

THIRD QUARTER 2017

ECON FOCUS

FEDERAL RESERVE BANK OF RICHMOND

CYBERATTACKS and the DIGITAL DILEMMA

Can economics shed light on why it's so difficult to defend against cyberthreats?



Subprime
Auto Loans

When is Inflation
Too Low?

Interview with
Douglas Irwin

ECON FOCUS

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MESSAGE FROM THE INTERIM PRESIDENT

The Federal Reserve and Cybersecurity

What can we do about cybersecurity? That's the central question of this issue's cover story, "Cyberattacks and the Digital Dilemma," which explores the incentives businesses, governments, and consumers have to invest in and monitor the security of their systems, applications, data, and online activities.

It's a question of vital importance. In 2016, the FBI received nearly 300,000 complaints from consumers about cybercrime, at a cost to the victims of more than \$1.3 billion. That only includes people who reported the crime; the security-software company Symantec puts the total financial cost to U.S. consumers at more than \$20 billion. For U.S. businesses, a data breach currently costs about \$7.4 million on average, according to a research study sponsored by IBM. And these numbers pale in comparison to the potential harm if hackers were able to infiltrate systems within our country's critical infrastructure sectors, including the financial services sector.

At the Fed, we are highly aware of cybersecurity risks and the importance of maintaining trust and confidence in the banking system. That's why protecting the integrity of our data, systems, and applications underpins everything we do, from sending an email to transferring trillions of dollars each day between financial institutions. Led by National IT's Office of the Chief Information Security Officer, and based here in the Fifth District, the Federal Reserve Banks execute a comprehensive cybersecurity strategy anchored on three goals: defending Federal Reserve System networks, applications, and data; developing the cybersecurity workforce skills necessary for tackling tomorrow's threats; and deploying threat-driven, risk-based processes. Simply put, our goal is to reduce cybercriminals' financial motivation by making it too costly to attack us.

The Fed's physical and virtual footprints are quite large, comprising 12 regional Reserve Banks, an additional 24 branch offices, and more than 22,000 employees — not to mention the thousands of financial institutions we supervise and provide payment services for. Among other protections, we've deployed layers of sophisticated security technologies at our internal and external network entry and exit points, as well as protections at System endpoints. These are coupled with multiple layers of protection at the application level, including the most up-to-date encryption technologies, for the core data themselves.

Even the best programs and technologies aren't enough if our employees don't play an active and informed role. That's why we're also committed to building our "human firewall" as a core component of our defense strategy. Every Fed employee undergoes extensive annual training to stay up to date on our cybersecurity and data privacy

requirements. We also make sure our employees have the knowledge they need to spot potential scams or "phishing" attempts — emails that try to trick the recipient into revealing personal data.

We're confident that our technologies, our processes, and our people help to form a strong layered defense against hackers and other cybercriminals. As strong as that defense is, however, we are well aware of the dangers of complacency. We're always on the lookout for the next emerging threat and adjusting our defenses accordingly.

This issue of the magazine also addresses a topic of great interest to policymakers recently: the persistence of inflation below the Fed's long-run target of 2 percent. Historically, lower unemployment rates have been correlated with higher inflation; given October's unemployment rate of 4.1 percent, one might conclude the current stance of monetary policy is too accommodative. But it's possible that relatively low inflation is a temporary circumstance. For example, some unusual events have lowered specific prices substantially, which has an effect on the overall price level. Since those unusual events are only transitory, inflation is likely to increase in coming months. Overall, the Federal Open Market Committee expects inflation will rise and then stabilize at around 2 percent over the next few years, and that additional increases in the federal funds rate will be forthcoming.

That said, we don't have a perfect understanding of the current behavior of inflation. Some economists have proposed that the relationship between unemployment and inflation has weakened over time, meaning it takes bigger swings in unemployment to trigger changes in inflation. Demographic changes could also be a headwind for wage growth and inflation.

In addition to the articles on cyberattacks and inflation, I hope you will enjoy discussions of a universal basic income, the subprime auto lending market, and an interview with trade economist Douglas Irwin. Thank you for reading. EF



A handwritten signature in black ink that reads "Mark L. Mullinix".

MARK L. MULLINIX
INTERIM PRESIDENT AND CHIEF OPERATING OFFICER
FEDERAL RESERVE BANK OF RICHMOND



MARYLAND — In late September, Baltimore’s Sparrows Point facility held a groundbreaking ceremony to celebrate its first tenant. FedEx opened a \$58 million, 307,000-square-foot distribution center in the historic former steel mill site. Processing up to 15,000 packages per hour, the FedEx center is mostly automated, but it does bring more than 400 new jobs to the area. Other tenants at Sparrows Point include apparel manufacturer Under Armour, which is building a distribution center on the site, and car importer Pasha Automotive, which has leased space to store imported vehicles.



NORTH CAROLINA — Industrial manufacturer NN, Inc. announced in September that it will move its global headquarters to Charlotte in early 2018. The \$10 million headquarters will be the base for 200 workers, 175 of whom NN has promised to hire locally. To lure the company, the city tentatively agreed to provide more than \$280,000 in property tax rebates over five years, and the state approved a \$3.7 million grant as well as more than \$350,000 in community college training funds.



SOUTH CAROLINA — The late August solar eclipse was the state’s biggest single tourist event ever, according to the S.C. Department of Parks, Recreation and Tourism. South Carolina was the last place in the United States to witness the “totality” of the eclipse. The department’s report found that 1.6 million people traveled to or within the state to watch the eclipse and spent about \$269 million. The most popular viewing locations were parks, mountain sites, and the coast.



VIRGINIA — Twelve companies have been selected to participate in the Virginia Economic Gardening Pilot Program, which is administered by the Virginia Economic Development Partnership and is targeted at helping existing Virginia businesses grow. The program focuses on second-stage companies, which are young companies that have transitioned beyond being startups in terms of revenue or employment. The program lasts for six to eight weeks and helps businesses identify new markets and industry trends, refine business models, and raise their online visibility. The participants’ revenue and employment growth will then be tracked for 36 months in order to assess the long-term effectiveness of the program.



WASHINGTON, D.C. — In a September report, the D.C. auditor found that the district may be forgoing millions of dollars of tax revenue by not properly regulating vacant properties. In D.C., vacant or blighted properties are taxed at rates five to 12 times higher than properties in good repair. The auditor found that the Department of Consumer and Regulatory Affairs improperly granted exemptions and did not follow legal requirements, among other issues, leading to an inaccurate count of vacant properties.



WEST VIRGINIA — Toyota announced in September that its plant in Buffalo will become the first in the United States to make transaxles for hybrid cars. The \$115 million project won’t create new jobs, but it is expected to provide job security for the 1,600 current employees, who will receive additional training. Production of the transaxles is scheduled to begin in 2020.

Waiting for Inflation

When is inflation too low?

BY HELEN FESSENDEN

In the past several years, economists and policymakers alike have been increasingly absorbed by an unexpected puzzle: the stubbornness of low inflation. This might seem like a benign conundrum, given that the success of a central bank has historically been defined by its control of inflation. Indeed, price stability is one pillar of the Fed’s dual mandate (the other being maximum employment). And given how unpopular and economically destabilizing high inflation is, a safe assumption is that long stretches of low inflation would be welcome.

But today, the United States and many other advanced economies are seeking to lift inflation off of very subdued levels. A common concern is that if inflation is too low for too long, interest rates will remain near zero. Because interest rates can’t fall far below zero, this means that policymakers might have little room to stimulate the economy by cutting rates in case they need to address a negative shock. Moreover, low interest rates could induce investors to chase higher yields in riskier assets, or take on excessive debt, ultimately driving up risk throughout the financial system.

The Fed announced an annualized 2 percent inflation target in January 2012, based in part on the long-run average prior to the Great Recession. It’s also a figure shared by counterparts such as the European Central Bank and the Bank of England. But what was once seen as a reasonable objective has, for some, become a challenge. While the United States has posted higher inflation, and stronger growth rates, than many other major economies, inflation has remained below 2 percent over a sustained period by most gauges. Among these is the Fed’s preferred metric, “core” personal consumption expenditures (PCE) inflation, which excludes the volatile food and energy components. Since 2012, annual core PCE inflation has averaged around 1.6 percent and recently slipped to 1.3 percent. (See chart.)

A debate is now unfolding over whether the long duration of low inflation — despite apparently loose monetary policy — requires fresh thinking by the Fed. This question has immediate policy implications in terms of how and when the Fed should act in continuing to tighten monetary policy. But it also raises the broader question of just what it means to “meet” or “miss” inflation targets. For example, does it matter if inflation remains modestly lower than the target? The Fed’s inflation target is “symmetrical,” but over what horizon should symmetrical fluctuations be expected to occur? And if the Fed considers

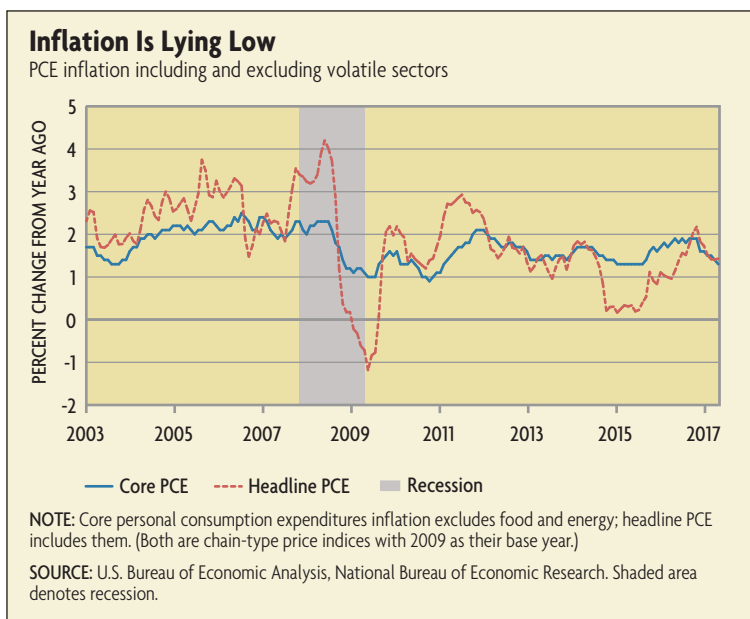
inflation “too low” at some point, should it rethink its target or its tools?

A Question of Credibility

When the Federal Open Market Committee (FOMC) announced the 2 percent target in January 2012, it emphasized two objectives. One was that it would help “anchor,” or firmly establish, long-run expectations that inflation would stay low and stable. The other was that it would let the Fed achieve more transparency and accountability in communicating monetary policy. With regard to anchoring, the undershooting of the target has caused some economists, and Fed critics more broadly, to ask whether the Fed can in fact remain credible if, in their view, it keeps missing the target — especially as it makes the case for higher interest rates.

On the FOMC, this concern has been most frequently expressed by Minneapolis Fed President Neel Kashkari, who contends that the Fed should be worried about missing the target — and if need be, hold off on tightening until inflation data are consistently moving higher. He sees the risk of holding off on further hikes (potentially leading to higher inflation) as more benign than tightening too soon (potentially hurting the recovery). While most labor market indicators have strengthened, he argues that there is still slack, most notably in the relatively low labor force participation rate for prime-age workers.

But many economists still share the view that this low average inflation doesn’t constitute a true “miss.” For



example, core PCE steadily rose from late 2015 to late 2016 to graze 2 percent. This group also notes the 2 percent inflation target is a long-run objective that smooths out price volatility, whereas the recent inflation softness is likely temporary and driven by sector-specific price decreases — such as in cell phone services, housing, and health care; these are all examples of how a degree of volatility and uncertainty is built into overall inflation measurements in the short to medium term.

“This is a very important debate, but to call low inflation a ‘puzzle’ at this point is overstated,” says Johns Hopkins University economist Laurence Ball, who has argued for a higher inflation target of 4 percent. “So much depends on the time period in question and which measure you use. The numbers bounce around a lot and there are large error terms. If we’re seeing inflation at 1.6 percent instead of 2 percent, I’d call that normal statistical noise.”

To most on the FOMC, including Chair Janet Yellen, these short-term fluctuations also don’t undermine the view that long-run inflation will be moving back toward 2 percent in the next couple of years. Yellen has reasserted this view in recent testimony and speeches, albeit with some caveats.

“We continue to anticipate that inflation is likely to stabilize around 2 percent over the next few years,” she said in a Sept. 26 speech. “But our understanding of the forces driving inflation is imperfect, and we recognize that something more persistent may be responsible for the current undershooting of our longer-run objective.”

A Post-Recession Conundrum

Whatever the implications of low inflation may be, most economists still agree that its persistence has been a surprise given other fundamentals. Since the recession, U.S. growth has been steady, if slow, while unemployment has fallen sharply. Most other labor-market indicators have also tightened. In addition, monetary policy has been highly stimulative since 2008 — benchmark interest rates were near zero from 2008 to 2015, and the rate hikes ever since have been incremental. The mystery is that this stimulus, combined with the increase in labor utilization, hasn’t been met by an uptick in inflation — the scenario that most economists and the markets had expected.

Such consistently low inflation to date is also below the Fed’s own inflation projections. Since the 2012 inflation-target announcement, the FOMC’s Summaries of Economic Projections (SEP) — a quarterly report with forecasts of key indicators — have regularly overestimated future inflation as well as gross domestic product growth and the committee’s expected trajectory of short-term interest rate hikes (known as the “dot plot”), according to a 2016 study by the Kansas City Fed. In essence, the Fed projected a quicker return to strong growth and higher inflation, which in turn would let the FOMC pursue “lift-off” — getting interest rates off the “zero lower bound” — and eventually shrink its balance sheet holdings of

\$4.5 trillion that expanded through its bond-buying campaign. But as the report also notes, the Fed was hardly alone in assuming higher inflation and stronger growth — this was also the consensus of private-sector projections.

One part of this surprise involves the relationship known as the Phillips Curve, named after the British economist A.W. Phillips. It states that when unemployment falls, inflation rises, one reason being that real wages go up as available workers become scarcer. Higher wages prompt employers to pass those costs on to consumers, which causes prices to rise. When unemployment is high, by contrast, employers have room to cut wages, which eases inflationary pressure. Empirically, however, this relationship has not been consistent over the decades. For example, the correlation was stronger in the mid-to-late 1960s, whereas the current environment of falling unemployment amid low inflation is quite similar to the early 1960s and the late 1990s. Today, most economists agree there is no tight, fixed correlation; rather, some argue there are occasional circumstances when the correlation is stronger, such as when the labor market is very tight.

Nonetheless, many economists and FOMC members generally expected at the start of the recovery that inflation would rebound once the labor market healed. This has not happened. Unemployment is now 4.1 percent, down from the 2009 high of 10 percent, while inflation has stayed quiescent. This apparent “flattening” of the Phillips Curve has received much attention from economists. Among some tentative explanations is the rising importance of long-term inflation expectations relative to unemployment in determining actual inflation in the short term; very low inflation expectations might keep inflation muted even if unemployment is also falling. Other economists point to the importance of understanding how different measurements of inflation, as well as the type of workers who are unemployed, play a role in shaping the curve. (Research by the Federal Reserve Board of Governors suggests labor force slack did account for a large part of the inflation “shortfall” below 2 percent after the recession, but less so in recent years as more transitory factors came into play.) Amid these competing explanations, many economists today say that more study is needed to understand the causal relationship between inflation and unemployment — if there is one — and what truly “anchors” inflation in the long run.

The ‘New Normal’

Another reason why low inflation is unexpected lies on the monetary policy side. Since the recession, the Fed and most other major central banks have pursued exceptionally accommodative policies by keeping benchmark rates near zero. Inflation-adjusted (or “real”) interest rates have sometimes dropped below zero as a result of very low nominal rates, while another key conceptual measure — the equilibrium or “natural” interest rate — has also dropped below zero by most estimates.

The natural rate is important for understanding, among other things, the degree of accommodation. It represents the inflation-adjusted short-term interest rate when the economy is at full employment. It's not observed but is estimated as a function of other variables such as productivity, savings, demographics, and expected long-term growth. When it falls, it's often interpreted as an indication that long-term growth prospects are also falling — perhaps the result of an aging population or slowing productivity. When short-term real interest rates fall below the natural rate — which has generally been the case during most of the recovery — monetary policy is considered accommodative. Most models see the estimated natural rate as having slightly risen in the past couple years, and this is one reason some economists argue that higher nominal interest rates are now appropriate.

Where is the natural interest rate today, and what is its relationship to inflation? While estimates differ somewhat, economists generally believe the natural rate has fallen dramatically since the recession, both in the United States and abroad. According to a well-known San Francisco Fed model that incorporates data on inflation, output, and nominal interest rates, the U.S. natural rate averaged between 2 percent and 2.5 percent in the 2000s. It then dropped from about 2 percent at the start of the Great Recession to zero in late 2010 and has hovered around zero since then, with a slight uptick in the last few years. A Richmond Fed model produces a similar trend with a slightly higher natural rate at present. And while the natural rate is independent of inflation — and is independent of monetary policy — a low natural rate may push down inflation expectations by reinforcing the belief among consumers and firms that monetary policy will be constrained by the zero bound in the future.

In short, inflation has behaved in unexpected ways, staying subdued despite growing labor market tightness and a historic degree of accommodation. Some economists — pointing to the fact that low inflation, along with a low natural rate, is actually a global phenomenon — say this environment marks a “new normal.”

Raising Expectations

How much are inflation expectations changing in the “new normal”? One challenge is that many different gauges can come into play. For example, survey-based measures that poll individuals or firms are more stable and tend to give higher readings, while measures that are drawn from financial market participants tend to be lower, and some have shown a recent decline, according to recent San Francisco Fed research. Some economists are pointing to these different trends to ask whether inflation expectations, in the aggregate, are falling. In some recent speeches, Yellen has suggested that when interest rates are close to the zero lower bound, the management of inflation expectations becomes even more important than usual in controlling inflation. One tool she pointed to was

the Fed's practice of “forward guidance,” which involves making public statements that not only outline future policy, but say which factors could change that policy. In this “new normal” environment, she noted, such tools are even more critical — and if a central bank seeks long-run inflation at 2 percent, it has to understand how to move long-run expectations upward as well. (See “When Talk Isn't Cheap,” *Econ Focus*, First Quarter 2013.)

“We need to know more about the manner in which inflation expectations are formed and how monetary policy influences them,” said Yellen in a 2016 speech, noting that both actual and expected inflation are ultimately tied to the inflation target. But it's not clear how this anchoring takes place, she added.

“Does a central bank have to keep actual inflation near the target rate for many years before inflation expectations completely conform?” she asked. “Can policymakers instead materially influence inflation expectations directly and quickly by simply announcing their intention to pursue a particular inflation goal in the future?”

A Fresh Strategy?

As noted above, one important reason behind the Fed's 2012 announcement of the 2 percent target was transparency: The Fed wanted to present a benchmark that would convey to the public its view of how much inflation to expect in the long run and anchor expectations accordingly. And recent FOMC minutes indicate that almost all committee members still believe that this target is appropriate.

But there is an alternative approach, advocated by San Francisco Fed President John Williams, known as “price-level targeting,” which gives the Fed the flexibility to adjust its inflation targets so it can “catch up” on future inflation when it's low — and vice versa. As he sees it, a more flexible approach like a price-level target would shore up the Fed's credibility. This strategy would adjust the inflation target to the trajectory of prices and deviations from the natural unemployment rate rather than a fixed numeric target. In essence, when inflation is unusually low, the Fed could set a higher target; when inflation picks up, the Fed would adjust the inflation target back downward. To Williams, price-level targeting can also work around the constraint set by the zero lower bound because it signals to the public that the Fed is willing to pursue higher inflation even when real and nominal rates are around zero.

“A price-level target provides greater clarity on where prices will be 5, 10, and 30 years into the future, time horizons that people think about when buying a car, a home, or planning for retirement,” Williams said in a presentation last May. “This should lend itself to greater transparency and clarity for the public — especially when interest rates are constrained by the lower bound.”

Most other FOMC members, by contrast, have not publicly embraced such an approach or any change to the 2 percent target. And Yellen has expressed skepticism

continued on page 19

Yield Curve

BY RENEE HALTOM

A yield curve is a chart that plots the yield on a given bond — that is, the interest rate offered at current market prices — at every available maturity. Usually a yield curve displays the shortest maturities on the left and the longest maturities on the right. It is a snapshot in time: You can replot a yield curve as fast as market expectations change, meaning today’s yield curve may not look the same as tomorrow’s.

The yield curve is a simple concept, but what it means is much debated. The idea is to understand factors influencing short- versus long-term interest rates, but multiple factors affect both. Those factors include the risk that the bondholder won’t be repaid (called the bond’s credit risk); expected inflation (since inflation reduces the real value of a bond, though some bonds are indexed to inflation such that their yields don’t include a premium for inflation risk); a term premium (compensation for tying up the investor’s funds for the given time period, though this can be a benefit if an investor wants to lock in a given return); and the short-term rates that are expected to prevail over the life of the bond. Any time expectations about those factors change, a yield curve is liable to change shape. But it won’t necessarily be obvious which components have shifted to cause that change.

An upward-sloping yield curve is the most common. But if short-term interest rates are expected to fall, a yield curve can flatten or even become downward sloping. That’s often interpreted to suggest that market participants see a recession on the horizon, and with it, looser monetary policy.

And yield curves have often been correct about recessions. In a 2009 study comparing yield curves to common forecasting methods, San Francisco Fed President John Williams and Executive Vice President and Senior Policy Advisor Glenn Rudebusch found that the slope of the yield curve does far better at predicting recessions three and four quarters out than economists and professional forecasters do using all the information and data available to them. That said, the yield curve has falsely “predicted” recessions, most notably in 1966 and in 1998, the Cleveland Fed has pointed out. And the yield curve is generally flatter today than it used to be as inflation in many countries has become lower and more stable.

Moreover, factors beyond the economic forecast also affect longer-term yields. The Fed raised its policy rate no

fewer than 17 times between June 2004 and June 2006, but long-term rates stayed steady and even declined. This was especially unusual given the perceived health of the economy at the time. Then-Fed Chairman Alan Greenspan famously called this bond market behavior a “conundrum,” which remains partly a mystery.

For monetary policy, the yield curve can be both a predictive economic indicator and a measure of monetary policy’s effects. Though the Fed directly controls only very short-term interest rates, it does have tools for influencing longer-term rates, which are the rates that drive much of economic activity — the rates on consumer loans and major business investments, for example.

The Fed’s influence, or lack thereof, over longer-term rates became a focus after the Great Recession. Once the Fed pushed short-term policy rates as low as they could go — the zero lower bound — it sought to continue stimulating the economy by pushing down longer-term interest rates through three avenues. First, it signaled its intent to keep monetary policy loose for a long time to come, suppressing the expected path of short-term rates. Second, it purchased large quantities of long-term securities like treasuries and mortgage-backed securities to push up their market price and push down their yields. Third, the Fed exchanged short-term securities on its balance sheet for longer-term ones to further “twist” the yield curve.

Estimates differ on the extent to which these moves successfully lowered long-term rates. The yield curve did steepen dramatically when Bernanke hinted the *end* of these extraordinary actions, which had the effect of tightening financial conditions. Some even wondered whether this tightening would, ironically, force the Fed to delay its return to conventional monetary policies. A focus today has been on what will happen as the Fed returns to “normal” monetary policy in which short-term interest rates are the key policy lever. (See “Time to Unwind,” page 30.) Many observers don’t expect the same volatility this time since the Fed’s next policy moves seem more clear to markets. (See “Unwinding the Fed’s Asset Purchases,” *Econ Focus*, Second Quarter 2017.)

Still, as normalization continues, the Fed will likely be watching the yield curve as one important measure of how its policy changes are being interpreted by financial markets.



ILLUSTRATION: TIMOTHY COOK

EF

Affirmative Action, On and Off

BY KODY CARMODY

In 1965, President Lyndon B. Johnson signed Executive Order (EO) 11246, requiring that federal contractors take “affirmative action” to prevent discrimination in their hiring and employment practices; firms of a certain size and contract value were subject to more strict requirements, such as specifying goals and timetables for hiring of minorities. Conrad Miller, an economist at the University of California, Berkeley, has described EO 11246 as “arguably [one] of the most controversial labor market interventions in U.S. history.”

Current theoretical models of affirmative action in hiring tend to focus on statistical discrimination and human capital accumulation: If employers believe that members of a minority group are less productive or if employers have difficulty evaluating minority candidates, their hiring will be biased against members of that group. That minority group as a whole would then have less incentive to invest in human capital, such as education and training. If so, temporary affirmative action might have persistent positive effects on minority hiring by encouraging minority human capital accumulation.

Other economic models of affirmative action, often cited by skeptics, treat the policy as introducing inefficiency into labor markets by forcing employers to lower their hiring standards for minorities. Still another possibility is that EO 11246 has simply had little effect, possibly as a result of limited enforcement. An innovative 2016 article by Fidan Ana Kurtulus of the University of Massachusetts, Amherst compared contractors to noncontractors, finding that the regulation had only small effects — a less than 0.1 percentage point increase in a firm’s black share of employees that disappeared as soon as four years after that firm became a federal contractor.

But in a recent article in the *American Economic Journal: Applied Economics*, Miller has argued that the more proper comparison is between firms that had ever been federal contractors and firms that had not; if affirmative action did have lasting effects on individual firms, then simply comparing contractors to noncontractors would obscure effects at firms that stopped contracting with the federal government but continued to increase their minority hiring.

Such an effect — both persistent and large — is what Miller found. In the five years after a firm became subject to EO 11246, its black share of employees increased by an average of 0.8 percentage point. To provide perspective, Miller noted that “a 0.8 to 1.3 percentage point increase in the black share of the U.S. workforce would eliminate

the black-white jobless gap over this period.” Moreover, this effect persisted after a firm was no longer subject to the regulation; in the five years after a firm stopped being a federal contractor, its black share of employees grew, on average, by another 0.8 percentage point.

Why did the firms continue to increase their minority hiring when no longer required? One possibility is that they anticipated becoming federal contractors again; if there are adjustment costs to adopting affirmative action, an employer expecting a future contract might find it best to keep complying with the executive order. Firms might also think that compliance would increase their chances of winning contracts. Miller argued that these explanations were not supported: Whether a firm won subsequent contracts did not show any relationship with their black share of employees or their persistence in affirmative action compliance.

Thus, Miller argued, the persistent positive effect on hiring of black workers suggests that compliance with the executive order was profitable: Firms’ hiring of blacks might have been inefficiently low before the regulation, or there might just be multiple equilibria for the racial composition of new hires.

Miller argued that firms may respond to EO 11246 in a more complex manner than simply lowering their hiring standards for the affected groups. He put forward a model of “screening capital,” in which employers can respond to such programs by improving their recruiting and selection processes. These improvements include investments such as developing tests, employing and training personnel specialists, and building relationships with intermediaries such as employment agencies and schools.

Miller’s screening capital model makes two main predictions. First, the model predicts that screening capital investments will reduce all racial disparities in individual firms’ hiring rates; if employers tend to underestimate or have trouble screening certain racial groups, better screening should reduce that gap. Second, it predicts that affirmative action will increase the returns to screening capital (by improving the expected quality of minority hires).

Miller found that large employers, who tend to spend more time on screening and use more screening methods, also have a higher black share of workers among their employees. While data limitations prevented Miller from ruling out alternative mechanisms, he concluded that the evidence suggests that screening investments play a role in the persistent effects of affirmative action. **EF**

“The Persistent Effect of Temporary Affirmative Action.” Conrad Miller.
American Economic Journal: Applied Economics,
July 2017, vol. 9, no. 3, pp. 152-90.

CYBERATTACKS and the DIGITAL DILEMMA

Recent high-profile hacks have renewed calls for improved security, but competing incentives pose a challenge

By Tim Sablik

Over the past year, Americans have been inundated with news of one large-scale cyberattack after another. The Democratic National Committee's email server was compromised during the 2016 election, and the organization's internal emails were posted publicly by WikiLeaks. An October 2016 attack temporarily disrupted service to many of the most trafficked sites on the Web, including Netflix, Amazon, and Twitter. Ransomware — malicious code that locks a computer's files until users pay for a decryption key — infected business, government, and personal computers around the globe in May and June 2017. And in September, credit bureau Equifax disclosed that hackers accessed personal data used to obtain loans or credit cards for as many as 143 million Americans — making it potentially the largest data theft in history. No digital system seems safe.

According to Symantec's 2017 Internet Security Threat Report, more than 1 billion identities were exposed due to data breaches in 2016 alone, and the number of large-scale breaches (those that exposed more than 10 million identities) crept up from 13 in 2015 to 15 in 2016. Ransomware threats have also ballooned. From 2015 to 2016, the average ransom demanded by attackers rose from \$294 to \$1,077.

In response to these threats, organizations are heaping significant sums at cyber defense. International Data Corporation, an IT market analysis consultancy, forecasts that worldwide spending on cybersecurity software and services will surpass \$80 billion this year. They predict that number will grow to more than \$100 billion by 2020. Despite that, successful attacks have shown no signs of slowing down. What makes cyber defense so difficult, and can economic principles shed any light on how to improve it?

More Connected, More Exposed

One reason cyberattacks continue to be a problem despite efforts to stop them is that there are simply more avenues of attack than ever before. For instance, a growing array of consumer devices — TVs, cars, ovens, and thermostats, to name a few — are now connected to the Web, making up what has been called the Internet of Things (IoT). One estimate holds that there will be more than 8 billion connected devices by the end of 2017 — more than one for every person on the planet. By 2020, this number is expected to grow to more than 20 billion. But these new devices come with a trade-off.

"The more technology we accumulate to make our lives easier, the more it opens us up to attack," says Timothy Summers, the director of innovation, entrepreneurship, and engagement at the University of Maryland's College of Information Studies.

That's the digital dilemma: With the power and convenience of greater connectivity comes more potential for vulnerability to intruders.

Last fall, hackers seized control of thousands of IoT devices to create a "botnet" — an army of infected machines. Botnets are typically used to launch what are known as distributed denial of service (DDoS) attacks where enslaved computers overwhelm websites with requests, enough to temporarily shut them down. The DDoS attack last October that hit numerous major websites was launched using a botnet of IoT devices. With that service knocked offline, many of the most highly trafficked sites on the Web became hampered or unreachable.

"Anytime you enable an operation, you're creating a potential path for a bad guy to carry out an operation as

well,” says Martin Libicki, the chair of cybersecurity studies at the U.S. Naval Academy and a researcher at RAND Corp. “In the old days, if I wanted to set my thermostat, I had to actually put my fingers on the thermostat itself. That limits the amount of mischief someone can do. Now that you can change your thermostat using your phone, potentially everyone else can too. So in order for me to have my convenience, I have to enable capabilities that might get hijacked.”

Just as connecting household devices through the IoT benefits consumers, interconnectivity offers firms many benefits as well. Sharing data and system access with regular business partners may improve supply chains. But expanding the range of trusted individuals or companies who have access to a firm’s system increases the opportunities for bad actors to access it. For example, hackers were able to gain access to Target’s payment information in 2013 by compromising a system of one of the company’s contractors, an HVAC vendor. (See “Cybersecuring Payments,” *Econ Focus*, First Quarter 2014.)

Automating updates can ensure that a computer system’s defenses against hackers remain up to date — unless those automated updates become the gateway for malicious actors to enter the system. The ransomware attack that occurred this past June initially infected Ukrainian computers by corrupting an automatic update to widely used tax software.

Likewise, allowing employees to remotely access their files or emails at home or on the road can increase productivity and create a more flexible workforce but at the expense of more digital doors to defend.

Is it possible to reap the benefits of increased connectivity while minimizing our vulnerability?

Lack of Incentives

One often proposed solution to cyberattacks is to simply increase security spending. Economic theory does offer some insights into why individuals and firms might underinvest in cybersecurity from a social perspective. As the botnet used in the October 2016 DDoS attack illustrates, the owners of the breached systems are not necessarily the ones who suffer the most. This creates a potential externality problem, which can skew the incentives to demand or supply cybersecurity.

On the demand side, if consumers don’t bear the costs of their devices being breached, they may demand more open devices in the interest of convenience. Additionally, they may believe their devices are more secure than they actually are. Manufacturers, who know more about the security of their products than buyers, may take advantage of this information asymmetry to sell cybersecurity “lemons.” For example, Brian Krebs, a leading cybersecurity expert and blogger, has reported that many IoT devices come with weak security measures out of the box. A recent Senate bill seeks to address this situation by setting baseline security standards for any

Internet-connected devices sold to the government.

Both positive and negative externalities also may skew the incentives for firms to invest in security. The Internet is designed to allow all machines on the network to interact with one another, and many devices share common software and operating systems. Once an exploit is implemented on one machine, it can quickly spread to others on the network. In this way, each firm’s security depends both on its own defenses as well as the aggregate security of the entire network, what Howard Kunreuther of the University of Pennsylvania and Geoffrey Heal of Columbia University described in a 2003 article as “interdependent security.” This interdependency may result in weaker network security for a couple of reasons. First, since firms benefit from the security investments of others, some may devote fewer of their own resources to security than they would in a vacuum. If enough firms do this, it weakens the security of the network as a whole, potentially undoing the benefits of the firms that invest more in cybersecurity. Second, even assuming each firm invests in a level of security appropriate for its own needs, it may still impose costs on other firms on the network that value security more highly.

On an individual level, firms also have incentives to limit cybersecurity spending. In a 2002 article, Lawrence Gordon and Martin Loeb of the University of Maryland developed an influential model of information security suggesting that firms maximize their benefits from cybersecurity by spending only a fraction of their expected losses from a breach, similar to the rationale for insurance. Often the most vulnerable systems or information are the most costly and challenging to defend. Moreover, defenders face a great deal of uncertainty about where attackers will strike. Attackers will always seek out the weakest link in a system, but it may be difficult to identify weak points ahead of time. Rainer Böhme of the University of Münster and Tyler Moore of the University of Tulsa argued in a 2016 article that it may therefore be rational for firms to wait for attackers to identify weak points for them and respond after the fact.

While these actions may be rational for individual consumers and firms, they could result in less security and more costly outcomes for society as a whole. In response to a 2013 executive order from President Barack Obama seeking to improve critical infrastructure cybersecurity, the Department of Homeland Security issued a report exploring the incentives firms have to provide adequate cybersecurity from the perspective of society and how the government might better align those incentives. Options included using carrots, such as grants tied to security improvements, and sticks, such as regulations that hold entities liable for failing to meet minimum security standards.

Private actors have also tried to solve the externality and interdependent security problems. After Google was hacked in 2009 through a flaw in Microsoft’s Internet



Explorer browser, it began to examine its partners' software more closely. In 2014, Google revealed Project Zero, a team dedicated to notifying firms of flaws in their software. At times, Project Zero members have threatened to disclose flaws publicly in order to pressure firms to patch the holes in their programs.

Ultimately, better cybersecurity is unlikely to be simply a question of resources alone. "No doubt there are companies that should be devoting more resources to cybersecurity," says Josephine Wolff, a cybersecurity expert at the Rochester Institute of Technology who studies the costs of cyber incidents. "But often when you retrace where things went wrong after a breach, the problems arise not from how much or how little a victim spent on defending itself but rather from what they spent their resources on."

Hackers for Hire

There is certainly no shortage of cybersecurity options for firms, governments, and individuals to choose from. Firewalls, antivirus software, and encryption, to name a few, are all aimed at keeping bad actors away from sensitive systems and data. As with the walls, gates, and moat of a castle, firms often invest in multiple layers of cyber defenses — a strategy known as "defense in depth."

"We add as many barriers as we can in hopes that maybe the hackers won't be able to get in," says Summers of the University of Maryland. "And when they finally do get in, we always say that if we just had one more barrier, they wouldn't have been able to get through. But there's always going to be a way in."

In a 2016 article, Wolff described another potential problem with simply accumulating multiple layers of cyber defenses: It can be counterproductive. Different security programs may interact poorly or prompt responses from human users that defeat the purpose of the security. For example, requiring users to regularly update passwords can make systems harder to breach — unless it prompts users to keep track of a multitude of passwords on notes

at their desk or to choose shorter, simpler passwords that are easier to remember.

Therefore, it is important to have contingency plans in place for when attackers do get through, says Summers. One way firms have tried to do this is by hiring skilled security personnel who can identify holes in defenses and respond to attacks in real time. These "white hat" hackers have many of the same skills as their criminal "black hat" brethren, and demand for those skills is high.

White hat hackers may work for firms or government agencies directly or freelance in the growing "bug bounty" market. A number of third parties manage payouts offered by tech companies for finding and reporting various types of software flaws. Rewards vary based on the severity of the flaw, from hundreds or thousands of dollars to over a million dollars in some cases. HackerOne, one of the largest platforms for bug bounties, has paid out more than \$20 million since 2012. Other platforms also report year-over-year growth. Bugcrowd's total payouts grew 211 percent since 2016 to more than \$6 million, and its average payout per bug rose to \$451 from \$295.

"It's a big market," says Libicki of RAND Corp. But it isn't the only market for hackers' services.

Understanding Cybercriminals

As is the case with physical security, cyber defense is inherently more difficult than offense. Defenders have to protect every conceivable entry point into a system; attackers only need to find one opening to succeed. And as the market for cyber defense has evolved, so has the market for cybercriminals.

"The hacker market — once a varied landscape of discrete, ad hoc networks of individuals initially motivated by little more than ego and notoriety — has emerged as a playground of financially driven, highly organized, and sophisticated groups," according to a 2014 RAND report.

Today's cyberattackers don't even need to be particularly tech savvy themselves. They can buy exploit kits designed by someone else and rent botnets by the hour to launch DDoS attacks, another source of revenue for skilled hackers. Such services, which sell for hundreds or thousands of dollars on the black market, can be broadly affordable for attackers and lucrative for underground coders. (See table.)

Just as the incentives for defenders matter for cybersecurity, so too do the incentives faced by attackers. In a seminal 1968 article, the late Nobel laureate in economics Gary Becker argued that criminals are rational economic agents, weighing the costs and benefits of their actions. For firms and governments concerned about cyberthreats, there are a variety of ways they might attempt to change the criminal calculus. For instance, given the right incentives for legal hacking, some hackers might be persuaded to trade in their black hats for white ones.

As a self-described ethical hacker himself, Summers has interviewed hundreds of hackers to better understand

what motivates them. “Many times, it’s really the challenge that drives them more than anything else,” he says. “I think that the bug bounty programs are just a little too focused on the monetary aspects. If you think about our economic system, there are many mechanisms that motivate people. Multilayered incentives for cybersecurity are really lacking.”

Giving hackers more freedom to explore system exploits in a legal setting could bolster defense against malicious actors, but it might not necessarily reduce criminal activity. The anonymity of the Internet makes it hard to be certain that hackers aren’t “double-dipping” in both legal and illegal markets. For example, Marcus Hutchins, a British hacker who helped stop the spread of the “WannaCry” ransomware attack in May, was recently arrested by the FBI and charged with developing and distributing other malware. (Hutchins has pleaded not guilty to the charges.)

Of course, carrots aren’t the only way to change criminal incentives. Law enforcement can also raise the costs of cybercrime. In a 2016 operation, U.S. and European law enforcement agencies worked together to shut down thousands of domains associated with the Avalanche network, a major global provider of malware. Authorities also identified and apprehended key administrators of the network to ensure it couldn’t immediately rebuild. According to a study by the Center for Cyber & Homeland Security at George Washington University, the Avalanche takedown operation temporarily disrupted the entire cybercrime ecosystem.

In addition to apprehending and prosecuting cyber criminals, law enforcement — through anti-money laundering laws and “know your customer” laws in the banking system — can also make it more costly for them to get at their profits. Hackers have also become victims of their own success and the forces of supply and demand within black markets. For example, the average value of a stolen credit card on the black market plummeted from \$25 in 2011 to \$6 in 2016, according to Intel Security. This may help explain the recent rise of ransomware, which seeks to sell stolen data back to the person often willing to pay the most for it — the victim.

Carefully weighing security options and reducing incentives for crime are two methods of managing cyberattacks. A third option is simply to reduce the opportunities criminals have to access sensitive data in the first place.

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Something for Everyone

Black market prices for cybercrime tools and stolen data

Malware and Services	Price
Basic banking Trojan kit with support	\$100
Password stealing Trojan	\$25-\$100
Android banking Trojan	\$200
Ransomware kit	\$10-\$1,800
DDoS service, short duration	\$5-\$20
DDoS service, more than 24-hour duration	\$10-\$1,000
Consumer data	
Single credit card	\$0.5-\$30
Airline frequent flyer miles account (10K miles)	\$5-\$35
Identity (Name, SSN, and DOB)	\$0.1-\$1.5
Scanned passports and other documents	\$1-\$3

SOURCE: Symantec 2017 Internet Security Threat Report.

Openness vs. Security

Rethinking who should have access to data and what should be accessible from the Internet lies at the heart of the digital dilemma.

“Today’s attitude is largely that we want to have access to everything, and if that creates security problems, that’s what we have firewalls for,” says Libicki. “When an attack happens, the response usually isn’t that we’ve made our systems too accessible, it’s that we need to double down on security.”

To be sure, reducing accessibility and interconnectivity would have costs, too, which would need to be weighed against the costs of cybersecurity and the costs of breaches. There is no doubt that the openness of the Internet has had tremendous economic and social benefits. Weighing the benefits of openness and interconnectivity against the need for security will likely be a matter of continuing deliberation in the coming decades.

“Cybersecurity is really a matter of three trade-offs,” says Libicki. “How much are you willing to invest in security? How much loss are you willing to accept? And how much are you willing to change the way you do business?” **EF**

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Subprime Securitization Hits the Car Lot

Are fears of a “bubble” in auto lending overstated?

By Jessie Romero

The car dealers deliberately inflated borrowers' incomes — sometimes without the borrowers' knowledge — to ensure the loan applications would be approved and they'd make the sale. The lender knew the applications were fraudulent and the borrowers were likely to default, but it didn't care because it could package the loans into securities and sell them off to investors. At least, that's the version of events described in an action brought by the attorneys general of Massachusetts and Delaware against Santander Consumer USA, a subsidiary of the Spanish bank Banco Santander that specializes in auto financing. In March 2017, Santander agreed to a \$26 million settlement that includes \$19 million in relief to more than 2,000 borrowers.

To many observers, Santander's alleged lending practices look alarmingly similar to those that contributed to the housing boom and bust a decade ago, lending weight to broader concerns that rising delinquencies indicate an auto lending “bubble” is about to burst. “Auto Loan Fraud Soars in a Parallel to the Housing Bubble,” proclaimed one headline. “Are Car Loans Driving Us Towards the Next Financial Crash?” asked another.

Regulators and policymakers also have expressed unease. In the fall of 2016, for example, the Office of the Comptroller of the Currency warned that auto lending risk was increasing and that some banks did not have sufficient risk management policies in place. Fed Gov. Lael Brainard pointed to subprime auto lending as an area of concern in a May 2017 speech; her concerns were repeated — and amplified — the next month in a speech by then-Gov. Stanley Fischer.

While it's not obvious whether the increase in subprime auto lending is a significant departure from past cycles, it has raised eyebrows coming so soon after the mortgage crisis — especially as delinquencies have begun to rise. In addition, an increasing share of those loans have been securitized and spread through the financial system, much like mortgages before the housing bust. Still, even if the auto finance industry were poised for a fall, the effects on the financial system could be limited — although the auto industry itself might take a hit.

Buy Now, Pay Later

In 1919, General Motors (GM) had a problem. The innovation of the assembly line a half-dozen years earlier by Henry Ford had made it cheaper and easier to build cars, but that meant GM needed its dealers to buy in bulk — and the dealers needed people to buy more cars. The solution was credit, but banks were leery of making loans for a relatively new invention they didn't know how to value. (Around the same time, the Federal Reserve warned banks against financing “automobiles that are used for pleasure.”) So GM launched its own financing company, the General Motors Acceptance Corporation (GMAC), to enable dealers to stock more inventory and consumers to buy more cars. Other car manufacturers eventually followed suit, and today, every major auto manufacturer has its own “captive” finance company.

The next major innovation in auto finance arrived half a century later. Banks and credit unions had entered the market by this point, but loans generally were only available to borrowers with strong credit histories. That began to change in 1972, when Detroit businessman Don Foss founded Credit Acceptance, an independent finance company, to finance sales at his network of used car dealerships. Credit Acceptance was the first company to specialize in auto loans to borrowers with limited or poor credit history, known today as “subprime” loans, and its success spawned numerous competitors.

One of those was Ugly Duckling, an Arizona-based used car dealership that expanded quickly during the 1990s. (The company is now known as DriveTime.) Ugly Duckling mainstreamed the “buy here, pay here,” or BHPH, dealership format, in which the dealer is also the lender, typically to borrowers with very poor or no credit. BHPH dealerships often require borrowers to make their payments in person, hence the name; interest rates may be as high as 30 percent.

Today, roughly 86 percent of all new cars in the United States are purchased via financing; about two-thirds of those transactions are loans and one-third are leases. Captives and banks issue the majority of new car loans and leases; as of the second quarter of 2017, they had 53 percent

and 29 percent market share, respectively. Credit unions currently finance around 13 percent of new cars, with the remainder financed by independent finance companies, BHPH dealerships, and other lenders. In the used car market, about 55 percent of cars are financed, the vast majority via loans. At present, banks make 35 percent of used car loans, slightly more than their share of the new car market. Credit unions, independent finance companies, and BHPH dealerships play a much larger role in the used car market than they do in the new car market, with 27 percent, 17 percent, and 13 percent market share, respectively.

While a consumer can work directly with a lender and shop for a car with a pre-approval in hand, about 80 percent of car financing is arranged through dealerships. The dealer sends the loan application to a number of lenders with whom it has a relationship, and a lender who is willing to make the loan will respond with a “buy” rate. The dealer then has some discretion to either lower the rate and absorb the difference in order to make the sale, or to charge the purchaser a higher rate and keep the difference as compensation for serving as middleman.

Motor Trends

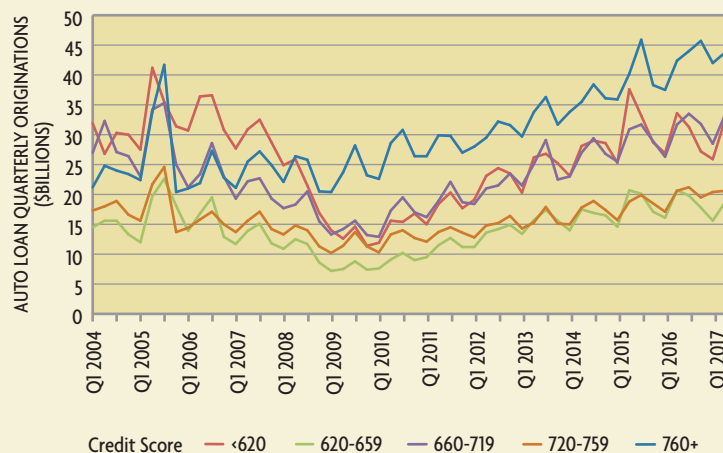
Household auto debt fell during the Great Recession, as did all types of household debt excepting student loans, but has rebounded more quickly than other types. Between the second quarter of 2010 and the second quarter of 2017, outstanding auto debt increased nearly 70 percent, from \$700 billion to \$1.2 trillion, according to the New York Fed’s Quarterly Report on Household Debt and Credit. In contrast, credit card debt increased just 5 percent, from \$7.4 billion to \$7.8 billion. Auto loans are now the third-largest form of debt behind mortgages (\$8.7 trillion) and student loans (\$1.3 trillion).

Subprime auto debt contracted sharply during the Great Recession but growth resumed soon after. While there is no legal definition of prime or subprime, a credit score of 620 is generally the cutoff in auto finance; credit scores range from 300-850. Between 2010 and 2015, average quarterly originations to subprime borrowers more than doubled, from \$15 billion per quarter to \$31 billion per quarter (albeit still below the high of \$34 billion per quarter in 2005), according to New York Fed data.

With the mortgage crisis fresh in many people’s memories, the increase in subprime auto lending garnered considerable attention. But the growth was comparable to growth in other credit categories. Loans to borrowers with a credit score between 660 and 719 increased from an average of \$17 billion per quarter to \$31 billion per quarter. Loans to “super prime” borrowers, those with a credit score above 760, grew less in percentage terms but have surpassed the pre-recession peak. (See chart.) “The subprime pipe was turned off after the financial crisis,” says Melinda Zabritski, the senior director for automotive finance solutions at Experian. “When the pipe got turned back on, the increase looked dramatic, but we were coming out of a trough.”

Subprime Revs Up

The return of subprime auto lending has garnered considerable attention



SOURCE: Federal Reserve Bank of New York, “Quarterly Report on Household Debt and Credit,” Second Quarter 2017

Some of the growth was fueled by competition, particularly among captives and independent finance companies, which have originated about 75 percent of outstanding subprime loans. As the demand for auto loans grew during the recovery, new finance companies entered the market and existing finance companies sought to expand. In an effort to reach new customers, these companies “started buying a little ‘deeper’ and taking on more subprime borrowers,” says Zabritski. Even GM, which had sold a majority stake in GMAC to a private equity firm in 2006, got back into the financing game by purchasing subprime specialist AmeriCredit in 2010.

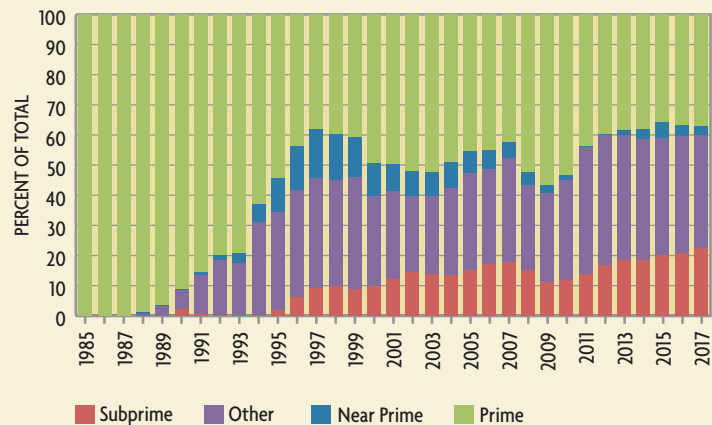
Subprime auto lending might already have peaked for now, however. Beginning in 2016, bankers reported tightening auto lending standards in the Fed’s Senior Loan Officer Opinion Survey, and even some traditional subprime specialists have taken steps to tighten credit. Overall, average credit scores increased by four points for both new and used cars between the second quarter of 2016 and the second quarter of 2017, according to Experian. Average quarterly subprime originations also decreased in 2016, for the first time since 2009, to \$30 billion per quarter.

The retreat is potentially a response to rising delinquencies. Between 2012 and 2016, average annual subprime delinquencies increased from 2.5 percent to 4.3 percent — a higher rate than in 2008, according to S&P Global Ratings. Researchers at the New York Fed calculated that the share of subprime loans that were 90 days or more delinquent increased nearly 40 percent from the beginning of 2013 to the third quarter of 2016, for a total of about 6 million consumers.

One reason for the rise in subprime delinquencies, despite improvements in the economy and labor markets overall, may be a change in the composition of subprime borrowers. The foreclosure crisis affected both subprime and prime borrowers, so consumers who may otherwise

Subprime Securitization

As a share of all auto ABS, subprime has surpassed its pre-crisis peak



NOTE: "Other" includes ABS backed by leases, fleet sales, rentals, dealer floorplan loans, and motorcycle/RV loans. Data for 2017 are from the third quarter.

SOURCE: Securities Industry and Financial Markets Association

have been low risk could have seen their scores drop to subprime levels. Many of those borrowers' credit scores have since recovered, however. (See "The Missing Boomerang Buyers," *Econ Focus*, First Quarter 2017.) As a result, the remaining pool of subprime borrowers may be riskier.

It's also possible that increased competition led lenders to lower their underwriting standards in other ways, such as not requiring proof of income. In at least one batch of loans, for example, Santander Consumer verified just 8 percent of borrowers' incomes. Lenders also have been increasing the length of loans. In 2002, 36 percent of subprime loans had an original loan term longer than 60 months. In 2016, more than 83 percent had a term longer than 60 months. Some lenders even offer 84-month — seven-year — car loans. These loans are attractive to some buyers because they offer a lower monthly payment, but they are also much more likely to end in default.

Securitizing Subprime

Like other types of loans, including student loans and credit card receivables, auto loans can be packaged into securities and sold to investors. These "asset-backed securities," or ABS, provide the lender with the cash (and an additional incentive) to make more loans. ABS made up of auto loans — "auto ABS" for short — are mostly issued by independent and captive finance companies.

Auto loan securitization increased rapidly in the early 2000s, as did securitization in general. Between 2000 and 2005, the annual issuance of auto ABS increased from \$70 billion to \$106 billion; total ABS (excluding collateralized debt obligations, which comprise multiple securities types, including mortgages) grew from \$185 billion to \$280 billion. Issuance of auto ABS contracted sharply during the Great Recession, but afterward, between 2010 and 2015, it grew from \$58 billion per year to \$96 billion. Currently, auto ABS makes up about 45 percent of ABS

issuance, according to data from the Securities Industry and Financial Markets Association (SIFMA).

An increasing share of those ABS are backed by subprime loans. In 2009 — the financial crisis trough — subprime loans accounted for just 11 percent of auto ABS. As of the third quarter of 2017, the share had more than doubled, to 22.5 percent — 4.5 percentage points higher than the pre-recession peak. (See chart.) Moreover, many of those loans were made to the riskiest borrowers; the share of securitized subprime loans considered "deep subprime" — to borrowers with a credit score in the mid-500s or below — soared from 5 percent in 2010 to 33 percent in 2017.

The increase in subprime and deep-subprime securitization has continued despite worsening performance. Subprime securitization net loss rates have increased steadily since 2010; in June of that year, the average net loss rate was 3.5 percent, according to market analytics firm S&P Global. In June 2017, the rate was 6.2 percent. The cumulative net loss rate — total losses since the security was issued — also has increased for successively later "vintages" of security issuances.

Lower performance in part reflects more loans being made to borrowers with lower credit scores and their usually higher delinquency rates; if average credit scores continue to improve, performance might improve as well. But higher loss rates also reflect lower recovery rates, meaning that lenders are recouping less from the sale of repossessed cars. Longer loan terms bear some of the blame, because they make it more likely the loan's outstanding balance exceeds the car's value if the buyer defaults in the early years of the loan. In addition, record-high rates of vehicle leasing in recent years have swelled the number of used cars on the market, lowering the value of repossessed collateral. If those trends continue, they might be a drag on subprime ABS performance even if delinquency rates stabilize or go down.

Toil and Trouble?

Higher loss rates don't necessarily translate into higher losses for investors, however. Some amount of loss is built into issuers' projections, and subprime issuers typically offer "credit enhancements," such as establishing a reserve fund or holding extra collateral, to cover those expected losses. And since the Securities and Exchange Commission issued a rule in 2014 requiring ABS issuers to release loan-level detail about their bond packages, potential investors have substantial information with which to evaluate the adequacy of those enhancements. Problems are more likely to arise when the actual losses exceed the expected losses.

That's what happened in the mortgage market a decade ago; in hindsight, market participants underpriced the amount of risk present in mortgage-backed securities (MBS), perhaps in part because they had some expectation the government would step in to protect them. There's little evidence of a similar expectation in auto lending; although the U.S. Treasury purchased a large stake in

GMAC in 2008, the move was widely regarded as an attempt to protect auto manufacturers rather than lenders or investors. All else equal, the absence of government support, explicit or implicit, would make the auto lending industry more responsive to risk.

Other factors could contribute to lenders and investors underpricing risk, however. For example, a car is a relatively easy asset to repossess compared to, say, a home. Laws vary from state to state, but in general, lenders are allowed to repossess a vehicle as soon as the borrower is in default without providing any prior notice. Actually towing the vehicle takes just minutes, and some lenders and car dealers even install so-called “kill switches” to prevent a car from starting if the borrower misses a payment. In contrast, in many states, a home foreclosure requires judicial action; even in nonjudicial states, the process can take months or even more than a year to complete.

Cars depreciate rapidly, which means there’s likely to be a gap between what the borrower owes and what the lender can recoup. But in nearly every state, lenders are allowed to sue borrowers for the difference. A lender who obtains such a “deficiency judgment” is able to garnish a borrower’s wages or seize other assets. Some states also allow mortgage lenders to sue foreclosed borrowers, but there are greater restrictions on obtaining a judgment than in auto lending.

Even if subprime auto ABS performance does deteriorate beyond current expectations, there are reasons to think it’s unlikely the effects would spill beyond the auto finance sector into the broader financial system.

“People who say, ‘This is just like the subprime mortgage crisis!’ are missing the boat,” says Christopher Killian, managing director and head of the securitization group at SIFMA. First, auto loans are a much smaller portion of consumer debt than mortgages: \$1.2 trillion versus \$8.7 trillion in outstanding mortgage balances. And the volume of auto ABS is dwarfed by the volume of MBS: Mortgage-backed securities in the United States total more than \$9.1 trillion (including both residential and commercial), compared to \$201 billion in outstanding auto-loan-backed securities. Perhaps most important, Killian notes, auto ABS aren’t turned into collateralized debt obligations, the highly complex securities that helped transmit MBS losses throughout the entire system.

“Let’s imagine the subprime auto market craters,” Killian says. “There will be losses, but there won’t be cascading losses.”

History also offers some reassurance; this is not the first time investors have been enamored of subprime auto loans. In the early 1990s, the securitization market contributed to hundreds of new subprime lenders opening their doors; between 1991 and 1994, there were more than 20 initial public offerings. Just a few years later, a combination of accounting irregularities, overleverage, and fraud had contributed to massive stock price declines and numerous bankruptcies. Stockholders and investors lost money, but the effects on the broader financial system were nil.

The Effects on Detroit

Still, past performance is no guarantee of future results. As Fischer noted in his June speech, the potential for subprime auto lending to cause broader financial distress seems moderate at first glance. But, he cautioned, “[O]ne should remember that pre-crisis subprime mortgage loans were dismissed as a stability risk... and not take excessive confidence.”

The industry most likely to feel the pain from a decline in subprime lending is the auto industry itself, which accounts for about 3 percent of U.S. GDP and supports nearly 4 percent of private employment. Vehicle sales have been a bright spot during the relatively tepid recovery from the Great Recession, doubling from a nadir of 9 million sold per month in early 2009 to about 18 million per month at the end of 2016. But during the first eight months of 2017, monthly sales fell by about 2 million and many manufacturers began cutting jobs. (Vehicle sales spiked in September of 2017, in part because consumers were replacing hurricane-damaged cars.) Numerous factors influence vehicle sales, including energy prices and trade policy. But many observers noted the correlation between the decline in sales and tightening credit conditions.

The availability of credit played a large role in the drop in vehicle purchases during the Great Recession, according to a 2017 article in the *Quarterly Journal of Economics* by Efraim Benmelech of Northwestern University, Ralf Meisenzahl of the Federal Reserve, and Rodney Ramcharan of the University of Southern California. The authors concluded that lenders’ lack of liquidity accounted for nearly one-third of the decline in auto sales in 2009.

Barring other developments, it’s doubtful a pullback from subprime auto lending and securitization would result in an auto credit crunch as extreme as that experienced during the financial crisis. Still, manufacturers are keeping their fingers crossed the subprime pipe stays open. **EF**

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The Resurgence of Universal Basic Income

Concerns about the effects of automation have brought an old policy proposal back into the limelight

By Kody Carmody

The idea that technology will make human workers obsolete is certainly not new. In the 1930s, John Maynard Keynes wrote, “We are being afflicted with a new disease of which some readers may not yet have heard the name, but of which they will hear a great deal in the years to come — namely, technological unemployment.” Keynes thought that technology would replace workers faster than workers could find new jobs. But he optimistically believed that this process eventually would lead to an “age of leisure and of abundance.”

Today, a new set of techno-optimists argue that coming advances in automation and artificial intelligence will finally fulfill Keynes’ prediction, replacing most human labor. Even if machines don’t cause widespread unemployment, they have caused and surely will continue to cause substantial labor market shocks in specific industries. These concerns have breathed new life into the discussion over a policy now called universal basic income, or UBI.

Many variations have been proposed, but UBI generally refers to regular cash payments that would go to individuals regardless of work status or income (that’s the “universal”) and would cover some minimum standard of living (that’s the “basic”). Elon Musk, Mark Zuckerberg, and other figures in the tech industry have publicly announced their support for UBI as a result of their concerns about job loss from automation. As workers are replaced by machines, “we need to figure out new roles for what those people do, but it will be very disruptive and very quick,” said Musk in a 2017 speech in Dubai. “I think we’ll end up doing universal basic income ... it’s going to be necessary.”

At the same time, questions remain about how it could be done and its effects.

UBI Meets U.S. Politics

It wasn’t technology leaders or futurists who first brought UBI into mainstream U.S. political discourse — it was economists. Milton Friedman first proposed the negative income tax (NIT), a forerunner of UBI, in his 1962 book *Capitalism and Freedom*. The NIT and UBI are identical, except that NIT benefits would decrease as a recipient’s income increases and at a certain level phase out entirely, while UBI payments would be fixed regardless of income. Economists from all over the ideological spectrum came to support NIT proposals, including Friedman’s fellow Nobel laureate Friedrich Hayek as well as liberal-leaning

economists like Nobel laureates Paul Samuelson and James Tobin. In 1968, more than 1,200 economists signed a manifesto advocating for a guaranteed income.

Support from economists and policy experts eventually led to a political movement. At the urging of Sen. Daniel Patrick Moynihan (D-N.Y.), President Nixon presented the Family Assistance Plan (FAP) in 1969; the program would have provided each family in America \$1,600 per year (roughly \$10,650 in today’s dollars) subject to some work requirements. Shortly after, a more generous proposal called the Human Security Plan was proposed by Sen. George McGovern (D-S.D.), part of his presidential campaign platform as the Democratic nominee in 1972. Despite economists’ support for the Moynihan plan, no guaranteed income plan ever made it through Congress.

Proponents made many arguments for basic income. One was that basic income would be more efficient than the welfare system as it would require very little bureaucracy. Although lower administrative costs might be a benefit of UBI, it probably would not be a large one. According to Jason Furman, chairman of the Council of Economic Advisers during the Obama administration and now senior fellow at the Peterson Institute, eliminating the entire administration for unemployment insurance, food stamps, housing vouchers and the like would provide an annual UBI of only about \$150 per person.

One of the main concerns about UBI has been its effect on work and labor supply. In 1986, Alicia Munnell, then senior vice president and research director at the Boston Fed, said basic income schemes have been beset by “the widespread fear that a guaranteed income would reduce the work effort of poor breadwinners and, as a result, cost taxpayers a great deal of money.” This objection is still shared by many today, but it was the exact opposite of what supporters expected: They thought that replacing the U.S. welfare system with a guaranteed income might actually give the poor more reason to work. “I see the work incentive for low-income families as the single biggest economic benefit of replacing the current system with a UBI,” says Ed Dolan, an economist at the libertarian-leaning Niskanen Institute in Washington, D.C., and a prominent proponent of UBI.

Why the disconnect? It’s rooted in opposing beliefs about how workers would respond to the payments — and how they respond right now to welfare programs.

If you suddenly start receiving an extra check in the

mail every month, such as a UBI, you can suddenly consume more for any given amount of leisure, and you can afford to work less. This — what economists call an “income effect” — is what many skeptics have in mind when they worry that UBI would cause people to work less or stop working altogether.

But if that check comes as part of a means-tested program, like a traditional welfare program, then the payment goes down as you earn more. From your perspective, the declining welfare payment is equivalent to an increase in marginal tax rates. The more you work, the less you get to keep of each dollar earned, and you might rationally choose to work less. This is a substitution effect: As work becomes relatively less profitable, you substitute toward leisure.

The substitution effect is a major concern that many economists have with the current U.S. welfare system: Many poor people face high effective marginal tax rates. Data from the Congressional Budget Office show that the effective marginal tax rate for a single parent with one child changed with their earned income in 2014. When including federal transfer payments, this effective marginal tax rate nears 100 percent at low incomes — a hypothetical family nearing 150 percent (about \$23,000) of the federal poverty line would keep less than 10 cents of each extra dollar they earned. (See chart.) There are also other large cliffs in effective marginal tax rates, which vary widely by state and almost always fall below 150 percent of the poverty line: losing eligibility for Medicaid, the Children’s Health Insurance Program (CHIP), the Supplemental Nutrition Assistance Program (SNAP, formerly “food stamps”), Temporary Assistance to Needy Families (TANF), and state transfers.

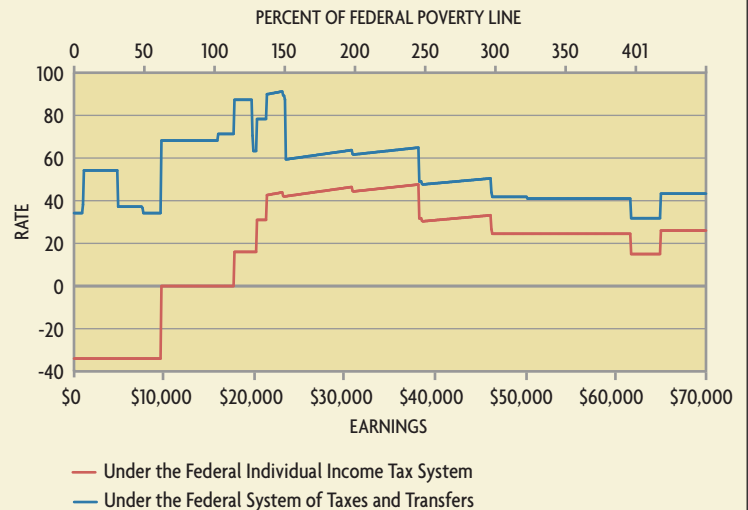
Thus, a poor family might be faced with the situation of working longer hours for an extra \$100 of income while losing \$90 in benefits. A UBI to replace this system might have an income effect, depending on how generous the benefit is, but it would almost definitely have a positive substitution effect through lowering and smoothing the effective marginal tax rates that poor families face. Theory alone, however, can’t predict whether the income effect from a UBI would be larger than the substitution effect from welfare. That’s where experiments have come in.

The NIT Experiments

To test the net effects on labor and costs relative to welfare, the Nixon administration launched four NIT experiments in urban and rural areas across the United States — the very first large-scale randomized control trials conducted in economics. At the same time, Canada launched a similar experiment called Mincome in the province of Manitoba. The five experiments lasted about three to five years each, providing monthly payments to families with children. The programs also varied in generosity; in 2013 dollars, a family of four would get anywhere between \$17,445 and \$48,446 per year, with effective marginal tax rates between 30 percent and 80 percent.

Many Poor Face High Marginal Tax Rates

Effective marginal tax rate for a hypothetical single parent with one child, 2014



SOURCE: Congressional Budget Office

Ioana Marinescu, an economist at the University of Pennsylvania, recently reviewed evidence on the 1970s NIT experiments as part of a larger project on unconditional cash transfers. She found that “the labor supply effects are uniformly small to nonexistent, depending on the study.” Only the Seattle/Denver program, the largest and most generous of the five, saw a statistically significant decline in the percentage of people with jobs (by about 4 percentage points). More significant was the reduction in hours worked — between two and four weeks of full-time employment over a year.

But Marinescu contends that there were two major implementation issues. For one, participants would underreport their earnings to qualify for more income. Additionally, participants who did not reduce their hours of work, and therefore didn’t get as much benefit, tended to drop out of the study. Both of these problems exaggerated the labor supply effect, making it seem more negative than it actually was.

On top of implementation, Marinescu points to several conceptual problems with the NIT experiments. “First, these experiments lasted for only about three years,” she says. “That makes it hard to extrapolate to what would happen in the long term.” Some participants might not have quit their jobs, knowing that the NIT would only be temporary. On the other hand, participants might have taken more time off, treating the experiments as a “sale on leisure,” where the cost of working less was temporarily reduced. The second is that, because they were experiments, not everyone in the areas who qualified for the NIT received it — researchers needed control groups living in same areas to compare against. Yet there might be effects that only come from everyone in an area being part of the program, such as macro-level effects on labor demand or effects arising from social networks. Overall, Marinescu says, “it is unclear on theoretical grounds which way those effects would go.”

A 2017 analysis by two sociologists attempted to evaluate

the social effects. David Calnitsky at the University of Manitoba and Jonathan Latner, then of the University of Bremen, took advantage of the fact that Mincome, though mostly randomized throughout the province of Manitoba, was provided universally in the town of Dauphin. Calnitsky and Latner compared the effect in Dauphin to the rest of Manitoba and were able to attribute about 30 percent of the labor force reduction to “social interaction” effects, occurring only when the benefit was truly universal. For example, some individuals reducing their work effort might have made doing so more socially acceptable for everyone.

Also relevant is that the tax rate and level of the guaranteed income are adjustable aspects of a NIT. The experimental programs of the 1970s often had generous benefit levels but also had high implicit tax rates — that is, benefits fell sharply as income rose. Economists have attempted to estimate the benefit and tax levels that would leave work incentives intact, but it’s a hard task without widespread experimental evidence. Most modern UBI proposals leave benefits constant as income rises.

What About Automation?

The tremendous increases in automation seen in the past two centuries largely validate Keynes’ prediction: The “age of leisure and abundance” arguably is here. Per capita real wages are more than 16 times greater than 200 years ago, while the average workweek has fallen by half and the share of one’s life spent working is far shorter. Meanwhile, the average unemployment rate that has prevailed over time has not increased. Economic theory suggests that technology and productivity are the key to sustained improvements in our standard of living.

But it can require some adjustment in the short term. Dolan sees a role for UBI in smoothing out present and future labor market shocks from automation and trade. He argues that UBI would improve labor market flexibility: People might be more likely to take risks like moving between states if they have an unconditional, reliable safety net. Along similar lines, he reasons that UBI would help smooth consumption for workers in the gig economy, who generally have more variable income.

Whether machines cause widespread unemployment or just shocks to certain markets, Marinescu doesn’t see UBI as a long-term solution: “Any realistic UBI is going to be so small, that, when someone loses any decent job, it’s not going to make up for it. It would be better than nothing, but it’s not going to do all that much for people who are left out due to technological shocks.”

Indeed, the overall cost of a UBI remains one of its opponents’ main concerns. In principle, a UBI could be revenue neutral if it were funded by scrapping the welfare state — but then it might not be large enough to meet households’ “basic” needs or be what some would consider a true safety net. A UBI with loftier goals, like lifting families out of poverty, could require additional funding and public support. A 2017 study by researchers

at the American Enterprise Institute, for example, found that a UBI funded by cutting virtually all welfare and transfer programs, including Social Security and Medicare, would provide a UBI of \$13,788 for adults and \$6,894 for children, with varying winners and losers across income and age groups. Hillary Clinton recently stated that she considered proposing a UBI program during her 2016 presidential campaign but didn’t think she could provide a meaningful enough dividend with a realistic set of new taxes.

Regarding UBI’s role in buffering adjustment to technological change, Marinescu points out that jobs play an important non-pecuniary role in our lives: People get value from the identity and social recognition that come from a job. “I recently talked with two of my economist colleagues — one from the left, one from the right — and they both agreed that UBI is fine, that they weren’t against it,” Marinescu says. “But at the same time, they thought that investing in skills and generally finding ways for people to be socially integrated was more urgent to think about — that just having some small extra income wasn’t going to solve that problem.”

Of course, UBI is not mutually exclusive to investing in skills, and some have sought to justify UBI on grounds other than automation. Foremost among these is reducing poverty. One possible benefit of UBI as a poverty-reduction measure is that many welfare programs have surprisingly high non-take-up rates — that is, many people qualify for welfare but don’t take advantage of it. There is a range of possible reasons for this, including lack of awareness, the social stigma of welfare, and administrative hassle. By virtue of being universal and unconditional, UBI likely would decrease these issues.

Dolan contends that a revenue-neutral UBI that reduces poverty is possible; his proposed plan would replace the current welfare state as well as other transfers such as tax deductions, which primarily benefit the relatively affluent. Marinescu sees this as a political advantage for UBI: The flat, universal nature of UBI might make it a more palatable form of redistribution. “It gets around some political issues that have recently been documented in the economics literature — for example, people seem less and less supportive of redistribution.”

That same feature could also be a political liability. Even though certain UBI proposals might be more progressive than the current system of taxes and transfers, UBI schemes are also more transparent about giving money to the rich. For example, many of the tax deductions that some UBI proposals would replace are regressive and distortionary but are also very popular. A 2011 Gallup poll found that strong majorities of the public opposed cutting these deductions either to lower taxes or reduce the federal deficit. Liberal and libertarian critics of UBI argue that the policy would be wasteful and that government shouldn’t be giving money to the rich at all. Furman, in a debate in March, put it this way: “If you give

somebody a dollar, that dollar has to come from somewhere. It has to come from cutting benefits that someone is getting or raising taxes on someone.”

What’s Next?

Several new UBI trials have just been launched around the world. One experiment, run by a nonprofit called GiveDirectly, will continue for at least 12 years and provide some villages in Kenya with a truly universal benefit. This might uncover some of the long-term and macro-level effects that the NIT experiments couldn’t measure, but it is unclear how applicable any results would be to the United States. Closer to home, Y Combinator, a Silicon Valley startup accelerator, is giving 100 Oakland families a UBI for up to one year as part of a five-year study. These projects, however, are for the most part small and short term, revisiting the NIT experiments of the past, and focused on labor supply and other micro-level statistics.

Marinescu argues that the next step should be to implement something larger, maybe at the state level, in the United States so that researchers can evaluate macro-level effects and interactions with other policies. A state-level UBI isn’t totally without precedent: In 1976, Alaska used revenue from oil extraction on state-owned land to

establish the Alaska Permanent Fund. This fund, popular with Alaskan voters, provides all residents of the state with \$1,000 to \$2,000 per year. Marinescu’s own research has shown that the fund’s payments have had no effect on the state’s employment rate and only a minor decrease in hours worked; the income effect, Marinescu concludes, might have been cancelled out by stimulation of labor demand. But the amount of the payments is small compared to typical UBI proposals, so the effects of that program might not be a good predictor for a full-scale UBI.

In short, the practical questions surrounding a UBI — especially its effect on work incentives and how large a revenue-neutral payment could actually be — don’t yet have clear answers. While empirical evidence seems to suggest that concerns over work incentives may be less serious than some have argued, it is largely drawn from the NIT experiments of the 1970s, when the labor market and economy looked radically different from today. Current trials may provide better evidence of UBI’s labor supply effects, especially how it would interact with recent economic phenomena like low male labor force participation, while future large-scale projects might be able to shed light on macroeconomic and social effects that research so far has left open. **EF**

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Federal Reserve *continued from page 5*

that a varying or higher target would have made much difference during and after the recession, as well as concern that the Fed’s commitment to stable inflation could come into question if it changed the target “opportunistically.”

Beyond the relatively narrow question of the nominal target, however, economists inside and outside the Fed are giving fresh attention to understanding the relationship between inflation and inflation expectations and to

whether the anchoring process has changed. “Extreme economic events have often challenged existing views of how the economy works and exposed shortcomings in the collective knowledge of economists,” noted Yellen in her speech last fall, citing the Great Depression of the 1930s and Great Inflation of the 1970s. “The financial crisis and its aftermath might well prove to be a similar sort of turning point.” **EF**

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Douglas Irwin

Editor's Note: *This is an abbreviated version of EF's conversation with Douglas Irwin. For additional content, go to our website: www.richmondfed.org/publications*

There is arguably no proposition more widely held among economists than the free trade of goods across countries generally benefits the citizens of both the exporting and the importing countries. Yet, support for trade often faces resistance among the public and policymakers. In the United States and other developed countries with broadly liberal trade policies, such skepticism, at least rhetorically, seems to have gained momentum recently.

Douglas Irwin, an economist at Dartmouth College, argues that nations would be well advised to retain or to adopt a commitment to free trade. The overall benefits remain large — and the costs of protectionism are often understated.

Moreover, Irwin notes, the arguments that proponents of protection frequently advance are many times questionable. For instance, he acknowledges that the United States had relatively high trade barriers during the late 19th century, a time of rapid industrialization. But it seems likely that such economic growth was due to a number of other factors instead. In other cases, Irwin argues, protectionist policies, while unwise, have not been as destructive as some have claimed. For instance, the importance of the Hawley-Smoot Tariff of 1930 to the deepening of the Great Depression generally has been overstated.

Much of Irwin's work falls at the intersection of economic history and trade theory. His most recent book is a comprehensive, more than 800-page history of U.S. trade policy, *Clashing over Commerce*. In addition to authoring and editing many other books and publishing widely in professional journals, Irwin occasionally writes for the popular press. He started his career at the Federal Reserve Board of Governors, moved to the University of Chicago's Graduate School of Business, and has been at Dartmouth since 1997. Aaron Steelman interviewed Irwin on the Dartmouth campus in August 2017.



EF: Why did you decide to write a general history of U.S. trade policy — the first, as you note in the introduction, since the early 1930s?

Irwin: I have long had a general interest in trade and history, but what solidified my interest in U.S. trade policy in particular was spending a year at the Council of Economic Advisers (CEA) while in grad school. That was in 1986-1987, and it was a momentous period for U.S. trade policy. There were trade disputes with Japan, a lot of protectionist pressures to block imports of textiles and steel, and many other trade issues on the agenda. So that CEA experience, seeing how policy is made, and learning from people at the U.S. Trade Representative's (USTR) office, got me very interested in how U.S. trade policy functioned. And then, pretty naturally, I became very interested in looking to the past.

The last major book of this sort was *The Tariff History of the United States* by Frank Taussig. It's a great book, a classic, but it's been a long time since his last edition. And I thought it could be updated on multiple dimensions — first of all, to discuss the Great Depression and then bring it up to the present. We have also learned a lot more about the trade history that he did cover. He was writing before cliometrics, before the use of statistical methods to test a lot of the propositions he was discussing, such as the effects of protectionism in the late 19th century. In addition, economists have become interested in the political economy of policy formation. There's not a lot of political

economy in Taussig, so it can be a little bit dry sometimes as he's going through changes in the wool schedule, the cotton schedule, and so on. I think people are less interested in that sort of detail than the bigger picture of how the political parties were functioning, the pressures members of Congress faced, and how we shifted toward freer trade. So that's sort of how it came together.

More specifically, I distinctly remember being in my Chicago office in 1995 when Michael Bordo gave me a call (email was still a novelty) and asked if I would write a paper on U.S. trade policy during the Great Depression. I really hadn't worked much on U.S. trade policy up to that point, though I had the latent interest. I thought it would be a really easy paper to write because I assumed that there would be a large literature on trade policy during the Great Depression. But when I did my literature survey I discovered — to my horror — that there was almost nothing really analytical on the period. So I actually had to write something like five background papers just to write this one conference volume paper. After that, I started doing a lot of analytical and empirical work on various episodes in U.S. trade policy history. Once I had written enough papers, it became obvious that I really ought to synthesize them and turn it into a book. That was around 2000. After various delays, I came close to finishing the book in 2006, but then 2007 came, and like many economists, my work got diverted by the financial crisis and I returned to looking at issues related to the Great Depression. After more delays, I finally got back to the book around 2013 and pushed it through to completion.

EF: You argue that the United States has gone through three major eras in trade policy — and structure the book accordingly. Could you describe those?

Irwin: I tried to start the book with principles about what government officials and representatives are trying to achieve with trade policy, and it seems to me that they use it to achieve three things. First, they are trying to raise revenue. Second, they are trying to protect domestic industries from foreign competition. Third, they are sometimes bargaining with other countries to reduce tariffs or retaliating against them by raising tariffs.

Those are the three Rs: revenue, restriction, and reciprocity. When I looked at the broad canvas of U.S. history, those three categories really apply to three different periods of U.S. trade policy history. Although all three elements are always present, to some extent, the question is: Which one is dominant at any given point? From the founding of the country to the Civil War, the debate was really about using the tariff to raise revenue. Under

Those are the three Rs: revenue, restriction, and reciprocity. When I looked at the broad canvas of U.S. history, those three categories really apply to three different periods of U.S. trade policy history.

the Articles of Confederation, Congress did not have the power to levy taxes. The federal government was broke and couldn't pay its bills, leading the country toward a crisis. So one of the major reasons for the Constitutional Convention was to give Congress the power to raise revenue. The Tariff Act of

1789 was really just a revenue measure to pay debts and to finance the spending of the federal government. Revenue remains the major issue in trade policy through the antebellum era.

Then, with the Civil War, of course, there is a transition of political power in the United States. The North becomes politically dominant, and it was the home of a lot of import-competing industries. Republicans from the North were overwhelmingly in charge of Congress, and so we get protection as a policy outcome. Once those high tariffs were in place, they become very hard to dislodge for a lot of reasons and they continue for a long time — long beyond when we actually become a net exporter of manufactured goods.

In 1929, we have another shock: the Great Depression that redistributes political power once again, this time away from the protectionist Republican Party to the more pro-trade Democratic Party, which at the time drew much of its political support from the South. Also, we have this trade war after the Hawley-Smoot Tariff of 1930, which leads many people to think trade policy should take a different direction. So President Franklin Roosevelt and Secretary of State Cordell Hull introduce the Reciprocal Trade Agreements Act (RTAA) in 1934 and we move on to this third era of reciprocity where we're willing to reduce our tariffs in conjunction with other countries reducing their trade barriers as well.

EF: The Founders could have looked to other ways to raise revenue. Was the tariff broadly seen as simply the least bad way?

Irwin: Absolutely. There was a consensus among the Founders that it was the most efficient way of raising public funds as well as the most politically acceptable. Consider sales taxes in the early post-colonial period. They were very controversial and very costly to enforce; just think of the Whiskey Rebellion. An income tax just doesn't make sense at this time for many reasons. But imports were coming into a relatively small number of ports, such as Boston, New York, Philadelphia, Baltimore, and Charleston. So it makes sense that if you have a lot of goods coming into a small number of places, you just tax them right there, which is pretty easy to do. In addition, people don't easily see the tax because it's built into the consumer price, so there is less political resistance to it.

EF: Regarding regional cleavages surrounding trade policy, how important do you think the tariff issue was to the frictions that led to the Civil War?

Irwin: You do see the argument out there that trade restrictions were one of the principal reasons the South seceded, not so much among academic historians but among others who write on the topic. I think the tariff issue had very little, if anything, to do with the Civil War. After the 1828 Tariff of Abominations, South Carolina essentially said we're not going to enforce this law and we may withdraw from the union unless the policy is changed. That precipitated a real crisis, and it was defused with the Compromise of 1833 proposed by Henry Clay, which gradually reduced tariffs. From 1833 until the Civil War, tariffs were basically on a downward path. We reduced the tariff further in 1846 and then again in 1857. A year before the Civil War, the average tariff was below 20 percent, which was about the lowest it had been in the entire antebellum period. So the South and the Democrats really held the cards in terms of trade policy right up to the Civil War.

What the revisionists of the Lost Cause group will say is, well, the Republicans assumed power and passed the Morrill Tariff in 1861 and that led to the conflict. But the only reason the Morrill Tariff passed was because most of the South had already seceded after the election of Lincoln. If their representatives had stayed in Congress, they could have stopped it. It wasn't that the South left the Union because of the Morrill Tariff; we got the Morrill Tariff because they left. In fact, it wasn't Lincoln who signed it but the Democrat James Buchanan before Lincoln took office. So I think there's basically no evidence the tariff was a major cause of the Civil War.

EF: At the end of the book you discuss how predictions for U.S trade policy have been really dire. But you offer some caution about such claims.

Irwin: It was a tricky matter for the book because I completed the manuscript in September of 2016. And I had every expectation that Hillary Clinton was going to be elected and there would be significant continuity in trade policy. When Donald Trump was elected, given his extreme rhetoric on trade, many people expected big changes in trade policy. I did have the opportunity to add a few paragraphs on Trump, and as you can see I tried to hedge my bets. If

Douglas Irwin

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► Previous Positions

University of Chicago Graduate School of Business (1991-1997); Board of Governors of the Federal Reserve System (1988-1991)

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Clashing over Commerce: A History of U.S. Trade Policy (University of Chicago Press, 2017); *Trade Policy Disaster: Lessons from the 1930s* (MIT Press, 2012); *Peddling Protectionism: Smoot-Hawley and the Great Depression* (Princeton University Press, 2011); *The Genesis of the GATT*, with Petros C. Mavroidis and Alan O. Sykes (Cambridge University Press, 2008); *Free Trade under Fire* (Princeton University Press, 2002); *Against the Tide: An Intellectual History of Free Trade* (Princeton University Press, 1996)

you listen to the rhetoric, it might be reasonable to think that there is a big shift coming for U.S. trade policy. But I also noted that if you look back over the past 250 years, you see that we have had these periods where trade policy sort of veers off and then eventually returns to the old status quo. For example, Democratic President Woodrow Wilson slashed tariffs dramatically and tried to introduce much freer trade, but the Congress soon reimposed high tariffs when the Republicans were returned to power. When you look at what Franklin Roosevelt did with the RTAA, the introduction of trade agreements was a policy of evolution not an overnight revolution. The Reagan administration imposed a lot of protectionist measures in the 1980s, but those restrictions soon faded away.

As a result, I try to suggest in the book's conclusion that there's still a lot of status quo bias in the system. We can't always believe the strong rhetoric, and maybe things won't change as much as promised. And

so far, as of August 2017, I think Trump hasn't changed much in terms of U.S. trade policy. Yes, he pulled out of the Trans-Pacific Partnership, but maybe Hillary Clinton would have done so also; Bernie Sanders too. Trump did say he wanted to renegotiate bilateral agreements with these countries. There's no evidence we've moved forward with that but that's at least saying that he's open to the idea of trade agreements. He hasn't pulled out of the North American Free Trade Agreement (NAFTA), although the renegotiation of it is not likely to go well. He might go after China a bit, but consider his announcement: He signed an executive order for the USTR not to initiate an investigation but to look into initiating an investigation. So there's nothing there yet. I think the administration is quickly learning that there is a process, there's a reason why things operate slowly, and you have to work within the laws we have.

Also, any big change in trade policy — in any direction — is going to generate a lot of opposition. In relation to NAFTA, when you look at a map of where U.S. agricultural exports are produced, you see that a lot come from areas that the president carried and a lot head to Mexico. So hopefully government officials begin to realize pulling out of NAFTA would not only reduce imports to the United States, it would also lead to reduced market access for U.S. exporters. There are a lot of trade-offs in any policy change. It's not a black and white process of you stop imports, you create jobs here, and that's the end of the story.

EF: What do you think about Brexit and what it portends for trends in trade policy?

Irwin: A lot of people have said that it's an indicator of an antiglobalization backlash. Yet I don't believe it represents a backlash against trade per se because Brexit proponents want to maintain Britain's access to the European Union (EU) market and have actually argued for even freer trade outside the EU. So it wasn't an anti-trade movement. I think immigration, regulatory, and sovereignty concerns about the EU were dominant.

If they go through with it, however, Britain could be making a big mistake. First, Europeans are not going to give them free and easy access as they had before. Britain has no trade negotiators because they outsourced that to the EU. So all of a sudden they're looking for qualified staff to negotiate new trade agreements. Second, trade agreements these days are much more about regulatory harmonization and coordination than tariff levels. If you were dealing with only tariffs, that would be much easier to address. But these are really complicated policy measures where you really need a lot of expertise. To pull out of the EU and try to replicate that — not just with the EU but with a whole bunch of other countries — it's going to take a long time to repair those networks. With global supply chains being so important, that can do big harm to one's country if you stand outside the system for a while and then try to get back in.

There's actually a cautionary tale here from the American Revolution. After the United States won its independence from Britain, American leaders thought that the political settlement would restore U.S. access to the markets of the British Empire. They were sorely mistaken: Britain sought to punish the United States by keeping it out of its markets, and the United States paid a hefty economic price.

EF: How would you assess the claim that more restrictive trade policies in the late 19th century fueled industrialization in the United States?

Irwin: This is one of the biggest questions in the history of U.S. trade policy: Did protectionism foster U.S. economic growth and development in the late 19th century? I'm not convinced that we can attribute America's industrial advance in the 19th century to high tariffs or protection. There are a couple points to make on this. There is certainly a correlation between high tariffs and industrial growth in the late 19th century, but we can't leave it at that. That would be a post hoc, ergo propter hoc argument. Instead, we need to know the mechanism by which high tariffs might lead to this growth. Usually the mechanism identified is that agriculture is a relatively low value added per worker sector and with the tariff you are going to shift resources into manufacturing, which is a relatively high value added per worker sector. So not only do you industrialize, but you

also raise national income because you get workers into more productive activities. I have done some back of the envelope calculations about how much labor could possibly have moved across sectors as a result of the tariff, and the numbers are pretty small in terms of any possible gain. And, actually, this intersectoral switch is happening anyway. It's a natural process. A lot of the industrialization occurred prior to the Civil War, between 1840 and 1860 when we had low and declining tariffs. A lot of the growth in the late 19th century when we had high tariffs is extensive growth, not intensive growth. In addition, there are so many other things going on. We had open immigration, so there was a lot of growth in the labor force. We revamped our banking laws during the Civil War, finance became very important, and we got capital deepening. That's not because of the tariff; that's because the whole financial system of the United States was really developing.

Another point to be made is that when you look at the high productivity growth sectors in the U.S. economy in the late 19th century, John Kendrick and others have shown they're mostly in the non-traded goods, service sector. Transportation and utilities were growing very rapidly. It's hard to see how the tariff would help the non-traded goods, service sector of the economy improve its performance. Also, Steve Broadberry has done some work showing that increasing productivity in the service sector was very important to the United States catching up with Britain in the late 19th century. That, too, doesn't seem to be tariff related. All of this doesn't lend itself to an easy story where the tariffs are the key factor behind U.S. growth and industrialization.

In addition, when you look at particular manufacturing industries, such as iron and steel or textiles, once again the story doesn't seem to be particularly strong. For example, I once looked at the tinsplate industry. It's true that we didn't have tinsplate production until the McKinley Tariff, but the reason we didn't have it was because we had high tariffs on imported iron bar, which is an important input to tinsplate. So you had a high cost of production on your intermediate goods and that hurt downstream producers. When you look at the whole tariff code in the late 19th century, it's not geared toward the production of final manufactured goods. There are high tariffs for everyone, including on intermediate goods, and you're not really helping out downstream producers when you do that.

EF: It is often asserted that the Hawley-Smoot Tariff played an important role during the Great Depression. What is your view?

Irwin: I would say most economists have been skeptical of the claim that the Hawley-Smoot Tariff led to the Great Depression or even exacerbated it to any great extent. In their *Monetary History of the United States*, Milton Friedman and Anna Schwartz hardly mention the tariff at all.

Whenever Friedman talked about the Great Depression, he always said that it was a very bad piece of legislation, but it didn't cause the Great Depression, it didn't generate 25 percent unemployment. I think that's basically true. There is something else going wrong in terms of monetary policy or other macroeconomic factors that cause depressions. Tariffs change relative prices and reallocate resources between industries but don't change the level of activity to that extent. There's a lot of evidence for that through history. For instance, in 1922 Congress passed the Fordney-McCumber Tariff, which raised tariffs more sharply than even the Hawley-Smoot tariff, and yet an economic boom followed. Now, the tariff certainly had nothing to do with that boom, as the economy was recovering from tight monetary policies after World War I. But the point is we have had a lot of tariff increases in the past that didn't lead to depressions and a lot of tariff reductions that didn't lead to booms.

My view of Hawley-Smoot is that it was unnecessary, it was ineffective, and it was harmful. It was unnecessary because it was introduced in the House at a time of almost full employment, the spring of 1929. It was ineffective because the motivation was to help out farmers, but we were a big net exporter of farm goods so the domestic price that they faced wasn't going to be affected by import duties. It was harmful because it led to a lot of retaliation against the United States, so our farm and factory exports were actually harmed.

EF: In addition to legislation like Hawley-Smoot, you and Barry Eichengreen have looked at some other factors in the rise of protectionism during the 1930s.

Irwin: Everyone knows a trade war broke out in the 1930s. But what really caused it? The standard explanation is that there was chaos and that everyone was trying to protect their own market in light of the Great Depression. We found something different. There is a very pronounced pattern in terms of which countries were adopting protectionist policies and which weren't. That hinged on something that naturally follows from Barry's work — how long you stay on the gold standard.

There's a trade-off that different countries made. If you are being confronted with a deflationary shock, you can use monetary policy to adjust to that. But if you're on the gold standard and the hands of the monetary authorities are tied, you look for other policy instruments to try to prevent gold outflows and reflate the economy. Trade policy is one of them. So what you find is some countries are breaking off the gold standard very early and they pursue reflationary monetary policies. They are able to mitigate the worst effects of the depression and they don't face as much protectionist pressure. In contrast, there are other countries that stay on the gold standard and their economies remain relatively depressed. Those are the ones precisely where the protectionist pressures are really strong,

and they impose exchange controls and higher tariffs and things of that sort.

EF: Why do you think protectionism has such enduring appeal, at least rhetorically?

Irwin: I think protectionism has always had a lot of appeal because, politically, it's sort of an "us versus them" situation. You're helping out your domestic firms against foreign firms that are stealing our jobs. It is a nationalistic view that many people naturally have a desire to try to help one's neighbors first.

Also, with protectionism it's easy to see who's helped and harder to see who's hurt. There are tangible benefits to some group when you erect a trade barrier, but it's much harder to see those who are harmed or pay the price. It's a bit of a case of the seen versus the unseen. One way I try to illustrate this in my classes is to explain one of the most fundamental theorems of international economics, the Lerner Symmetry Theorem. It states that a uniform tax on imports is equivalent to a uniform tax on exports. But just think about how this plays in the public mind. If you went out into any city and asked people whether we should impose an across-the-board tariff on imports to protect jobs and stop foreign countries from taking advantage of us, a lot of people would support that. But if you went to the same people and asked whether we should impose a uniform tax on all exports, on all farm exports and manufactured exports, there would be very little support for that. But the Lerner Symmetry Theorem says they're equivalent. So it's the same policy, but how you frame it determines the response you will get.

EF: What are your thoughts on the paper by David Autor, David Dorn, and Gordon Hanson arguing that rising Chinese import competition has had significant effects on U.S. manufacturing?

Irwin: I think it's an important contribution because it shows us some of the real difficulties in terms of labor market adjustments to big shocks. The finding that people drop out of the labor force, retire early, or go on disability and don't necessarily move on to other jobs is an important finding. While I think economists will debate the number of workers who have been displaced because their estimate is based on cross-sectional evidence, which is not the ideal way to do it, we can be pretty confident that the number is big. That said, here's my take on it. First, the China shock was a one-time shock. That is, you had big growth not just in trade but in a shift of people from agriculture into industry in China, at the same time as the working-age population was growing. That's not going to repeat itself. The rural to urban transition has slowed dramatically, and the working-age population in China is now actually in decline.

It also was not an aggregate demand shock. Even though they identify significant harm to certain communities in

the 1990s and 2000s, those were periods of declining unemployment in the United States. So it really draws attention to the problem with geographically concentrated production and the difficulties of getting workers to move to different locations or to different industries. In this regard, I would differentiate between the 1990s and the 2000s. Autor, Dorn, and Hanson suggest the China shock was occurring throughout this whole period, but at the end of the 1990s we had an unemployment rate below 4 percent with significant wage growth at the lower end of the wage distribution. There's actually some evidence that workers in textile mills in the South who were displaced were getting higher-paying jobs elsewhere. The 2000s is a different period, the economy was far less robust than in the 1990s, and the 2008 financial crisis just compounded the problems for displaced workers. Also in the 2000s you had huge macroeconomic imbalances in China. We had a pretty sizeable current account deficit during the 2000s, while China had a current account surplus of 10 percent of GDP. It's highly unusual for a large developing country to have a massive trade surplus like that, which raises the issue of currency manipulation and so forth. I don't think that we are going to see something like that again, in terms of trade imbalances, and if we begin to go in that direction, there should be enough warning signs and policy will be different.

In short, the China shock was a big one-off event that happened under unusual circumstances and is unlikely to be repeated. We have learned a lot from it, but going forward I don't think it changes the consensus that there are still large benefits to trade. We have always known that certain communities or certain types of workers are going to be hurt by trade. This just happened to be a pretty big example. More recent research has also provided some context or some nuance to what they found. For instance, work by Rob Feenstra and others has tried to pin down the benefits to consumers from lower prices, particularly workers at the lower end of the income spectrum. In addition, some of the China shock was due to China's unilateral reductions of tariff on inputs, which made its final goods producers much more efficient. That's not due to a change in U.S. policy — that's just China becoming more open and more efficient, which ultimately is something we want to see.

EF: I know you have just finished a massive book, but I was wondering what you are working on currently.

Irwin: I'm really excited about my next project, which is looking at the political economy of trade policy reform in developing countries. Arguably the biggest change in the world economy over the past 30 or 40 years is the increased participation of developing countries and their unilateral decisions to open up and become part of the world trading system. The biggest, of course, was China, which wasn't because of the World Trade Organization or external pressure. Rather, in 1978-1979 Deng Xiaoping decided to open up the economy. It was a unilateral

decision — and that has been the story for a lot of developing countries.

There has been a lot of work looking at what happens when you go from a closed to an open economy. Sachs and Warner had a famous Brookings paper in 1995 that was improved upon by Wacziarg and Welch. And there are many others now using synthetic control methods to sort of simulate what would happen to a country if it hadn't opened up. Basically all of these papers identify pretty big effects to GDP, to investment, and obviously to trade. There is heterogeneity, of course; not everyone is going to get a big boost from it, but, on balance, a pretty significant positive impact. So the question I want to address is what was behind the decision of those countries to open up or not. What I'm doing is looking at various countries in terms of their political decisionmaking process, starting with Taiwan in the late 1950s, which was really the first developing country to open up, then Korea, then Indonesia, then Chile, and so forth. New Zealand enacts big trade reform in 1984, and there are a lot of countries in the late 1980s and early 1990s. My initial read is that it's not so much that these countries' policymakers, backed by some economist, are thinking about the comparative advantage gains from trade or things of that sort. What they're finding is that they have these import substitution policies and overvalued exchange rates, which have stifled their exports, and now their exports can't pay for their imports. And it's not that they want to keep out imports. They desperately want to import things like food and fuel and especially capital goods. But they don't have the exports to pay for them. So they need to do something to stimulate exports. That requires a devaluation, usually a big devaluation, and reducing tariffs, which through the Lerner Symmetry Theorem acts as a brake on exports.

The reason why Taiwan and Korea initially moved in a more open direction is that the United States was cutting back their foreign aid. They had huge trade deficits that were financed by U.S. foreign assistance. By the late 1950s the United States was saying we're in the postwar period now, you're not being threatened militarily, and so you're on your own. The countries realized, well, we can't cut our imports and our exports are virtually nothing. We've got to do something about this, and that's why they shifted their policy. It's fascinating to see the pressure that U.S. aid withdrawal puts on foreign officials to rethink their policies. Also, sometimes it's the International Monetary Fund (IMF) providing advice but not necessarily a club over their heads. And often there are policymakers groping for a solution who have been influenced by an economist. When you get that sort of link, you sometimes can bring about these significant changes in trade policy. So in the case of Taiwan it was Sho-Chieh Tsiang, who was then an economist at the IMF and who later taught at Rochester and Cornell. The chief economic minister asked for a memo on what they should do. Tsiang went there and said devalue and open up. That's what they did, and the results were astounding. EF

Doing Development Differently

Soul City was a bold experiment in rural North Carolina that collided with the economic and social realities of the 1970s

BY CHARLES GERENA

Packed into a Dodge compact with five children and her husband, Jane Ball-Groom arrived at the Manson, N.C., post office one morning in January 1970. They had driven more than 400 miles from New York City to work onsite at a community under development by her employer, McKissick Enterprises.

After asking for directions, the family drove a bit farther. “We crossed the railroad tracks and saw this little cardboard sign on a wooden post. There was a barbed wire fence with cows behind it. That was Soul City.”

Ball-Groom had traded her family’s apartment in a public housing project for one of the single-wide trailers plunked in the middle of 1,810 acres of farmland in Warren County, N.C. To her, it was paradise. She was among the pioneers who wanted to build a place where people of all races and classes could have a second chance.

Soul City was the brainchild of lawyer and civil rights activist Floyd McKissick. In his late 40s, the Asheville, N.C., native left the Congress of Racial Equality to form McKissick Enterprises as an instrument of black economic empowerment.

Soul City, the firm’s biggest endeavor, was unveiled at a press conference in January 1969. It would be the first of several planned communities in the South to reverse “the migratory pattern of rural people seeking to leave areas of economic and racial oppression,” as McKissick described it, especially blacks who had fled north during the “Great Migration” that had begun in the early 20th century.

Using a combination of public support and private capital, McKissick and his team of mostly young and idealistic black

Soul City was marketed as an integrated community that would provide a “fresh start” for people and businesses.

professionals completed the first phases of Soul City’s residential and industrial development. They also laid the groundwork for future growth, including a regional water system that taps into a nearby lake and serves the residents of three counties today.

What Soul City couldn’t do was generate enough jobs to satisfy the Department of Housing and Urban Development (HUD). The agency withdrew its support of the project in June 1979, exactly seven years after it announced the award of a \$14 million loan guarantee.

In hindsight, Soul City was an ambitious experiment that ran out of time. McKissick and his team couldn’t overcome the challenges of spurring economic activity in a relatively rural part of North Carolina that lacked the essential ingredients for growth. Nor could they overcome the skepticism that arose after years of slow progress caused, in part, by a bureaucratic tangle that was as bad as kudzu.

“Was Soul City too bold, given the racial tension, the economic conditions, or the lack of infrastructure in the county? It probably was,” notes Eva Clayton, a former congresswoman who worked on the Soul City project. “But I don’t think it was a mistake to try a bold idea. There is a need for new ideas in rural areas.”

Starting from Scratch

Like other civil rights leaders, McKissick saw economic progress and independence as the next logical step for blacks after making major gains for their legal rights in the 1960s. Soul City would be a vehicle for what he and others called “black capitalism.”

In another century, black entrepreneurship had emerged in the antebellum era and surged in response to racial segregation in the post-Civil War South. But times changed. Communities like Jackson Ward in Richmond and Hayti in Durham, where blacks had formed their own base of enterprise, were shattered in the name of urban renewal in the 1960s. New opportunities were needed.

Like other proponents of the “new town” movement, McKissick wanted to create an alternative to decaying urban communities. “The black man has been searching for his identity and destiny in the cities,” McKissick told the *New York Times* in January 1969. “He should be able to find it on the plains of Warren County.”

What McKissick imagined on those plains was a new town, like the ones that emerged from the ashes of European cities destroyed during World War II. He aided

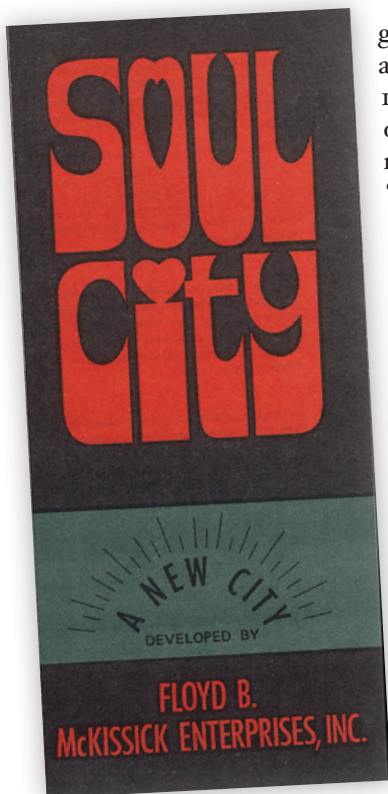


IMAGE: FLOYD B. MCKISSICK PAPERS #4930, 1940S-1980S IN FOLDER 1754; PRESS KIT MATERIALS, 1970-1979 AND UPDATED SCAN 13; J.E. SHEPARD MEMORIAL LIBRARY UNIVERSITY ARCHIVES; RECORDS AND HISTORY CENTER, NORTH CAROLINA CENTRAL UNIVERSITY

in this rebuilding in France as an Army sergeant and visited other sites in France and England. In a 1983 interview, McKissick recalled telling his relatives and Army buddies after the war, “If we can spend all this time over in Europe building, we can sure go back down South and build.”

In 1971, McKissick applied for a loan guarantee under HUD’s New Communities program, established in 1968 and expanded under Title VII of the Housing and Urban Development Act of 1970. The program was intended to support innovative solutions to suburban sprawl, urban blight, and underutilization of rural communities. Like the private developments that were built as part of the new town movement, New Communities projects were intended to be more self-sufficient than traditional suburbs, providing the economic opportunities lacking in cities but avoiding the haphazard growth that characterized suburbia.

McKissick got HUD’s final blessing in 1974, adding to the financial backing he had from several lenders and his general partners in the project — the National Housing Partnership, a private entity created by Congress to stimulate the development of low- and moderate-income housing, and MMI Inc., the Cleveland-based development arm of a minority-owned architectural firm.

With financing in hand, McKissick was ready to deliver on a dream he had envisioned since his Army days. His initial goal was to have an integrated community of 40,000 to 50,000 people and an industrial park teeming with activity within 20 to 30 years.

But which should come first, the jobs or the people? This is the classic chicken-and-egg question of developing a self-sufficient community, particularly one like Soul City that wasn’t within commuting distance of an urban hub. If residential construction happens first, then the new residents need a place to work, unless they are retired or independently wealthy. If commercial development comes first, then the new laborers need roofs over their heads.

Soul City’s developers were told to focus on industrial recruitment, according to Devin Fergus, a professor of history and black studies at the University of Missouri. In a 2010 article in the *Journal of Political History*, he wrote, “Over the opposition of McKissick and other town founders, Washington required that industry and commercial contracts be secured first before new residential subdivisions were built.”

So they completed a 73,000-square-foot building dubbed Soul Tech I as the first phase of an industrial park. To support future industrial activity, they also constructed a regional water system, upgraded and expanded a wastewater treatment facility, and built a fire station.

Despite this progress and initial interest from several companies, McKissick and his team couldn’t bring large employers to Soul City. A New York-based manufacturer produced backpacks and duffel bags for the U.S. military at the Soul Tech I building for a year before the company filed for bankruptcy in 1979. After that, a chicken hatchery, a small textile firm, a packaging company, and a

janitorial supplies producer occupied part of the building at various times.

Several key players expected growth to spread to Warren County from the Research Triangle region. But that never happened.

Generating Jobs is Hard Work ...

There wasn’t much happening in Warren County. As of 1969, per capita income in the county was only two-thirds of the per capita income for North Carolina. More than 40 percent of families lived in substandard housing.

Agriculture had brought prosperity to Warren County before the Civil War. After the war and the collapse of the plantation system, however, the local economy struggled. The county was among the rural communities in the South where millions of slaves had toiled on plantations and had limited options beyond sharecropping or working on someone else’s farm, communities that missed the prosperity of regions like the Research Triangle.

While Warren County had an ample supply of low-cost labor and land in its favor, it had plenty of competition for new industry. Two towns in nearby counties — Henderson in Vance County and Oxford in Granville County — as well as many others in rural North Carolina were also eager to replace lost agricultural jobs.

Also, the county’s labor pool was older and unskilled, and the educational system was ill equipped to prepare residents for new careers. Soul City’s developers tried to address this shortcoming by helping to secure funds for a high school. In the meantime, the community was too far away from population centers to provide additional labor options for potential employers.

In general, Warren County’s relatively isolated location in North Carolina was a handicap. Soul City was next to a rail line and minutes away from Interstate 85 and U.S. 1. But it was more than 50 miles, or an hour’s drive, from Durham or Raleigh, too far from the amenities that prospective employees and employers look for. To meet these needs, the developers built a recreational center with basketball and tennis courts, a bath house, and pool.

Soul City was the only project in the New Communities program that was neither a satellite community that benefited from the amenities of a nearby city nor within an urban area in need of revitalization. Most of the privately funded new towns were satellites — Columbia, Md., was less than 25 miles from Baltimore, while Reston, Va., was a similar distance from the nation’s capital.

The proximity of Columbia and Reston to major cities offered them another benefit, says David Godschalk, a former professor of city and regional planning at the University of North Carolina at Chapel Hill. These new towns saw migration from Baltimore and Washington. “Near Soul City, there was no such metropolitan source of families that wanted to move out. You weren’t going to move from Raleigh [and] the little towns [in Warren County] didn’t have the population supply.”

Godschalk knows this firsthand. He served on the board of directors of the Warren Regional Planning Corporation, a nonprofit formed to develop a general land-use plan for Soul City and provide technical assistance to Soul City's developers as well as minority and disadvantaged business owners in neighboring communities.

... Especially For a "New Community"

The economic challenges of developing Soul City were exacerbated by the complexities of navigating HUD's New Communities program.

While McKissick and the developers of 12 other projects received loan guarantees from HUD and other federal support, their initial investment was steep. There were the upfront expenses of acquiring land and installing infrastructure in addition to the usual carrying costs of paying property taxes on undeveloped land and interest on loans. According to a 1975 report on the New Communities program, "All other nations engaged in [new town] development employ public mechanisms for land assembly and the provision of infrastructure. We are the only country attempting to do this through private developers."

In the case of Soul City, the developers had \$10 million of HUD's \$14 million loan guarantee and were awarded more than \$5 million in grants from HUD and millions more from other federal agencies. But it took years before the money started to flow.

McKissick applied for the loan guarantee in February 1971, almost two years after submitting a preliminary application. HUD signed a letter of commitment in June 1972, more than a year later, and didn't spell out the terms and conditions for the guarantee until it signed a formal agreement in February 1974.

"Months went by, along with delays in financing and land acquisition, as the project stumbled into a 'turf war' between political operatives inside the White House and more fiscally minded conservatives operating largely out of the Office of Management and Budget," noted Devin Fergus in his 2010 journal article. "While the federal officials bickered among themselves, commercial real estate prices rose."

The developers finally sold their first \$5 million in bonds in March 1974. But they held title to only part of the proposed 5,000-plus acres that were targeted for development. The rest of the loan guarantee was needed to pay for the upfront expenses and carrying costs of the rest of the project.

Before the developers could issue additional bonds, however, they had to meet several conditions that HUD did not impose on other New Communities projects. Soul City had to generate at least 300 jobs and meet other requirements pertaining to land sales and infrastructure development.

These restrictions weren't lifted until December 1976. McKissick and his team sold another \$5 million in bonds, which was enough to complete several projects and

support the development of 32 houses between 1977 and 1979. But the last \$4 million in guaranteed bonds were never issued, and numerous lots purchased for development remain fallow today.

On top of these unique challenges, all of the developers in the New Communities program leaned into the same headwinds faced by the rest of the country in the 1970s. The OPEC embargo of 1973 caused oil prices to nearly quadruple between October 1973 and January 1974. Double-digit inflation hit. Interest rates and unemployment soared, undermining the demand for new housing.

"In calculating our loan guarantee commitment, we had to do financial projections that assumed a 6 percent compounded rate of inflation for 30 years," recalls Floyd McKissick Jr., who worked for his father on the Soul City project and studied regional planning and law before being elected to the North Carolina legislature. "That sounded good in 1971, but they didn't anticipate the oil embargo" raising the cost of petroleum-based products like asphalt for roads and PVC pipes for plumbing in houses. "You were stuck with that model, when we really needed to go back and recalculate the numbers."

Among the 13 projects funded through the New Communities program, most faced financial difficulties. The program was re-examined several times and closed down in 1983 after awarding \$590 million in guarantees and grants. Only The Woodlands in Texas was able to achieve viability over the program's 15-year span. In the private sector, the new town movement took decades to yield any successes, including Columbia and Reston.

All Eyes on McKissick

Soul City had been under the microscope for years before HUD ended the New Communities program. The *Raleigh News & Observer* ran an investigative series on the project in March 1975, a year after money started flowing from the first bond issue. The articles questioned whether the project benefited only the bank accounts of McKissick and his colleagues. They also criticized the complex web of organizations involved with Soul City's development and the multiple roles that people had in these groups as potential conflicts of interest.

Shortly after the series ran, Sen. Jesse Helms, R-N.C., and Rep. L.H. Fountain, D-N.C., called for an audit of Soul City. Helms had opposed the project from the very beginning. After being elected to Congress in 1972, he received a note of congratulations from McKissick and soundly rejected the overture, promising "to request a careful independent examination of expenditures" into Soul City. On the floor of the U.S. Senate three years later, Helms called Soul City a "gross waste" that exemplified the pitfalls of government intervention in private development.

The General Accounting Office (GAO) released its audit of Soul City in December 1975 and found no significant malfeasance. But the damage was done — the project had come to a standstill. When work resumed,

the negative publicity from the *News & Observer* exposé and the GAO audit gave the project a taint of scandal and corruption that would haunt it until the end.

Some people believed McKissick was held to a different standard. He was a businessman as well as an activist, yet any hint of him, his family, or his associates making a profit from Soul City was viewed suspiciously. An April 1979 article in the *Wall Street Journal* article zeroed in on the cars that McKissick's family drove and the "big microwave oven" in their kitchen.

It didn't help that the overlapping organizations formed to tackle the myriad community development efforts at Soul City made the whole project much harder for outsiders to understand. "Had this project been next to Raleigh or Charlotte, you could have probably pulled in some of the business leaders from those communities for volunteer boards," notes David Godschalk. "This was a remote, rural location in North Carolina ... that didn't have many human resources."

Providing social services like a health clinic and securing state and federal funding for projects like the regional water system helped overcome the initial suspicions of public officials in Warren County and surrounding communities. "They saw the water and sewer lines going into the ground," recalls McKissick Jr. "They saw the positive impacts."

At the same time, political leaders with entrenched interests wanted to protect the status quo. It had been less than a decade since the Civil Rights Act passed in 1964. "I think more of the skepticism [about Soul City] came from people who held prejudices and were not open to the idea of encouraging black entrepreneurship," adds McKissick Jr. "They were skeptical of what changes it might bring."

Ultimately, McKissick and his team remained outsiders, even in the eyes of much of the county's black population, despite their best efforts to reach out. "They had been in this ditch so long that they'd given up hope," recalls Eva Clayton. "They couldn't bring themselves to believe that outsiders could come and do something that hadn't happened in years."

A Dream Deferred

Floyd McKissick had the drive of a social entrepreneur to face these challenges. He believed passionately that capitalism could produce innovative solutions to the world's social problems. Other developers like Robert E. Simon Jr.

and James Rouse, the creative forces behind Reston and Columbia, respectively, also touted the social benefits of the new town movement.

Where McKissick might have fallen short is being what the Schwab Foundation for Social Entrepreneurship describes as someone who "continuously refines and adapts [his/her] approach in response to feedback." In other words, he was stubborn.

For example, many people didn't like the name "Soul City" and advised McKissick to change it in order to dispel perceptions of the project being for blacks only. He refused.

Other lessons can be derived from the experiences of Floyd McKissick and Soul City. His son points to the 30-year time horizon and all-at-once development approach championed by the New Communities program. Instead, a developer should look ahead only 10 years and be willing to respond to changes in market conditions. "You have to be nimble," explains McKissick Jr.

Even with a shorter timeline, a developer also needs deep pockets to build an entire community from scratch. "Columbia ran in the red for years and years," says Godschalk. "Rouse put a lot of his money into it, and he had a lot of good connections with banks that helped to keep it afloat," plus the financial support of Connecticut General Life Insurance Co. Reston also lost "a considerable amount of money" before it was completed, but it had the backing of Gulf Oil.

Most importantly, a development needs to have something that creates demand for housing and drives up property values, advises McKissick Jr. The problem was Soul City never got a chance to offer those amenities. The developers had expended their financial and political capital on building infrastructure. Nor was that infrastructure enough to lure the businesses that would create job opportunities for future residents.

There are certainly examples of cities that developed in the middle of nowhere. But many of them followed the path of progress — a railroad or a canal or a mountain pass through a valley. Would McKissick have succeeded in finding fertile ground on a former plantation?

David Godschalk believes that efforts to fight the economic tide to develop a community can succeed...under the right circumstances. "It is a very complicated effort, but it's not impossible." **EF**

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Time to Unwind

BY HELEN FESSENDEN

This fall, the Fed is taking initial steps to unwind a signature post-recession stimulus policy by trimming back its massive balance sheet. Under quantitative easing (QE), the Fed launched several rounds of bond buying during and after the financial crisis, boosting its balance sheet from around \$800 billion to \$4.5 trillion. The primary goal of QE was to lower interest rates for longer-term securities and mortgages, thereby making borrowing cheaper and stimulating the economy. (The Fed also kept its benchmark rates near zero throughout this time, which affected short-term rates.) The Fed now holds about \$2.4 trillion in treasuries (17 percent of the market) as well as \$1.7 trillion in mortgage-backed securities, or MBS (29 percent of the market).

The Fed has long made clear that it would start to shrink its balance sheet once the process of raising short-term interest rates was well underway. In 2014, the Fed announced it would stop increasing its net bond holdings and instead maintain the size of its balance sheet by reinvesting bonds once they matured. Then, this past June, it said it would soon start allowing bonds to “roll off” — that is, mature and not be replaced by another security — so that its balance sheet would slowly shrink.

In October, this process began incrementally, with \$6 billion in treasuries and \$4 billion in MBS rolling off each month. Those sums will gradually increase to \$30 billion and \$20 billion per month, respectively. The aim of such a gradual and transparent implementation is to avoid the kind of disruption seen with the 2013 “taper tantrum,” when markets were jolted on fears that the Fed would pull back quickly on its stimulus. This year, so far, Fed balance-sheet announcements have not sparked similar turmoil.

So what does “rolling off” actually look like? In some ways, it’s just the bond buying process in reverse. Under QE, the Fed bought treasuries on the open market and paid for those purchases (which are assets on the Fed balance sheet) by crediting banks with reserves (which are Fed liabilities). This is the main reason why bank reserves also dramatically expanded under QE, from \$900 billion before the crisis to \$2.6 trillion at their peak (today, they are more than \$2.3 trillion). Under the new policy, most treasuries on the balance sheet will still be reinvested. But for those that are slated to roll off, the Treasury Department, as the original bond issuer, will pay off the expiring debt in a process that ultimately transfers cash

to the Fed. Once that bond is paid off, it’s taken off the Fed balance sheet, while bank reserves decline by a corresponding amount.

In the case of MBS, the process is similar. These securities are backed by pools of mortgages purchased by the government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac, as well as Ginnie Mae (a federal agency). They repackage the mortgage debt into bonds and then sell the MBS to investors and financial institutions. Under QE, the Fed bought the MBS on the open market and then credited the reserve accounts of the GSEs and Ginnie Mae. By extension, the MBS roll off when the principal values are paid down for the mortgages underlying the MBS — for example, through normal payments, sale of property, or refinancing. In turn, the value of the Fed’s MBS holdings declines.

The Fed has not given a public estimate of how far this process will go. But many observers believe that the balance sheet’s ultimate size, as well as the result-

This year, so far, Fed balance-sheet announcements have not sparked turmoil similar to the 2013 “taper tantrum.”

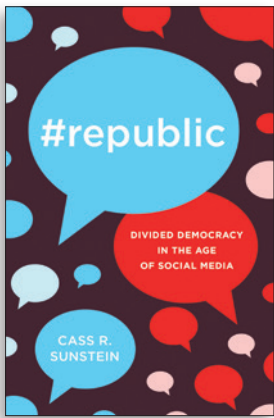
ing amount of bank reserves, will be significantly larger than pre-crisis levels. One reason is that a central bank’s balance sheet needs to be at least as large as the amount of currency in circulation. In the case of the U.S. dollar, total currency circulation (home and abroad)

has grown from \$800 billion in 2008 to \$1.5 trillion today. The Fed estimates this sum will expand to \$2 trillion in the next five years.

Another reason has to do with the conduct of monetary policy. Traditionally, the Fed controlled short-term rates by a combination of adjustments in the quantity of reserves and the discount rate; these changes would affect supply and demand, respectively, in the fed funds market (the overnight interbank market). Since the crisis, however, excess reserves have grown so much that the interbank market has effectively disappeared, so such adjustments would have little effect on rates. The Fed has found that a more robust tool, also in effect since 2008, is adjustments in the interest rate paid on banks’ excess reserves. This way, it has learned, it can control the range for the fed funds rate.

“It’s not unreasonable to argue that the optimal size of the Fed’s balance is currently greater than \$2.5 trillion and may reach \$4 trillion or more over the next decade,” wrote former Fed Chairman Ben Bernanke on his blog earlier this year. “In a sense, the U.S. economy is ‘growing into’ the Fed’s \$4.5 trillion balance sheet, reducing the need for rapid shrinkage over the next few years.” **EF**

Echo Chamber Dot Com

**#REPUBLIC: DIVIDED DEMOCRACY
IN THE AGE OF SOCIAL MEDIA**

BY CASS R. SUNSTEIN, PRINCETON,
N.J.: PRINCETON UNIVERSITY PRESS,
2017, 286 PAGES

REVIEWED BY TIM SABLİK

The 2016 presidential election as well as tumultuous, and sometimes violent, demonstrations recently have had many asking: Is society becoming more polarized along political lines? According to one study, parents in 1960 were much more likely to object to their child marrying someone of a different race than from a different political party; in 2010, the opposite was true. Another study found that the political discourse of the two parties in Congress has become more polarized over time. (See “Interview: Jesse Shapiro,” *Econ Focus*, Second Quarter 2017.)

What is to blame for this apparent trend? In *#Republic*, Cass Sunstein of Harvard Law School points to online media. Today, individuals can find content for any number of niche topics or viewpoints. Not only that, they are able to filter it based on their interests and preferences — some platforms even do so automatically based on users’ viewing habits. While this may be a boon for consumers, who are getting what they want, Sunstein contends that it has troubling implications for democracy.

The book’s title references Benjamin Franklin’s famous statement on the type of government that the delegates to the Constitutional Convention had designed: “A republic, if you can keep it.” Keeping it requires a citizenry well-versed in a variety of issues and viewpoints, according to Sunstein. At first glance, the Internet would appear to be a great enabler of such a society, with information on any topic imaginable just a few keystrokes away. But Sunstein argues that the Internet is being used for precisely the opposite purpose: to reinforce pre-existing beliefs and filter out any challenges to them.

Sunstein argues this point largely in philosophical terms, but he also suggests it is a sort of market failure. He notes that information is a public good because what you know can freely be passed on to others, to their benefit. This means information that may not benefit you directly could still benefit others. From society’s perspective, to the extent you fail to capture the benefit of the information that aids others, you’ll underconsume information — or so Sunstein contends. But it’s unclear that this effect is meaningful as a practical matter; one person underconsuming information does not inhibit others from seeking it out to their own benefit. And as Sunstein notes, the Internet does include general interest news sites without pronounced

political slants, fostering serendipitous discovery.

It is certainly true that the Internet can be used to filter content, creating “echo chambers” of likeminded individuals. The most chilling example of this, which Sunstein sets out, is the way terrorist organizations have used social media to radicalize and recruit members. Sunstein also cites experiments in sociology showing that when people are divided into likeminded groups, moderate members are influenced by those who hold opinions more strongly, becoming more extreme themselves.

But Sunstein fails to make a compelling case that most individuals online are exclusively seeking out echo chambers. In fact, citing a study by Matthew Gentzkow of Stanford University and Jesse Shapiro of Brown University that finds only a small preference among online users for news outlets that match their political persuasions, Sunstein admits that “most people do not consume news in a partisan way.”

Core to Sunstein’s thesis is his assertion that the Internet has made it easier to avoid exposure to new information and views than in the past. He contrasts modern society with a time when physical public forums like parks and street corners played larger roles, allowing anyone to engage freely with the public. But it is hard to think of the Internet as anything *but* such a public forum writ large, and avoiding unsought information online does not seem as easy as Sunstein imagines. Many news sites include comment sections at the end of each article and provide links to other (often unrelated) material on the site. And unless one befriends only likeminded individuals on social media, exposure to novel information and opinions is likely to occur more frequently online than on street corners. Indeed, a recent paper by Gentzkow, Shapiro, and Levi Boxell of Stanford University found that political polarization has grown most quickly since 1996 among older groups who are *least* likely to use social media or read news online.

Sunstein readily acknowledges the many benefits of social media and the Internet more broadly, and his proposed fixes are ultimately fairly mild. He suggests websites with opposing views could agree to link to each other’s content, or that social media services could provide users with more content outside of their expressed interests.

But would such measures address the causes of polarization or just its symptoms? Some researchers have pointed out that the divide in voting patterns between rural and urban residents mirrors a similar divide in health and economic outcomes, suggesting there are deeper issues at work than how we communicate with one another. Still, Sunstein’s book is a thoughtful study of how media consumption tailored only to individual desires could exacerbate the divides, even if it isn’t necessarily driving them. **EF**

Preparing Unemployment Insurance for a Downturn: The Carolinas

BY RICHARD KAGLIC

In the aftermath of the Great Recession, the United States saw unemployment rates rise to levels it had not seen since the early 1980s as employers shed workers by the millions. Workers who had lost their jobs could not find other work and flooded into unemployment offices around the nation applying for benefits to ease the shock to their household income. Unemployment insurance claims and payouts soared, straining programs from coast to coast.

Before all was said and done, 36 states were overwhelmed and saw their programs reach insolvency, requiring them to borrow money from the federal government to continue paying benefits to qualifying workers. The trauma to states' unemployment insurance trust funds prompted policymakers in several states to make significant changes to their programs in order to place them on a more sustainable footing for the next recession. Two of those states lie in the Fifth District: North Carolina and South Carolina. This article looks at the two states' unemployment insurance programs after the Great Recession and how they have changed as a result. Moreover, it looks at how well prepared each is to weather the next economic downturn and what recent changes will mean for workers when it hits.

Employment During and After the Recession

The Great Recession had an uneven impact on employment and unemployment in the nation as well as in the Fifth District. Twelve months into the downturn, employment in the District was faring better than the nation as a whole. The District of Columbia and, to a lesser extent, Maryland and Virginia were buoyed by the stabilizing presence of the federal government. Meanwhile, the nascent renaissance in energy production was benefiting West Virginia. Thus, none of these four jurisdictions saw job losses that matched those of the nation. In fact, employment in Washington, D.C., was actually higher than it had been when the recession got under way.

Without the omnipresence of the federal government or an energy revolution of their own, North Carolina and South Carolina felt the effects of the recession immediately and severely. And the severity of the job losses persisted there throughout. By the time employment had reached its trough in February 2010, 8.7 million jobs had been lost nationally, amounting to a 6.3 percent decline, but job losses in North Carolina and South Carolina amounted to 7.8 percent and 8.2 percent, respectively.

The outsized employment reaction in the Carolinas could have been expected given the severity of the downturn and the region's economic structure. Prior to the recession, both states were much more heavily

concentrated in manufacturing and construction, two sectors that were particularly hard hit and where job losses were much more acute.

While the national rate of unemployment climbed 5.6 percentage points as a result of the Great Recession (from 4.4 percent to 10 percent), North Carolina's rate jumped by 6.7 percentage points (to 11.3 percent) and South Carolina's by 6.0 percentage points (to 11.7 percent).

But even the rise in the unemployment rates did not fully reflect the level of strain that was and would be placed on the states' unemployment insurance programs. One of the more extraordinary facets of this labor market downturn was the record high percentages of workers who were unemployed for more than 26 weeks — the long-term unemployed. Even as the number of workers entering the unemployment insurance pipeline began to wane in early 2009, still fewer were leaving it.

As a result, 36 states depleted the balance of revenues within their unemployment insurance accounts at some point during or after the recession and took out federal loans to continue paying benefits. North Carolina and South Carolina were among the most affected states. At certain points during their programs' financial crises, North Carolina had the second-highest federal loan-to-total wage bill in the country, and South Carolina was once ranked seventh.

Due to the severity of the trust fund crises, the two states took steps to reduce benefit payouts to pay down their debt to the federal government and put their programs on better-prepared footing.

Changes to Maximum Duration of Benefits

The federal-state unemployment insurance program is currently celebrating its 82nd year of existence. In the early decades of the program's history, there was quite a bit of variability in the maximum duration of unemployment insurance benefits that state legislators had written into law. And in most instances, the maximum duration was less than 26 weeks.

That began to change in the 1960s during President Johnson's "Great Society" and "War on Poverty" as states began moving toward a consensus of 26 weeks. So since the middle part of the 1960s up until the Great Recession, every state had a maximum unemployment insurance duration of at least 26 weeks.

Yet while the vast majority of state legislatures chose to set the maximum duration of unemployment insurance benefits at 26 weeks, there was (and is) nothing in federal law that mandates a maximum duration of 26 weeks.

It is somewhat surprising that this basic structure of

maximum duration of benefits has held for so long. According to the National Bureau of Economic Research, prior to the Great Recession, the U.S. economy had gone through six economic downturns since the middle part of the 1960s, and state legislators across the nation made no significant adjustments. Why?

There are a variety of reasons why states choose not to undertake such reductions in maximum durations. One of the biggest lies in the spirit of the program itself — to provide some support to workers who have lost their job through no fault of their own. The unemployment insurance payments help ease the blow to households' ability to continue spending to meet basic needs while simultaneously easing the shock to the broader macroeconomy, since consumer spending is such a big part of it.

Another reason maximum durations were not reduced during those prior downturns is that none were nearly as severe as the Great Recession, nor did they have the same impact on the solvency of states' unemployment insurance programs. Reducing the maximum duration during a "regular" downturn is politically unpopular, while reducing it during an expansion is not a political priority.

The severity of the Great Recession changed the math. States that reach insolvency are still required by law to make benefits payments to qualified recipients. To do so, they borrow money from the federal government. Those funds, however, do not come without their costs — employers in affected states are assessed an additional payroll tax until the state has paid off its debt, thereby increasing effective labor costs in the state.

Following the Great Recession, policymakers in North Carolina and South Carolina were forced to balance objectives that were somewhat at odds: paying off the federal debt, providing benefits to ease the burden of unemployment on households, and keeping taxes on employers low to stimulate job creation.

In 2011, South Carolina was in the first wave of states that passed legislation to decrease the maximum number of weeks of eligibility, reducing its maximum from 26 weeks to 20 weeks effective on June 14, 2011. This change remains in effect today. South Carolina's law change was pretty straightforward, with the maximum duration simply tied to the individual claimant's eligibility to continue receiving benefits.

North Carolina's changes were slower in coming, more complex, and somewhat controversial. In the 2013 legislative session, North Carolina's assembly passed a law that not only reduced the maximum duration for eligibility,

Labor Market Duress Surrounding Recessions in North Carolina

% Unemployment	Months surrounding recession spent in unemployment range			Weeks of eligibility under current law
	July '90 - March '91	March '01 - Nov. '01	Dec. '07 - June '09	
5.6 - 6.0	17	8	15	13
6.1 - 6.5	8	17	9	14
6.6 - 7.0	0	9	5	15
7.1 - 7.5	0	0	2	16
7.6 - 8.0	0	0	3	17
8.1 - 8.5	0	0	4	18
8.6 - 9.0	0	0	5	19
9.1 and above	0	0	46	20

SOURCE: Bureau of Labor Statistics

but also instituted a variable maximum that is dependent on the state's unemployment rate. (See table.) The state's maximum eligibility ranges from 12 weeks (when North Carolina's unemployment rate is less than 5.5 percent) to 20 weeks (if the unemployment rate tops 9 percent). An individual's maximum benefits duration is determined by the state's seasonally adjusted unemployment rate at the beginning of a six-month "base period" in which the initial claim was filed. The six-month base periods begin in January and July each year.

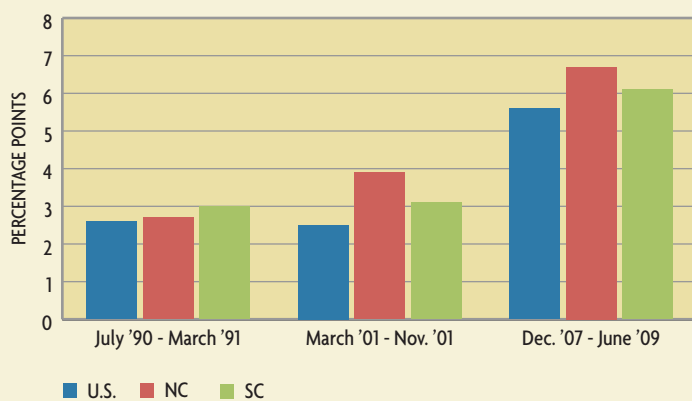
Today, North Carolina's maximum benefit duration is 12 weeks because the state's unemployment rate was at 5.3 percent in January 2017, the benchmark used to establish the duration. If recent unemployment trends hold (the rate was 4.1 percent in July), North Carolina's maximum duration will still be 12 weeks in the first half of 2018, tying it with Florida for the lowest maximum duration of any state in the nation.

Changes to Maximum Weekly Benefits

The other conceivable step that states could have taken to reduce unemployment insurance benefits payouts in the aftermath of the Great Recession was to reduce the maximum benefit amount. During the period in which states' trust funds were under the most duress, however, there was a strong disincentive to take that step.

Early on in the recession, Congress passed a supplemental appropriations bill that created a temporary emergency unemployment compensation program, EUC08, to help hard-hit states by providing additional weeks of emergency unemployment benefits that were funded entirely by the federal government's general revenues fund. (This program was in addition to a permanent program already in place that extended unemployment insurance benefits; that program was funded by both the federal government and the states equally.) But one key stipulation in EUC08 was a "nonreduction rule" that prohibited states from receiving the federal funding if they "actively" changed the method by which maximum benefits were calculated in order to reduce that benefit. (Some states had laws on the books prior to EUC08's enactment that automatically

Increases in Unemployment Rates During Recessions



SOURCE: U.S. Bureau of Labor Statistics

reduced the maximum benefit amount in certain circumstances, most notably if the state's economy-wide average wage decreased. Such "passive" adjustments were allowed under the nonreduction rule.)

So reluctant were states to give up those federal funds that only two chose to do so — New York and North Carolina. In February 2013, North Carolina's legislature enacted legislation that included provisions to actively reduce the weekly benefit amounts in the state beginning with claims filed on or after July 1, 2013. Important changes to the program included reducing the maximum weekly benefit amount from \$535 to \$350, eliminating indexing, and making workers wait a week before receiving unemployment insurance benefits each time they file a claim. In enacting this legislation, the state violated the "nonreduction" rule, effectively ending North Carolina's participation in the program.

The impact of North Carolina's efforts to reduce its weekly benefits payments is noticeable in its rankings relative to other states. In the fourth quarter of 2012, North Carolina's average weekly benefit amount expressed as a percent of average weekly wages in the state was 36.6 percent, the 21st highest in the nation. By the first quarter of 2017, that percentage had fallen to 27.6 and its ranking to 43rd.

Implications for Public Finance and Workers

Both states' unemployment insurance programs have returned to solvency. A combination of improving economic conditions and reductions in benefits payments allowed both North Carolina and South Carolina to clear their program's federal loan balances by the end of the first quarter of 2015. With the federal debts paid off, employers in the two states are no longer paying the tax penalty. Today, only California has not yet repaid all of its federal program loans.

But while the states' programs have recovered from the prior economic downturn, how well prepared are they for the next? And what might workers expect when it comes?

The national economic expansion is currently in its ninth year, long of tooth by historical standards, so it is prudent for states to ponder these questions.

Regarding the first, analysts' best measure of a state's unemployment insurance program preparedness is its average high cost multiple, or AHCM. The AHCM is based on the state's reserve ratio (total funds to total wages) and its benefit cost rate (roughly speaking, benefits paid as a percentage of total wages). In particular, the AHCM is the state's calendar year reserve ratio divided by its average high cost rate (the average of the three highest calendar year benefit cost rates of the last 20 years, or last three recessions). An AHCM of 1.00 is believed to be the minimum level of funding for a state to withstand an average recession for one year. In the first quarter of 2017, North Carolina's trust fund was barely minimally funded with an AHCM of 0.99 while South Carolina's was not, with an AHCM of 0.60.

So what implications do these changes to state unemployment insurance programs have for unemployed workers when the next recession comes? In South Carolina, the picture is pretty straightforward. Unemployed workers in the Palmetto State can anticipate receiving up to 20 weeks of regular unemployment benefits (as opposed to 26 weeks during the Great Recession).

In North Carolina, the picture is much more complex, as the maximum duration of weekly benefits will depend on the unemployment rate in January and July each year. With the unemployment rate currently at 4.1 percent, workers in the state are eligible to receive up to 12 weeks of unemployment insurance compensation. For unemployed workers to be eligible for an additional week, the state's unemployment rate would have to rise by 1.5 percentage points from its current level. And for workers to be eligible to receive the maximum benefits duration of 20 weeks, the unemployment rate would need to increase by roughly 5 percentage points.

Since no two recessions are identical, it is difficult to predict what will happen when the next one hits North Carolina. But history shows that the state's labor markets tend to deteriorate more than the national average during downturns. (See chart above.) Thus, applying today's laws to yesterday's recessions can be illustrative.

During the labor recession of the early 1990s, North Carolina's unemployment rate increased from a low of 3.4 percent in January 1990 to a high of 6.1 percent, a rate that prevailed from January 1992 until August 1992. The unemployment rate was above 5.5 percent (the state's new threshold for increasing the maximum eligibility duration by one week) for 25 months. It was above 6.0 percent for eight of those months. (See table on page 33.) If the current law were in effect then, unemployed workers would have been eligible to receive 13 weeks of unemployment insurance compensation during two base periods, and 14 weeks of eligibility for two others.

During the 2001 recession, the state's unemployment rate started its ascent at 3.0 percent, eventually rose as high as 6.9 percent, and spent 34 months above 5.5 percent. If the current state law were in effect then, workers would have been eligible to receive up to 13 weeks of regular unemployment insurance benefits in one six-month

base period, 14 weeks in two periods, and 15 weeks in two more.

An Unemployment Insurance Squeeze?

The upshot is that if the next recession is anything close to the two that preceded the Great Recession, unemployed workers in North Carolina should not expect to receive more than 15 weeks of regular unemployment insurance benefits. Moreover, they can expect much less in average weekly benefits during the weeks they are unemployed.

In enacting laws that shortened the maximum duration of benefits, many policymakers argue that unemployment insurance creates a disincentive for unemployed workers to find suitable employment, creating a friction in the labor market and keeping the unemployment rate higher than it would be otherwise. It is important to recognize, however, that that argument is predicated on an assumption that there is a demand for labor.

A good proxy for the strength of labor demand in a state is growth in its total employment level. After all, firms hire additional workers when they see, or expect to see, an increase in the demand for the goods and services that they produce. Thus, changes in payroll employment can shed some light on the demand for labor.

Here again, recent historical experience is useful in thinking about how the changes in unemployment insurance programs may affect workers in the next economic downturn. During the recovery from the 1990-1991 national economic recession, a period that was famously referred to as the “jobless recovery,” it took North Carolina 28 months to recapture all of the jobs that were lost during the downturn, on net. In South Carolina, 32 months passed before pre-recession levels of employment were restored.

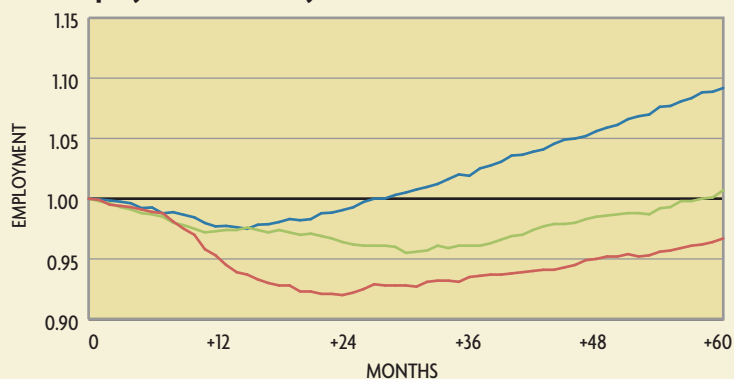
As bad as the experience was during the jobless recovery of the early 1990s, it was even worse coming out of the recession that occurred a decade later. During the recovery from the brief, shallow economic downturn of 2001, approximately five years elapsed before employment in North Carolina and South Carolina returned to pre-recession levels. And following the Great Recession, it took almost seven years for pre-recession job levels to be restored in the United States and the Carolinas. (See charts above.)

It appears that firms in the United States, as well as in the Carolinas, have been slower to hire coming out of the last three recessions. Regardless of their unemployment laws, it is difficult for states to build economic momentum and increase the demand for labor in the absence of a more general improvement in national economic conditions.

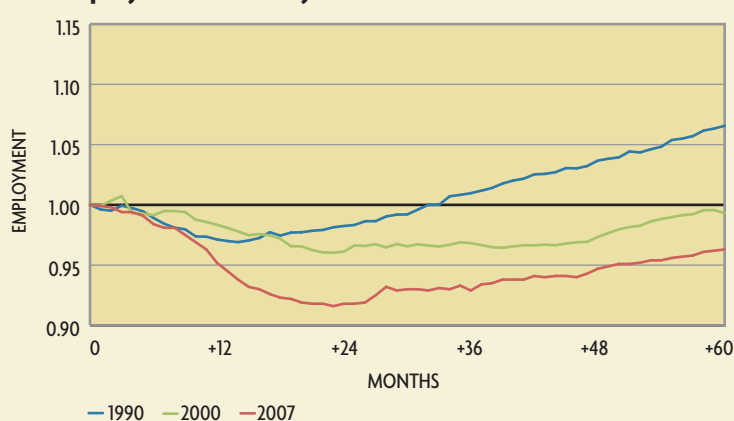
Conclusion

In the Carolinas, labor markets are prone to be more susceptible to economic shocks than the nation as a whole, as evidenced by sharper job losses, bigger increases in

NC Employment Recovery Times



SC Employment Recovery Times



NOTE: Month 0 is peak month of employment before recession. On Y axis, 1.00 is employment level for peak month (total nonfarm payroll employment).

SOURCE: Bureau of Labor Statistics

unemployment rates, and longer recovery periods. That susceptibility is largely a function of two factors: an economic structure that is still more reliant on manufacturing and relatively lower educational attainment levels.

In the aftermath of the Great Recession, state policymakers faced the challenge of rebuilding their unemployment insurance trust funds to meet their obligations. In building a sustainable model for the future, policymakers were confronted by an age-old balancing act: On one hand, states want to keep taxes low to encourage hiring, while on the other, they want to provide benefits to unemployed workers to help them weather tough economic times. In the Carolinas, and particularly North Carolina, policymakers placed the priority on keeping taxes low.

While over the longer term, low unemployment insurance taxes may increase the demand for labor in one state compared to another, there is little to suggest that it would do so in the shorter term. Indeed, recent history suggests that labor demand recovers only slowly from economic recessions. Thus, at the end of the day, these changes to the unemployment insurance programs in the Carolinas are not likely to have a significant impact on reducing the ranks of the unemployed during the next economic downturn. But in the absence of further changes, they will increase the number of unemployed workers who will not be receiving benefits. And in North Carolina, they will also reduce the average amount of benefits payments. EF

STATE DATA, Q1:17

	DC	MD	NC	SC	VA	WV
Nonfarm Employment (000s)	788.2	2,747.7	4,383.9	2,075.6	3,954.0	746.9
Q/Q Percent Change	0.2	0.8	0.2	0.4	0.5	-0.3
Y/Y Percent Change	1.0	1.8	1.8	1.8	1.3	-0.6
Manufacturing Employment (000s)	1.2	103.3	462.1	243.1	232.6	45.6
Q/Q Percent Change	0.0	-1.0	-0.8	1.1	0.0	-1.9
Y/Y Percent Change	0.0	-0.7	-0.7	2.7	-0.4	-3.3
Professional/Business Services Employment (000s)	168.6	453.7	620.3	268.0	728.9	65.1
Q/Q Percent Change	1.0	1.8	0.5	-1.2	1.4	0.6
Y/Y Percent Change	2.7	3.5	3.3	2.3	2.6	-1.1
Government Employment (000s)	240.1	510.5	729.4	364.7	715.1	155.2
Q/Q Percent Change	0.1	1.0	-0.3	0.0	0.0	-2.2
Y/Y Percent Change	0.3	1.6	1.0	0.6	0.3	0.5
Civilian Labor Force (000s)	396.9	3,205.4	4,943.1	2,322.3	4,281.8	781.6
Q/Q Percent Change	0.9	0.8	0.6	1.1	0.4	-0.2
Y/Y Percent Change	1.3	1.4	2.1	1.2	1.5	-0.2
Unemployment Rate (%)	5.7	4.2	5.1	4.4	3.9	5.2
Q4:16	5.8	4.2	5.2	4.3	4.1	5.8
Q1:16	6.2	4.5	5.2	5.4	4.0	6.3
Real Personal Income (\$Bil)	47.2	317.3	392.7	179.4	405.7	60.8
Q/Q Percent Change	0.8	0.2	1.3	1.1	0.9	1.0
Y/Y Percent Change	1.3	1.5	1.9	2.0	1.2	0.2
New Housing Units	677	3,786	15,843	8,290	7,244	675
Q/Q Percent Change	-36.7	27.0	21.7	20.2	17.9	5.3
Y/Y Percent Change	-2.9	8.0	37.9	21.7	10.8	32.6
House Price Index (1980=100)	821.0	451.6	349.0	358.0	437.5	229.3
Q/Q Percent Change	1.0	-0.2	0.7	1.3	-0.4	-1.1
Y/Y Percent Change	5.8	2.8	5.1	5.6	3.1	1.4

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) New housing units and house prices are not seasonally adjusted; all other series are seasonally adjusted.
- 3) Manufacturing employment for DC is not seasonally adjusted

SOURCES:

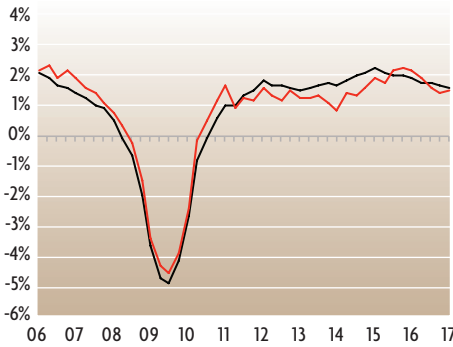
Real Personal Income: Bureau of Economic Analysis/Haver Analytics.
 Unemployment Rate: LAUS Program, Bureau of Labor Statistics, U.S. Department of Labor/Haver Analytics
 Employment: CES Survey, Bureau of Labor Statistics, U.S. Department of Labor/Haver Analytics
 New housing units: U.S. Census Bureau/Haver 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

Nonfarm Employment

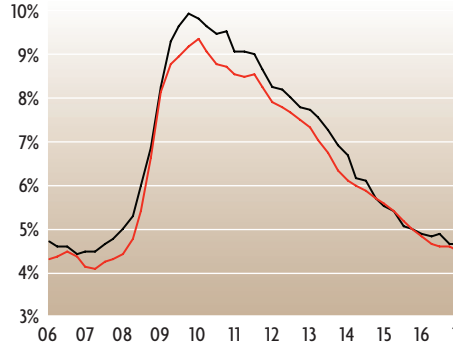
Change From Prior Year

First Quarter 2006 - First Quarter 2017



Unemployment Rate

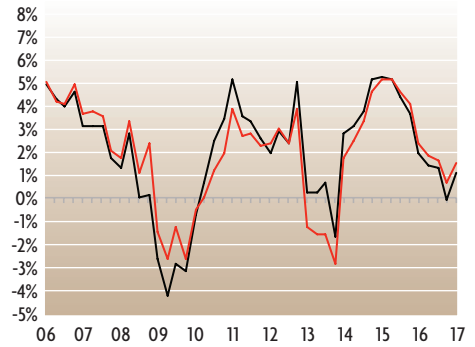
First Quarter 2006 - First Quarter 2017



Real Personal Income

Change From Prior Year

First Quarter 2006 - First Quarter 2017

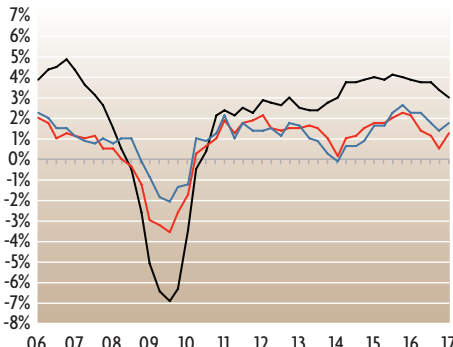


— Fifth District — United States

Nonfarm Employment Major Metro Areas

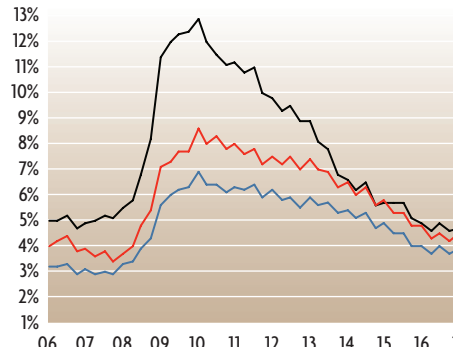
Change From Prior Year

First Quarter 2006 - First Quarter 2017



Unemployment Rate Major Metro Areas

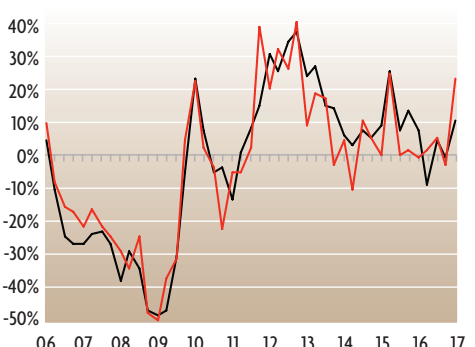
First Quarter 2006 - First Quarter 2017



New Housing Units

Change From Prior Year

First Quarter 2006 - First Quarter 2017



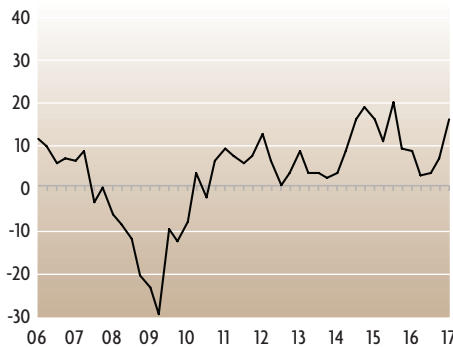
— Charlotte — Baltimore — Washington

— Charlotte — Baltimore — Washington

— Fifth District — United States

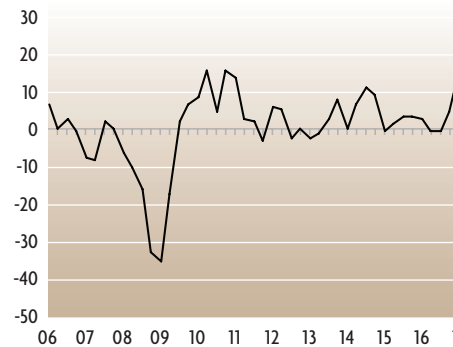
FRB—Richmond Services Revenues Index

First Quarter 2006 - First Quarter 2017



FRB—Richmond Manufacturing Composite Index

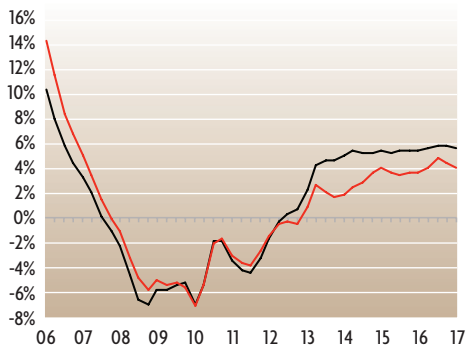
First Quarter 2006 - First Quarter 2017



House Prices

Change From Prior Year

First Quarter 2006 - First Quarter 2017



— Fifth District — United States

METROPOLITAN AREA DATA, Q1:17

	Washington, DC	Baltimore, MD	Hagerstown-Martinsburg, MD-WV
Nonfarm Employment (000s)	2,639.7	1,388.0	106.0
Q/Q Percent Change	-1.0	-1.6	-3.4
Y/Y Percent Change	1.8	1.2	1.1
Unemployment Rate (%)	3.7	4.4	4.0
Q4:16	3.8	4.3	4.3
Q1:16	3.8	4.6	4.5
New Housing Units	5,070	1,447	261
Q/Q Percent Change	9.4	25.8	11.1
Y/Y Percent Change	-1.1	5.8	31.8
	Asheville, NC	Charlotte, NC	Durham, NC
Nonfarm Employment (000s)	187.8	1,161.5	306.3
Q/Q Percent Change	-1.4	-1.1	-0.5
Y/Y Percent Change	2.1	3.1	2.3
Unemployment Rate (%)	4.0	4.7	4.4
Q4:16	4.2	4.7	4.5
Q1:16	4.0	4.9	4.6
New Housing Units	473	4,978	1,099
Q/Q Percent Change	8.0	19.5	15.0
Y/Y Percent Change	7.3	22.5	-18.5
	Greensboro-High Point, NC	Raleigh, NC	Wilmington, NC
Nonfarm Employment (000s)	359.2	605.9	123.5
Q/Q Percent Change	-1.2	-1.1	-0.7
Y/Y Percent Change	1.3	2.9	2.9
Unemployment Rate (%)	5.1	4.3	4.6
Q4:16	5.2	4.4	4.8
Q1:16	5.3	4.4	4.9
New Housing Units	870	3,870	432
Q/Q Percent Change	40.3	28.3	-26.3
Y/Y Percent Change	53.4	84.1	9.1

NOTE:
Nonfarm employment and new housing units are not seasonally adjusted. Unemployment rates are seasonally adjusted.

	Winston-Salem, NC	Charleston, SC	Columbia, SC
Nonfarm Employment (000s)	260.8	349.3	393.6
Q/Q Percent Change	-1.0	-0.5	-0.9
Y/Y Percent Change	0.7	3.3	1.3
Unemployment Rate (%)	4.7	3.8	4.2
Q4:16	4.9	3.7	4.1
Q1:16	4.9	4.6	5.0
New Housing Units	456	1,726	1,190
Q/Q Percent Change	95.7	27.6	14.9
Y/Y Percent Change	65.2	17.2	22.1
	Greenville, SC	Richmond, VA	Roanoke, VA
Nonfarm Employment (000s)	407.7	661.5	162.4
Q/Q Percent Change	-1.9	-1.5	-1.0
Y/Y Percent Change	0.9	0.9	1.5
Unemployment Rate (%)	4.0	3.9	3.7
Q4:16	3.9	4.2	4.1
Q1:16	4.7	4.1	3.8
New Housing Units	1,190	1,671	N/A
Q/Q Percent Change	-6.7	75.3	N/A
Y/Y Percent Change	15.2	56.2	N/A
	Virginia Beach-Norfolk, VA	Charleston, WV	Huntington, WV
Nonfarm Employment (000s)	762.7	117.4	137.0
Q/Q Percent Change	-1.5	-1.8	-2.4
Y/Y Percent Change	0.5	-0.8	0.7
Unemployment Rate (%)	4.2	5.0	5.8
Q4:16	4.5	5.5	5.9
Q1:16	4.6	6.1	6.4
New Housing Units	1,628	51	35
Q/Q Percent Change	25.2	-8.9	-23.9
Y/Y Percent Change	8.1	6.3	-144.8

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

Do Low Interest Rates Punish Savers?

BY KARTIK ATHREYA

We typically hear the stance of monetary policy described as “easy” or “accommodative” when interest rates are relatively low, and “tight” or “restrictive” when rates are high. This language embodies a judgment that low rates are helpful to households and businesses. But in periods when the Fed keeps rates relatively low, one often hears the concern that savers are harmed by low interest rates. There is some truth to that statement: When the Fed cuts interest rates, certain types of interest income tend to fall. However, this is not the whole picture.

One way of looking at this question is by considering the counterfactual: What position would savers be in today had the Fed pursued different policies? Many readers will know that the Fed’s monetary policy goals are to achieve both maximum sustainable employment and low, stable inflation. Economic models strongly suggest that the best way a central bank can support the employment side of its mandate is by achieving success on inflation, which creates favorable conditions for investment and growth over time. The interest rate policy that delivers this outcome tends to recommend rates that track the so-called “natural real rate,” a conceptual interest rate that is thought to produce stable inflation and employment outcomes. Our best estimates — including a measure provided by Richmond Fed economists Thomas Lubik and Christian Matthes — indicate that the natural rate has fallen in recent years and with it, the appropriate setting for the Fed’s policy rates.

In fact, over the last several years, many economic models were calling for far *lower* interest rates than the Fed was able to implement due to the so-called “zero lower bound” on interest rates. Had the Fed’s policy rates instead been higher, the evidence suggests that economic outcomes would have been considerably worse. From this perspective, higher rates would likely have been detrimental to savers and virtually all households.

It is certainly true, though, that the Fed’s policies have unintended distributional effects. How someone is affected depends on their situation. For example, workers obviously are directly affected by labor market conditions, and households may feel the effects of inflation differently depending on the assets they hold. Many observers note that seniors on fixed incomes may be affected by low rates without experiencing the direct benefit of a healthier labor market. The Fed pays close attention to such effects in evaluating how its policies are affecting the economy.

Fortunately, research suggests the effects of easier monetary policy on seniors are relatively limited. For example, a 2013 study by Richard Kopcke and Anthony Webb published by the Center for Retirement Research at Boston College looked at the asset holdings of households aged

60-69 as of 2007. They found that the poorest 40 percent of households headed by seniors held less than \$3,000 in financial assets on average. The wealthiest 20 percent of seniors hold considerably more financial assets, but largely stocks, which pay dividends and for which returns tend to rise in response to low interest rates, all else equal. Research suggests that even the seniors whose income seems most affected by low rates — those in the middle-to-upper income categories — still receive a relatively small share of their income from investments. They tend to rely more heavily on Social Security, real estate, and pensions.

There are many ways in which the Fed tries to minimize the inadvertent distributional effects of its policies. For example, when it buys assets on the open market in the conduct of monetary policy, it purchases mainly U.S. Treasuries, which affect financial markets broadly with minimal effects on relative asset prices. The extraordinary period of the Great Recession changed this practice some, but the Fed is taking action to move back toward more normal operation in monetary policy. (See “Time to Unwind,” page 30.)

Moreover, savers are not *just* savers — they are also participants in the overall economy. Many are workers: As noted, if rates had instead been higher in recent years, employment outcomes would surely have been worse, and job loss is typically a more traumatic financial event than the losses one faces when asset returns experience a cyclical decline. Savers are also consumers, and lower Fed policy rates generally mean lower loan rates for goods like homes and automobiles, as well as lower interest payments on variable rate loans. Finally, many savers also hold assets whose values tend to rise in low-interest-rate environments. Low rates tend to boost housing prices, for example, and housing comprises a large majority — nearly two-thirds — of assets for households in the middle of the wealth distribution. This is especially true of older households preparing for retirement; roughly 80 percent of households aged 65 and older own their homes, compared to roughly 64 percent for the nation as a whole, according to the Census Bureau.

In the end, the Fed is bound by Congress to focus on the macroeconomic outcomes in its dual mandate. The Fed does not have tools well-suited to targeting specific asset returns or distributional outcomes. As economic models tell us, the best way the Fed can help the greatest number of households is by pursuing the monetary policies that best support a healthy economy and price stability over time. **EF**

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

NEXT ISSUE

The University of BMW

A common complaint among firms today is the difficulty of finding and retaining skilled workers in a tightening labor market. BMW, which has been building cars in Spartanburg, S.C., since the 1990s, has been getting attention for its extensive training programs in coordination with regional universities and community colleges. BMW's experience raises the question of what the Bavarian luxury carmaker can teach the United States about workforce development.

Drug Spending

Prescription drugs cost far more in the United States than in other developed countries. To some extent, high prices reflect the high costs of drug development, and some argue that the United States disproportionately funds innovation that benefits the rest of the world. Are Americans paying too much for drugs, or are people abroad paying too little?

The Family Footsteps

Children entering a parent's career is a common phenomenon in many fields — such as farming, medicine, sports, and entertainment, to name a few. When this happens, is there an economic explanation? Yes, more often than you might think.

Federal Reserve

Today, information crosses the globe in the blink of an eye, but in the United States payments move much more slowly. While consumers can choose from an increasing number of innovative platforms, actual payment processing still relies on older, slower methods. In 2012, the Fed began collaborating with the private sector to discuss how to develop a faster, more efficient payment system.

Economic History

Once a prominent city, Petersburg, Va., has recently become known for its urban decline and associated severe fiscal problems. The intensity of these problems may have been tied to a combination of being “too close” to the more prosperous city of Richmond and an inability to shrink its borders and adjust its urban infrastructure.

Interview

Nobel laureate Jean Tirole of the Toulouse School of Economics on online platforms for buying and selling, the future of jobs in an age of robots and artificial intelligence, and his new book *Economics for the Common Good*.

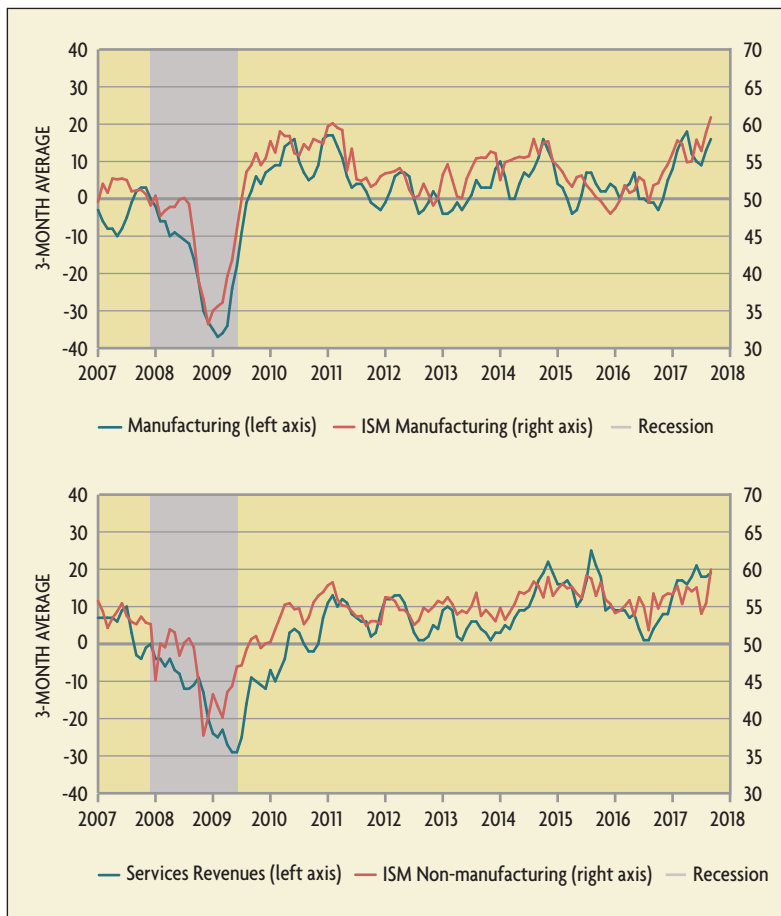
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Measuring Regional Economic Business Activity



An important part of the mission of each Federal Reserve Bank is to understand the economy of its district. One of the tools the Richmond Fed uses to understand the Fifth Federal Reserve District (D.C., Maryland, Virginia, North Carolina, South Carolina, and most of West Virginia) is a survey of manufacturing and service sector firms that are located throughout the region.

Surveys are administered monthly, and participants are asked whether business conditions improved, worsened, or stayed the same across a variety of indicators. Through these surveys we are able to collect timely information that is not otherwise available.

The survey of manufacturing firms began in June 1986 and took its current form in November 1993. The manufacturing survey asks firms questions about shipments of finished products, new order volumes, order backlogs, capacity utilization, lead times of suppliers, number of employees, average work week, wages, inventories of finished goods, and expectations of capital expenditures.

The survey of service sector firms began in 1993 and asks questions regarding revenues, number of employees, average wages, and prices received.

Once we have gathered the responses to the survey questions, we develop diffusion indices and publish a monthly business conditions report.

Check out our most recent reports here:

https://www.richmondfed.org/research/regional_economy/surveys_of_business_conditions

Is your firm interested in participating in our surveys?

We strive for a representative sample of firms across industry, size, and location throughout our district (D.C., Maryland, Virginia, North Carolina, South Carolina, and most of West Virginia). The survey takes just a few minutes and provides an opportunity to comment on your local business conditions.

Contact our survey team to sign up! Rich.RegionalSurveyTeam@rich.frb.org