of Tax Administrators

government imposes a 35 percent top corporate income tax rate on C-corporations, more than any other government within the Organisation for Economic Co-operation and Development. Similarly, pass-through entities are taxed at up to a rate of 39.6 percent.

Thus, federal tax rates dwarf their equivalent state rates and minimize the relative impact of variations between state tax regimes. (See chart.) A large corporation that moves from, say, North Carolina to Louisiana doubles the top state corporate income tax rate it pays. But because it pays the same federal rate, it increases the total top rate it pays by barely 10 percent. For this reason and others, many economists have advocated heavy reductions in the federal corporate income tax to promote economic activity even as most of the profession remains skeptical of large positive effects of state tax cuts. (See "Taxing the Behemoths," *Econ Focus*, Third Quarter 2013.)

Still, in this age of political polarization, large-scale federal reforms may be economically desirable but are probably politically unrealistic. "We haven't seen real federal tax reform since 1986," Drenkard explains, "and the states are taking a front seat on this and trying to do what they can."

## Can States Do Anything?

Economists debate the role of other state policies, such as right-to-work laws and regulatory environments, in creating better business environments that foster growth. And there does seem to be significant agreement that states can increase the productivity of their future workforce by improving their education systems, possibly through greater funding. "The single biggest improvement that states can make to improve their economies in the long run would be to improve K-12 education performance," Walden argues. "You'll hear that from almost any economist you talk to."

But some of the most important factors affecting state economic performance are probably outside the scope and influence of any policy originating in state capitals, at least in the short run. A state's growth rate has been found to be heavily shaped by its demographic makeup and economic

*continued on page 22*



# SOCIAL SECURITY: AN AMERICAN EVOLUTION

The story of our biggest government program is not just about politics.  
It's also about the influence of a diverse group of economists

BY HELEN FESSENDEN

Ida May Fuller, a retired secretary in rural Vermont, was running errands in the town of Rutland one day in November 1939 when she decided to make a detour. She stopped by the local office of the recently established Social Security Administration to ask whether she might be eligible for benefits. “It wasn’t that I expected anything, mind you,” she explained later. “But I knew I had been paying for something called Social Security and I wanted to ask the people in Rutland about it.”

After Fuller filed her claim, the Treasury Department grouped it into the batch of the very first 1,000 payments to be sent out. Hers was at the top of the list, which is how she became the first American to receive a monthly Social Security check. Dated Jan. 31, 1940, it totaled \$22.54 — about a fifth of average monthly wages back then.

What started as a modest check to a Vermont secretary has become the largest government program on the books. In 2015, it provided about \$897 billion in payments to 60 million beneficiaries, covering seniors, dependent survivors, and those on disability — about 5 percent of U.S. gross domestic product. It is the most important source of cash support for low-income seniors and consistently ranks as one of the most popular government programs.

Still, Social Security has been getting fresh scrutiny. Some lawmakers are urging action to address long-standing gaps, especially for widows and single mothers without long work histories, who are more likely to fall into poverty in old age. At the same time, the financing challenges stemming from declining fertility and baby boomer retirements are becoming more acute: Fewer workers will be available in coming decades to support more retirees. Whereas four workers supported each recipient in 1965, that ratio will fall to an estimated 2 to 1 in 2030. Due to these pressures, government forecasts project the Social Security Trust Fund (the accumulation of past surpluses, invested in U.S. Treasuries) will start to be drawn down in 2020 and then be depleted in 2034. This means that, absent a policy fix, anyone who becomes eligible that year or after would get substantially reduced benefits, by about a fifth.

What did Social Security achieve, and why did it evolve the way it did? In part, the program’s history has been shaped by the usual give-and-take of political bargaining. But it also reflects the application of research by some of the most influential American economists as the modern postwar welfare state grew — and then came under strain. Among the most seminal figures are Robert Ball, whose

four-decade government career profoundly shaped the program; Alan Greenspan, who led the bipartisan commission in the early 1980s that pulled Social Security back from insolvency; and two of the most famous postwar Keynesians, Paul Samuelson of the Massachusetts Institute of Technology and James Tobin of Yale, both Nobel laureates. In more recent decades, another influential scholar has been Martin Feldstein, the Harvard economist who has been among the most prominent backers of a more market-based approach to reform. In very different ways, each left an imprint that is visible today in the debates about the program’s future.

## ‘The Hazards and Vicissitudes of Life’

Most Americans today wouldn’t recognize the program as it was laid out in the 1935 Social Security Act. It covered only about half of all workers, and until 1939, it didn’t even offer benefits to spouses, widows, or children who lost a wage-earning parent. Benefit payments, relative to wages, were more modest than today’s average replacement rate of around 40 percent. But other core principles have remained intact. One has been “pay as you go” financing through payroll taxes, split between employer and employee — a feature that President Franklin Roosevelt sought so that the program would neither add to the deficit nor be subject to the vagaries of congressional appropriators. (In fact, monthly payments weren’t initially scheduled to start until 1942, so that reserves could be built up; responding to public pressure, Congress decided in 1939 to start disbursing checks early.) Another principle has been that the expected benefit is tied to career earnings and, in turn, to the amount of payroll taxes paid. However, Roosevelt also pushed a progressive payment formula so that lower-income seniors got a larger share of their wages than their better-off counterparts. In short, Social Security was a fusion of two approaches. It was a transfer program in that there was some redistribution of income from current workers to retirees along progressive lines. But it was also an insurance program in that the government applied the funds to protect against old-age risks such as outliving savings.

More broadly, the 1935 Act was part of a bigger shift — a global evolution toward old-age insurance that began in the 19th century. In the United States, the earliest of such schemes was a Civil War benefit for disabled Union veterans and family survivors. These benefits evolved into a broad Republican political strategy in the decades following the war, so much so that by 1900, around three-quarters of

surviving soldiers got disability benefits. Financed mostly by tariff revenue, the program was one of the biggest items in the federal budget. Meanwhile, other industrializing nations, starting with Germany, began developing public insurance policies to help their aging citizens who could no longer work or rely on extended family support, something that often fell away as workers moved to cities. Last but not least, life expectancy was growing, so much so that by the 1930s, a 65-year-old American man could expect to live to 77, while a 65-year-old woman typically lived to 79.

The convergence of urbanization, industrialization, and longevity meant that older Americans in the early 20th century were increasingly likely to fall into poverty once they could no longer work. This trend became acute during the Depression, when the poverty rate of those over 65 rose to 78 percent, compared to about a third of all households. After the Civil War generation passed on, some U.S. states developed their own old-age insurance programs but these tended to be limited. To the New Dealers, then, a federal effort to combat old-age poverty and smooth out wage-volatility risk was a core goal. “We can never insure one hundred percent of the population against one hundred percent of the hazards and vicissitudes of life,” said Roosevelt at the bill’s signing. “But we have tried to frame a law which will give some measure of protection ... against the loss of a job and against poverty-ridden old age.”

### The Age of Expansion

The Great Depression provided the political catalyst for Social Security, but its theoretical framework can be traced to a group of scholars known as institutional economists, starting around World War I. This approach, technocratic in bent and tied to the Progressive movement, heavily influenced the labor movement and the New Dealers, and two well-known institutional economists, Edwin Witte and Arthur Altmeyer, helped draft the 1935 Act. It also happened to make an imprint on the studies of a young Robert Ball as he pursued a master’s degree in economics at Wesleyan University in the mid-1930s.

After working in mid-level positions in the Social Security Administration during World War II, Ball’s first major role came in 1947 when he was appointed as staff director to a government panel to assess whether benefits — which remained modest and grew very slowly in the 1940s — should be enhanced. The panel’s 1949 report helped persuade Congress to substantially hike benefits so they moved above subsistence and to expand eligibility to more workers. Starting in 1950, Congress approved a series of benefit hikes as well as the inclusion of domestic, agricultural, and self-employed workers — all initiatives Ball continued to push as he took on more senior positions. The introduction of disability benefits followed in 1956. In effect, Social Security was supplanting the traditional patchwork of state old-age programs, becoming the universal program known today as old-age and survivors’ insurance. Amid strong wage and population growth, by the end of the 1950s, the government

**From the start, Social Security was a fusion of two approaches: a transfer of income from young to old, and insurance against old-age risks.**

had authorized four major increases in payments, effectively doubling average monthly benefits and expanding covered jobs to most of the work force, while lifting the payroll tax by only 2 percentage points and the taxable income base from \$3,000 to \$4,800. By 1959, the poverty rate for the elderly had dropped to 35 percent compared to about 18 percent of the working-age population. In 1961, early retirement (at age 62) was extended to men. And after Ball took over as commissioner in 1962, the program saw further expansion through more generous disability benefits.

Throughout the program’s growth, Ball held certain concepts constant. First, he maintained that benefits should provide enough assistance that they keep the retiree above poverty, but they shouldn’t be so generous that they are the *only* source of support — otherwise, workers might not save enough themselves. Second, he believed in universal coverage not only as a way to achieve poverty reduction, but also to give the program the broadest political support possible. Finally, he argued that benefits should remain tied to average wages in some way so that workers would view Social Security as an “earned” benefit rather than a handout.

“The thing that has appealed to me most ... is that it supplies a continuing income to groups who without it would be most susceptible to poverty,” Ball said in 1973, when he retired as commissioner. “Yet it does this through their own effort — the protection grows out of the work they do.”

### ‘The Greatest Ponzi Game’

As Social Security began transforming American retirement in the postwar years, economists began analyzing the ways that social insurance more broadly could coexist with a market economy. One of the most influential was Paul Samuelson, who famously developed a model in the 1950s to explain how old-age insurance could be financed across generations. As he described it in a 1958 paper, two “overlapping generations” coexist in an economy: working adults and the nonworking elderly. In their working years, people are able to save more, while in old age they tend to consume more and save less. But under a program such as Social Security, a retiree can receive far more in benefits than he or she has paid in, because those payments are financed by taxes drawn from an ever-growing economy and an ever-growing population of workers (in effect, expanding the transfer component). As long as the rate of return on tax revenue is compounded each year, Samuelson explained, the amount drawn from the wages of current workers is always greater than the taxes paid by preceding generations. “Social Security is squarely based on what has been called the eighth wonder of the world — compound interest,” he wrote in 1967. “A growing nation is the greatest Ponzi game ever contrived.”

James Tobin, like Samuelson, was keenly interested in social insurance schemes. Starting in the 1950s, he complemented Samuelson's work by analyzing, among other things, how people price risk in their investment choices, how demographics and productivity impact Social Security forecasts, and whether payroll taxes diminish the propensity to save. Both in his academic and public work, he argued that a universal, inflation-indexed old-age insurance system was economically efficient if run well: It prevented adverse selection while providing stronger guarantees against a greater range of risks. Those risks included outliving your private savings and pensions (since we don't know when we'll die), surviving a spouse who had provided support, or seeing inflation erode the value of personal assets. (Tobin would also note that the richer and more stable an economy, the lower those risks will be in the aggregate.) Finally, as he saw it, because the government made a political decision in the New Deal to protect people against extreme indigence, even if they didn't save during their working years, the commitment must go both ways — and that meant mandatory participation through payroll taxes.

"Since we know as a country and a government that we will bail such people out," he explained in a 1990 speech, "we have a right to insist that they save at least the minimal amounts that would be necessary to prevent the government from having to intervene in that way."

### Years of Retrenchment

Two developments in the 1970s upended core assumptions of the postwar social insurance models. One was that population and economic growth began to slow down from the boom years, which meant the expectation of sufficient compounded rates of return might no longer apply to later generations. The other was that inflation was increasing far more quickly than before — and policymakers had a poor grasp of how to contain it. Without a way to control inflation and a way to peg Social Security benefits to prices, retirement security would quickly erode.

These were the challenges Ball had to grapple with late in his career as Social Security commissioner. Starting in the late 1960s, Congress approved ad hoc benefit increases that often exceeded inflation. In total, from 1940 to 1974, nominal benefits rose by 391 percent, whereas inflation increased by only 252 percent. A key objective for lawmakers was to find a way to adjust benefits automatically for inflation, so they didn't have to keep revisiting the issue. Congress passed in 1972 the first-ever legislation pegging benefits to the consumer price index. But policymakers soon discovered that their formula accidentally made benefits far more expensive than intended because it erroneously adjusted them for inflation twice. By 1975, two years after Ball stepped down as commissioner, Social Security began to run deficits, and in 1977 Congress passed amendments to bring benefits closer to real wage growth. Those reforms helped, but they failed to restore fiscal balance, in part because of stagflation's extreme effects on wages and inflation.

In 1981, the Social Security Administration projected that the trust fund had only two years left before it would be fully depleted, forcing benefit cuts. The Reagan administration first floated a proposal to cut benefits, including sharp reductions for early retirees, which the Senate unanimously rejected. The administration then decided to convene a bipartisan panel of experts and key lawmakers to find a more palatable alternative. The commission's leader: Alan Greenspan, who had served as chair of the Council of Economic Advisers in the Ford administration.

### The Grand Bargain

Greenspan had spent most of his career as a forecaster, not an academic, and he had published little on specific fiscal programs. But for decades, he had warned about the general risk of unsustainable growth of government spending. In a 1971 paper, for example, he warned that an inevitable fiscal squeeze would lead to a rationing of government benefits, including Social Security, and cause "polarization of societal groups." Later, in his 2007 memoir, he would write that his own preference for any Social Security reform had always been a private-account approach that would invest some of the payroll tax into the stock market.

On the panel, however, Greenspan took on a pragmatic role. With help from Ball, who had been tapped for his technical expertise, Greenspan convinced the group to first agree on the numbers so that they could define the solvency crisis before doing anything else. After hard bargaining throughout 1982, all agreed that they could sign off on limited concessions as long as they were distributed equally. The final report in early 1983 won Republican support by temporarily freezing the inflation adjustment and cutting benefits for future retirees by lifting the full retirement age from 65 to 67 — but very slowly and incrementally and not starting until 2000 (effectively masking some of the costs of reform). The plan brought along Democrats by making adjustments on the revenue side, including taxing Social Security benefits for the first time. The bipartisan weight behind the report galvanized Congress to act within months. But deadline pressure may also have had something to do with it. By the time the final legislation passed in April, the trust fund was estimated to be only four months away from depletion.

In his memoir, Greenspan called the episode a "virtuoso demonstration of how to get things done in Washington." The episode also built his credentials as an effective leader, four years before Reagan tapped him as chairman of the Federal Reserve Board. The 1983 legislation brought the trust fund back into balance two years later, and to this day many experts see the mix of benefit cuts and higher taxes as a template for any future fix. Talk of curbing the growth of future Social Security benefits came up again in 2011, for example, during unsuccessful bipartisan talks on a budget "grand bargain." Most recently, the Bipartisan Policy Center, a nonprofit led by former lawmakers from both parties, has called for a similar balance between benefit cuts and tax hikes as part of a comprehensive plan on

retirement security. The political challenge of addressing solvency is so daunting, however, that no overhaul has come close to passage since 1983.

### Getting Personal

The 1983 reform ensured solvency through the early decades of the 21st century. But Ball, Tobin, Greenspan, and many other economists also realized at the time that the lower birthrates of the modern era, and the onset of baby boomer retirements, would mean that fewer workers had to support a growing population of retirees in the generations thereafter. (See chart.) By the 1990s, the implications of the demographic crunch were becoming evident with each Social Security Trustee Report. At the same time, the robust stock market led many Americans to expect higher returns on their investments in general. And as the budget surplus emerged in the late 1990s on the heels of the boom, some policymakers asked whether part of that money might finance a “down payment” on a Social Security reform in the direction of privatization. Indeed, starting in the 1980s, some nations began limited experiments in privatized pension financing. The idea was that personal saving and investment should take on a greater role in retirement security, reducing the need of the government to raise taxes or cut spending to fund the pensions of an ever-growing population.

Martin Feldstein, who headed the Council of Economic Advisers under Reagan, was a leading advocate of this route. The option of raising Social Security taxes, he warned, would push the marginal tax rates so high that they would reduce the incentive to work. But if one compared the stock market’s historic rate of return — which he calculated at about 7 percent a year — to the implicit rate of return as measured by the growth of the tax base (about 2.5 percent), a long-run solution that diverted some of the payroll tax into “personal” accounts could make up the financing gap. These accounts, by investing in diversified stock funds akin to 401(k)s, would yield higher returns than they would as payroll tax dollars, he concluded.

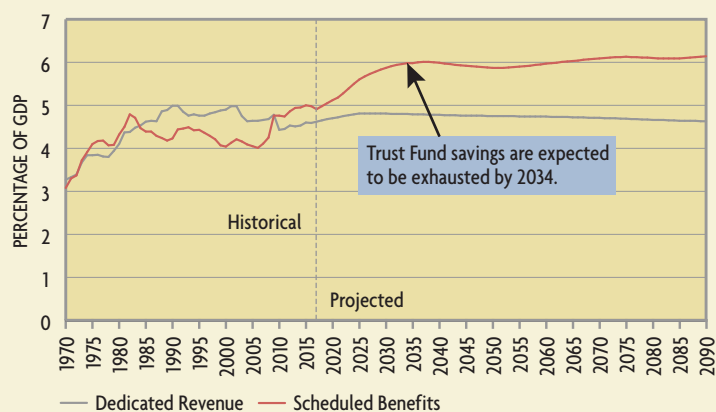
The challenge, as Feldstein acknowledged, was that there was a still a tough trade-off for policymakers. Any revenue diverted from taxes meant current benefits would have to be trimmed, and the scheme would require an ongoing series of benefit cuts as the retiree population grew. Still, he argued, total benefits would rise over time due to the higher projected returns on personal accounts.

Other economists took issue with some of those assumptions. For example, Peter Diamond of MIT and Peter Orszag, then of the Brookings Institution, noted that the effective rate of return on Social Security had to be discounted in any case for the substantial “legacy debt” that the trust fund had to pay off for the first wave of recipients, who got far more than they paid in. Furthermore, the program’s lower return reflected its far lower risk compared to stock-market investment. Other economists questioned the premise that stock-market returns would be as high and consistent as Feldstein assumed.

As the political tides shifted, this approach, in an altered fashion, got its chance for a real-life test in 2005 from the

### The Social Security Funding Gap

Social Security revenue and outlays as a percentage of gross domestic product (GDP).



NOTES: “Scheduled benefits” represent what Social Security recipients would be owed under the current formula. “Dedicated revenue” represents what Social Security receipts would be if taxes or policy are unchanged. Both are based on long-term demographic and economic forecasts by the Social Security Administration.

SOURCE: U.S. Social Security Administration, as adapted by the Bipartisan Policy Center in its *Report of the Commission on Retirement Security and Personal Savings* (July 2016).

Bush administration. After a few months of debate, however, it died in the Senate. Lawmakers couldn’t agree on how to fill the financing gap, and no one in either party wanted to consider actually cutting benefits. Further complicating the math, the budget surplus was gone. Three years later, the financial crisis and stock market crash greatly reduced the public’s appetite for retirement investment risk.

The idea of adding a personal-account component to Social Security is now considered a political long shot in Washington, even as other nations — including Australia, New Zealand, Mexico, and Sweden — have been expanding experiments in partial privatization in recent years. That said, Feldstein and others have had more success in pushing for ideas that would slow the growth of benefits over time. One proposal is to lift the full retirement age by up to three more years, reflecting the increase in life expectancy since the 1983 reform. Seniors would still be eligible for early retirement at age 62 (which yields lower benefits), but they would receive more if they opted to wait longer before applying for full benefits. As Feldstein has pointed out, the change in full retirement age has coincided with a higher labor force participation rate among seniors in recent decades — which means more are paying into Social Security. The idea of boosting the full retirement age has recently gotten more attention from a broader array of economists and experts, including the Bipartisan Policy Center’s proposal.

### A Changing Safety Net

What is the extent of Social Security’s current solvency challenge? Each year, the trustees of the Social Security Administration release the official report on the program. This year’s report calculated that if the program is to be restored back to full solvency over 75 years, it would have to make up a “payroll deficit” of 2.66 percent; that deficit, in effect, is the difference between expected revenue from taxable income and expected outlays. This means that either payroll tax rates can go up or that the tax base could be broadened

by raising the cap on taxable income, now set at \$118,500. Those who favor the latter route argue that the spike in higher incomes relative to median wages over the last 30 years has left a larger share of high earners undertaxed when it comes to Social Security earnings. But others say that, for any deal to include higher taxes, benefit cuts of some sort will have to be included. Whatever form an overhaul might take, most economists agree that if the right steps are taken soon, the program can be brought back to long-term solvency without drastic changes or sharp benefit cuts starting in the 2030s.

Scholars are also trying to apply new lessons from the Great Recession as a test case of the program's function as a safety net. Broadly speaking, the program's initial purpose of protecting seniors against life's "vicissitudes" has been borne out by research, across booms and busts, in an economy that is far different from the one in Roosevelt's day. A 2012 report by the Center for Retirement Research at Boston College, for example, concluded that early benefit claiming played an important role as an income guarantee during the worst of the downturn. It found a 5 percentage point spike in early benefit

claiming from 2007 to 2009, and that it was closely correlated to movements in the unemployment rate. Taking a longer view, economists Gary Engelhardt of Syracuse University and Jonathan Gruber of MIT have noted a strong correlation between the historic expansion of Social Security benefits and the concurrent fall in the elderly poverty rate — indeed, explaining the entire decline in the elderly poverty rate between 1967 and 2000. (That rate dropped to around 10 percent in the 1990s, and it has stayed there since.)

As for Ida May Fuller, she received checks until she died at age 100 in 1975. The payments came to about \$23,000 over those 35 years, and she said they were enough to cover most of her basic expenses in later years after she moved in with a niece. But Fuller, a Republican, was always a skeptic about Roosevelt, and the program's expansion during her years in retirement didn't sit with her well.

"Every time they raise [benefits], they raise the amount taken away from the working people who pay into it," she told a reporter in 1970. "And it's just getting to be too much of a burden." **EF**

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## How Much Do State Business Taxes Matter? *continued from page 17*

structure, among other things, and there are clearly regions that are prospering in spite of high taxes and other policies generally considered "anti-business." The booms in cities such as San Francisco and New York, which are located in high-tax states, suggest that other factors are outweighing the regulatory and tax burdens coming out of Albany or Sacramento. For instance, a 2010 book edited by Harvard economist Edward Glaeser suggested that agglomeration benefits may have risen in recent years, making it more

attractive for, say, a high-tech startup to locate in Silicon Valley than in Nevada, a much lower-taxed state with a much smaller concentration of similar firms.

And perhaps most importantly, state economies generally tend to fluctuate along with the national economy. "Changes in the national GDP growth rate account for 70 percent of the change in North Carolina's GDP growth rate," notes Walden. "The single most important determinant of economic growth in North Carolina is economic growth in the nation." **EF**

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## Out of the Ashes

Winston-Salem is transforming its economy from tobacco to medical research

BY TIM SABLİK

**D**owntown Winston-Salem, N.C., used to be the heart of tobacco manufacturing in America. Factories and warehouses belonging to R.J. Reynolds, once the largest tobacco company in the world, dominated the cityscape. Today, instead of cigarette machines and factory workers, many of those buildings house medical lab equipment and researchers from Wake Forest University's School of Medicine, Forsyth Technical Community College, and Winston-Salem State University, as well as more than 60 companies.

The activity downtown is a welcome change for residents after turbulent times. For most of the 20th century, locals had grown accustomed to decade after decade of growth. But for the first time in 1980, the city's population declined. Then the real bad news began. McLean Trucking, the fifth-largest trucking company in the country and employer of some 10,000 people in Winston-Salem, declared bankruptcy in 1986. Piedmont Airlines, renowned for bringing a bit of the city's Southern hospitality to fliers across the country, was acquired by USAir in 1988; the new owners promptly shifted over 5,000 jobs from Winston-Salem to other locations. That same year, AT&T closed an office in the city that at its height had employed about 13,000 people. But the worst dagger to the city came in 1987, when Reynolds' new management moved the company headquarters to Atlanta.

"City leaders had counted on these companies to provide their growth," says Gayle Anderson, president and CEO of the Winston-Salem Chamber of Commerce. "All of a sudden, that wasn't going to happen anymore."

### The Rise of Camel City

Like much of the South, neighboring Winston and Salem, N.C., owed their initial growth largely to two plants: cotton and tobacco.

"King Cotton" came first, with Salem's first textile mill opening in 1836. At the turn of the 20th century, Pleasant H. and John Wesley Hanes started the clothing company that would go on to become a globally recognized brand. Winston, established after Salem in 1849, gravitated toward tobacco. In fact, the Hanes brothers initially came to Winston in 1872 to make their fortunes in the tobacco industry. But the true heir to "King Tobacco" would arrive two years later.

Richard Joshua Reynolds was drawn to Winston by the newly constructed North Western North Carolina Railway spur connecting the town to Greensboro, N.C. The Forsyth County soil was also perfect for growing North Carolina's popular bright-leaf tobacco. The son of a Virginia tobacco

farmer and manufacturer, Reynolds established his first "little red factory," which was no larger than a tennis court, next to the railroad track and began producing his own blend of chewing tobacco.

By the time Winston and Salem merged in 1913, Reynolds had established himself as the dominant tobacco maker in town. That year, he introduced Camel cigarettes to the country. They were an instant hit. In the first year alone, Reynolds produced more than 1 million Camels. By 1921, his company was making billions of them, and they accounted for half of the cigarettes smoked in the United States, earning Winston-Salem the nickname "Camel City." America's entry into World War I was good for Reynolds and Hanes, which supplied cigarettes and undershirts for soldiers. Winston-Salem was importing and exporting so many goods and materials that it was declared a "port of entry" by Congress in 1916 — the farthest inland port up to that time and the eighth largest in the country.

People flocked to Winston-Salem as its businesses roared into the 1920s. Between 1910 and 1920, its population more than doubled from about 22,000 to 48,000, making it briefly the largest city in North Carolina. While not a "company town" per se, one didn't have to look far to see Reynolds' influence on Winston-Salem. From the 22-story R.J. Reynolds Tobacco Building (recognizable to anyone familiar with the Empire State Building, since the architects used a scaled-up version of the same design for the iconic New York skyscraper), to the smokestacks of the Bailey Power Plant emblazoned with the company name, to the Reynolda House Museum of American Art, Reynolds' name is everywhere. As a number of local histories recount, not much happened in the city without the approval of Reynolds executives.

Residents didn't resent this relationship, however. Reynolds offered well-paying jobs with good benefits, and company executives gave generously to build their community. A fund established by the family of Bowman Gray, the company's third president, helped create a medical school at Wake Forest University, and members of the Reynolds family persuaded the university to move to Winston-Salem in 1956. Two years later, Reynolds became the largest tobacco company in the world, and its success spurred the growth of supporting businesses like McLean Trucking and Wachovia Bank, which handled Reynolds' accounts. Then, things started to unravel.

### Up in Smoke

Signs of trouble came slowly at first. Studies linking cigarette smoking to lung cancer began trickling in during the 1940s



*Winston-Salem's skyline preserves the past as it looks to the future. The Bailey Power Plant, which once fueled factories for R.J. Reynolds Tobacco Co., is being renovated as part of a new research and innovation district.*

and 1950s. In 1964, the Surgeon General issued its first report warning that smokers faced a much higher risk of developing lung cancer and other lung diseases than nonsmokers. While Reynolds and other tobacco manufacturers fought these charges, the company was also facing increasing competition from within the industry. In 1972, Phillip Morris unseated Reynolds as the top cigarette maker in the world (though Reynolds managed to hold on to its number-one position in America for about another decade).

In response to these pressures, the company sought to diversify. R.J. Reynolds Tobacco Co. became R.J. Reynolds Industries and began acquiring various beverage and food makers. In 1975, it also started work on a new, modern tobacco factory in northern Forsyth County dubbed "Tobaccoville." In the end, both moves would end up working against Winston-Salem residents.

When Tobaccoville opened in 1986, Reynolds shifted its workforce from the older facilities in downtown Winston-Salem to the new factories, abandoning earlier plans of revitalizing the downtown factories as the company's finances continued to decline. Although Reynolds executives originally intended to simply move existing employees to the new facilities, they quickly realized they had a problem. Tobaccoville had been built to take advantage of the latest computerized machinery to minimize costs, but most Reynolds employees did not have the training to operate it.

At the same time that new technology threatened to make the local workforce obsolete, changes within the company further weakened local ties. As part of its diversification effort, Reynolds had acquired Nabisco Brands Inc. in 1985 and the two companies merged into RJR Nabisco. Nabisco's chief executive, F. Ross Johnson, quickly maneuvered to the top of the new company. An outsider originally from Canada, Johnson saw little reason to keep RJR Nabisco in "bucolic" Winston-Salem, as he called it. Within days of becoming CEO, he persuaded the board to move the company headquarters to Atlanta and organized a leveraged buyout of the company in 1988, which was the subject of the Bryan Burrough and John Helyar book *Barbarians at the Gate*.

On June 29, 1990, the last operating Reynolds factory in

downtown Winston-Salem closed. It was a bleak epilogue to a rapid exodus of employers that had left the community stunned. "We knew we had to do something different," says Anderson. "The question then became: What?"

### Doing Something Different

Winston-Salem is hardly the first American city to grapple with the loss of its defining industry. From an economic perspective, cities develop because there is some benefit to firms and people from being in that location. A successful firm like Reynolds can attract other businesses, either in the same industry or across industries, that mutually benefit from being near one another. These benefits include sharing a pool of specialized labor, sharing access to raw materials or transportation infrastructure, and sharing knowledge. Economists refer to these advantages as "agglomeration economies."

But what happens to a city when the industries that produced these agglomeration economies decline or disappear? It's possible that new firms will move in, be successful, and start the cycle of growth all over again. That could take decades, though, if it happens at all. This has led many leaders of declining cities to ask: Are there policies that can expedite the development of new clusters of growth?

One option is to attempt to spur agglomeration economies from knowledge spillovers from the education sector to the business sector. Firms that operate in a research field may be drawn to locate near prominent research universities in order to benefit from collaboration with researchers and to gain access to a skilled workforce of graduates. But first, some believe, they need a common collaborative space to work in.

The plan to build such a space in Winston-Salem began in the late 1980s. Douglas Maynard, chairman of the radiology department at Wake Forest University's Bowman Gray School of Medicine, was interested in bringing the latest medical imaging technology to the school. But Maynard needed engineering expertise to help train medical students in the use of the new devices. Wake Forest did not have an engineering program, and it was unclear how soon they would be able to develop one. The original plan Maynard pitched to local leaders was to create a research park where Wake Forest could collaborate with other universities in the Piedmont Triad area (comprised of Winston-Salem, Greensboro, and High Point).

"It was going to be Research Triangle Park West," says Anderson, who was involved with the project from the beginning in her role at the Chamber of Commerce.

The Research Triangle shared among universities in Durham, Raleigh, and Chapel Hill was the blueprint for a successful collaborative space between education and business. But after talking with a consultant, Vernon George, project organizers quickly realized that trying to copy that model wouldn't work for them. George told them that most of the intellectual capital in Winston-Salem was in the School of Medicine. Positioning the research park outside of town, far away from the campus, would make it less likely to succeed, he believed.

## The Innovation Quarter Takes Shape

The Piedmont Triad Community Research Center opened in 1994 in an old Reynolds building in downtown Winston-Salem. It initially housed the Bowman Gray School of Medicine's department of physiology and pharmacology and researchers from Winston-Salem State University. The park proceeded slowly from there. The first planned expansion into the historic Reynolds Factory No. 256 went up in flames — literally — when the building burned down during renovation work.

But organizers didn't give up. In 2002, the CEO of Wake Forest University Health Sciences, Richard Dean, announced plans for a much larger park encompassing roughly 200 acres in downtown Winston-Salem. This space would accommodate more science programs from the medical school and private research companies, as well as new residential homes and retailers. This larger vision was facilitated by additional building donations from Reynolds. The first buildings of this new expansion opened in 2006. The park continued to grow, housing more departments from the School of Medicine and a growing number of private firms. For example, Inmar Inc., a data analytics firm, moved its headquarters and about 900 employees to the park in 2014. The prior year, the park was renamed Wake Forest Innovation Quarter, reflecting both its more local focus and evolving goals.

"The difference now is the word 'community,'" says Eric Tomlinson, the president of the Wake Forest Innovation Quarter and chief innovation officer of Wake Forest Baptist Medical Center. Rather than building a park just for researchers, Tomlinson says organizers began looking at how to make the Quarter part of "a district for innovation, where people will work, live, learn, and play."

Project organizers hired Wexford Science and Technology, a development firm based in Baltimore that partners with universities to design and build such mixed-use spaces. Daniel Cramer, executive vice president at Wexford, says that the Winston-Salem project posed unusual challenges. The buildings that Reynolds had donated were on the National Register of Historic Places, which meant that efforts to redevelop them qualified for federal and state historic tax credits. While this made the project more affordable, it also meant that architects could not simply demolish the buildings and start from scratch. They had to find a way to fit modern research, residential, and retail spaces in the shells of turn-of-the-century tobacco factories.

Many of the buildings housed very specialized, and oddly shaped, equipment. The latest project involves converting a power plant, the iconic Bailey, into a place for shopping and entertainment — not something the

structure was originally designed for.

"The buildings don't lay out quite the way you would want them to, but they are all fabulous buildings," says Cramer.

## Preparing the Workforce of the Future

Winston-Salem is not the only city that has attempted to pivot its local economy from manufacturing to health care research. But will the local workforce be able to take advantage of this new economy?

A 2003 working paper by Edward Glaeser of Harvard University and Albert Saiz of the Massachusetts Institute of Technology found that cities with high levels of human capital are more likely to grow and adapt to economic shocks. (See also "Education and Vulnerability to Economic Shocks in the Carolinas," p. 32.) But as Reynolds' experience with Tobaccoville highlighted, the skills of workers in Winston-Salem have not always lined up well with the changing needs of employers.

"There are maybe 1,000 technical jobs posted today that are going vacant because we don't have enough people in the community with those skills," says Anderson. Educators like Wake Forest and Forsyth Technical Community College can provide training but only if workers seek it out. Much of the local workforce is older, Anderson says, making them less inclined to return to school and acquire new skills. And because of the long history of steady, well-paying factory jobs with Reynolds, "there is still a mentality here that you can graduate from high school and get a really good job," she says.

While the more technical jobs in the Quarter don't directly replace the manufacturing jobs lost in Winston-Salem, Anderson says the Chamber of Commerce estimates that most of the roughly 3,000 jobs in the Innovation Quarter have been filled by locals. And there are more developments to come. In October, organizers for the Quarter announced plans for a new building containing affordable apartments, retail space, and parking.

Meanwhile, Anderson is already thinking about the next big project: repurposing an old Reynolds manufacturing center three miles north of the Innovation Quarter called Whitaker Park. Its proximity to Smith Reynolds Airport, a small general aviation airfield, could be attractive to businesses that outgrow the Innovation Quarter or to new firms drawn to Winston-Salem. Just as the tobacco boom didn't last forever, Anderson knows that the health care sector may not grow forever either.

"That's why I ask my board all the time, 'what's the next big thing?'" says Anderson. "Because if you're not thinking about that, it's going to come up from behind and smack you!"

**EF**

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## Josh Lerner

**Editor's Note:** *This is an abbreviated version of EF's conversation with Josh Lerner. For additional content, go to our website: [www.richmondfed.org/publications](http://www.richmondfed.org/publications)*

Joseph Schumpeter, best known for his observation that “Creative Destruction is the essential fact about capitalism,” viewed the entrepreneur as a critical figure of economics; he argued that entrepreneurs and entrepreneurship merited close empirical study by economists. Such research, he suggested in the mid-1940s, “may result in a new wing being added to the economist’s house.”

The profession was slow to take Schumpeter’s advice. Since the surge in high-tech entrepreneurship in the 1990s, however, a growing number of economists have been drawn to the project of building that wing. One of the leading researchers on entrepreneurship and entrepreneurial finance during this time has been Harvard Business School economist Josh Lerner. Along with bringing empirical economic research to bear on entrepreneurship, venture capital, and angel investment, he has pursued research interests in private equity organizations and innovation. In 1993, he introduced the school’s first course on venture capital and private equity, which he still teaches.

In addition to his appointment at Harvard, he is co-director of the Productivity, Innovation, and Entrepreneurship Program at the National Bureau of Economic Research and is editor of its journal, *Innovation Policy and the Economy*. He is also the founder and director of the Private Capital Research Institute, a nonprofit devoted to increasing access to private data on venture capital and private equity and encouraging economic research on those sources of capital. He is the author or co-author of 11 books on venture capital, private equity, and innovation, most recently *The Architecture of Innovation: The Economics of Creative Organizations*.

David A. Price interviewed Lerner at Harvard Business School in July 2016.



**EF:** How did you become interested in economics in general and in the study of entrepreneurship and private-firm finance in particular?

**Lerner:** I have a slightly unusual background in the sense that I didn’t study any economics to speak of in college. I went through a program where you could piece together whatever assorted subjects you wanted to. And in the course of that, which included physics, history of science and technology, and a bunch of other topics, I got interested in the whole area around new firm creation and entrepreneurship.

In my first job out of college in the 1980s, I was a research assistant at the Brookings Institution. There was all the talk then about Japan as number one. It seems like a thousand years ago, doesn’t it? Congress had recently enacted the Bayh-Dole Act, which at least purportedly freed the universities to do more in terms of technology transfer. There was a lot of interest in commercialization of science, spinoffs, and so forth. I got sucked into these issues and have never been able to escape since, showing a distinct lack of imagination!

I came to realize that we were clueless not only about how the policies in this arena ought to be designed, but even on questions of how the basic private sector mechanisms worked. Then I met a fellow named Lewis Branscomb, who led the program at the Kennedy School in science, technology, and public policy. He was interested in promoting more study of questions about innovation and the like. As it turned out, Lew was highly persuasive in convincing me to come up to Harvard. He worked out a very nice arrangement

where I was officially studying in the economics department and largely funded by the dean of the business school. I guess even at that point, the business school was encountering a lot of demand for entrepreneurship and venture capital. I came with a pretty clear sense that I wanted to work in this wacky area of how innovative businesses got funded.

At the time, Zvi Griliches was there, the father of doing measurement with patents. I fell under Zvi's spell, and even though this was a little removed from his own work, I realized that I could apply a lot of his ideas to this setting. This was particularly important given that you're dealing with small privately held companies, where traditional metrics are not necessarily going to be useful. You could understand how intellectual property contributes to firm value and use it as a metric for how firms are evolving and other such questions.

I've been pretty much in this same orbit here 25 years later. My theory is that 20 years from now, entrepreneurship's status at business schools will be like finance's today. Entrepreneurship began as a real academic backwater. We're still seen by many as a slightly obscure area today, but I think that it's likely to have more centrality over time.

**EF: Much of your work has been in the area of private finance, especially venture capital and private equity. From an economist's perspective, how do private equity general partners create value?**

**Lerner:** Private equity is different from venture capital in the sense that most of the companies are considerably more mature at the time they're getting financing. There's a middle ground of growth deals that look like half venture capital and half private equity, but the typical kind of company getting funded by a classic buyout group is a real business with real profits, a real management team, and so on.

So you see several differences. One is that, for the young companies, it's almost standard that at a certain point the CEO is going to be replaced. It's a rare CEO who can grow a business from one to 100 employees and then grow it from 100 to 10,000 employees. The skill sets in those realms are quite different. In many cases, you see people who have been happily early-stage CEOs for multiple go-arounds: They know that after the company gets to 100 or 200 employees their time will have come, and they'll move on to another early-stage opportunity. With the buyout or private equity-backed companies, replacing management does happen, but it's a much more unpleasant and unexpected kind of event.

Another difference is that so much more of the decision-making and the guidance that the private equity guys are doing relates to financial strategy, as opposed to pure operating strategy. With your typical startup company, there's

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Fees in private equity and venture capital are remarkably sticky. The compensation structures don't look that different in today's era of \$10 billion-plus funds than they did back in an era of \$10 million funds.

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no debt or just a little bank line of credit. The only big financial decision is whether we're going to take the thing public or sell out to some corporate acquirer. With private equity, given the complexity of the balance sheets of these companies — they often have multiple layers of debt, which they juggle over time —

there's so much more of the financial engineering taking place. The role of the private equity guys is in many cases much more that of a financial counselor.

That's not to say they don't also positively shape the operations of the companies themselves. I've done some work with Steve Davis, John Haltiwanger, Kyle Handley, Ron Jarmin, and Javier Miranda where we have looked at exactly how private equity groups change the companies in which they invest. We see evidence of a significant boost in terms of productivity for the private equity-backed firms relative to their peers. But it's typically not the venture-type scenario of saying "let's figure out the business model." It's more figuring out ways to run the business more efficiently.

**EF: Of the roles that you identify for private equity general partners, which are the ones where they create the most value?**

**Lerner:** There's been more work done on this in the buyout realm. One of the advantages of buyouts is that because you've got such detailed financial information, you can see often the way in which value is created: How much is real operational improvements, how much of it is the market timing, and how much of it is the financial engineering or the use of debt? A number of papers have done this to try to divide the share of value being created into these three broad buckets. If you asked the private equity guys, many would say, "Oh, 90 percent of it is us going in and adding value to the operations of companies." If you look at the academic evidence, you'd probably say the operational improvements are a lot closer to 30 percent than 90 percent. Not to say that it doesn't happen, but it's only one of a number of levers that the private equity groups are pulling to create value.

**EF: Turning to venture capital — is geography becoming less important in the venture capital industry? The conventional wisdom, at least, is that technology is making remote work and long-distance interaction easier in general. Has that been true here?**

**Lerner:** If you looked before the dot-com bust in 2000, you saw a lot of venture capitalists who were of the mentality that "if it's not within a 60-minute drive of my office, it's not worth funding." There was heavy localization within Silicon Valley: Most of the large U.S. groups really focused on the companies there.

But if you look today, you see the large groups have offices in India and China and, in many cases, some footprint in Europe as well. So it's become much more of a global market. Not only have the destinations of the investments changed, but the share of venture capital financing that's coming from the United States has shrunk relative to where it was in 2000. So that would be consistent with the "death-of-distance" kind of argument.

On the other hand, it seems that the power of focal points is still quite strong. I had a Chinese venture capitalist here today; his fund is a relatively young fund, but they've nonetheless already set up an office in Silicon Valley (as well as their home base in China). For many of the companies that they're funding, even if it's Chinese entrepreneurs founding the companies, they want to be in Silicon Valley from day one.

Even looking at the newer markets, the locations of venture activities tend to be lumpy, with a large role for a few places like Tel Aviv, Cambridge in England, and more recently Singapore, Shanghai, and Bangalore. A relatively small handful of markets are hubs of venture activity. For all the globalization that's taking place, it still seems to be very much a geographically lumpy kind of business.

#### **EF: What can economics tell us about the future of the venture capital and private equity industries?**

**Lerner:** One area where I think economics can add some insight, one that's particularly controversial today, is the questions around fees. For instance, fees for private equity funds have been intensely controversial for many of the state pension funds.

One argument would be to say it doesn't really matter how much you pay if you're getting returns that are in excess of risk-adjusted market returns. (It should be noted that many pensions do not get these excess returns!) But even so, if you're a trustee of a public pension, you have a role of being a custodian of employees' money. And if fees are excessive, however you define this, that may be a problem even if you're getting attractive returns.

An interesting thing is that fees in private equity and venture capital are remarkably sticky. The compensation structures don't look that different in today's era of \$10 billion-plus funds than they did back in an era of \$10 million funds. They've come down somewhat, so instead of 2 percent committed capital, it's more likely to be 1.5

## **Josh Lerner**

### **► Present Positions**

Chair, Entrepreneurial Management Unit and Jacob H. Schiff Professor of Investment Banking, Harvard Business School  
Co-Director, Productivity, Innovation, and Entrepreneurship Program, National Bureau of Economic Research

### **► Education**

Ph.D. (1992), Harvard University  
B.A. (1982), Yale University

### **► Selected Publications**

"The Globalization of Angel Investments: Evidence across Countries," *Journal of Financial Economics*, forthcoming (with co-authors); "Private Equity, Jobs, and Productivity," *American Economic Review*, 2014 (with co-authors); "Assessing the Contribution of Venture Capital to Innovation," *RAND Journal of Economics*, 2000 (with Samuel Kortum); numerous other articles in such journals as the *Journal of Finance*, *Quarterly Journal of Economics*, and *Journal of Political Economy*; and numerous books

percent. But given the economies of scale of running a larger fund, it means the profits per partner can be staggering. If you look at the history of financial intermediation, you see in general that as more competition has arrived, prices have come down. I anticipate venture capital and private equity will follow that pattern, but it's been surprising how leisurely the adjustment process has been.

Another area that has gotten a lot of interest is the questions around persistence. There's a fair amount of evidence historically that both private equity and venture capital have been characterized by a lot of persistence: If you're in the top quartile of funds for one fund, your next fund is disproportionately likely to be in the top quartile as well. Similarly at the low end. But there seems to be a variety of evidence that the industry has become less persistent. Persistence seems to be disappearing.

#### **EF: Do you have a view yet of whether the equity crowdfunding arrangements legalized by the JOBS Act will have a major effect on startup finance?**

**Lerner:** When we look over the last 10 years or so, one of the really interesting phenomena has been the growth of what I call "personalized" entrepreneurial finance. By that, I mean we're seeing a whole set of models where, instead of having an institution act as the gatekeeper, you see individuals funding young companies directly. Crowdfunding is one example. We've also seen the rise of individual angels and angel groups. So there's a whole range of things going on, much of which is enabled by the Internet.

I myself am a little bit in the skeptical camp on crowdfunding per se. A lot of my doubts have to do with the inherent contradictions between the entrepreneurial process and disclosure requirements. When you think about what have been the guiding principles of securities regulation, a big part has been based on disclosure: "Sunlight is the best disinfectant." But if you think from the perspective of an entrepreneur, it's very important to keep information close to the chest rather than tipping off competitors early as to your business model. When Google filed to go public, people were shocked by how profitable the search business was for them. Yet at that point, they had already established themselves and had an insurmountable lead that Yahoo and the others haven't been able to catch up to. The natural tendency is to say, "Let's just make everyone disclose everything," but the very process

of disclosing things is likely to destroy a lot of the competitive advantage that the entrepreneurs might have. That's a tough conundrum to solve.

Moreover, when you look at attempts to create entrepreneurial finance models with crowdfunding-type flavors to them, the outcomes have not been great. For instance, there was an effort in Europe during the 1990s to create a whole series of small capitalization models where riskier young companies could list and so forth with relatively lax regulations. They ended up with a phenomenon where the bad drove out the good. All it took was a few scammers to come in and undertake "pump and dump" schemes, and the interest in those markets declined precipitously. And I think some of the same danger lurks here.

I'm much more enthusiastic about models like the AngelList syndicates, which is essentially using a model where the people on the platform see information about the companies and decide whether to fund them or not. But it's restricted to sophisticated investors. You're aware of which of the other sophisticated investors are investing in which companies, which can help shape decisions. So you're using the crowd, but there's also a minimum level of skill and knowledge required to play.

**EF: You've written that attitudes toward entrepreneurship are shaped by culture and religion. Research doesn't seem to tell us much about the roles of social forces like these in entrepreneurship. Is that because researchers don't see them as policy relevant or are they simply too difficult to measure?**

**Lerner:** I think a lot of it comes down to the difficulty of measurement. Peers influence what we think about and what our priorities are. But it's hard to show, partly because, by and large, we can't randomly assign people to be in particular places. It tends to be that we choose places to work where we get exposed to certain kind of peers, but that may tell us a lot more about ourselves rather than about the effects of our peers.

Ulrike Malmendier and I tried to find a setting where one could look at this question where there was an element of randomization. We ended up looking at the impact of how students spent their first year at Harvard Business School. In particular, what we have here is a system where people spend the first year with a section of 90 people and they take all of their classes together. These sections tend to be powerful connecting devices for people, still binding them together when they come back for their 25th reunion. So we can ask, does having in one's section fewer or more entrepreneurial peers — people who were entrepreneurs prior to business school — end up affecting the willingness of people who didn't have an entrepreneurial background to start a new venture themselves after school?

When we ran the analysis, we were shocked because we got exactly what we thought was the wrong answer: Having more entrepreneurial peers makes people *less* likely to start

businesses. When we broke it down, however, we discovered that the individuals who had lots of entrepreneurial peers were less likely to start unsuccessful businesses but were as likely or lightly more likely to start successful businesses. So it seemed that having the entrepreneurial peers was scaring people away from doing ideas that subsequently turned out to be unsuccessful, but if anything, encouraging people to go out and start businesses that proved to be successful. That suggested that peers really do matter, but in perhaps a more complicated way than we would initially anticipate.

**EF: What do you think are the most important open questions in the study of entrepreneurship?**

**Lerner:** The list of really interesting open questions is a long one, but for me, three areas stand out. One would be understanding the nature of the teams during the entrepreneurial process. I think a lot of the initial work focused on the founder: What was his or her impact in terms of motivation, prior jobs and schooling, and so forth? But when we look at the evidence, we know that ultimately the founders are often a group and there is what economists call a "joint production function."

Venture capitalists often say that they'd rather hire three entrepreneurs from separate companies than three entrepreneurs from the same company, because of their diversity of views. But no one's ever really proved that, to my knowledge, or answered many other questions about how teams work together in startups.

The second one would be related to innovation. A lot of the debate has been focused on firm size and innovation: Do smaller firms innovate more? Probably, but the more one looks at this, the more inconclusive the results are. To me, it's more interesting to ask the question of what kind of innovation is being done: What is the nature of innovation by entrepreneurial companies as opposed to more established firms? And how does that end up affecting the overall evolution of firms and industries?

A third question I would highlight, which we've already hinted at a bit, is about the changing sources of funding available. For instance, among venture-backed firms today, the average company going public was 12 years old at the time of IPO last year. Historically, it was around four or five years old. And so you've got all these companies that are privately held sitting there raising money but staying private. They're getting funded not just by venture capitalists, but also by sovereign wealth funds and family offices and even mutual funds. What's the ultimate implication of this trend? Is being private, sheltered from financial markets, actually good because a lot of people do more long-run things? Or do these arrangements simply allow management to perpetuate poor decisions?

**EF: You've done a lot of work with Jean Tirole looking at the incentives behind the creation of open-source**

**software. What are the main reasons why developers and companies participate in open-source projects? Is it altruism?**

**Lerner:** We've argued that open source — like the Linux or Android operating systems — poses a puzzle. Why would a group of people organize themselves into a project and basically volunteer to develop code that is ultimately going to make a lot of money for Google, Red Hat, and IBM? We argue that there's a combination of short-term and long-term incentives at work.

Short term, often programmers just want to fix a bug or want to use the program to do something that it can't quite do. So one motivation is simply problem solving.

On the other hand, there can also be some tangible longer-term benefits to individuals from participating in these projects. Part of the benefits stem from the fact that taking part in these projects can be fun; there's a lot of ego gratification associated with becoming a project leader. In addition, we suggest that career concerns can play a role. If you're a programmer at a small university in Iowa, even if you're a great one, it's hard for you to "show off your chops" as to how good you are. One of the attractions of open source is you choose a project that fits with your own skills, go out, and work on it. If you are a useful contributor, often you'll be invited to take on more leadership in the endeavor. Many of the most successful open-source projects have people who are participating partially for the ego gratification but also for the career benefits of being seen as a good programmer; this may impress employers and may lead to offers from venture capitalists and the like.

**EF: What are you working on now?**

**Lerner:** One of my projects is trying to extend our work on the impact of private equity investment. As I mentioned, my co-authors and I looked at the years up to 2005 and showed that in general there was a positive impact of private equity investment in terms of productivity. The firms backed by private equity seemed to lose jobs at the factories that were open at the time the private equity group came on board, but they also were more likely to open up new facilities that netted out much of the negative effect associated with the job losses.

The question we're asking now is, "what happened after 2005?" The industry had a fantastic boom in 2006 and 2007, there was the crash in 2008 and 2009, followed by long drought, and now there is a strong recovery. Can we

say something about how the effect of private equity has changed? For instance, was the deleterious effect of the leverage in buyouts greater during the crisis period, or were the firms actually able to weather the crisis better because the private equity investors had more tools in place? We're also looking at the performance of private equity groups of different experience, sizes, and past success, in terms of the social consequences of the investments.

Another project that my colleague Victoria Ivashina and I are working on relates to the division of fees and profits within investment partnerships. As I mentioned before, the overall level of rewards that these groups get have been controversial, but no one has previously looked at how the partners divide these among themselves, and what the consequences of these decisions for the partnerships and their investors are.

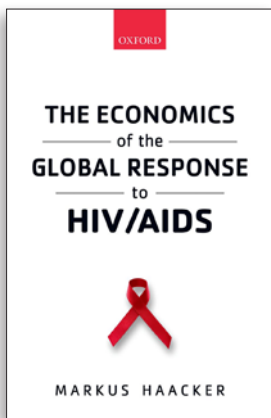
**EF: What do you think are the biggest pluses and minuses of doing economic research in the setting of a business school?**

**Lerner:** There's no one right answer here. If you're doing highly theoretical work or esoteric advanced empirical work, you might argue there's less of a return to being at a business school. For those researchers, the "tax" of needing to put more attention into teaching might be seen as not really worth it.

But for people who are interested in areas where there are a lot of benefits from interacting with practitioners — whether it's access to data or deeply understanding what the phenomena are — there can be substantial benefits from being in a business school setting. In general, the ability to identify and get close to practitioners is easier in a business school setting, where alumni often seek to be actively engaged.

The fact that you're at a business school obviously doesn't mean you'll get any data you want. But it really does help get in the door to be able to tell your story and make a pitch as to why cooperating would be helpful. For instance, for a recent working paper on angel investment groups around the world, we relied a lot on my contacts with Harvard Business School alumni and Antoinette Schoar's network with the MIT Sloan alumni. The alumni were very helpful in both identifying who had the kind of data we were looking for and then advocating within those groups to work with us. So I think there are a lot of pluses in terms of the connectivity. In general, I think the explosion of research using private data — typically from corporations as opposed to governmental sources — may mean business school faculty will be doing a larger share of cutting-edge research in the years to come. **EF**





**THE ECONOMICS OF THE GLOBAL RESPONSE TO HIV/AIDS**

BY MARKUS HAACKER  
OXFORD: OXFORD UNIVERSITY PRESS, 2016, 290 PAGES

REVIEWED BY HELEN FESSENDEN

## BOOKREVIEW

# The HIV/AIDS Challenge

The international response to HIV/AIDS ranks among one of the great public health stories in recent decades. Today's landscape is far different from the mid-1990s, when the successful application of combined antiretroviral therapies in wealthy nations was darkened by the news that the virus was rapidly spreading in countries too poor to afford such treatments. By 1996, 20 million people worldwide were living with HIV, with a large share in sub-Saharan Africa. By 2002, that number had spiked to 30 million. As Markus Haacker points out in his new book, *The Economics of the Global Response to HIV/AIDS*, the epidemic's impact has been so massive that it accounts for eight out of the 10 worst declines in life expectancy at a country level since 1950.

Thanks to billions of dollars in aid and an effective coordinated global response over the last 15 years, the rate of infections has dramatically slowed, and people who are infected can now expect to live close to a full life. But paradoxically, this success in health policy has led to an economic challenge for the nations that have been hard hit: how to pay for prevention and treatment in the long run. Haacker is well-positioned to address this, as a scholar who has spent years at the World Bank and the International Monetary Fund researching the economics of the HIV/AIDS crisis. His book lucidly explains what research has and has not been able to answer in this respect. And he usefully places this research in a global context rather than focusing on one or two countries, as work in this area often does.

AIDS policy researchers generally see 2001 as a tipping point when the international community scrambled to craft a coordinated response, leading to the expansion of efforts under the auspices of organizations such as UNAIDS and the Global Fund to Fight AIDS, Tuberculosis, and Malaria. The United States also began contributing as a major player in 2003, with the President's Emergency Plan For AIDS Relief, or PEPFAR. Those extra resources helped build a two-pronged approach. On the prevention side, promotion of condom use and male circumcision — as well as the targeting of certain high-risk groups — began cutting into HIV incidence rates. On the intervention and treatment side, drug companies agreed to cut prices of antiretroviral therapies in targeted countries so that they could be distributed to patients, including pregnant or nursing women

who risked infecting their children, thereby reducing the chance of transmission.

By 2015, 16 million were receiving these drugs worldwide, and the average annual mortality rate dropped from 6.4 percent in 2004 to 3.2 percent in 2014. In South Africa, an infected patient can now expect a close to normal life span; in Botswana, the average HIV-related drop in life expectancy was once almost 20 years, and now it is five. The rate of HIV incidence, meanwhile, has greatly slowed; the total number of infected patients worldwide was 37 million in 2014.

This progress stands as a rebuke of sorts to the widespread pessimism of the 1990s. But the extent of the economic impact is still up for debate. Haacker emphasizes the need for more research on the macroeconomic effects, especially to answer some of the puzzles of the past 15 years. For example, some of the worst-hit nations — such as Kenya and Botswana — have maintained high per capita GDP growth rates despite the fact that both have a high share of citizens with HIV/AIDS. He also notes that most studies to date have not found a link between the spread of HIV/AIDS and an increase in poverty, although there is a stronger correlation with inequality.

An even more pressing concern for economists, in Haacker's view, is how to measure the cost-effectiveness of all of these strategies. Now that infected populations can live close to normal life spans, the cost of lifetime treatment needs to be accounted for as it would for any other chronic disease. The global budget for HIV/AIDS programs is now about \$20 billion, \$11 billion of which comes through external aid. Since prevention and treatment have become a long-term concern, an effective strategy can be sustained only if costs are controlled. In recent years, policymakers have been more explicit about using an investment framework, comparing expected rates of return on different approaches, to make allocation decisions. The challenge is that it takes decades to assess the impact of a strategy: An individual can move through different high-risk groups or try different prevention techniques over his or her adult life. That said, Haacker notes, some prevention measures — such as male circumcision and increased condom use — are so cost-effective and reliable that it makes sense to apply them as broadly as possible.

For any reader interested in the intersection between health and economics, Haacker's work is a comprehensive guide to one of the greatest public health challenges in history. It's also a valuable reminder that economics is just as important as medical science in crafting long-term strategies for managing chronic disease in large populations — something that policymakers everywhere will have to keep in mind as nations age in coming decades. **EF**

### Education and Vulnerability to Economic Shocks in the Carolinas

BY RICHARD KAGLIC

The role of technological disruption in the economy and its effect (actual and potential) on workers is a lively topic of discussion among labor market economists. Certainly, the steady — some would say accelerating — march of information technology and robotics into the workplace, coupled with lingering anxieties from the Great Recession, has heightened workers’ insecurities about their own place in the economy of the future. Technological changes, combined with other economic forces, dramatically altered the economic landscape of the Carolinas over the course of a generation. During this evolution, the region’s economy evolved to look less like it did in the 1990s (overly reliant on manufacturing) and more like the national economy of today.

Still, the region and its workers appear more exposed to economic disruptions than with the nation as a whole. In some measure, this vulnerability can be viewed as a human capital development challenge. The states need to do a better job of training workers for today’s economy as well as preparing them for the disruptions that will inevitably come in the future, whether those disruptions are technological or cyclical in their origin.

#### Technological Disruptions and Changing Industry Structure

In the Carolinas, the region’s experience with economic disruptions (cyclical and technological) in its manufacturing industries is relatively recent when compared to similar travails in the New England and Midwestern regions of the United States. Indeed, for many years, the Southeastern United States generally, and the Carolinas specifically, successfully lured some of those other regions’ mainstay

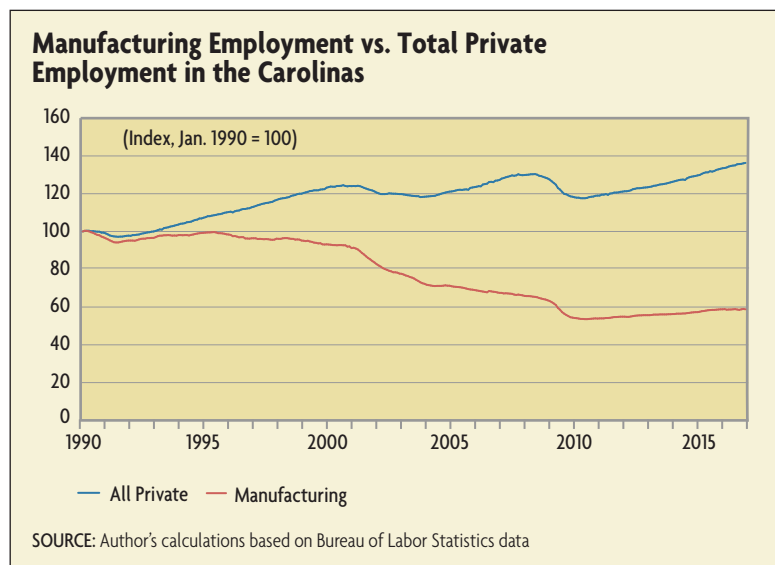
manufacturing industries, such as textiles and vehicle production. The reasons for manufacturing’s migration south are many — the spreading use of air conditioning, lower labor costs, and relatedly, low unionization rates, to name just a few.

Thus, North Carolina and South Carolina both developed hard-earned reputations as “manufacturing states.” As recently as 1990, manufacturing firms employed nearly 1.2 million workers in the two states. Moreover, the Carolinas’ employment base had become more manufacturing-intensive than some traditional industrial giants such as Michigan, Ohio, and Wisconsin. In 1990, manufacturing accounted for a little more than 30 percent of private payroll employment in the two states combined, whereas it accounted for between 25 percent and 27 percent of jobs in Michigan, Ohio, and Wisconsin.

But in the lead-up to the new century, employment in some of the region’s important manufacturing industries came under pressure from (among other factors) changing consumer demands and technological advances. These technological advances were not limited to improvements in capital equipment, such as robotics and automation. They also included efficiencies gained from so-called process technologies — such as improved logistics, outsourcing (and “off-shoring”), and global sourcing business models. The result was that the two states saw manufacturing jobs eroding during the 1990s and falling throughout the first decade of the new millennium leading into the Great Recession. In fact, manufacturing employment in the two-state region fell by more than 406,000 between 1990 and 2007, or by more than 34 percent. And manufacturing’s share of total private employment fell to 16 percent (from 31 percent) and actually

ended up below the comparable share in each of the Midwestern states noted above (Michigan, Ohio, and Wisconsin).

During this period of industrial restructuring, many argued that the loss of manufacturing jobs would doom the states’ economies. It didn’t. While manufacturing jobs were on the decline, innovative businesses and people in the two states were creating jobs in other industries, many of which would have been hard to predict 10 years earlier. Firms brought new and innovative goods and services to consumer and business markets. And they created jobs, lots of them. Between 1990 and 2007, total private employment in the two states plowed forward even as technology was depressing manufacturing employment. (See chart.)



In fact, job growth in the Carolinas outpaced the nationwide average. Between 1990 and 2007, total private employment in the Carolinas increased by slightly more than 30 percent compared to 27 percent for the United States as a whole, with the vast majority of those new jobs created in services rather than goods-producing industries. Whereas goods-producing industries (mostly manufacturing and construction, with a little natural resource extraction thrown in) accounted for more than 37 percent of private-sector jobs in the Carolinas in 1990, they accounted for just 23 percent in 2007. Meanwhile, some key services industries — professional and business services, education and health services, and leisure and hospitality — accounted for just 28 percent of jobs in the two states in 1990 but accounted for more than 41 percent of employment 17 years later. As a result, the employment base of the Carolinas just prior to the Great Recession looked dramatically different than it did in 1990.

Of course, the Carolinas economy was not the only area going through this type of industrial restructuring at the time. The entire national economy was changing as well. In the United States, manufacturers reduced their payrolls by nearly 4.1 million workers between 1990 and 2007, or a little more than 23 percent. And manufacturing's share of private-sector employment in the United States declined from 19 percent to just under 12 percent.

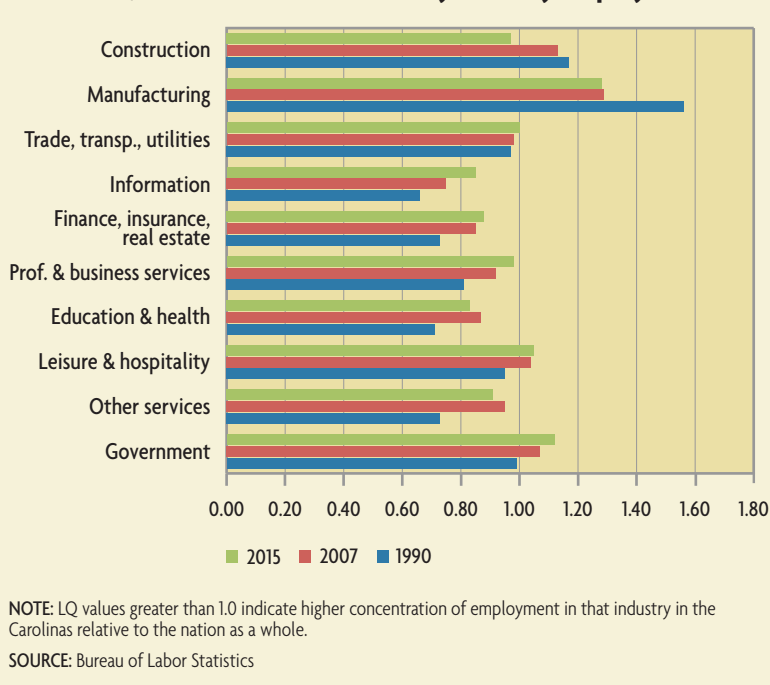
### Measuring a Changing Jobs Base

One statistical tool that analysts use to assess the structure of a region's economy is the location quotient, or LQ. LQs can be derived using many different economic data — such as income, output, or demographic data. Here, it will be helpful to look at LQs constructed from payroll employment data.

An LQ based on employment is derived by comparing employment shares in the region to the corresponding shares in the nation as a whole, specifically by dividing the former by the latter. For example, in 1990, manufacturing's share of total payroll employment (private sector and public sector) in the Carolinas was 25.2 percent, while manufacturing accounted for just 16.2 percent of the nation's total employment. Thus the region's manufacturing employment LQ in 1990 was 1.55 (25.2/16.2). The key point to remember when using employment LQs is that an LQ equal to 1.00 means that the region's share of employment in an industry is equal to the national average. If the LQ is less than 1.00, the industry is less concentrated in the region than it is in the nation; an LQ greater than 1.00 indicates that employment in that industry is more heavily concentrated in the region than it is for the nation as a whole.

In the LQs for employment by industry concentration

**Location Quotients in the Carolinas by Industry Employment**



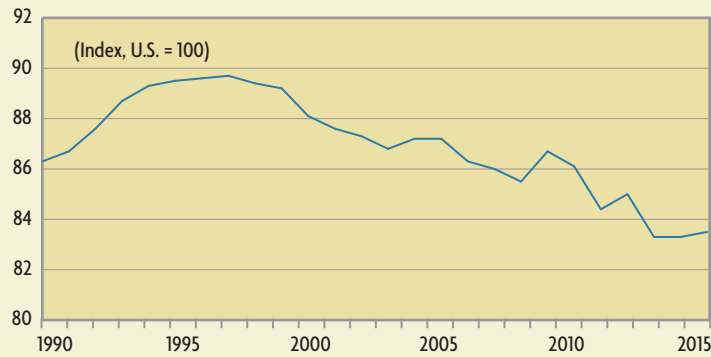
in the Carolinas for 1990, the region's dependence on goods-producing industries at that time is readily apparent. (See chart.) The manufacturing LQ of 1.55 indicates that the region was 55 percent more concentrated in manufacturing employment than the nation, while the construction LQ of 1.17 shows that the region was 17 percent more concentrated in construction employment. In contrast, each of the service-providing industries had employment LQs well below 1.00 in 1990, suggesting that the region was much less concentrated in those particular service-providing industries.

A dramatically different picture of the Carolinas job base emerges when one takes a look at those same location quotients just prior to the Great Recession. An interesting point is that as the years passed, all of the employment LQs for the Carolinas converged toward 1.00, or in other words, toward the national average. In those industries in which the region was more heavily concentrated than the nation — manufacturing and construction — the LQs moved down toward 1.00, while in those industries for which the region was less heavily concentrated than the national average — all of the service-providing industries — the employment LQs moved up toward 1.00. So at the end of the day, while the Carolinas economy was transforming to look less and less like its former self, it started to look more and more like the national economy.

### Structural vs. Cyclical

While aggregated data suggest that the Carolinas have weathered manufacturing job losses over the long term, it appears that private-sector employment in the region remains more volatile and susceptible to economic disruptions in the short

### Carolinas Per Capita Income Relative to U.S. Average



SOURCE: Census Bureau, Bureau of Economic Analysis

term. As the Carolinas economy became less reliant on the highly cyclical manufacturing and construction industries, more closely resembling the economic structure of the nation, one might assume that the Carolinas economy would closely track the nation's through the business cycle. But that has not been the case.

Prior recessions had been particularly unkind to North Carolina and South Carolina. During the recessions of 1991 and 2001, the Carolinas economy fared worse than the nation as a whole in terms of job losses. During the recession in the early 1990s, job losses in the United States amounted to 1.9 percent of private-sector employment, while in the Carolinas job losses amounted to 2.3 percent in the same time frame. And then, in the downturn in the early part of the 21st century, job losses in the Carolinas amounted to 4.7 percent of private-sector jobs during what was a relatively mild recession by most measures. In contrast, the United States shed 3.0 percent of its private-sector jobs during the same economic contraction.

How did the region fare during the Great Recession? Not well. In spite of reduced reliance on highly cyclical industries (manufacturing and construction), and despite assuming an economic profile that more closely resembles the nation's, the region once again suffered disproportionate job losses.

During the labor market downturn that resulted from the Great Recession (roughly the period between January 2008 and February 2010), the U.S. economy lost approximately 8.8 million private-sector jobs, representing a 7.6 percent decline in just over two years.

As bad as the employment numbers looked for the nation as a whole during the Great Recession, corresponding data for the region looked even worse. Combined, North Carolina and South Carolina lost nearly 500,000 private-sector jobs, or an astounding 9.8 percent. Looking at state rankings puts the severity of the region's job losses in perspective: Of the 48 U.S. states (outside of the Carolinas) and the District of Columbia, there were only six jurisdictions that exceeded the 9.8 percent decline that was experienced in the region. Moreover, three of those jurisdictions (Arizona, Florida, and Nevada) were particularly hard-hit by the sharp downturn in

the housing market, a phenomenon that was far less pronounced in the Carolinas.

So while the Carolinas economy remains on a higher-trajectory growth path in the long run, it continues to be more susceptible to economic disruptions in the short run, as evidenced by the deeper plunges into recession.

In addition to employment figures, another telling statistic is per capita personal income relative to the nation. Per capita personal income is a function of total income in a state and its population, or total income divided by population. And when one looks at per capita income in the Carolinas against the rest of the nation, the trends do not look favorable. In 1990, per capita personal income in the

Carolinas was roughly 86 percent of the national average. (See chart.) During the 1990s, the region started narrowing the gap with the national average, and by the late 1990s, the region's per capita income relative to the nation had increased to roughly 90 percent. By 2015, however, it was down to roughly 83 percent. (It is worthwhile to note that during the 1990s, manufacturing employment in the region was already on a slow downward path.)

### The Role of Manufacturing's Decline

The popular press has often pointed to the loss of manufacturing jobs as a contributing factor to the region's relative decline in income, arguing that manufacturing jobs being lost were better paying than the service-sector jobs that were replacing them. While that argument does have some merit, it does not account for two relevant facts. First, as noted earlier, manufacturing job losses were not unique to the Carolinas; they were occurring across the nation. Moreover, average manufacturing wages in the region tended to be lower than nationwide norms. Second, as the Carolinas economy evolved since 1990, its job base transformed to more closely resemble the nationwide averages. Thus, making the argument that the region was losing ground to the nation because of changes to its industry structure becomes more difficult when those changes result in the region's jobs base looking more, not less, like the national average.

So while it is true that the region has lost much of its manufacturing jobs base, that phenomenon alone cannot entirely explain the Carolinas' continued susceptibility to economic disruptions, nor can it wholly account for the region's relatively weak showings in per capita income relative to the nation. Consequently, it makes sense to look not only at the jobs that are being created in the Carolinas, but also at the workforce that the region is developing.

How do states prepare themselves not only to survive economic disruptions (cyclical, technological, or otherwise), but also to embrace them and thrive with them? A logical place to start is by enhancing workers' economic survival skills. And that begins with education and, more broadly, human

capital development. It also happens to be a place where data show that the Carolinas have room to improve.

### Educational Attainment

From a societal standpoint, more highly skilled workers portend more economic growth potential for a region. On an individual level, completion of postsecondary education or skills training leads to higher lifetime earnings potential. It is well documented that workers with a bachelor's degree or higher, on average, will earn considerably more income over their lifetimes than workers who have completed no more than a high school diploma. And that earnings gap is widening.

But perhaps more important to the individual worker is the flexibility that higher skills attainment provides, especially during periods of economic disruption. At no time in recent history was that more evident than during the Great Recession. During the worst of that downturn, while the nation's unemployment rate hit 10 percent, it did not rise above 5 percent for those workers with at least a bachelor's degree. The upshot here: The higher your educational attainment, the more opportunities you will have for employment and the more likely you are to stay employed even in times of significant economic disruption.

So then, how well positioned are workers in the Carolinas, from an educational attainment standpoint, to survive and thrive in periods of economic duress, technological disruptions, or both? Unfortunately, the preponderance of evidence suggests that the Carolinas are somewhat behind nationwide averages. Whether looking at high school graduation rates, college enrollment rates, or percentages of population with postsecondary degrees, the data show that both North Carolina and South Carolina fall below nationwide average levels of attainment. For example, in the United States overall, 32.0 percent of the population between the ages of 25 and 64 had attained a bachelor's degree; the comparable percentages in the Carolinas were 30.9 percent for North Carolina and 27.6 percent for South Carolina. (See table.)

Perhaps of more importance is the seeming underperformance in measurements of the states' STEM (science, technology, engineering, and mathematics) readiness. With more technology being integrated into nearly all job descriptions, there is virtually universal agreement on the need to improve education in the so-called STEM subjects. In 2011, the American Physical Society derived a measure of STEM readiness by state using available metrics for student achievement and enrollment as well as teacher qualification scores, a measure that it called SERI (Science and Engineering Readiness Index). Here again, the Carolinas fell below the nationwide average.

Given their lower level of educational attainment, the Carolinas exhibit some rather predictable economic

### Educational Attainment by Age Group

	U.S.		NC		SC	
	Total	Percent	Total	Percent	Total	Percent
Population 25-64	168,714,683		5,247,099		2,525,878	
High school graduate or higher	149,121,771	88.4	4,623,496	88.1	2,225,714	88.1
Bachelor's degree or higher	53,932,881	32.0	1,622,020	30.9	698,394	27.6

SOURCE: Bureau of the Census, 2015 American Community Survey, 1-year estimate

tendencies. As noted above, higher educational attainment results in greater labor force participation rates, lower unemployment rates, and higher average incomes, on balance. In both North Carolina and South Carolina in 2015, labor force participation rates were lower than the nationwide average, unemployment rates were higher, and average incomes were lower.

These educational attainment statistics go a long way toward explaining the relatively higher susceptibility to economic disruptions that the region has experienced. The less educated a worker is, the more likely he or she is to become unemployed in times of economic turmoil.

In addition, the relatively poor performance in per capita personal income makes sense as well. Compared to nationwide averages, both states have a smaller share of their total population actively participating in the economy (lower labor force participation rates). Of those who are participating, a smaller share are actually employed (higher unemployment rates). And those who are working earn lower wages, on average, than their national counterparts.

### Conclusion

The economies of North Carolina and South Carolina have gone through a painful adjustment process since the early 1990s as a combination of changing consumer preferences, technological advances, and cyclical disruptions dramatically reduced the number of manufacturing jobs. Over this time frame, the states have largely moved on in impressive fashion with payroll employment growth in both states exceeding the nationwide average. And manufacturing jobs are growing once again, albeit slowly. However, over the course of recent business cycles, employment growth in the region has remained more volatile than in the nation as a whole.

Moreover, the jobs being created (manufacturing and otherwise) are very different than they were just a decade ago. Most require a greater understanding of information technology and automation as well as education beyond high school. Those jobs that do not require such skills are often low paying or prime candidates to be replaced by technology one day. So long as the region lags behind the nation in most measures of educational attainment, its workers are likely to remain more susceptible to economic disruptions, technological or otherwise. **EF**

# STATE DATA, Q4:15

	DC	MD	NC	SC	VA	WV
<b>Nonfarm Employment (000s)</b>	<b>768.2</b>	<b>2,680.3</b>	<b>4,268.7</b>	<b>2,027.2</b>	<b>3,893.2</b>	<b>761.2</b>
Q/Q Percent Change	0.2	0.6	0.4	0.8	0.8	0.1
Y/Y Percent Change	1.1	1.6	2.1	2.7	2.6	-1.4
<b>Manufacturing Employment (000s)</b>	<b>1.1</b>	<b>105.8</b>	<b>459.1</b>	<b>237.5</b>	<b>234.1</b>	<b>47.1</b>
Q/Q Percent Change	-2.9	1.7	-0.5	0.6	0.3	-1.1
Y/Y Percent Change	0.0	2.1	1.0	1.8	1.0	-1.3
<b>Professional/Business Services Employment (000s)</b>	<b>162.2</b>	<b>434.0</b>	<b>600.5</b>	<b>271.2</b>	<b>709.7</b>	<b>67.0</b>
Q/Q Percent Change	0.3	0.7	1.4	2.9	1.7	0.6
Y/Y Percent Change	2.2	1.8	4.0	3.7	3.9	-2.0
<b>Government Employment (000s)</b>	<b>238.8</b>	<b>503.2</b>	<b>718.8</b>	<b>362.3</b>	<b>710.7</b>	<b>152.3</b>
Q/Q Percent Change	0.2	0.2	-0.4	0.5	-0.3	0.7
Y/Y Percent Change	1.0	-0.1	0.4	1.2	0.0	-0.5
<b>Civilian Labor Force (000s)</b>	<b>390.4</b>	<b>3,157.7</b>	<b>4,777.2</b>	<b>2,260.8</b>	<b>4,236.7</b>	<b>782.9</b>
Q/Q Percent Change	0.3	0.2	0.3	0.3	0.3	-0.2
Y/Y Percent Change	1.7	0.8	1.8	1.0	0.0	0.1
<b>Unemployment Rate (%)</b>	<b>6.6</b>	<b>5.0</b>	<b>5.6</b>	<b>5.5</b>	<b>4.2</b>	<b>6.3</b>
Q3:15	6.7	5.1	5.7	5.6	4.2	6.7
Q4:14	7.6	5.5	5.8	6.6	4.9	6.4
<b>Real Personal Income (\$Bil)</b>	<b>45.4</b>	<b>310.6</b>	<b>378.9</b>	<b>174.1</b>	<b>403.2</b>	<b>61.9</b>
Q/Q Percent Change	0.5	1.0	0.9	1.2	0.7	-0.2
Y/Y Percent Change	5.3	3.5	4.0	4.8	3.9	0.8
<b>Building Permits</b>	<b>1,508</b>	<b>3,472</b>	<b>12,549</b>	<b>6,287</b>	<b>7,253</b>	<b>591</b>
Q/Q Percent Change	51.1	-22.3	-4.5	-25.6	-17.5	-26.8
Y/Y Percent Change	119.8	-8.1	-0.6	-3.9	5.2	10.3
<b>House Price Index (1980=100)</b>	<b>774.0</b>	<b>438.8</b>	<b>329.8</b>	<b>335.7</b>	<b>426.6</b>	<b>227.8</b>
Q/Q Percent Change	2.1	0.5	0.6	1.0	0.7	0.3
Y/Y Percent Change	7.8	2.4	4.9	5.6	2.5	2.7

**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.
- 3) Manufacturing employment for DC is not seasonally adjusted

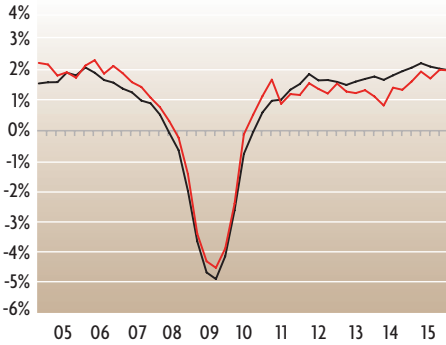
**SOURCES:**

Real Personal Income: Bureau of Economic Analysis/Haver Analytics.  
 Unemployment Rate: LAUS Program, Bureau of Labor Statistics, U.S. Department of Labor/Haver Analytics  
 Employment: CES Survey, Bureau of Labor Statistics, U.S. Department of Labor/Haver Analytics  
 Building Permits: U.S. Census Bureau/Haver Analytics  
 House Prices: Federal Housing Finance Agency/Haver Analytics

For more information, contact Michael Stanley at (804) 697-8437 or e-mail [michael.stanley@rich.frb.org](mailto:michael.stanley@rich.frb.org)

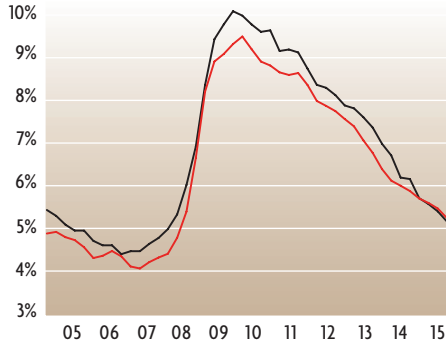
### Nonfarm Employment

Change From Prior Year  
Fourth Quarter 2004 - Fourth Quarter 2015



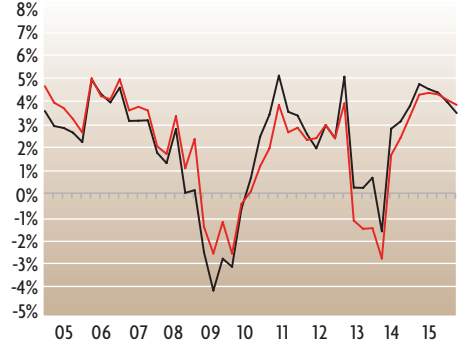
### Unemployment Rate

Fourth Quarter 2004 - Fourth Quarter 2015



### Real Personal Income

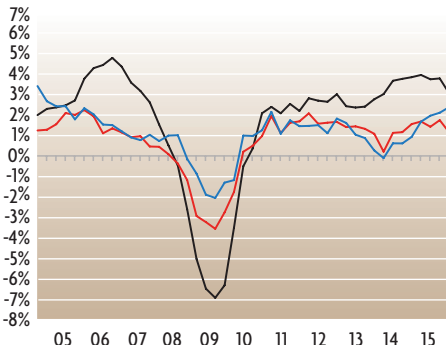
Change From Prior Year  
Fourth Quarter 2004 - Fourth Quarter 2015



— Fifth District — United States

### Nonfarm Employment Major Metro Areas

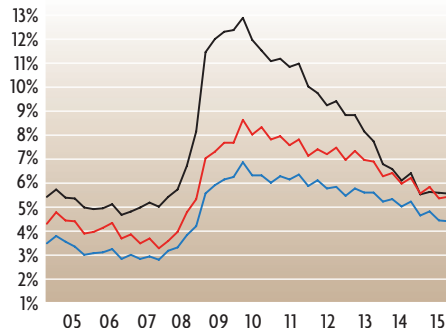
Change From Prior Year  
Fourth Quarter 2004 - Fourth Quarter 2015



— Charlotte — Baltimore — Washington

### Unemployment Rate Major Metro Areas

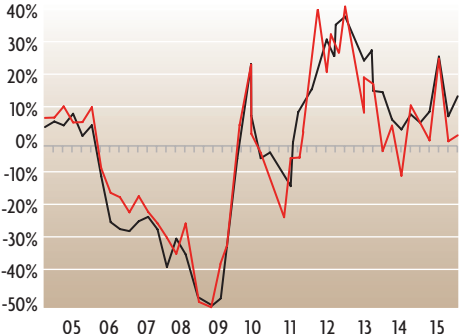
Fourth Quarter 2004 - Fourth Quarter 2015



— Charlotte — Baltimore — Washington

### Building Permits

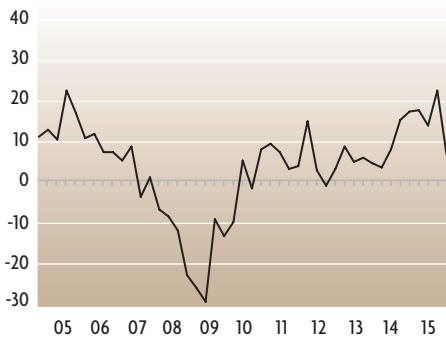
Change From Prior Year  
Fourth Quarter 2004 - Fourth Quarter 2015



— Fifth District — United States

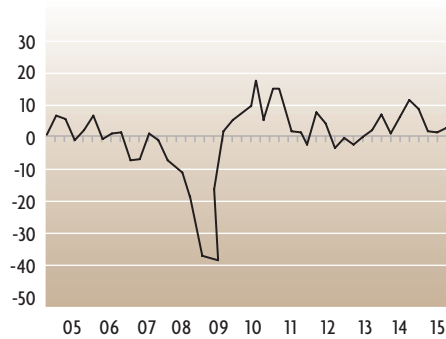
### FRB—Richmond Services Revenues Index

Fourth Quarter 2004 - Fourth Quarter 2015



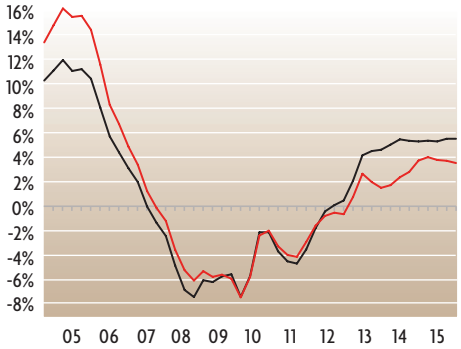
### FRB—Richmond Manufacturing Composite Index

Fourth Quarter 2004 - Fourth Quarter 2015



### House Prices

Change From Prior Year  
Fourth Quarter 2004 - Fourth Quarter 2015



— Fifth District — United States

# METROPOLITAN AREA DATA, Q4:15

	Washington, DC	Baltimore, MD	Hagerstown-Martinsburg, MD-WV
<b>Nonfarm Employment (000s)</b>	<b>2,622.7</b>	<b>1,383.6</b>	<b>104.8</b>
Q/Q Percent Change	1.2	1.0	1.4
Y/Y Percent Change	2.4	1.1	-2.0
<b>Unemployment Rate (%)</b>	<b>4.3</b>	<b>5.2</b>	<b>5.0</b>
Q3:15	4.3	5.2	5.4
Q4:14	4.9	5.8	5.8
<b>Building Permits</b>	<b>6,039</b>	<b>1,266</b>	<b>196</b>
Q/Q Percent Change	-0.7	-37.7	-16.2
Y/Y Percent Change	21.6	-25.3	-40.8

	Asheville, NC	Charlotte, NC	Durham, NC
<b>Nonfarm Employment (000s)</b>	<b>185.8</b>	<b>1,126.6</b>	<b>298.9</b>
Q/Q Percent Change	2.1	2.3	1.6
Y/Y Percent Change	3.0	3.1	1.3
<b>Unemployment Rate (%)</b>	<b>4.5</b>	<b>5.3</b>	<b>5.0</b>
Q3:15	4.6	5.4	5.0
Q4:14	4.7	5.7	4.9
<b>Building Permits</b>	<b>438</b>	<b>5,003</b>	<b>1,107</b>
Q/Q Percent Change	-14.5	10.7	-5.6
Y/Y Percent Change	36.9	22.5	4.9

	Greensboro-High Point, NC	Raleigh, NC	Wilmington, NC
<b>Nonfarm Employment (000s)</b>	<b>361.0</b>	<b>594.7</b>	<b>120.4</b>
Q/Q Percent Change	2.2	1.7	-0.6
Y/Y Percent Change	1.9	3.6	2.1
<b>Unemployment Rate (%)</b>	<b>5.8</b>	<b>4.7</b>	<b>5.5</b>
Q3:15	5.9	4.7	5.5
Q4:14	6.1	4.8	5.5
<b>Building Permits</b>	<b>604</b>	<b>2,447</b>	<b>321</b>
Q/Q Percent Change	-14.6	-14.3	-29.1
Y/Y Percent Change	-12.1	-18.9	-48.3

NOTE:  
Nonfarm employment and building permits are not seasonally adjusted. Unemployment rates are seasonally adjusted.



	Winston-Salem, NC	Charleston, SC	Columbia, SC
<b>Nonfarm Employment (000s)</b>	<b>259.4</b>	<b>337.7</b>	<b>392.5</b>
Q/Q Percent Change	1.3	0.6	2.2
Y/Y Percent Change	1.0	3.1	2.2
<b>Unemployment Rate (%)</b>	<b>5.4</b>	<b>4.7</b>	<b>5.2</b>
Q3:15	5.5	4.8	5.2
Q4:14	5.5	5.8	6.0
<b>Building Permits</b>	<b>289</b>	<b>1,384</b>	<b>934</b>
Q/Q Percent Change	17.3	-29.3	-29.6
Y/Y Percent Change	-18.4	-0.8	5.8

	Greenville, SC	Richmond, VA	Roanoke, VA
<b>Nonfarm Employment (000s)</b>	<b>409.3</b>	<b>669.6</b>	<b>163.7</b>
Q/Q Percent Change	1.7	2.5	1.6
Y/Y Percent Change	3.2	4.3	1.3
<b>Unemployment Rate (%)</b>	<b>4.8</b>	<b>4.3</b>	<b>4.1</b>
Q3:15	5.0	4.4	4.2
Q4:14	6.0	5.2	4.9
<b>Building Permits</b>	<b>998</b>	<b>1,398</b>	<b>N/A</b>
Q/Q Percent Change	-41.8	-4.0	N/A
Y/Y Percent Change	-22.9	69.7	N/A

	Virginia Beach-Norfolk, VA	Charleston, WV	Huntington, WV
<b>Nonfarm Employment (000s)</b>	<b>771.2</b>	<b>123.4</b>	<b>142.5</b>
Q/Q Percent Change	-0.1	0.6	2.1
Y/Y Percent Change	1.3	-2.3	-1.0
<b>Unemployment Rate (%)</b>	<b>4.7</b>	<b>6.0</b>	<b>6.1</b>
Q3:15	4.7	6.4	6.2
Q4:14	5.4	6.2	6.2
<b>Building Permits</b>	<b>1,216</b>	<b>58</b>	<b>36</b>
Q/Q Percent Change	-33.4	-6.5	0.0
Y/Y Percent Change	-24.7	1,060.0	0.0

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# The Payoff from the Earned Income Tax Credit

BY KARTIK ATHREYA

One of the largest federal antipoverty programs — the Earned Income Tax Credit (EITC) — appears not well-known to many Americans, including many of those it targets. The EITC provides low- and moderate-income workers a subsidy in the form of a credit that’s “refundable” in the sense that if the worker’s tax bill is less than the credit, he or she receives a refund check from the Internal Revenue Service. The EITC resulted in \$66.7 billion in income tax credits to 27.5 million families in 2014, an average of about \$2,400 per family. As you would expect, EITC recipients are generally low-income workers: In 2010, Nicole Simpson of Colgate University; Devin Reilly, currently at the consulting firm Analysis Group; and I looked at the characteristics of recipients and found that their mean household income was a little more than \$15,000.

The EITC rewards employment, since only those with earnings are eligible to receive it. It is attractive because it is simple to administer and gives recipients complete flexibility in deciding how to use the money they receive. But does the EITC work? Before trying to answer that, it’s useful to think through the incentives and disincentives that the EITC sets in motion. As a credit on earned income, the EITC basically raises a worker’s effective wage. But this doesn’t necessarily mean recipients will choose to work more. When hourly wages go up, individuals may choose to seek more work — either by getting a job, or, if they already have one, by taking on more hours. This is what economists refer to as the “substitution” effect — workers substituting paid work for nonmarket activities, such as caring for their children or parents. On the other hand, being able to earn more per hour allows workers to make any given level of purchases through fewer working hours. This is called an “income” effect, and it works in the opposite direction.

There is another force at work that can partially thwart the EITC from achieving its goals. The program limits eligibility by reducing the recipient’s credit once his or her income crosses a certain threshold. In this “phase-out zone,” a further increase in income causes a decrease in the amount of the EITC. This, in turn, creates a disincentive for workers in this zone to increase their hours worked.

Whether the incentives or disincentives to work dominate is an empirical question, and recent research offers some answers. The EITC does not appear to strongly affect men’s work hours one way or the other. And because of the income effect, the EITC seems to lead some married women to leave work. Nada Eissa of Georgetown University and Hilary Hoynes of the University of California, Berkeley studied the response of

married couples to the EITC expansions that took place between 1984 and 1996. They found that, while the expansions slightly increased the labor force participation of married men, they reduced the labor force participation of married women by more than a full percentage point. The success story for the EITC, in terms of increasing entry into the workforce, has been that of single parents, mothers especially. Indeed, researchers have found that the EITC was the main reason that the employment rates of single women with children went up in the 1990s.

The EITC has other benefits for single women, including those who are not EITC eligible. Simulations by Gizem Kosar of the New York Fed in 2014 found that the presence of the EITC in the economy encourages women to gain work experience. As a result, the wages of single women are 5 percent higher in such an economy than in an economy without the EITC.

The EITC also serves as a form of insurance against wage fluctuations, both routine ones and ones that occur during economic downturns. In work that Nicole Simpson, Devin Reilly, and I did in 2014, we found that the EITC may substantially reduce the volatility of a recipient’s spending. And strikingly, EITC income appears to have broader effects on family well-being: Recent work has found that for single mothers with a high school education or less, an increase of \$1,000 in their EITC is associated with a 6.7 percent to 10.8 percent reduction in low birth weight newborns.

Like every transfer program, the EITC comes with limitations. For instance, some of the money paid to recipients may end up, indirectly, in the pockets of their employers in the sense that EITC payments may enable employers to set wages a little lower. Jesse Rothstein of the University of California, Berkeley has estimated that an average of 30 cents of every dollar of EITC money received by low-skill single mothers ends up in the pockets of their employers in this way. In addition, the EITC cannot help those who’ve suffered a job loss or are unable to find employment — it is a credit only for earned income, after all. Lastly, by making low-skilled jobs pay more, in effect, the EITC may discourage skill acquisition. If at all substantial, this effect is something for policymakers to keep firmly in mind.

On balance, the EITC appears to play a valuable role in combating poverty and helping low-income individuals — single mothers especially — transition into the workforce, and it may serve as an important buffer against risks. But further research is vital for a full understanding of both its limitations and its benefits. **EF**

**Kartik Athreya is executive vice president and director of research at the Federal Reserve Bank of Richmond.**

# NEXT ISSUE

## Millennial Finance

Many millennials entered the workforce in the midst of the Great Recession and the collapse of the housing market. Observers worry that these forces, coupled with other burdens like mounting student debt, are stunting millennials' financial development. *Econ Focus* looks at research on the economic challenges of workers in the millennial generation.

## Women at Work

The share of women participating in the U.S. labor force has been dropping since 2000. But in most developed economies around the world, the rate has been rising since the early 1990s. Why is the U.S. labor market for women different — and can policymakers do anything to change it?

## Life Expectancy in America

For most people and in most developed countries, life expectancy has increased steadily for decades. But in the United States, growth in life expectancy has stalled — and might actually have reversed for some groups.

## Jargon Alert

In economics, the life-cycle hypothesis states that people save money while they are young so that they can draw down their savings as they age. On its face, it seems like an obvious insight. But as a number of economists over the years have shown, this simple idea has profound implications for the economy as a whole.

## The Profession

Even after they've officially retired, some economists never truly leave economics behind. Conferences, adjunct positions, and writing projects are ways that these economists keep themselves involved.

## Interview

Jonathan Parker of MIT on whether households smooth their consumption over time as economic theory predicts, why the incomes of wealthy households have become more sensitive to the business cycle, and the macroeconomic effects of fiscal policy choices during recessions.

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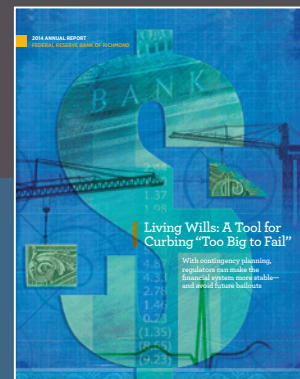
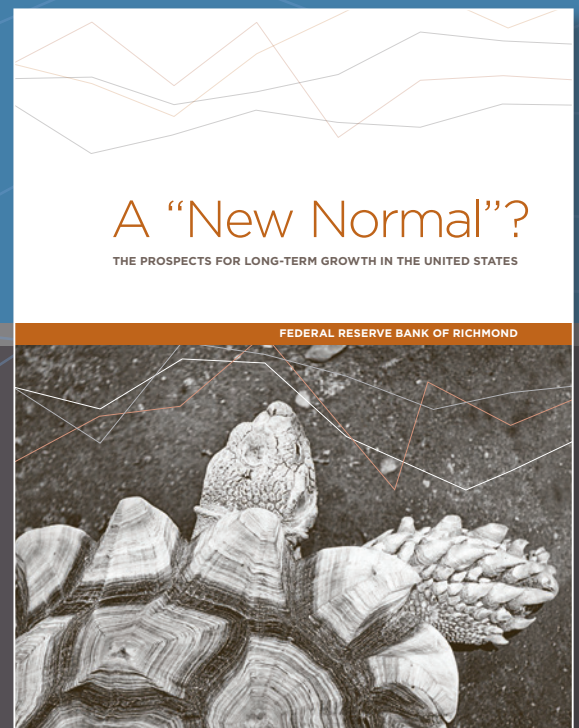
## The Richmond Fed's 2015 Annual Report Annual Report Essay Assesses Prospects for Long-Term Growth

An essay in the Richmond Fed's 2015 Annual Report challenges the idea that the U.S. economy will be stuck in slow-growth mode for many years. Economic growth following the Great Recession has been well below the post-World War II pace, a performance that some observers have called the "new normal." The pessimists argue, among other things, that innovation has slowed and is unlikely to improve and that demographic trends do not bode well for fiscal policy. The authors of the Richmond Fed essay concede that these issues are significant, but they contend that continued innovation and sound public policy could yield substantial improvements in economic performance. That scenario might be difficult for U.S. citizens to imagine right now, they conclude, "but how many Americans in 1930 would have thought that the rest of the 20th century would have produced such massive gains for such a huge swath of the population?"

### Previous annual report essays include:

Living Wills: A Tool for Curbing Too Big to Fail

Should the Fed Have a Financial Stability Mandate?  
Lessons from the Fed's first 100 Years



The Annual Report is available on the Bank's website at [www.richmondfed.org/publications/research/annual\\_report/](http://www.richmondfed.org/publications/research/annual_report/)