

ECON FOCUS

WHEN THE FED STOPS POINTING THE WAY What happens when monetary policymakers call off forward guidance?



**Job Changing after
COVID-19**

**Maggie Walker,
Banking Pioneer**

**Learning From
The CFO Survey**

ECON FOCUS

Econ Focus is the economics magazine of the Federal Reserve Bank of Richmond. It covers economic issues affecting the Fifth Federal Reserve District and the nation and is published by the Bank's Research Department. The Fifth District consists of the District of Columbia, Maryland, North Carolina, South Carolina, Virginia, and most of West Virginia.

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FEATURES

4 JOB MOBILITY DURING AND AFTER THE PANDEMIC

Are pandemic-era trends in job changing a cause for hope — or concern?

8 COMMUNITY EFFECTS OF CLIMATE CHANGE IN NORTH CAROLINA

DEPARTMENTS

1 PRESIDENT'S MESSAGE

How Long Will Higher Inflation Last?

2 UPFRONT

New from the Richmond Fed's Regional Matters Blog

3 AT THE RICHMOND FED

The CFO Survey

12 ECONOMIC HISTORY

Maggie Walker, Banking Pioneer

16 RESEARCH SPOTLIGHT

Adjusting to Income Risk

17 POLICY UPDATE

Understanding the Inflation Reduction Act

18 FEDERAL RESERVE

The Future of Forward Guidance

22 INTERVIEW

Steven Davis

27 DISTRICT DIGEST

Expanding Credit Access through Community Development Financial Institutions

32 OPINION

Inflation and the Road Ahead for Research

Reader Survey: We would like to learn more about your interests as a reader of *Econ Focus*. We are hoping you can take a few minutes to answer a few questions. All responses are anonymous and cannot be linked back to you. Scan here to take the survey:



How Long Will Higher Inflation Last?

For the first time in more than a generation, we are grappling with high, broad-based, and persistent inflation.

The pandemic and events like Russia's invasion of Ukraine unleashed shocks that affected supply chains and labor markets, pushing prices and wages up. In response to the pandemic, \$6 trillion of fiscal stimulus was enacted, fueling demand and limiting labor supply. And some have argued the Fed's pandemic response was too expansionary for too long — that we were caught off guard after the prior decade of stubbornly low inflation.

Movements in any of these factors could have quieted inflation somewhat. But I'm not convinced any one of them is the whole story.

I've been spending a lot of my time on the ground with business and community leaders who help me understand how businesses and individuals experience the economy. Based on those experiences, what I'm seeing is the accumulation of many inflationary pressures at once. In football terms, we flooded the zone.

Over the past 40 years, inflation stayed so low and so stable that price and wage increases became an all-but-abandoned lever. Price-setters lost confidence that they could pass costs on to customers; they focused on reducing their own costs instead. Firms employed sophisticated purchasing professionals to fight suppliers hard on cost increases. Workers grew to expect annual increases in a low and narrow range. In that era of price and wage stability, consumers, quite rationally, were inattentive to inflation.

Now we have seen intense inflation pressures accumulate and persist. Massive industry-wide cost pressures pushed suppliers to take the risk of passing cost increases on to customers. Supply shortages gave them confidence they could do so. Purchasers, focused



on resiliency rather than efficiency, stopped objecting as much. Investors rewarded companies that passed price increases on and penalized those more reticent. Consumers, funded by stimulus, mostly accepted price increases. Workers gained confidence in this very tight labor market and negotiated for flexibility or wage increases. Employers desperately adjusted to do what it took to retain and recruit.

In short, businesses constrained by a generation of limited pricing power seized the opportunity that arose. Workers emboldened by unprecedented labor market tightness did the same. We all started paying attention.

The question is how long this can last. When I talk to business leaders these days, they still view their increased pricing power as temporary. They see it as an episode, not a regime change. To support that, with fiscal stimulus being drawn down, I hear more and more stories of consumers trading down or doing without. With recession talk widespread, I hear of labor pressures easing. Long-term market measures of inflation compensation remain in line with our

2 percent target despite short-term inflation and inflation expectations at multidecade highs.

The Fed is also moving expeditiously to bring down inflation. We have raised rates 3.75 percentage points this year, started shrinking our balance sheet aggressively, and signaled there are more rate increases to come. The transmission of these changes, especially in interest-sensitive sectors, has been rapid. Look at mortgage rates, which have more than doubled from a year prior.

So inflation should come down, but I don't expect its drop to be immediate or predictable. We've been through multiple shocks, and significant shocks simply take time to dampen. On the business side, I still hear firms facing wage pressure, especially for merit pay in the face of this year's cost-of-living pressures. And while margins remain healthy overall, I've heard from many businesses still working to recover costs not yet passed through. On the consumer side, while lower-income consumers are facing stress, higher-income ones are still spending.

The Fed's rate and balance sheet moves will take time to bring inflation down, but we will persist until they do. One of the key lessons from the 1970s was not to declare victory prematurely. Perhaps we will get help from supply chain and energy market normalization. But we have the tools to bring inflation down even if those disruptions continue.

A longer version of this essay was delivered as an address to the Prince William, Va., Chamber of Commerce on Sept. 30, 2022.

BY MATTHEW WELLS

New from the Richmond Fed's Regional Matters blog

Sierra Latham. "Teacher Wages and Purchasing Power in the Fifth District."

Data from the 2020 Census show a wage gap for the Fifth District's teachers, who earn about 30 percent less than non-teachers with similar work experience and education. The gap is smaller, however, in rural areas than in urban ones: Teachers in urban areas earn about 29 percent less than those in comparable occupations, on average, while rural teachers earn 13 percent less. Moreover, the difference in purchasing power between urban teachers and rural teachers is smaller than it appears. After accounting for the higher cost of living in urban areas, the average difference between urban and rural teacher wages across the district drops from 12 percent to 3 percent.

Nicholas Haltom and Jacob Walker. "How to Get the (High-Skilled) Workers?"

The Richmond Fed's monthly surveys of Fifth District businesses indicate they are having difficulty finding workers in what has been an exceptionally tight labor market. To attract low- and mid-skilled workers, businesses have increased wages. They still have problems, however, finding high-skilled workers. In the September 2022 survey, over 40 percent of firms reported finding high-skilled workers became harder as the year went on, while less than 30 percent said the same of low-skilled workers. This difference may stem from the fact that firms have not been using wage increases at the same level to attract high-skilled workers, although that could change. Growing concerns regarding the economy, however, leave significant uncertainty when it comes to future hiring needs.

Adam Scavette. "How to Bridge the Digital Divide? Assessing the Affordable Connectivity Program."

The Affordable Connectivity Program (ACP) subsidizes broadband subscriptions for low-income households and was passed as part of the 2021 Infrastructure Investment and Jobs Act. Participation in the program has been only around 27 percent nationwide as of May 2022, and it is especially low in most of the Fifth District. Internet service providers point to a lack of awareness of the program among eligible households and to cumbersome administrative processes.

To address these issues, the FCC has created a grant program that will "enlist partners around the country to help inform ACP-eligible households about the program ... and to provide those partners with the funding and resources needed to increase participation."

Laura Dawson Ullrich and Jacob Walker. "Pell Grants and Community College Success: Improving Metrics via our Community College Survey."

Community colleges provide economic development and workforce training but measuring their success has been difficult using existing metrics. The Richmond Fed recently piloted a survey of nine Fifth District community colleges that better reflects the diversity of their students. Beyond standard graduation or completion rates, the Fed's survey included two additional categories of success: students who transferred to another institution (including four-year institutions), and those who remained enrolled. Under these new standards, 64 percent of community college students are succeeding compared to 51 percent on the basis of graduation rates alone. Data from the survey also show that Pell Grant recipients are less likely to transfer and come predominantly from rural areas.



Zach Edwards. "Are Recession Fears Replacing Supply Chain Challenges? Evidence from Fifth District Business Surveys."

The Richmond Fed's August survey of Fifth District businesses indicated increasing concern over reduced demand and the possibility of recession; at the same time, businesses were less worried about supply chain disruptions and input costs than they were in the May survey. In August, 21.5 percent of businesses expressed concern over decreasing demand, up from 11 percent in May. Similarly, 20.9 percent of August respondents reported concerns over a potential recession, 10 points higher than in May. The August survey also revealed that manufacturers were more worried about supply chain disruptions and decreasing demand, while service-oriented firms tended to fear inflation and recession risk. **EF**

BY MATTHEW WELLS

The CFO Survey

Every quarter, The CFO Survey collects the views of chief financial officers and other financial leaders throughout the United States, gathering insight into their firms' financial outlook and concerns, as well as their perceptions of the economy. The survey, which is a collaboration among the Richmond Fed, the Atlanta Fed, and the Fuqua School of Business at Duke University, meets a crucial need for policymakers who rely on real-time data from businesses of all sizes when making decisions, especially during volatile times. "In this period of uncertainty, a business survey like this has been particularly useful to understand what's happening on the ground and think about policy," says Sonya Waddell, vice president for Regional and Community Analysis, who leads the Richmond Fed's role in the survey.

Founded in 1996, The CFO Survey was first known as the Duke CFO Global Business Outlook, and it captured the attitudes of financial leaders throughout the world. Over the years, the Fed would occasionally request certain questions be put into the survey. In 2020, the survey's director, Duke University finance professor John Graham, approached the Reserve Banks about formally collaborating on the survey but narrowing its focus to CFOs within the United States. "It just became natural to work jointly with the Federal Reserve," he says, adding that a domestic focus would better allow for the collection of a statistically representative sample of firms. The new name, The CFO Survey, reflected that new focus.

The Atlanta Fed's team recruits a panel of around 1,500 financial leaders from all sectors of the economy and firms of all sizes, from family-run small businesses to Fortune 500 companies. The use of a panel structure is vital, as it allows for the same individuals to participate repeatedly rather than needing to recruit a new sample for each wave. It also allows analysts to track how respondents' answers shift over time. About 300 financial executives from the panel participate each quarter, of whom about two-thirds are repeat participants.

Graham and Waddell, along with Atlanta Fed economist Brent Meyer, work with the team to develop each quarter's rotating questions. Collaboration occurs at each step of the analytic process, but the team in Richmond handles most of the analysis, creates the charts and tables for the survey's website, and publicizes the findings, as well as

the commentary by Graham, Waddell, Meyer, and other contributors.

More than half the survey's questions are asked every quarter. These core questions assess respondents' optimism on a zero to 100 scale regarding both their firm and the overall economy, as well as what they see as their "most pressing concerns," which helps the survey team understand what accounts for any changes in optimism over time. The CFO Survey poses this question in an open-ended format in which respondents can provide detailed explanations and context, such as changes caused by the unique economic conditions of the COVID-19 pandemic.

The survey also asks respondents about their firms' expectations regarding their own revenue, prices, and costs for the current and following calendar years. Asking about these expectations is helpful to policymakers, who can see what aspects

of firms' economic landscape they expect to be fleeting and those they anticipate will persist. The final set of core questions concerns the respondents' sentiments regarding the overall economy, as it asks about their expectations regarding GDP growth over the coming year and the performance of the S&P 500. This lets researchers see how well businesses can predict wider economic trends.

Many of the survey's remaining questions connect academic research to the real world. Graham notes, for example, that in addition to gathering important policy-relevant data, the survey also seeks to improve the practice of finance: It has recently asked respondents to look back to compare their forecasts to their actual numbers. "We'd like to be able to study the accuracy of the forecasts," he says, "and what leads to an accurate versus inaccurate forecast and how do executives respond?"

Recent results from the survey have been illuminating, as firms are increasingly pessimistic when it comes to the overall economy, but many remain upbeat about their own prospects. In particular, the third quarter 2022 survey found that businesses increasingly expect cost increases to level out and that many are able to pass much of those increases on to customers. Such insights, according to Waddell, make The CFO Survey an "incredibly valuable source of information on what's happening on the ground right now, which we can use to better predict where the economy might be headed." **EF**



Job Mobility During and After the Pandemic

Are pandemic-era trends in job changing a cause for hope — or concern?

In the past few years, job changing in the United States — workers leaving their current employers for new ones — seems to have been on the rise. This development, often called the “Great Resignation,” has attracted much attention, but the reasons behind it are far from clear. Is it the result of health and safety concerns causing workers to pull away from the workforce, or of workers reappraising their work-life balance? Or is it, perhaps, the rippling effects of the move toward remote work? It is even possible, as some have argued, that the Great Resignation is not so great after all and is merely the result of fluctuations in the business cycle. With these competing explanations, the implications for workers and ultimately the economy as a whole are murky.

It’s a reversal of a long-term trend. Prior to the COVID-19 pandemic, labor mobility had been drifting downward, a trend that may have begun as early as the 1980s. Researchers have seen this trend reflected in a wide array of data. Multiple papers confirm a downward trend in the job-to-job transition rate — the rate at which workers leave one job for another without suffering through unemployment in between. Others have found similar trends in other common measurements of job mobility, such as the number of hirings and separations.

Another measure of labor mobility is the quits rate. While quits do not provide as detailed information as job-to-job transition data since they do not provide information on what workers do after separation, they do provide a measurement of voluntary job separations. In particular, the data on quits measure the number of separations initiated in a month by employees (not including retirement). It’s considered a good measurement of a worker’s ability to leave a job and pursue other economic opportunities and therefore of labor mobility.

The quits rate, the proportion of jobs that workers quit in a given month, paints an interesting picture of labor mobility. (See chart.) Until roughly 2017, quits rates seemed to tell a story that was in line with the general decline in other measures of labor mobility during this period — in particular, collapsing during the Great Recession and experiencing only a modest recovery in the years after.

After 2017, however, this quickly changed as the quits rate grew beyond pre-crisis levels. Then came the COVID-19 pandemic, when, after an initial drop, it reached heights not seen before in the 21st century.

CHANGING TRENDS

After the initial, precipitous decline around April 2020 that lasted only a few months, the quits rate grew and eventually peaked at 3 percent — more than half a percentage point higher than any previous peak in the pre-pandemic data since the series began in 2000. Even after some retrenchment in recent months, it still remains comfortably above any pre-pandemic level.

This is especially surprising when one considers that an increase in the quits rate represents an increase in voluntary job changes, but these were precisely the types of job changes whose decline drove the fall in labor mobility measures in the first place. In a 2019 article for the Bureau of Labor Statistics’ *Monthly Labor Review*, Maury Gittleman sought to use more detailed survey data to provide more context for the labor market trends seen up to that point. He found that voluntary job changes may have fallen by as much as 50 percent between 1988 and 2013.

“My analysis seems to imply the downward trends in job-to-job transitions prior to the pandemic were primarily due to a decline in voluntary job switching,” says Gittleman. “In this case, it seems that much of this might be the result of demographic trends — the work force is aging, and older workers are less keen on job switching.”

The reasons for the recent reversal in a decades-long trend are disputed. The sudden increase in labor mobility could be temporary — for example, it might simply be following the business cycle. Indeed, this is the explanation offered by Bart Hobijn of the San Francisco Fed. In an April 2022 *Economic Letter*, he argued that the increase in the quits rates corresponds to the rapid recovery of the economy after the pandemic-induced recession, pointing to historical episodes of high quits rates that accompanied other periods of rapid growth in the 20th century. If the increase in labor mobility is indeed due to the post-pandemic recovery, then, of course, this uptick should be only temporary.

On the other hand, some believe the effect goes beyond the business cycle. In a 2022 article for the *Monthly Labor Review*, Gittleman examined the trend in quits rates. While he found that cyclical trends in the labor market did explain much of the current increase in quits rates, they did not explain all of it. “Depending on the model, ignoring nonbusiness cycle factors could lead to significant error

in predictions for the quits rate,” he explains. This led him to conclude that other possible pandemic-related factors such as stimulus checks, health concerns, or changing attitudes to work are worthy of more investigation.

Alternatively, the increase in job mobility could be the result of long-term shifts that took place during the pandemic. For example, the pandemic may have changed workers’ views of their career prospects and work-life balance. Another force that may contribute to a more lasting change in labor mobility is the increase in remote work during the pandemic, which opened more options for workers — a shift that may prove to be enduring.

BENEFITING WORKERS

Economists have often associated increased job mobility with positive outcomes. In some ways, the fluidity of the U.S. labor market has often been seen as an “engine of opportunity” that drives the U.S. economy. As a result, its fall was potentially a significant cause for worry and its return could benefit workers.

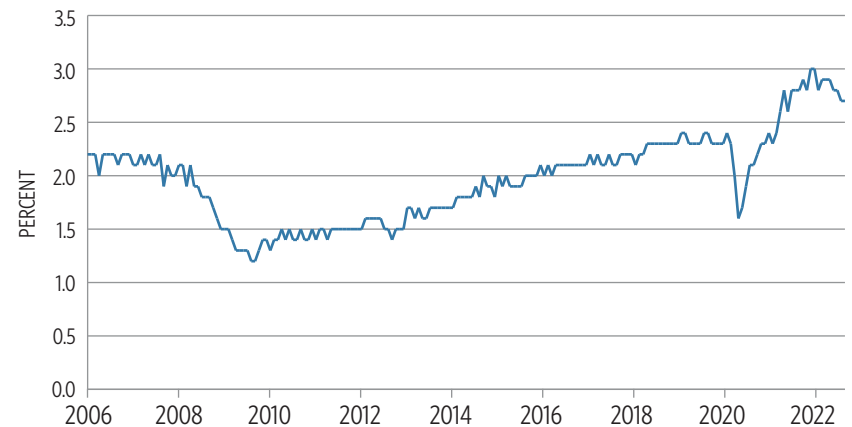
In particular, job mobility is especially important for young workers who derive significant benefit not only from more job options, but also from the learning opportunities that a job change can provide, both about skills in a variety of fields and about themselves and the career they are suited for. As a result, the option to switch jobs represents an important tool for increasing wages and optimizing the career path for inexperienced workers.

This effect was demonstrated in research by Robert Topel and Michael Ward, then at the University of Chicago, published in the *Quarterly Journal of Economics* in 1992. They found that, at the time, job changes accounted for about a third of the increase in early-career wages — a result that led them to conclude that changing jobs is “the principal method by which workers at the present time improve their condition on their own initiative.”

More recent work has been done on examining occupational mobility — a larger shift in a worker’s life that encompasses not only a job change, but also a change in the type of work he or she does, such as moving from blue-collar work to white-collar work or vice versa. Here again, research shows that the benefits of occupation switching can be considerable. A 2019 *International Economic Review* article by Aspen Gorry and Devon Gorry of Clemson University and Nicholas Trachter of the Richmond Fed attempted to model the benefits of occupational switching and found that, for young workers, the value of the option to switch occupations is worth about 67 months of the maximum wage that those workers could earn in the model. Similarly, the value young workers receive from learning about themselves and their talents is worth about 32 months of this same wage. Thus, occupational mobility can bring outsized benefits, especially to young workers.

More Job Quitting During the Pandemic Era

Nonfarm quits rate, seasonally adjusted



SOURCE: U.S. Bureau of Labor Statistics via FRED

NOTE: Quits represent employees who left voluntarily, except for retirements or transfers to other locations. The quits rate is the number of quits during the entire month as a percent of total employment.

Indeed, it has been argued that falling job mobility could be related to the lack of rising wages in the wake of the Great Recession. Therefore, it is possible that a sustained reversal in this trend could ease wage stagnation and bring considerable benefits to U.S. workers.

Thus, if the current trend in labor mobility is the result of more opportunities being afforded to workers due to changes in labor market structures — such as the movement toward remote work, which may allow workers to seek jobs that are farther away — then this could be a cause for optimism as these opportunities will allow young workers to look for higher wages and learn new skills. If these changes are because of reorganization due to health concerns or the result of business cycle forces, however, then there may be less cause for celebration.

THE COSTS OF MOBILITY

While there are benefits to higher levels of labor mobility, there are possible costs as well. Gittleman notes that a major potential downside of increased labor mobility is more uncertainty for workers, who will likely feel less secure in an economy that is so fluid and subject to change. In particular, workers may potentially face a greater risk of job loss.

Other research provides some insight into economic mechanisms by which job mobility can adversely affect workers and even the productivity of the economy as a whole. In a 2018 working paper, Nobuhiro Kiyotaki of Princeton University and Shengxing Zhang of the London School of Economics painted a picture of how uncertainty on the part of firms as to whether a worker will remain with them long term (a so-called “limited commitment” problem) can result in an inefficient allocation of resources. Kiyotaki and Zhang created a model of job training offered by firms. They found that if a worker can credibly commit to a firm in the long term, the firm is willing to pay the cost of training the worker as the firm knows that it will reap the full

benefits of the workers' new skills at some later point.

But if the worker cannot commit to the firm — that is, if there is job mobility — then there is risk to the firm: It may train a worker only to see the worker leave for a different job. In the scenario where the worker can't commit to the firm, workers now need to compensate the firm for this risk if they desire job training — typically through a lower wage. Not only can this hurt the worker, but it can also have a negative effect on the productivity of the economy as a whole. If the cost is high enough, then some workers may be precluded from job training even if they are exceptionally talented. This loss of talented, skilled workers would hurt firms in the long run, ultimately leading to stagnation. Kiyotaki and Zhang's research focused on Japan, so it is not yet clear whether this same story would apply to the post-pandemic U.S. economy.

Indeed, Christopher Smith of the Federal Reserve Board, who has co-authored a number of papers on job mobility, notes that job mobility and job stability may not be as obviously at odds as one may think. "One of our more recent papers on pre-pandemic mobility looks at changes in the tenure distribution and shows that short-tenure jobs were less frequent — consistent with a decline in job changing — but jobs with tenure of 10 years or more were also less common, consistent with the notion that jobs were less stable than they used to be." Thus, it is possible for mobility and stability to decrease concurrently, and consequently, it is possible for them to increase concurrently as well. Rising mobility in the U.S. and the mechanism described in Kiyotaki and Zhang's research might not be so cleanly linked after all.

WHAT IS THE OVERALL EFFECT?

Job mobility is, at least temporarily, on the rise, but the implications of this are unclear. The potential benefits associated with increased mobility are sizeable, with young workers standing to gain the most through improved wage growth and productivity. Yet increased job mobility may also mean increased uncertainty for workers while pushing firms to make inefficient decisions in the labor market.

Which of these contradictory possible outcomes will prevail following the pandemic? Unfortunately, there is not necessarily a simple answer. It is possible to look to history for help. For example, a 2014 working paper by Steven Davis of the University of Chicago and John Haltiwanger of the University of Maryland found that, at least historically,

higher worker reallocation rates (and thus higher mobility) benefited workers, especially younger, less educated ones, in terms of employment. They concluded that "sustained high employment is unlikely to return without restoring labor market fluidity." Under this view, higher labor mobility could be a positive.

There is more work to be done, however, in looking into the underlying causes of the change in labor mobility. Underlying the numbers on job-to-job transition rates, hires, separations, and quits are the decisions of millions of workers navigating a changing labor market. It is important to understand the forces at play that are influencing workers to make the decisions they do — are these changes temporary or permanent? Are they the result of increased opportunities due to remote work or of increased uncertainty?

Answering these questions is no easy task. Andreas Hornstein, a Richmond Fed economist, says, "You need to develop a model that describes some theory or tells some story of what is happening in the economy, but it can be hard to decide which stories are good."

As in much economics research, Hornstein says, a researcher at this point might try to test his or her model empirically, checking to see if the implications of the model match with the data or looking for new, more precise measurements to prove or disprove the theory. While insights from these approaches are valuable, they are not always enough. "This is where economics research can become a bit of an art and a bit of a conversation," Hornstein explains. "Researchers come together and propose ideas and explanations and provide critique, ultimately trying to arrive at a model that is simple, interesting, and describes the basic mechanisms causing the trend reasonably well."

The process of sorting out what is happening can be especially complex within a situation like the coronavirus pandemic, which is still underway and whose long-run impact has not yet been realized. Hornstein says, "In such cases, you try to incorporate new events into old models. You might ask what remote work means in terms of worker productivity or what health and safety concerns mean for a worker's willingness to work. In these cases, data will not be enough to tell you what is happening in the long run."

While such methods are complex and difficult, ultimately these are the steps that research economists will be taking to develop a rigorous and thoughtful understanding of what the current trend in labor mobility means for American workers. **EF**

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Community Effects of Climate Change in North Carolina

By Caroline Norris and Jessica Olayvar

According to a 2021 report by the World Meteorological Organization, hurricanes, floods, heat waves, and droughts have increased in frequency and intensity around the world, accounting for 2 million deaths and \$3.64 trillion in losses globally between 1970 and 2019. In the mid-Atlantic region, these events typically result in river and coastal flooding; several recent examples have devastated communities.

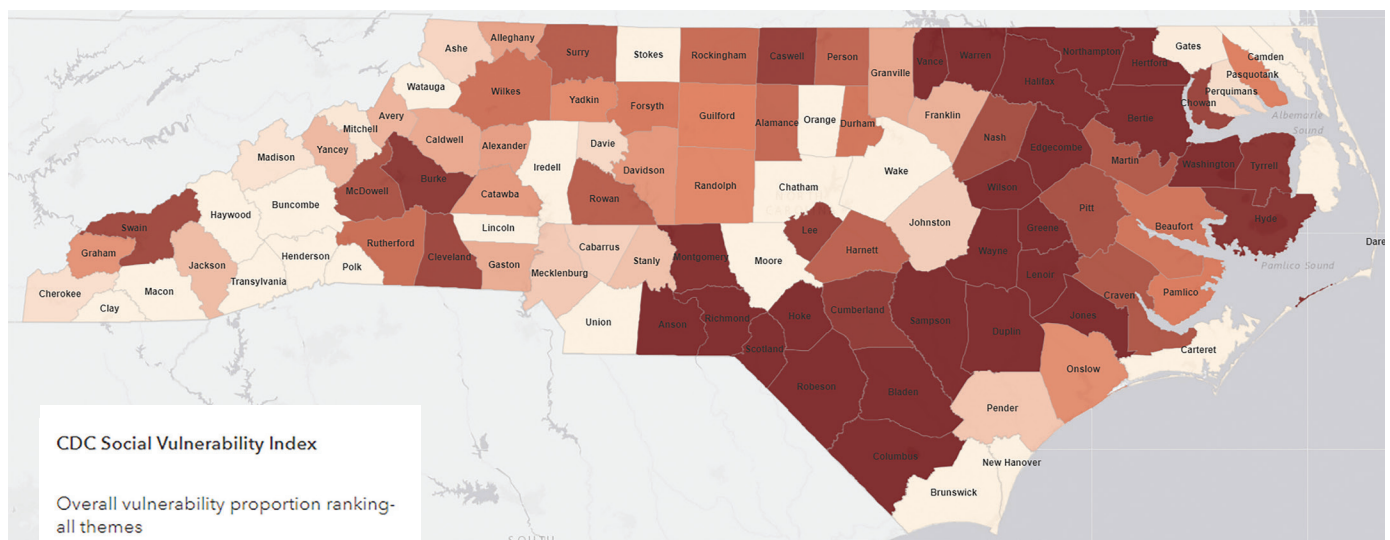
When considering a community's vulnerability to natural hazard events, one important factor is the community's social vulnerability. Social vulnerability has been defined by the Federal Emergency Management Agency (FEMA) as the susceptibility of social groups to the adverse effects of natural hazards, including disproportionate death, injury, loss, or disruption of livelihood. In this chart gallery, the term refers to the Centers for Disease Control and Prevention's (CDC) Social Vulnerability Index, or SVI, a measure that is derived from 15 characteristics across four categories: socioeconomic status, household composition/disability, minority status/language, and household type/access to transportation. This index can provide additional insight into which communities may suffer disproportionately following a nat-

ural hazard event. For more detail on the makeup of the SVI, see the table.

The following images are from a data-mapping exercise completed by analysts at the Richmond Fed to highlight the impact of flooding on communities within North Carolina through the lens of social vulnerability. The exercise showed the connection between counties with high levels of social vulnerability and those projected to face high costs from natural hazard events in the future. Because these events in North Carolina tend to be flood related, the role of flood insurance and coverage was a significant consideration for the exercise. Finally, counties with high levels of credit insecurity — that is, limited access to credit and poor credit health — tend to have high social vulnerability scores and may face difficulties recovering from a disaster. The mapping exercise highlights these counties and explores the role financial institutions play as suppliers of capital in these communities.

The complete interactive exercise, which contains additional information about flood risk mitigation, the effects of rising temperatures, and the role of financial institutions, can be viewed online at bit.ly/nc-climate-maps.

SOCIAL VULNERABILITY



This map illustrates the social vulnerability of North Carolina counties according to the SVI. This measure indicates the relative social vulnerability of all census tracts throughout the United States. Together, these characteristics measure community susceptibility to additional adverse impacts from natural hazard events. According to the CDC, the SVI can help communities plan for and respond to a variety of emergency events by determining resource allocation, shelter needs, and financial funds required, among other considerations.

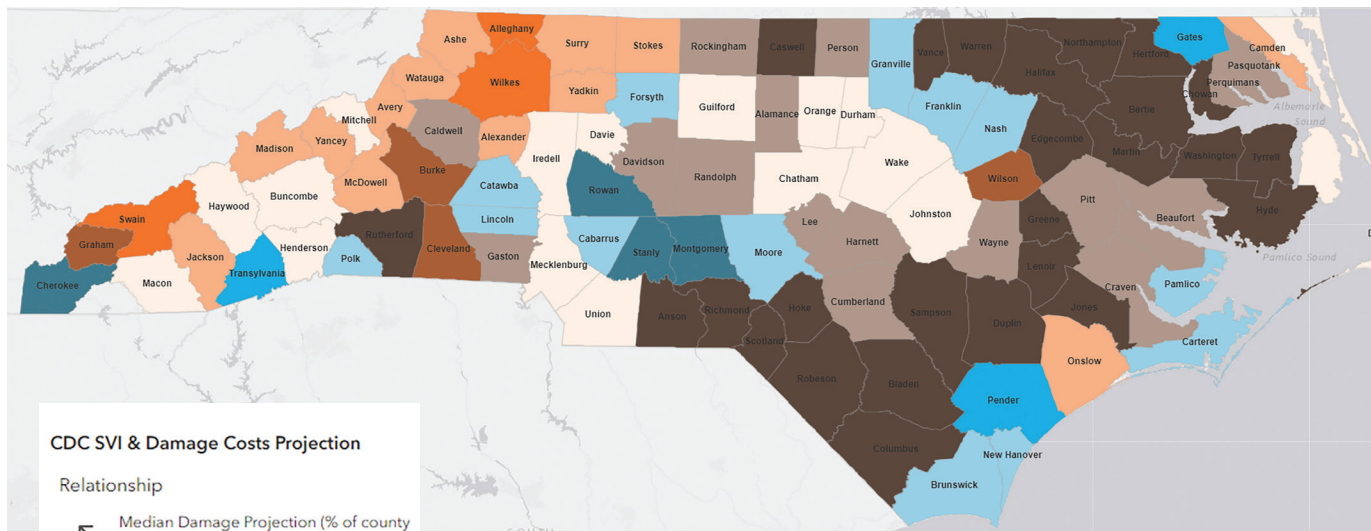
SOURCE: Centers for Disease Control and Prevention Social Vulnerability Index 2018



COMPONENTS OF SOCIAL VULNERABILITY INDEX

Socioeconomic Status	Household Composition and Disability	Minority Status and Language	Housing Type and Transportation
<ul style="list-style-type: none"> Below Poverty Line Unemployed Income No High School Diploma 	<ul style="list-style-type: none"> Aged 65 or Older Aged 17 or Younger Civilian with a Disability Single-Parent Households 	<ul style="list-style-type: none"> Minority Speaks English "Less than Well" 	<ul style="list-style-type: none"> Multi-Unit Structures Mobile Homes Crowding No Vehicle Group Quarters

COMBINING SOCIOECONOMIC STATUS AND PROJECTED DAMAGE COSTS

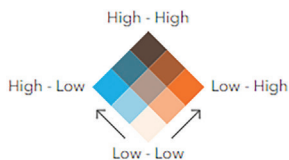


CDC SVI & Damage Costs Projection

Relationship

↖ Median Damage Projection (% of county income)

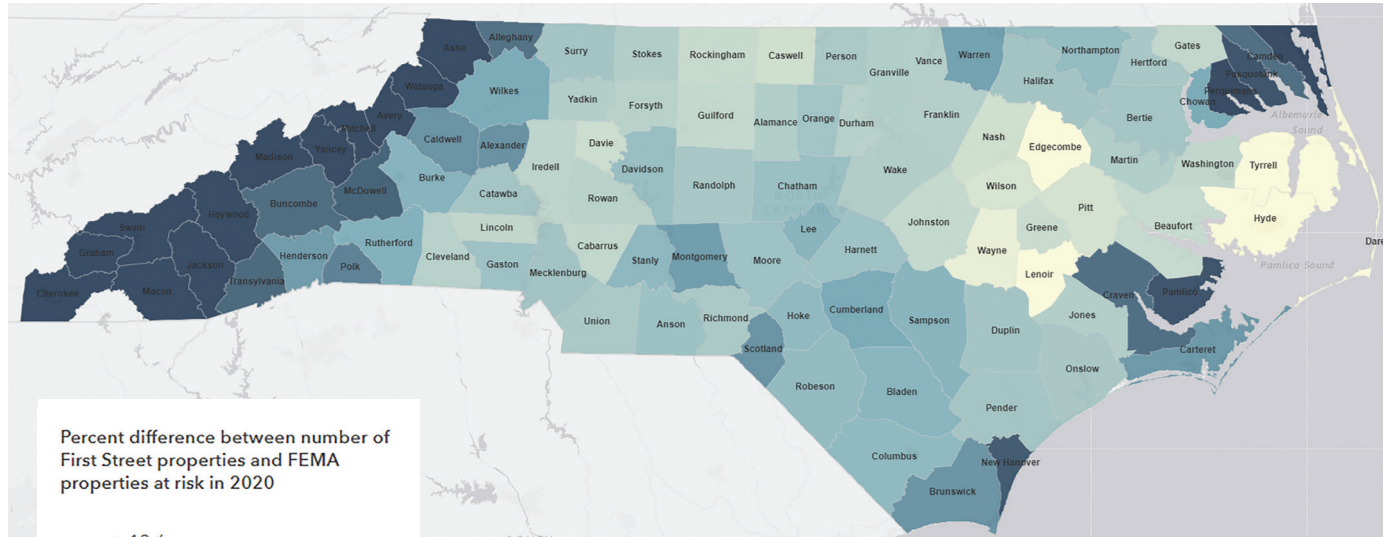
↗ % ranking for socioeconomic status



This map combines two indicators that together shed light on the susceptibility of a community to strong economic harm from natural hazard events. (Socioeconomic status is one of the four major components of social vulnerability in the CDC’s index.) Primarily, this map shows county-level estimates of future economic damages from climate change as a percent of county income, overlaid with the socioeconomic vulnerability of each county. Counties in dark brown are those that are both ranked high for socioeconomic vulnerability today and predicted to have high future damage costs from climate-related events. Considering these components together highlights the current and future unequal distribution of climate impacts among geographic areas.

SOURCES: Centers for Disease Control and Prevention Social Vulnerability Index 2018; Hsiang, S., et al. “Estimating economic damage from climate change in the United States.” *Science*, 2017, vol. 356, no. 6345, pp. 1362-1369.

FLOOD INSURANCE AND OUTDATED FLOOD MAPS

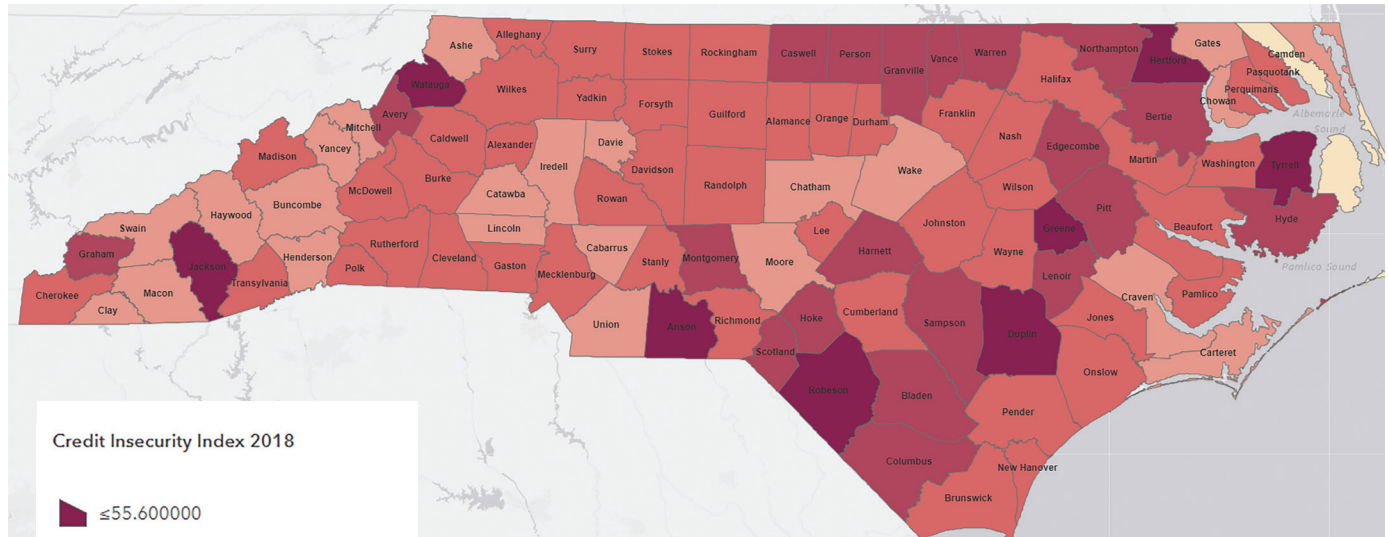


Mortgage lenders require the purchase of flood insurance at origination for any loan secured by a residence in a FEMA-designated flood zone, or special flood hazard area (SFHA). While this insurance mitigates risks for homeowners and lenders, gaps remain for several reasons. First, because flood insurance is required only for homeowners with mortgages, renters or those who outright own their homes (including homes passed down over generations) may be vulnerable, though voluntary flood insurance is available for purchase. Residents may forgo flood insurance as they mistakenly believe it is included with their home insurance policy or let it lapse due to cost. Finally, FEMA leadership has noted, and outside studies have found, that FEMA floodplain maps are outdated. As these maps determine insurance requirements for mortgagors, residents may live in flood-prone regions that are undesignated by FEMA. This map shows the percentage difference in the number of properties at risk using more recent First Street Foundation data in comparison to FEMA data. The First Street Foundation is a nonprofit research organization that shares climate risk data and models with individuals, companies, and governments.

SOURCE: First Street Foundation Flood Model and FEMA, via Federal Reserve Bank of Philadelphia RADAR



FINANCIAL INSTITUTIONS AND CREDIT INSECURITY



In a 2018 Maastricht University working paper, economists Jaap Bos, Runliang Li, and Mark Sanders noted that in the aftermath of natural disasters, banks tend to meet the credit needs of their community by adjusting their asset structure — selling their government bonds to finance the disaster-driven increase in real estate lending. The study used Call Report data for all U.S. commercial banks between the years 2002 and 2013. Financial institutions can take an active role in supporting their communities following climate events by ensuring access to credit, especially in regions considered “credit insecure.”

This map shows the credit insecurity index scores of North Carolina counties. (Higher values — darker colors — indicate greater credit insecurity.) The New York Fed developed this index to provide a comprehensive view of credit access and community credit health. The index is the sum of two community credit indicators: (1) those not included in the formal credit economy, and (2) those included, plus this inclusion quality-adjusted to capture the share of residents who may be credit constrained or unable to obtain credit at choice. The New York Fed’s full report, published in 2019, highlights the broad applications in which this index can be used, including measuring the potential resilience of a community following a natural disaster and its ability to adapt or recover without assistance.

SOURCE: Federal Reserve Bank of New York Credit Insecurity Index, “Unequal Access to Credit: The Hidden Impact of Credit Constraints,” September 2019.

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BY JOHN MULLIN

Maggie Lena Walker

How the daughter of a former slave became a banking pioneer

Maggie Lena Walker built the St. Luke Penny Savings Bank to last. When it opened its doors in Richmond's Jackson Ward district in 1903, Walker became the first Black woman to establish a bank in the United States. She would stand at its helm as president for nearly 30 years, safely steering it through periodic bouts of economic turmoil, eventually increasing its assets more than tenfold. To cap off her career, she would solidify the bank's long-term prospects by orchestrating mergers with two other banks during the depths of the Great Depression.

"The merged firm, the Consolidated Bank and Trust Company, didn't just outlast the Great Depression," says Ethan Bullard, curator at the Maggie L. Walker National Historic Site in Richmond. "It lasted into the 21st century and became the nation's longest continuously run Black-owned bank."

After founding the bank, Walker became a prominent public figure. A charismatic orator who infused her speeches with evocative biblical references, she addressed audiences throughout the country, championing Black racial pride and economic empowerment. She associated with the most important Black intellectuals and reformers of her time, including Booker T. Washington, W.E.B. Du Bois, and Marcus Garvey. These leaders, each in his or her own way, attempted to chart a path toward Black success during what many historians regard as the low point in post-Civil War race relations — the period after Reconstruction's end in 1877 through the early part of the 20th century, an era that saw the expansion of Jim Crow segregation and Black voter disfranchisement.

Walker's practical vision — much in line with that of Booker T. Washington



Maggie Walker (seated, third from right) and staff outside of the St. Luke Penny Savings Bank, which opened in Richmond, Va., in 1903. Walker was the first Black woman to found a U.S. bank.

— helped place her at the center of a Black business boom in Richmond. The ascent of Jim Crow laws reinforced a desire among Black Americans to form their own businesses and to practice the dictum "don't shop where you can't work." Under these conditions, Richmond's Jackson Ward district developed into what historians in a Works Progress Administration report later called the most important center of Black American business activity in the world.

EARLY LIFE IN RICHMOND

Born during the Civil War on July 15, 1864, Walker came from humble economic origins. Her mother, Elizabeth Draper, was a former slave

who worked as an assistant cook on the estate of a wealthy Richmond family. Her father, Eccles Cuthbert, was a White Confederate soldier who later became the Richmond correspondent for the *New York Herald*. The two were unmarried, and although Cuthbert may have maintained some contact with his daughter as she grew older, his role in her upbringing appears to have been negligible. Several years after Walker's birth, Draper married William Mitchell, a Black man who worked as a butler.

After William Mitchell's death when Walker was just 11 years old, she was needed to help with her mother's laundry business and to take care of her younger brother. (She quipped later in her life that "I was not born with a silver spoon in my mouth, but

with a laundry basket practically upon my head.”)

Although Walker’s mother relied on her daughter’s help at home, she also believed it was important for her daughter to receive a formal education. Walker was among the first Black children to attend Richmond’s system of segregated public schools, which had been established in the 1870s. Richmond’s Black schools were not afforded the same resources as White schools. Nevertheless, they represented a new opportunity that Black families greeted enthusiastically. Walker first attended the Lancasterian School and then the Navy Hill School. She received her high school education at the Colored Normal School, which provided a rigorous education and where entrance was by competitive examination. One of the few remaining documents from her school years is a dog-eared volume of assorted Shakespeare plays inscribed to her in 1882, perhaps as a prize.

Her graduation from the Colored Normal School came at an important historical turning point. Although historians generally place Reconstruction’s end in 1877, the timing was different in Virginia, where the Readjuster Party subsequently emerged as what has been called “the shortest-lived and most radical reforming political party in Virginia’s history.” The Readjuster Party was a coalition of Black and White Virginians, farmers, laborers, Democrats, and Republicans who sought to break the power of the planter elite. Founded in 1879, the party saw its candidates win all of Virginia’s statewide offices in 1881. They abolished the poll tax and the public whipping post, invested in schools for Black and White children, and took strides toward increasing the number of Black teachers and school board members.

The Readjuster Party reforms seem to have played a role in at least two events connected to Walker as she graduated from high school in 1883. First, the spirit of possibility that

they promoted may have helped to give her graduating class the confidence required to stage one of the nation’s first protests over school segregation: Colored Normal School students argued that they should be able to hold their graduation ceremony at the Richmond Theater, the same venue provided to White students at public expense for their ceremony. Second, the Readjusters’ efforts to increase the number of Black teachers in Richmond’s schools likely paved the way for Walker to gain her first job upon graduation, a teaching position at the Lancasterian School.

But the “readjustment period” was soon to end. The party lost its legislative majority in 1883 and ceased to function after 1885. What followed was a period of declining political and civil rights for Black Virginians. History was being rewritten according to a “Lost Cause” ideology, symbolized by the statues of Confederate military leaders that were being erected along Richmond’s Monument Avenue. Black voters’ rights were increasingly restricted — first through electoral chicanery and physical intimidation and later via the 1902 state constitution, which effectively disfranchised most Black Virginians. The number of Black voters registered in Jackson Ward, which had stood at 2,983 in the late 1890s, declined to 33 by 1903, at which point no Black representatives remained on Richmond’s city council. As the new century dawned, the decline in Black political representation was accompanied by the enactment of Jim Crow laws that codified segregation — first on streetcars, then among neighborhoods, and ultimately across a wide array of public amenities.

THE ORDER OF ST. LUKE

In this environment, Black leaders stressed self-help; Black fraternal orders, many of which were successors to secret antebellum societies, played an important role in organizing mutual aid. The fraternal orders,

which generally included both men and woman, organized insurance funds, attempted to foster economic development, and were focal points for social and political activities.

Maggie Walker had been active in one such fraternal organization, the Independent Order of St. Luke, since she was 14 years old. But it was not until her three-year teaching career ended upon her 1886 marriage to Armistead Walker, a building contractor, that she began to devote her efforts more fully to the order.

She came out of her teaching years with enhanced skills. In addition to her experience managing a classroom, as well as taking night courses in accounting and sales while still teaching, she had worked part time as an insurance agent for the Woman’s Union, a cooperative society, earning more from her sales commissions than she had from teaching. At about the same time, she began to work her way through the ranks of the Independent Order of St. Luke. Starting as an organizer, she recruited for St. Luke’s, traveling throughout Virginia and West Virginia to develop new local chapters.

As Walker assumed greater responsibility within the order, she drew on the example of the Grand Fountain of the United Order of True Reformers (the “True Reformers”), the most prominent Black fraternal organization in the country. Its founder, William Washington (W.W.) Browne, was a skilled speaker and organizer who sought to create an aggressively entrepreneurial operation. In 1885, the True Reformers became the first Black fraternal organization in America to develop a life insurance plan based on actuarial calculations of life expectancies. That same year, they launched their popular juvenile division to instill values of community and thrift. In 1889, they founded what was arguably the first Black-owned bank in the country, the True Reformers Bank.

Later, Maggie Walker praised Browne’s vision. “[T]he Negro, in this country, has always had money; and

his societies for attending the sick and burying the dead..." she said. "But here comes a man with a pencil in his hand... and he wanted to show how, from a society, could be evolved an insurance association and a banking house."

She followed the True Reformers blueprint when she started the St. Luke juvenile division in 1895, and she continued to follow it when she assumed the order's top leadership post, becoming Right Worthy Grand Secretary in 1899. The order was in dire straits when she took charge (with a salary one-third that of her male predecessor). The organization had only 1,080 members in 57 councils with \$31.61 in its treasury and \$400 in outstanding debts. But that would all change under her leadership.

THE ST. LUKE BANK

At the order's annual meeting in 1901, Walker laid out her plan for the St. Luke Penny Savings Bank. "Let us put our moneys together; .. let us put our money out at usury among ourselves, and reap the benefit ourselves... Let us have a bank that will take the nickels and turn them into dollars." In addition to the bank, she also announced plans to establish a newspaper and an emporium.

The newspaper, the *St. Luke Herald*, was launched in 1902. The St. Luke Penny Savings Bank opened its doors the following November in the Independent Order of St. Luke headquarters building at 900 St. James St. in Richmond. Promoted by the newspaper, the bank received more than \$8,000 in deposits on its first day, with amounts ranging from 31 cents to over a hundred dollars.

The new institution comported with Walker's view that women needed to play a prominent role in Black advancement. She insisted that the expansion of women's economic roles was vital for the success of the Black community — even its male members. Walker later recounted that, upon assuming

leadership of the order, "[my] first work was to draw around me women."

Walker was a strict leader. According to one of Walker's former secretaries, "You had better be at your desk at ten minutes to nine." She worked her employees hard. According to one story, when one nickel was missing at the conclusion of an audit, Walker instructed two of her staff to stay at work until they finally found it at midnight. In addition to long hours, Walker established a rigid dress code: a white blouse and a long dark skirt. But she also showed concern for her employees' welfare, encouraging them to save 5 percent of their wages. She also frequently acted as a mentor to her more promising employees, although that may have seemed like a mixed blessing to some of the women, since Walker could be particularly hard on her proteges when she saw them as being unappreciative.

According to University of Maryland history professor Elsa Barkley Brown, "The bank recognized the meager resources of the black community, particularly black women ... In fact, its establishment as a *penny* savings bank is an indication of that." To accommodate customers of modest means, Walker made loans as small as \$5. Unlike most banks, which required 50 percent down payments for home loans with five-year maturities, the St. Luke Bank accepted down payments as low as 10 percent. Moreover, in a departure from standard banking practices of the time, the bank often allowed homeowners the flexibility to refinance their home loans to avoid the large and potentially devastating principal repayments that typically came due after three to five years on home loans during the era. By the early 1920s, at least 600 members of the community had paid off their home mortgages in full.

The St. Luke Bank's rigorous due diligence and loan collection processes were key to its continuing survival and success. The bank relied on *ad hoc* credit committees drawn from members of the local community to

vouch for borrowers, who were typically required to have at least one, and sometime more than one, co-signer or guarantor. The bank aggressively pursued delinquent borrowers, hiring bill collectors to knock on their doors and, when that failed, contacting the borrowers' employers to garnish wages. When these methods did not yield results, the bank would pursue loan co-signers.

The bank also furthered Walker's life-long passion for nurturing children, encapsulated in the dictum, "As the twig is bent, the tree is inclined." To educate children about money, the bank distributed small coin banks that could hold 100 pennies, enough to reach the \$1 necessary to open an account at the St. Luke Bank.

Under Walker's leadership, the bank's assets grew from \$37,870 in 1904 to \$120,813 in 1910, reaching \$529,883 in 1920 (equivalent to about \$8 million in today's dollars). This long-term growth trajectory was particularly impressive considering that two of the bank's major peers, the True Reformers Bank and the Mechanics Savings Bank, were forced out of business in 1909 and 1921, respectively.

THE ST. LUKE EMPORIUM

The St. Luke Emporium was not nearly as successful as the bank. It opened in 1905 on Broad Street, Richmond's main business thoroughfare, which was the dividing line between the Black and White parts of the city. In addition to being a purveyor of clothing, hats, and other dry goods, the emporium also became home to the fledgling bank. "The St. Luke Emporium was a microcosm of Walker's vision of economic empowerment," says Bullard. "Staffed predominantly by Black women and a few Black men, it was a place where Black customers could shop, deposit, withdraw, and invest all under one roof, while keeping the proceeds within the Black community."

The emporium faced resistance from Richmond's White store owners right

off the bat. “When it was found out for what purposes the property had been bought there was an attempt made to buy the premises from us at an advance of several thousand dollars more than the purchase price,” Walker recounted in 1906. “In addition to this there was a personal offer of \$10,000 in cash if we would not start the Emporium.”

A new set of problems arose after the emporium opened. According to Walker, “there has been formed a White Retail Dealers’ Association, taking in every White man and woman selling anything at retail... When the White Retail Dealers’ Association [WRDA] decides to crush out a Negro merchant, the wholesale merchants are notified not to sell the Negro... saying if they do, they will not receive the patronage of the White merchants.” In at least one case, according to Walker, wholesalers stopped short of refusing to supply the emporium with goods but instead demanded cash payment, refusing to grant the customary 60-day credit afforded to White merchants.

The emporium struggled from the start, but its troubles were not confined to the difficulties created by the WRDA. One of its fundamental challenges was the limited income of its customer base. Another major problem, one that infuriated Walker, was what she saw as the unwillingness of Black shoppers to sufficiently support the emporium and other Black-owned businesses. “Why do we insist on pushing ourselves where we are not wanted?” she questioned her audience. “Or are we so simple and

short-sighted that we are willing to give the White man every dollar that we can muster when he is daily telling us to get away from him?” The emporium closed its doors in 1911.

STREETCAR BOYCOTT

Walker was not hesitant to marshal St. Luke resources in support of Black civil rights. Such was the case when she became a leader of the 1904 Richmond streetcar boycott, which arose in opposition to the newly instituted policy of segregation on the city’s streetcars. The *St. Luke Herald* was one of the strongest voices in favor of the boycott, and Walker brought the resources of the St. Luke Penny Savings Bank to bear when she, along with several other Black Richmond bankers, issued a public pledge of support for the establishment of an alternative streetcar company.

The boycott illustrates how Walker’s thinking fit into the debate among Black reformers and intellectuals about the best strategies for advancement. W.E.B. Du Bois stood at one end of the spectrum. “Du Bois believed in agitating for political rights — political equality for Black people,” says historian Marvin Chiles of Old Dominion University. “To him, business ventures and economic prosperity were fine and to be encouraged, but the main goal for those who were considered elites was to work politically for racial equality.” Du Bois seems to have shown little interest in

the Richmond streetcar boycott.

Walker was much more in the camp of Booker T. Washington, who favored the strategy of using boycotts as, in his words, “an exercise of economic power designed to elicit a specific change in future behavior.” She had no objection to pursuing solutions through political means, but since such means were mostly out of her reach as a Black woman in the Jim Crow South prior to women’s suffrage, Walker’s first choice was to use economic power. To her, the boycott was a sort of economic warfare. The first goal was to bankrupt the segregationist streetcar company; the second was to provide Blacks with an opportunity to redirect the money saved on streetcar fares toward Black-owned businesses.

LEGACY

Walker left behind a tremendous legacy when she died on Dec. 15, 1934, due to complications stemming from diabetes. In addition to being the first Black woman to charter a bank, she had taken part in one of the nation’s first school segregation protests as well as in one of its first public transit boycotts. She had revitalized the Independent Order of St. Luke and supported countless other organizations, co-founding the Richmond Chapter of the National Association for the Advancement of Colored People (NAACP) and even starting the first Girl Scout troop for Black girls in the South. She was a pathbreaker — an American pioneer. **EF**

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BY ANTHONY HUI

Adjusting to Income Risk

Yongsung Chang, Jay H. Hong, Marios Karabarbounis, Yicheng Wang, and Tao Zhang. “Income Volatility and Portfolio Choices.” *Review of Economic Dynamics*, April 2022, vol. 44, pp. 65-90.

A common question in economics and finance is how households respond to changes in income risk. Theory predicts that when households’ incomes become more volatile, they may save more, work more, or reduce their holdings of risky assets to compensate for their increased risk.

In a recent article in the *Review of Economic Dynamics*, Marios Karabarbounis of the Richmond Fed, Yongsung Chang and Jay Hong of Seoul National University, Yicheng Wang of Peking University, and Tao Zhang of the Ragnar Frisch Centre for Economic Research examined how households adjust their financial portfolio in response to changes in income risk. Income risk is distinct from income level in that it pertains to the uncertainty of future earnings rather than current earnings.

The authors made use of multiple Norwegian data sets that collect information about households’ income and detailed financial holdings. The benefits of these data sets over other survey-based data include reduced measurement error and response bias as well as more comprehensive tracking of households over time. From these data, the authors found that the typical Norwegian household has a mix of safe assets — including government bonds, bank deposits, and life insurance policies’ cash values — and risky assets — including stocks and shares in mutual funds. The authors defined the overall risky share of a household’s portfolio as the value of risky assets divided by the value of total financial assets.

To obtain a clean estimate of how

households adjust their risky asset share in response to income volatility, the authors focused on the single largest change in the standard deviation (a measure of variation) for each worker’s income growth. Concentrating on this single “structural break” eliminates noisy variations in the data. Examples of events that can cause a structural break include a change in employer, industry, or location. Using these structural breaks, the authors found a clear

Households generally prefer to smooth their consumption over time.

negative relationship between the risky share of assets and income volatility.

But not all structural breaks are equal. The data show that households are most likely to experience a structural break when changing employers, a change they will likely anticipate. If households predict a change in their income volatility, they may not adjust the risky share of their portfolio as much. Thus, the authors focused their work not just on structural breaks, but on unanticipated ones, which provide the largest and cleanest response.

Following the work of other researchers, the authors used information from firms to identify income shocks that individual workers can neither anticipate nor control. They combined this information with the structural breaks to isolate an estimate of large, unpredictable income risk. Using this measure, they found a much larger effect on portfolio allocation in response to changes in income. When unanticipated income risk doubles, typical households reduce their allocation of risky financial assets in their portfolio by 5 percentage points.

The authors next incorporated these

unanticipated income shocks into a standard portfolio choice model to see whether they could replicate the response they found in the Norwegian data. The advantage of using a model is that it allows the authors to better understand how income risk affects households’ welfare (that is, their well-being). Welfare may be affected through two channels. First, households experiencing higher income risk may reduce consumption and rebalance their portfolio toward safer assets. Second, households may face difficulties smoothing their consumption over time because they cannot fully insure against income risk.

Households generally prefer to smooth their consumption over time. Income volatility makes that challenging, however. One way to insure against this volatility is by investing savings in the stock market, which is risky, or in safe assets, such as a bank account. Risky assets offer greater returns but a higher risk of losses. Through the model, the authors calculated that the cost of being unable to insure against income volatility is large. They also found that households benefit from being able to adjust the risky share of their financial portfolio in response to income volatility.

This research also has implications for questions about wealth inequality. “Some households have more income stability because they have two earners or other outside assistance, for example,” says Karabarbounis. “Those households can place their money in high-risk, high-return instruments, which allows them to grow their wealth substantially over the long run. This is in contrast with single-earner households, which face greater income uncertainty. They might be less comfortable with high-risk instruments and instead put their money in a safe bank account, earning a lower return.” **EF**

BY SAM LOUIS TAYLOR

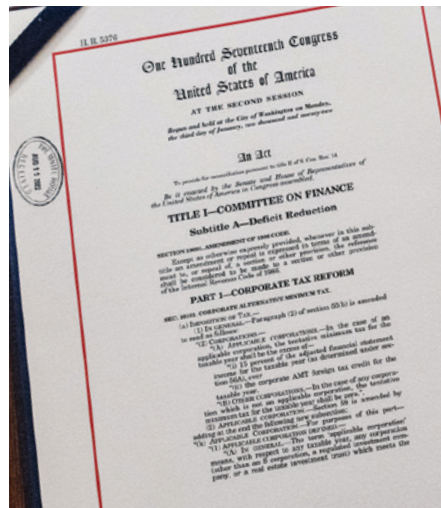
Understanding the Inflation Reduction Act

In August, President Biden signed into law a spending, revenue, and deficit reduction bill titled the Inflation Reduction Act (IRA). Born out of the never-enacted Build Back Better Act, a \$1.8 trillion stimulus and revenue package proposed at the beginning of the Biden administration, the IRA is the result of extended negotiations that changed the bill from a broad social and economic stimulus bill into one focused on clean energy, health care, and deficit reduction. These changes secured the final votes needed to pass the legislation on a party-line basis. It represents one of the largest legislative efforts to reduce the deficit in recent years and has been touted by the administration as an important tool to help bring down inflation.

The IRA is estimated by the bill's authors to create over \$737 billion in budget savings and new revenues. Its proponents argued it will do this in a number of ways: lowering health care costs by allowing Medicare to negotiate prices for certain prescription drugs and capping the price paid for insulin by Medicare; imposing a minimum income tax rate of 15 percent on large corporations; boosting the IRS' ability to pursue uncollected taxes; and imposing surcharges on corporate stock buybacks. The IRA also authorizes significant expenditures, over \$437 billion, to combat climate change and lower energy costs by boosting domestic clean energy production, encouraging new clean-energy technology development, and retrofitting homes for greater energy efficiency and conversion to clean energy. The remaining savings and new revenues, which Democrats and the Biden administration have estimated to be \$300 billion over the next decade, will go toward deficit reduction. Subsequent reviews by the Congressional Budget Office (CBO)

have lowered that deficit reduction estimate to \$238 billion over a decade.

Supporters of the legislation, such as Sen. Joe Manchin, D-W.Va., and former chair of the White House Council of Economic Advisers Jason Furman, have based their claims of inflation reduction on two ideas. The first is that by reducing the deficit, the law will put downward pressure on demand and, thus, be anti-inflationary. The second is that the spending



provisions in the bill will lower the cost of certain inflation-driving goods, like energy and health care, over time. The Committee for a Responsible Federal Budget (CRFB), a nonpartisan group that analyzes the effects of fiscal policy, has argued that most of the provisions in the bill will have a disinflationary effect on the economy in both the short and long term and that the actual deficit reduction resulting from the bill could be greater than expected.

Others, however, have argued that the legislation will not have such an effect. Economic analyses conducted by the CBO and by researchers with the Penn Wharton Budget Model program at the University of

Pennsylvania's Wharton School of Business found that the short- and long-term effects on inflation would be negligible at best. The Tax Foundation found that revenue increases contained in the IRA will reduce long-term growth by creating new disincentives for businesses to invest in new operations and by reducing long-run American incomes. According to that analysis, the results would put upward pressure on inflation. Political opponents of the legislation, such as Sen. Pat Toomey, R-Pa., have also argued that the bill's spending provisions do nothing to address inflation and will only worsen any potential economic downturn.

Given that the IRA is a complex piece of legislation that is just beginning to be implemented, there will likely be continued debate over the efficacy of the legislation for some time. It will take time for Medicare to negotiate drug prices and for clean energy projects to be designed and funded. The Penn Wharton Budget Model researchers determined that the immediate influx of new spending may in fact put upward pressure on inflation in the short term. The CBO found that the legislation's deficit reduction is spread out over 10 years, with much of the proposed reduction occurring in the last five years, so the main leverage for lowering inflation won't be felt for several years. On the other hand, the Roosevelt Institute, a progressive-leaning think tank, has suggested that the IRA may boost private industry action to bring down energy costs and decrease overall demand in the short term, helping to lower inflation expectations and making it easier for other policy measures to bring inflation down. What is clear is that the effects of the legislation will take years to be fully felt in the day-to-day economy. **EF**

BY TIM SABLİK

The Future of Forward Guidance

Talking about the future has become a valuable tool of monetary policy, but recent events have prompted a reevaluation

For much of the Fed's history, its leaders prided themselves on their inscrutability. Alan Greenspan, who served as Fed chair from 1987 to 2006, famously perfected the art of “Fedspeak,” carefully crafting his statements on monetary policy to be vague and obscure so that he could avoid roiling financial markets. But by the end of his tenure, the Fed had become increasingly transparent in its communications with the public. Today, Fed Chair Jerome Powell holds a press conference after every FOMC meeting, and the committee issues a post-meeting statement explaining both its current policy stance as well as how it expects policy to evolve in the future.

This prognosticating language, known as “forward guidance,” has become an increasingly important tool for policymakers since the Great Recession of 2007-2009. But recently, Powell indicated that the Fed might be putting that tool back on the shelf, at least for now. In June, the FOMC voted to raise the Fed's benchmark interest rate by three-quarters of a percentage point — its largest single rate hike in nearly three decades. The following month, the committee approved another historic 0.75-point hike. At the press conference following the July decision, Powell was asked to provide some guidance on how far and how fast the FOMC was thinking about raising rates to deal with inflation.

“We're going to be making decisions meeting by meeting ... and not provide .. the kind of clear guidance that we had provided on the way to neutral,” Powell replied. That same month, European Central Bank (ECB) President Christine Lagarde said that the ECB would also be ditching forward guidance to maintain the

flexibility to adjust monetary policy based on incoming data.

Do these moves mean that central bankers have soured on forward guidance? Or is it simply the wrong tool for the Fed's present challenges?

THE ORIGINS OF FORWARD GUIDANCE

In February 2000, under Greenspan, the committee first began regularly including an early form of forward guidance in its policy statements: an assessment of the balance of risks facing the economy. In 2003, it added guidance about the likely path of monetary policy. That change coincided with the publication of an important paper earlier the same year by Gauti Eggertsson of Brown University and Michael Woodford of Columbia University. They were exploring how central banks could conduct monetary policy when their policy rate was at or near zero and couldn't go lower. Eggertsson and Woodford showed that a central bank could achieve additional stimulus by credibly communicating an intent to keep its policy rate low into the future after the economy had started to recover — that is, by providing forward guidance. If markets believed the central bank's pledge, then the interest rates of longer maturity securities would fall in anticipation of a lower policy rate in the future, and that would help stimulate economic growth.

Eggertsson and Woodford had the Bank of Japan in mind when they wrote their paper. Its policy rate had been near zero since the mid-1990s. As it turned out, however, the Fed soon found itself in a similar position. The

economy was still recovering from a brief recession in 2001 following the dot-com crash and the 9/11 terrorist attacks. In June 2003, the FOMC lowered its policy rate to 1 percent and chose not to go any lower. Committee members still wanted to provide some additional stimulus, however, so in the August 2003 policy statement, they noted that the Fed's accommodative policy could continue for “a considerable period.”

The FOMC continued to employ forward guidance over the next several years to signal future accommodation and then to communicate its plan for raising its policy rate once the economy had recovered. During the Great Recession of 2007-2009, the Fed's policy rate went even closer to zero, and the FOMC once again turned to forward guidance. The committee initially employed the same type of language it had used in 2003, but as the deep recession gave way to a slow recovery, the guidance became more specific. The FOMC experimented with detailing how long it expected to keep rates low and laying out specific criteria it would want to see before raising rates. (See table.) More detailed guidance may give the public a better window into what the Fed is thinking, but it comes with its own trade-offs.

“The higher the level of specificity, the higher the risk that you'll bind yourself to a less than optimal path,” Richmond Fed President Tom Barkin has explained. (See “Challenges of Forward Guidance,” *Econ Focus*, Fourth Quarter 2021.)

This trade-off between commitment and flexibility is central to a key question about forward guidance: Does it work as well in practice as it does in theory?

The Evolution of the Fed's Forward Guidance

The FOMC has experimented with different formulas for its guidance over the last two decades.

2/2/2000	"...the Committee believes the risks are weighted mainly toward conditions that may generate heightened inflation pressures in the foreseeable future."
8/12/2003	"...the Committee believes that policy accommodation can be maintained for a considerable period."
1/28/2004	"With inflation quite low and resource use slack, the Committee believes that it can be patient in removing its policy accommodation."
12/16/2008	"...the Committee anticipates that weak economic conditions are likely to warrant exceptionally low levels of the federal funds rate for some time."
8/9/2011	"The Committee currently anticipates that economic conditions...are likely to warrant exceptionally low levels for the federal funds rate at least through mid-2013."
12/12/2012	"...the Committee...currently anticipates that this exceptionally low range for the federal funds rate will be appropriate at least as long as the unemployment rate remains above 6-1/2 percent, inflation between one and two years ahead is projected to be no more than a half percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored."
3/19/2014	"The Committee currently anticipates that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate well below levels the Committee views as normal in the longer run."
9/16/2020	"The Committee...expects it will be appropriate to maintain this target range until labor market conditions have reached levels consistent with the Committee's assessments of maximum employment and inflation has risen to 2 percent and is on track to moderately exceed 2 percent for some time."
12/15/2021	"With inflation having exceeded 2 percent for some time, the Committee expects it will be appropriate to maintain this target range until labor market conditions have reached levels consistent with the Committee's assessments of maximum employment."
1/26/2022	"With inflation well above 2 percent and a strong labor market, the Committee expects it will soon be appropriate to raise the target range for the federal funds rate."
3/16/2022	"...the Committee decided to raise the target range for the federal funds rate to 1/4 to 1/2 percent and anticipates that ongoing increases in the target range will be appropriate."

SOURCES: Federal Open Market Committee statements

THEORY VERSUS REALITY

In his 2020 American Economic Association presidential address, former Fed Chair Ben Bernanke declared forward guidance a "powerful policy tool." Bernanke had been instrumental in elevating forward guidance and quantitative easing (QE) from unconventional to conventional monetary policy tools during his tenure at the Fed. In his lecture, he analyzed the impact of these two tools using the Fed's FRB/US computer model of the U.S. economy. He concluded that forward guidance combined with QE

granted the Fed significantly more space to provide accommodation when its standard policy rate was near zero.

Other economists who have studied the effects of forward guidance have come to similar conclusions. Combined with QE, forward guidance significantly mitigates the danger that the Fed could be stuck at the zero lower bound with no ammunition. But it quickly became clear that some of the ways that forward guidance behaves in standard economic models were unrealistic.

In a 2012 paper, Marco Del Negro of the New York Fed, Marc Giannoni

of Barclays, and Christina Patterson of the University of Chicago demonstrated that a standard macro model predicted that forward guidance became more powerful the further into the future it went. If the Fed pledged to keep its policy rate low for two or more years, the model showed that this would have "explosive" effects on inflation and economic output. In essence, the model implied that the Fed should be able to dig the economy out of any hole just by talking and pledging actions further out into the future. The researchers dubbed this the "forward guidance puzzle."

The strength of this result stems partly from the fact that, in standard models, the Fed can perfectly manage the expectations of financial markets and households through its forward guidance. As a result, longer-term interest rates immediately adjust to make the Fed's guidance a reality. The real world is much more complicated, however. The Fed's communications are not always clearly understood by the public, and the FOMC's forward guidance statements have never provided an ironclad commitment to follow a scripted policy path.

That is largely unavoidable given the fact that Fed policy is set through the majority vote of a committee whose composition changes over time. No present-day members of the FOMC could credibly bind the hands of future members to follow through on forward guidance. Indeed, this is one of the reasons why for decades Fed policymakers avoided giving any guidance about policy, even though they were aware of the potential benefits. In a 2021 working paper, Edward Nelson of the Board of Governors showed that Fed leaders understood the principles underlying the use of forward guidance as early as the 1950s, but they did not want to risk binding their own hands or the hands of future policymakers to a path that turned out to be suboptimal.

It is also more difficult to believably communicate plans for the future the further away that future is. A lot can change in a year or two, which might lead the public to be rightly skeptical of the Fed's ability to predict its actions that far in advance. Jeffrey Campbell of the University of Notre Dame and Filippo Ferroni, Jonas Fisher, and Leonardo Melosi of the Chicago Fed allowed for such skepticism in their model of forward guidance. In a 2019 article in the *Journal of Monetary Economics*, they found that the Fed's ability to influence market expectations diminishes the further into the future it tries to communicate a policy path.

"If the Fed were to say something

about rates one to four quarters in the future, agents in our model believe the Fed will follow through with that guidance," says Melosi. "At horizons longer than one year, it is much harder for the Fed to commit to future actions, arguably because macroeconomic uncertainty is typically large at those horizons."

COMMUNICATION COSTS

Empirical evidence supports the idea that forward guidance is effective. In a 2021 paper in the *Journal of Monetary Economics*, Eric Swanson of the University of California, Irvine examined FOMC announcements from July 1991 to June 2019 to identify the separate effects from changes to the federal funds rate, forward guidance, and QE. He found each tool had significant and distinct effects on financial markets. Forward guidance had the largest impact on shorter-term Treasury yields and assets — those dated between one and five years — while QE was more effective at moving longer-term Treasuries and corporate bonds with 10-year maturities.

"When you look at the reaction to FOMC announcements, most of the movement in Treasury markets is due to what the FOMC statement says, what the chair says during the press conference after the announcements, or what the chair says in speeches throughout the year, rather than the actual change in the federal funds rate," says Swanson. "In that sense, forward guidance has been very important over the last 20 years."

Although his findings focus on financial markets, Swanson suspects that forward guidance also had an impact on macroeconomic variables like unemployment. It is just harder to measure those interactions. Overall, the evidence supports Bernanke's claim that forward guidance is a potent tool.

But that doesn't mean there aren't costs. As Barkin noted, more explicit guidance imposes a greater constraint on the Fed's flexibility. While it is true

that the Fed's guidance has never made an absolute commitment — the FOMC has always left room to deviate from its guidance if circumstances change — it has sought to live up to its guidance in practice, says Swanson. Indeed, it has never used those escape clauses; it has postponed tightening for longer than it previously indicated but not tightened sooner.

In a 2019 working paper, Taisuke Nakata of the University of Tokyo and Takeki Sunakawa of Hitotsubashi University showed that the reputational cost of breaking previous forward guidance can itself act as a form of commitment. If a central bank were to renege on its previous forward guidance, that would erode its credibility, and future attempts to use forward guidance would be less effective because the public would not trust the central bank to keep its word. To the extent that the Fed wants to avoid that outcome, its forward guidance is binding, even if the option to break it still exists. Sticking with previous guidance to preserve credibility could delay the Fed's response to unexpected economic developments. Indeed, some have argued this was the case during the recent uptick in inflation.

"In 2020 and 2021, the Fed was very explicit that it didn't want to raise the fed funds rate for some time," says Swanson. "Looking back, it now seems like they were too slow in raising interest rates. Probably part of the reason they were too slow was that they wanted to follow through with the guidance they had given."

There is also some evidence that too much talking by the central bank could drown out other valuable market signals. A 2019 paper in the *Journal of Monetary Economics* by Gaetano Gaballo of HEC Paris and Michael Ehrmann, Peter Hoffmann, and Georg Strasser of the ECB studied the use of forward guidance in different countries. They discovered that when central banks provide calendar-based guidance over a short time horizon, it can paradoxically raise the sensitivity

of government bond prices to surprising economic news. This is because market participants pay too close attention to central bank communications, weakening normal market price signals and leading to larger shocks when unexpected news hits.

CHOOSING THE RIGHT TOOL

In an Oct. 12 speech, Fed Governor Michelle Bowman spoke about the trade-off between specificity and flexibility when using forward guidance. Less detailed guidance could allow the Fed to be nimbler in the face of unexpected developments, but it might also mean that the Fed's communications are less clear and effective. In contrast, more precise language might be more effective at aligning market expectations but could limit the Fed's ability to quickly adjust its policy path.

In the end, Bowman argued, the Fed must weigh the costs and benefits of using forward guidance in each economic environment. In the aftermath of the 2008 financial crisis, she said, the benefits of using forward guidance were clear. The Fed couldn't reduce its main policy rate any further, and it seemed a safe bet that the fed funds rate would remain low for some time. Communicating an intention to keep its policy rate lower for

longer in this environment "was not seen as posing significant risks to the Committee's credibility," she said.

In contrast, the current economic environment poses a very different challenge for the Fed. It must balance between tightening too much in response to inflation and not tightening enough. That makes it harder for the FOMC to know the appropriate size and duration of policy moves in advance. Additionally, the Fed's primary policy tool is no longer constrained by the zero lower bound now that it is raising rates, making the Fed less dependent on tools like forward guidance to achieve its policy goals.

"Putting it all together ... the case for explicit forward guidance is much less compelling today than it was in the years that immediately followed the 2008 financial crisis," said Bowman. "My own view is that discussions about the use of explicit forward guidance as a policy tool should be limited. It should be used during periods when the Committee cannot adjust the federal funds rate any lower due to the effective lower bound, and when the Committee also has reasonable confidence that the federal funds rate will need to remain near zero for a period of time to stimulate growth and when inflationary pressures are expected to be subdued."

Neither Bowman nor any of her FOMC colleagues have advocated for significantly scaling back the overall increase in transparency that the Fed has made in recent decades. Such moves are widely viewed as beneficial by economists and policymakers alike. Indeed, while the Fed seems to be stepping back from what Bowman calls explicit forward guidance, it is still providing some general guidance about its plans.

During his address at the annual Jackson Hole Economic Symposium in August, Powell noted that "restoring price stability will likely require maintaining a restrictive policy stance for some time." And in November, the FOMC said that the pace of its future policy rate increases would "take into account the cumulative tightening of monetary policy, the lags with which monetary policy affects economic activity and inflation, and economic and financial developments."

To the extent that such statements qualify as forward guidance, then reports of the tool's demise were premature. Instead of phasing out forward guidance altogether, it seems likely that the Fed may need to periodically adjust how it communicates with the public to best meet the economic challenges of the day. **EF**

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Steven Davis

On remote work, changes in recruiting, and business startups after the pandemic

As a student at Central Catholic High School in Portland, Ore., in the mid-1970s, Steven Davis took an elective course on economics that piqued his interest. When he went on to college at Portland State University, he initially picked economics as his major but figured he might switch to sociology or international relations. In the end, however, economics won out. “Those fields struck me as interesting,” he says, “but economics seemed to offer a more useful set of tools for understanding social and economic issues.”

Graduate school at Brown University followed. “I liked thinking and writing and research,” he explained. And if academia didn’t pan out, he reasoned, he could take his training and make lots of money in business or on Wall Street.

Academia worked out fine. Today, Davis is a leading business and labor economist at the University of Chicago’s Booth School of Business and Stanford’s Hoover Institution. He is best known for his use of surveys and other detailed data to study business behavior, entrepreneurship, productivity, innovation, and policy uncertainty, among other topics. Recently, he has also looked at the effects of the COVID-19 pandemic on such issues as working arrangements, recruiting behavior, labor force participation, and the challenges facing cities. In some of this research, he has collaborated with economists at the Richmond Fed and the Atlanta Fed.

David A. Price interviewed Davis by videoconference in October 2022.



EF: Your research over the past couple years has looked extensively at remote work. Do you think the hybrid model that’s become widespread is going to stay with us? Or is some other arrangement likely to win in the long term?

Davis: I think hybrid work is here to stay for many knowledge workers and many back office and administrative support staff. And for some activities — call center employees, software engineers, and IT support, for example — many of those people will work in a mostly or fully remote capacity. So I don’t think we’re going back to the pre-pandemic norm in those respects. Some firms will decide that it’s best for their organization to have everybody work onsite most of the time, and some people prefer that, so they will gravitate to those firms. But on average, across the economy as a whole, increased levels of hybrid work, and to a lesser extent fully remote work, are here to stay.

In a new paper coming out in *Brookings Papers on Economic Activity* titled “Working from Home Around the World,” a group of us found that this big shift to work from home is a global phenomenon among college-educated workers. Now, richer countries have a lot more college-educated workers than poorer countries, so partly for that reason, a bigger share of the workforce in rich countries is in jobs that offer some scope for remote work. You see a clear relationship between the level of economic development and the size of this shift to remote work for that reason.

We also found that employers plan higher work-from-home levels in the future in countries that went through stricter and longer lockdowns during the pandemic. This pattern suggests that government-mandated lockdowns during the pandemic contributed to the stickiness of the shift to working from home. That’s layered on top of the other effect I described, which has to do with the education level of the workforce and the mix of jobs.

ECONOMIC SURVEYS

EF: You've created or helped to create a number of economic survey programs, such as the Survey of Business Uncertainty and the Survey of Working Arrangements and Attitudes. Is there anything in particular that has drawn you to this type of data?

Davis: Yes, a couple of things. One is that I came to the view — it took me a long time — that much of our theorizing about economic behavior involves expectations and attitudes of people, which reside inside their heads. And for a long time, most economists resisted the notion of asking people directly about their expectations, their subjective views of uncertainty, their perceptions, their attitudes.

Economists tended to take more of a “revealed preference” approach: We're not going to ask you what you think or believe; we'll infer what you think or believe from the actions you take given the circumstances you face. And that revealed preference approach is certainly one that you want to make use of.

But it's often quite difficult to get a clear understanding of what's happening without having some direct observations on, say, what businesspeople expect about the risks facing their businesses in the next year. Or what workers perceive with respect to the risks of catching an infectious disease if they go back to the workplace. So there is enormous value in trying to quantify people's expectations and perceptions using survey data — and then coupling that data with more standard data sources that economists have long used.

The other thing that's happened is that at least when it comes to surveying workers and consumers, and maybe small-business owners, there have been huge advances in survey economics in the last 15 years. It's become a lot cheaper. There's a whole commercial ecosphere that has grown up largely to do commercial marketing

studies, but also to do studies about political attitudes and so on. It's scale economies at work.

The economic profession has, with few exceptions, been slow to recognize how cost-effective it has become to run these surveys now. I expect the use of researcher-designed surveys to grow by leaps and bounds over the next 10 years in academic research, economics in particular.

If you want to survey businesses and you want a broad cross section of businesses, that is still a major undertaking — I would say beyond the resources of a small academic team operating on its own because it's hard to get the attention of senior business executives and get them to respond. That's where partnership with a Reserve Bank within the Fed, for example, can be extremely valuable.

BUSINESS DYNAMICS

EF: Much of your work has been in the area of business dynamics. For those who don't know what it is, could you please explain what economists mean by that term?

Davis: It's an umbrella term. It covers the market process through which some companies thrive and others fail. It covers the institutions, laws, policies, and regulations that influence how that market process plays out and what its implications are for innovation, growth, unemployment, and upward mobility. It looks at the role of entrepreneurship. So it's not a narrowly or sharply defined term.

EF: A shorthand that one sometimes runs across is that it's about firm entry and exit.

Davis: That's a metric for getting a handle on business dynamics. But it's just one of many. It's a useful one because it's easy to grasp. People have an idea of what it means to start a business, so when you talk about business formation rates as an indicator

of business dynamics, that's a way to connect with a broader audience quickly.

EF: Why do economists care about business dynamics?

Davis: Well, there are several reasons. We think that at least some kinds of innovative activity have a lot to do with entrepreneurship and the capacity to displace old, moribund firms with new, dynamic ones. Or at least to allow enough scope for new dynamic firms that older ones can acquire them and ingest their innovations and perhaps some of their vibrancy, too. That's the innovation angle, which is probably the most commonly understood reason why economists care about business dynamics. And I agree that's important.

But there's another reason, which I put a lot of weight on. Economies that are characterized by a lot of business entry and exit, up-and-out type behavior, also tend to generate opportunities for people all along the earnings distribution. So in economies that are characterized by lots of dynamism and fluidity among businesses and in labor markets, it's easier to get a job if you want one — and at least get a toehold on what might, with hard work, become a career path, even if you're somebody who doesn't have strong credentials at the outset.

If you're some guy who didn't really like school that much — you've got some basic skills and you graduated from high school — what's the path to upward mobility for somebody who fits that profile? In the United States after World War II, the answer was often to go get a job in a local manufacturing plant. That rarely happens these days.

But you can start a landscaping business or work for somebody else for a couple of years in a landscaping business and then start your own. Or you might become a hairstylist or a tree trimmer or set up your own dog-walking business. There are many ways that the regulatory process can make that easy or hard. Having an economic system that makes it relatively easy

to start new businesses and to grow some businesses if you have something to offer to consumers is a good path to upward mobility for a broad population. That's a positive social consequence of business dynamism.

EF: As you know, there have been reports of business dynamism starting to rebound in the United States in the past few years after a long period of decline. Is that how you see it? And what do you think is the future of business dynamism in this country?

Davis: Let's go back again to our metric for business dynamism, and I'll focus on that. Business formation rates rose sharply in the wake of the pandemic. And that's after, as you say, a long period of decline. It's also entirely unlike the U.S. experience during and after the Great Recession of 2007 to 2009. Business formation rates tanked in that recession, they were very slow in recovering, and then they resumed a long downward slide.

Something quite different happened in the wake of the pandemic. In my view, there are three forces at work. First, the pandemic was a major reallocation shock. What I mean is that there was a big shift from spending at bricks-and-mortar retail outlets to online shopping, a shift from dining in restaurants to takeout and meal delivery, a lot of experimentation with remote delivery of health care and other services. There was a lot of reallocation across activities, often within industries, but just providing the same kinds of goods and services in different ways.

There was also a big geographic component to this reallocation. Workers and businesspeople now spend a lot of dollars in different places than before the rise of remote work. There's less spending downtown because you don't have so many people commuting into downtown and more spending in outlying areas closer to where people live.

The second force is that household

Steven J. Davis

■ PRESENT POSITIONS

William H. Abbott Distinguished Service Professor of International Business and Economics, Booth School of Business, University of Chicago
Senior Fellow, Hoover Institution, Stanford University

■ SELECTED ADDITIONAL AFFILIATIONS

IZA Research Fellow; Executive Committee, Asian Bureau of Finance and Economic Research; Panel of Economic Advisers, Congressional Budget Office; Visiting Scholar, Federal Reserve Bank of Atlanta; Research Associate, National Bureau of Economic Research

■ EDUCATION

Ph.D. (1986), Brown University; B.A. (1980), Portland State University

balance sheets are in much better shape than they were after the Great Recession. Not only that, they're in great shape by the standards of recent decades in general. That's for several reasons. First, in the wake of the pandemic, we had a housing market boom as opposed to the bust we had in the 2006-2010 period. Instead of a stock market crash, the market rose — at least until fairly recently. So both in terms of home equity values and in terms of financial asset portfolios, households were in good shape. There was also government pandemic relief — really enormous, unprecedented amounts of cash funneled to households and businesses.

All of that left households, including current and prospective entrepreneurs, with the resources and the willingness to start new businesses and to grow existing businesses.

Then there is a third force, perhaps more important in the longer term: Business formation and development costs fell in the wake of the pandemic. Even before the pandemic, it typically was cheaper to start an online business than a bricks-and-mortar business. You don't need a building or at

least you don't need nearly as much space. You can often start it out of your own home. Online businesses also face lighter regulatory costs and restrictions, partly because they run afoul of fewer zoning and permitting requirements and partly because they can very easily gravitate to business-friendly jurisdictions.

The pandemic, as I said earlier, brought an overall shift in the demand for goods and services to online sources coupled with direct delivery of consumer goods. That meant that the complexity and the average cost of starting a business fell. In addition, there have been advances in communication platforms, like the one we're using now. They make it easier to start a business and to operate a business on a small scale. You can hire somebody who is a hundred miles away to do your bookkeeping for you; you don't even necessarily need to meet your bookkeeper in person. All of these things make it easier to start businesses in smaller cities and in other out-of-the-way places where it's harder to get the ingredients of a company together.

Now, this third factor is one that, unlike the other two, may well persist indefinitely, leading to persistently higher rates of new business formation. In contrast, the adjustment to the reallocation shock is a one-time event; it might play out over several years, but once you've made that adjustment, then you're back to some steady-state level of business deaths and new business formation. And household balance sheets will probably revert to pre-pandemic patterns eventually, and as that happens, households will be no more flush with cash than they were before the pandemic. In contrast, the reduction in both the regulatory costs and the out-of-pocket costs of starting and running a small business seems likely to stick around for some time. That leads me to think that we will see an extended period of higher business formation rates than was the norm before the pandemic.

EF: You've looked at the interplay between housing markets and business dynamics. Do changes in housing markets have much effect on the entry and exit of businesses? That is, outside of obvious areas like construction?

Davis: John Haltiwanger and I have a paper on this called "Dynamism Diminished." We found that historically, U.S. housing market booms and busts have exerted powerful effects on business formation rates and young-firm employment. When the local housing market booms, people have a lot more equity in their home. That makes them wealthier and more risk tolerant. It also gives them a source of collateral that they can tap if they want to take out a bank loan and use the proceeds to operate or expand a business. As I mentioned earlier, the situation in this respect coming out of the pandemic was kind of a polar opposite of the Great Recession of 2007-2009 and its aftermath.

The spillover effect from what happens in the housing market to the rest of the local economy works partly through consumption demand. That's been stressed in well-known research by Atif Mian, Amir Sufi, and others. The idea is that if your house is worth more, you spend more on local goods and services. Or it's easier to get a second mortgage on your house and you can use the proceeds of the mortgage to increase your spending. What we've stressed and what's distinctive about our research is that increases in home equity values also mean that actual and prospective business owners are wealthier and therefore they're more willing and able to start businesses.

EF: Mortgage interest rates are elevated now compared to what they've been in recent years. Do you foresee that situation essentially making these channels start to work

in the opposite direction if the interest rates stay that way?

Davis: Yes, higher mortgage interest rates lead to lower home values, other things equal. Lower home values reduce business formation and the activity of young firms. So higher mortgage interest rates are a negative for those aspects of business dynamism.

"Increases in home equity values also mean that actual and prospective business owners are wealthier and therefore they're more willing and able to start businesses."

THE MISSING WORKERS

EF: It's been reported that, statistically speaking, we still have a lot of workers missing from the labor force since the onset of the pandemic. What do you think is going on there?

Davis: Millions of people left the labor force in spring 2020 when the pandemic struck. Many of them lost their jobs. And we know that people who left the labor force were not on temporary layoff simply because of the way that the Current Population Survey defines a temporary layoff. If you tell the Current Population Survey that you're on a temporary layoff, they don't count you as out of the labor force; they count you as unemployed and waiting to be recalled.

Many other people who lost jobs stayed in the labor force but did not return to their old jobs. It would seem like a simple thing to know exactly how many, but it turns out not to be so easy with standard, readily available data sources. In time, we probably will get a definitive answer as to how many. But the data sources that actually track large numbers of people over time in a way that makes it possible to get a precise answer to this question don't become available for two or three years after the fact. And

even then, they're hard to access.

As to why some people who worked before the pandemic have stayed out of the labor force, it's an issue I'm actively researching. There are a few things going on, but let me mention two that I think are important. One is that there is increasingly good evidence that out of the tens of millions of people who had COVID-19, a small fraction of them have symptoms that endure for months and months. For a portion of that small fraction, the symptoms are severe enough that they really aren't able to work effectively.

You might think well, how can this amount to much? But let's say you have a hundred million people who had COVID-19 — I'm just going to use round numbers here — and 15 percent of them have symptoms that last a long time. The numbers are in that ballpark. Of that 15 percent, let's say a third of them, just to make the arithmetic easy, have pretty serious debilitating conditions like shortness of breath or brain fog, that kind of thing. Now we're talking about 5 million people. Well, you take 5 million people out of the labor force, that's a reduction on the order of 3 percent. That's the long COVID impact on labor force participation, which others have worked on.

And then there's long social distancing, which is the subject of my recent paper with Nick Bloom and Jose Maria Barrero. We provide two kinds of evidence that some people who used to be in the labor force are now staying out of the labor force because they worry about infection risks associated in the workplace or on the commute to and from work. I think both long COVID and long social distancing are part of the story as to why labor force participation rates haven't recovered fully.

There's also something we talked about earlier, which is that household balance sheets are in great shape, and they are in unusually good shape in the bottom half of the income distribution.

In the past year or so, people felt less financial pressure than normal to go back to work. At some point, they may find that they don't have any more savings in their bank accounts, and they have to go back to work. That kind of effect may eventually bring more people back into the labor force.

EF: Together with Richmond Fed economists Sonya Waddell and Claudia Macaluso, you studied how employers recruit workers. Has recruitment been changing?

Davis: It has been changing. There's an important complementarity on the employer side between offering hybrid or remote work and how you recruit talent. If you've made the decision to let employees come into the office only two days a week, let's say, you can expand the geography of your recruiting activities. If you don't want them to come in at all, or just once a month, then you can probably hire from anywhere in the country.

Sonya, Claudia, and I asked firms whether they use the opportunity to work from home as a tool in recruiting new employees or retaining existing ones. And about 40 percent or so of firms said yes, we do — we recognize that it's helped recruitment and retention to offer at least some of our employees and prospective employees the opportunity to work remotely, at least some of the time.

For the firms that are allowing more remote work as a way to recruit and retain employees, we then asked whether that had changed the geographic domain over which they do recruiting. And we did find that the same firms that adopted the work-from-home model at least part of the week are also expanding the geographic reach of their recruiting efforts. I think that makes a heck of a lot of sense.

THE FUTURE OF AGGLOMERATION

EF: Historically, economists have talked a lot about agglomeration economies, including on the labor side — that you want to have centers where people in the same industry or the same sectors are crossing paths, exchanging information. In your view, based on what you've seen, does that seem likely to become less important?

Davis: Here's how I think about it. There are decades worth of evidence that many types of innovative scientific, engineering, and commercial activities were concentrated in dense urban areas. That's well established. It's that kind of observation that leads to the view that bringing a lot of people together into small geographic spaces is helpful to innovation activity.

But despite that, I am reasonably optimistic about what the pandemic and the whole shift to remote work means for the pace of innovation. That's because something else has also been happening, too: The opportunities for agglomeration economies in online settings have been growing by leaps and bounds. The possibilities for people to interact and do innovative things, even when they are not in the same physical location, has been expanding. It was happening before the pandemic, and the pandemic accelerated the process. Video conferencing platforms like Zoom have gotten a lot better since the pandemic started. More people know how to use them. Many other online collaboration tools have become improved as well. So there are two contending forces at work here — we might get less agglomeration benefits in physical space even as we get more agglomeration benefits in virtual space.

A recent paper by Chinchih Chen,

Carl Frey, and Giorgio Presidente looks at co-authorship patterns in scientific publications in recent decades. And it shows that historically there was kind of a quality discount on articles that were written by teams of people who were located in different cities, very much in line with the notion that if you're not physically in the same place, it hurts the innovation process. But the quality discount shrank over time, and by around 2010 the quality discount vanished and became a quality premium. In other words, in the last decade or so, a disproportionate share of the big-hit scientific articles were actually prepared by teams of people who were in different geographical locations.

And you can see why that might be so. Research enterprises really require specialized knowledge of many different sorts. It's hard to get all of that in one place. If you have a co-author in Canada, one in Mexico, one in the United Kingdom, and another one in Japan, it's pretty hard to coordinate all of those people physically. But you can do it on the cloud, using Zoom, using online collaboration tools, and so on. So that's what you see in scientific publications.

Jeremy Pearce, a postdoc at Chicago, has shown that geographically dispersed teams have also become more prevalent over time for new U.S. patents. Currently, Jeremy and I are investigating whether geographically dispersed inventor teams are becoming a more or less important source of high-value, high-impact patents.

That's just some of the evidence that leaves me in a fairly positive state of mind. I am optimistic about what the pandemic and the shift to work from home means for the pace of innovation, even though, historically, physical proximity has been a huge deal in fostering innovation. **EF**

BY SUREKHA CARPENTER

Expanding Credit Access through Community Development Financial Institutions

Many Americans take access to credit for granted. It's easy for them to underestimate the importance of credit. But without it, a person's economic advancement may become more challenging. For example, in many areas, the inability to secure an auto loan — and thus, a car — could limit employment options, access to healthy food, or medical care.

Different people have disparate experiences in accessing credit. For those who are financially underserved, the market has produced credit alternatives. But many of those alternatives, such as payday lenders, offer unfavorable terms that often make payoff difficult and may leave borrowers falling behind.

One way of addressing such gaps in access lies outside the traditional credit system. Community development financial institutions, or CDFIs, are mission-driven nonprofits and for-profits that deliver a range of financial products, services, and education to underserved individuals and communities. They provide credit where traditional lenders cannot and provide affordable credit where nontraditional — sometimes predatory — lenders do not.

HISTORICAL CHALLENGES

Racial minorities, immigrants of many backgrounds, women, people in rural places, and low-income laborers have long faced considerable challenges obtaining credit. Early in U.S. history, some groups created their own banks and financial resources after being excluded from mainstream institutions. For example, in 1903, Maggie L.

Walker became the first Black woman to found a bank — the St. Luke Penny Savings Bank in Richmond. (See “Maggie Lena Walker,” p. 12.)

The Great Depression weighed heavily on the banking industry and closed many institutions, including ones that catered to marginalized populations. Beyond bank closures, which dealt a blow to the expansion of financial access, policies and practices put in place to counter the effects of the downturn would also have devastating and lasting effects. To avoid huge numbers of households being foreclosed on, the federal government established the Home Owners Loan Corporation (HOLC). The institution was meant to help refinance mortgages, but as a part of that process, it redlined city neighborhoods that were home to racial minority communities, immigrants, or low-income laborers of all backgrounds. By labeling these places too risky to lend to and “hazardous” for the government to back mortgages in, it became increasingly difficult for these communities to find a source for any type of loan they sought.

Despite its discriminatory effects, redlining was not addressed by Congress for decades. After overt redlining was banned under the Fair Housing Act of 1968, federal laws targeted financial and banking discrimination next. The Equal Credit Opportunity Act of 1974 made it illegal for creditors to discriminate based on race, color, sex, marital status, or religion. Three years later, the Community Reinvestment Act (CRA) was passed to reduce the discriminatory effects of redlining by encouraging banks to

meet the credit needs of the communities in which they take deposits — with a particular focus on low- and moderate-income and underserved neighborhoods. (See “Revisiting the Community Reinvestment Act,” *Econ Focus*, First Quarter 2022.)

While this was happening in the legislature, the first known CDFI, South Shore Bank, was founded in Chicago in 1973 with an explicit goal of providing financing to low-income communities.

GAPS IN CREDIT ACCESS

The National Community Reinvestment Coalition (NCRC), an association of community-based organizations seeking to increase lending in underserved communities, argues that HOLC's redlined maps from the 1930s and 1940s have led to persistent economic inequality today. NCRC reported that in 2018, almost three-quarters of the neighborhoods that the HOLC graded as high risk were low-to-moderate income (LMI) today and nearly 64 percent were majority minority. This is relevant because recent studies conducted around the United States point to disparate outcomes and experiences in accessing credit for minority and LMI borrowers, among others. This includes finding lenders and being approved for credit.

Brick-and-mortar financial institutions can increase physical access to lending. But there tend to be fewer bank branches in rural areas and in places with large racial minority or low-income populations. Online banking and lending are alternatives to in-person banking, but its limitations

affect the same populations. Rural places tend to enjoy less broadband access due to a lack of infrastructure, and in urban areas there is less internet adoption among LMI and minority households.

Minority borrowers, low-income borrowers, and borrowers in rural places face higher rates of denials for mortgages and small businesses. Some studies point to discrepancies in credit outcomes based on race. A 2019 test by the NCRC found that better-qualified Black and Hispanic small-business owners had worse experiences than their White counterparts when seeking business loans. Rural small-business lending declined in Appalachia between 2007 and 2010 at a greater rate than in the nation as a whole, according to an NCRC report. In 2009, credit was denied to about 9 percent

of small businesses across the United States, whereas 23 percent were turned away in Appalachia. In a study of credit access constraints, the New York Fed also determined that rural status, high percentages of residents of color, lower educational attainment, and higher unemployment rates are correlated with less credit access.

DIFFERENCES IN PERSONAL CREDIT USE

Federal Depository Insurance Corporation (FDIC) data explore one aspect of credit access: personal credit usage. In 2021, seven out of 10 U.S. households reported using bank credit in the last year. This includes using a credit card or a personal loan from a bank or credit union but does not include student loans, auto loans, or

mortgages. Across household characteristics, usage varied widely. (See table.) Additionally, 2.8 percent of households had a personal loan or line of credit from a company other than a bank in 2021.

The last time the FDIC asked directly about U.S. households outside of the credit economy, in 2017, one household in five had no mainstream credit and likely did not have a credit score. The use of alternative credit — borrowing outside of the traditional credit economy — includes products like payday loans, pawn shop loans, and auto title loans. While 4.4 percent of all households in the nation used alternative credit products such as these in 2021, the share grew to 7.8 percent for households without a high school diploma and 7 percent for very low-income families. The data do not

Personal Credit Use in the Past 12 months, By Household Characteristics, 2021

Row Variables	Number of Households (1000s)	Use of bank credit, last 12 months	Use of credit at company other than a bank, last 12 months	Use of alternative credit product, last 12 months
All Households	132,517	72.3	2.8	4.4
Black	16,933	49.9	3.3	7.6
Hispanic	19,368	60.0	2.8	6.4
White	86,037	78.8	2.7	3.3
No high school diploma	10,492	37.9	2.3	7.8
High school diploma	32,235	60.7	2.5	5.9
College degree	52,904	86.2	2.6	2.3
Less than \$15,000	12,547	33.9	1.6	7.0
\$15,000 to \$30,000	17,889	52.2	2.5	6.9
\$30,000 to \$50,000	24,617	67.1	2.8	6.1
\$50,000 to \$75,000	24,563	77.8	3.2	4.3
At least \$75,000	52,900	87.9	3.0	2.3
Urban area	113,835	73.4	2.7	4.3
Not in urban area	17,645	65.3	3.1	5.2

SOURCE: FDIC 2021 National Survey of Unbanked and Underbanked Households

NOTES: Bank credit includes credit cards (Visa, MasterCard, American Express, or Discover) or personal loans or lines of credit from a bank; it does not include student loans, auto loans, or mortgages. "Alternative credit product" includes the following: payday loan, pawn shop loan, rent-to-own service, refund anticipation loan, and auto title loan.

reveal how many households chose not to be in the credit economy.

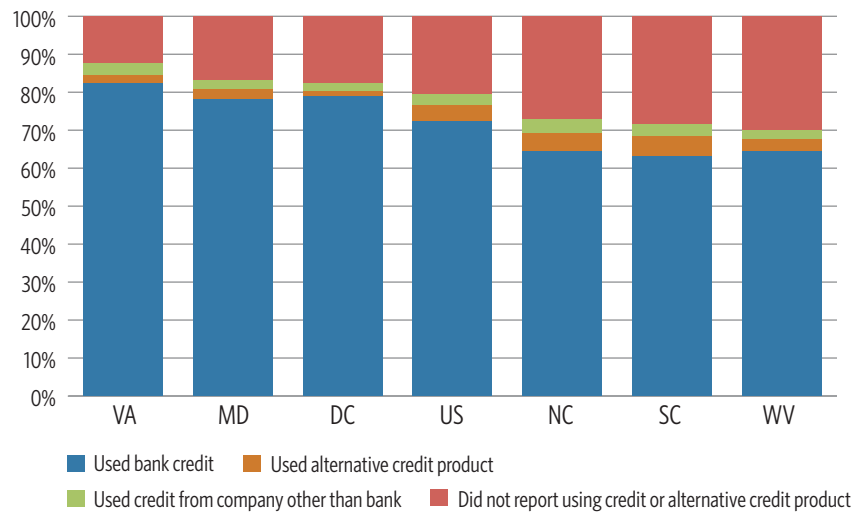
While the National Survey of Unbanked and Underbanked Households provides information from households that use personal credit, it does not explore large loans, like auto loans or mortgages. According to the Fed's Survey of Consumer Finances, differences persist for these products across family characteristics, as well. Forty-four percent of all families held a mortgage or home equity loan in 2019. That's compared to 28 percent of Black families and 33 percent of Hispanic families. And, while 37 percent of all families have an auto loan, the share falls to 27 percent for families with no high school diploma.

Within Fifth District states, North Carolina, South Carolina, and West Virginia had the lowest use of bank credit. (See chart.) Those states also had the highest use of alternative credit products. Their similarities in credit use may be related to the large shares of minority, rural, and LMI households in North Carolina and South Carolina and the high shares of rural and LMI households in West Virginia.

Due to data limitations, the data are not available across all characteristics for each state in the Fifth District. Where they are available, the data show large gaps in credit patterns between races, income, and education levels:

- **Race.** In the District of Columbia, Maryland, North Carolina, and South Carolina, there were differences of 22 to 34 percentage points between bank credit usage of Black and White households.
- **Income.** Roughly half of North Carolina and West Virginia lower-income households (\$15,000 to \$30,000) used bank credit versus 68 to 75 percent usage among households with moderate income (\$50,000 to \$75,000).
- **Education.** Between 47 and 57 percent of North Carolina, South Carolina, and West Virginia borrowers with a high school diploma as

Personal Credit Use in the Past 12 Months, By State, 2021



SOURCE: FDIC 2021 National Survey of Unbanked and Underbanked Households

NOTES: Bank credit includes credit cards (Visa, MasterCard, American Express, or Discover) or personal loans or lines of credit from a bank; it does not include student loans, auto loans, or mortgages. "Alternative credit product" includes the following: payday loan, pawn shop loan, rent-to-own service, refund anticipation loan, and auto title loan.

their highest educational attainment used bank credit, compared to 76 to 81 percent of borrowers with a college degree.

ENTER CDFIS

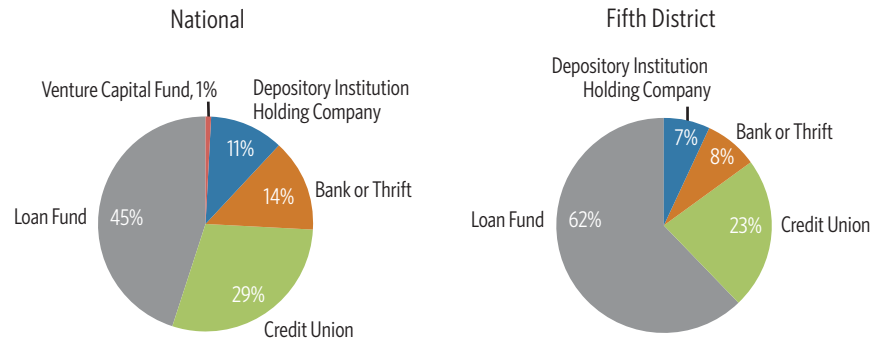
CDFIs are well positioned to serve borrowers outside of the traditional lending market, particularly those who are LMI, because they are purpose-built to do so. In 1994, the Riegle Act established the CDFI Fund, which is now housed in the U.S. Department of the Treasury, to promote economic revitalization and community development. The CDFI Fund is intended to be an investment and assistance program for CDFIs so that those institutions can effectively deliver financial services to underserved communities. CDFIs can be banks (including thrifts and bank holding companies), credit unions, loan funds, or venture capital funds, as well as community development corporations. Any financial institution that has a mission to serve target markets is a CDFI, but they can also apply to become

certified by the CDFI Fund to access exclusive programs that provide direct funding and technical assistance.

CDFIs are often highly tailored to their community, leading to a wide diversity of institution sizes and structures. Most offer consumer, residential real estate, or business products and technical assistance (for example, business development training); they may also offer financial education. They help increase credit access both by lending directly (particularly loans that may not be offered as frequently by traditional lenders, like small-dollar loans) and by helping to address common barriers that borrowers face. Examples of borrower challenges include seeking credit with a lack of savings or liquid assets, having incomplete financial awareness and knowledge, or a dearth of credit history (resulting in a low, or no, credit score). In some cases, CDFIs help borrowers become credit ready, better preparing them for approval at a traditional lender.

In their article "An Overview of Community Development Financial Institutions," authors Anna Alvarez

Shares of CDFI Types



SOURCE: CDFI Fund

NOTE: There are currently no venture capital funds among CDFIs in the Fifth District.

Boyd of the Fed Board of Governors and Charlene Van Dijk of the Atlanta Fed described how CDFIs deliver small loans with flexible terms to meet client needs. They are able to do so by blending diverse capital from several sources. Certified CDFIs can leverage loans and grants received from the CDFI Fund to attract private capital. That's combined with capital from earned income, grant funding, fundraising, equity and debt instruments, and — for CDFI banks and credit unions — deposits.

CDFIS IN THE FIFTH DISTRICT

According to the most recent data from the CDFI Fund, there are 100 certified CDFIs within the Fifth District. Loan funds — which provide financing and development services to businesses, organizations, and individuals — and credit unions make up over three-quarters of them. But loan funds are more prevalent in the Fifth District than nationally, making up about 60 percent of all CDFIs in our district. (See chart.)

Based on a review of the available financial statements from 87 of those CDFIs, more than a third have total assets ranging from \$1 million to \$25 million, and a quarter have assets in the \$50 million to \$500 million range. Another 17 percent have assets exceeding \$500 million.

CDFIs are headquartered throughout the district, but their service areas are wide-ranging: Some operate within one county or smaller locality, while others can serve several states. As examples, the Sequoyah Fund in Cherokee, N.C., is a Native CDFI that services the Eastern Band of Cherokee Indians. The Natural Capital Investment Fund, Inc., is based in West Virginia but also offers products and services in Maryland, Virginia, North Carolina, and South Carolina. CDFIs may service wide geographies, but they tend to be located close to lower-income areas. A third of Fifth District CDFIs are headquartered in LMI communities, and almost all (94 percent) are within two miles of an LMI community. North Carolina has the most CDFIs, with 23, while West Virginia has the fewest, with 7.

The 12 regional Federal Reserve Banks administer a survey of CDFIs to better understand the successes and challenges of the industry. Seventy percent of respondents to the Fed's 2021 CDFI Survey shared what innovative products they offered to increase access for their clients. The wide range of programs underscores the breadth and diversity of CDFIs' roles in their respective communities, and a few Fifth District examples are highlighted below.

Survey respondents mentioned financial counseling programs, credit

builder loans, and nontraditional credit scoring to increase credit access for low-income and unbanked clients. The CAREs Project, Inc. in Winston Salem, N.C., helps low- and moderate-income and credit-challenged individuals purchase cars by pairing low-cost auto loans with financial counseling and vehicle maintenance training. Education and counseling often complement lending options in the CDFI model.

Respondents also mentioned a range of programs and initiatives to support low-income homeowners and those wishing to buy a home. In addition to a slew of first-time homebuyer mortgage programs, several CDFIs mentioned loan products that can help increase the affordable or workforce housing stocks. Carolina Foothills Federal Credit Union offers a mortgage loan for manufactured homes to their low-income clients in the Spartanburg, Greenville, and Gaffney areas of South Carolina.

Several CDFIs described providing financial products, mentoring, and technical assistance targeted specifically to minority entrepreneurs and small-business owners. Through the CDFI Survey, The Sequoyah Fund highlighted a program born during the COVID-19 pandemic. Their business accelerator, TACTIX, helps businesses expand their customer base through digital marketing tools and training. The program helps improve management capability, develop more focused strategies, enter new markets, and attract new customers. These critical services help small businesses gain stability, which can improve their ability to secure credit. In addition, the Sequoyah Fund offers small-dollar business loans (\$500 to \$100,000) that are difficult to access in traditional credit markets.

ON THE HORIZON

Recently, CDFIs have received federal recognition as economic drivers for underserved populations. The federal

CDFIS AND RACIAL EQUITY

As revealed through data and academic literature, historical inequity in credit access still affects minority borrowers today. To better understand how CDFIs address racial equity, the Fed's 2021 CDFI Survey asked respondents about their organization's equity goals. The results indicated that CDFIs seek to promote racial equity through targeted communication with minority communities, their lending terms and programs, and improved diversity, equity, and inclusion policies within their organizations. CDFIs strive to achieve equity by developing programming and services that increase credit access in their target markets — where traditional credit is less available and utilized.

Broadly, CDFIs offer more accessible terms than the traditional credit market to reach more minority clients. This includes reduced interest rates, loan forgiveness, or gap financing. In some cases, CDFI lending products are sufficient to meet borrowers' financing needs, while other borrowers leverage their CDFI financing to qualify for

additional, conventional financing. CDFIs also work to improve the accessibility of their products among minority-owned businesses with the goal of improving community economic outcomes. As one respondent put it: "We have programs that are introduced to encourage ownership of assets for Black businesses and ones that help create generational wealth."

CDFIs offer mortgage products, purchase assistance, down payment assistance, zero-down home loans, and home equity loans to support homeownership for minority clients. These tools allow homeowners to begin to build equity in their home and promote racial equity in homeownership. One responding CDFI shared that its objective is to "dismantle the deeply rooted legacy of racism in housing — from the types of homes that are built, where they're built, who builds them, and the wealth that is generated from them."

— Surekha Carpenter and Sierra Latham

government appropriated \$12 billion in CARES Act funding to support CDFI efforts to mitigate the effects of COVID-19 in low- and moderate-income markets. By September 2022, the Treasury had already allocated much of this funding to CDFIs across the nation, with more than \$1

billion distributed to 15 CDFIs in Fifth District states.

CDFIs are helping underserved individuals and small businesses around the country access the financial services they seek. The number of CDFIs in the United States has been growing, and responses to the Fed's

CDFI Survey suggest that demand for CDFI products is also on the rise. With growing government support, the CDFI industry may be in its best position since its inception to increase access to credit and financial services across the United States and in Fifth District communities. **EF**



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BY KARTIK ATHREYA

Inflation and the Road Ahead for Research

While the Fed has never been a stranger to criticism, the criticism has been notable and specific during the past year. The subject: inflation. This is of course fully understandable. Memories remain fresh of last spring and summer, when annual inflation in “personal consumption expenditures” — which the Fed targets to grow at just 2 percent per year — reached 7 percent. Current inflation remains well above target.

As I discussed in my last column, the Fed is taking steps to bring inflation back down to its 2 percent long-run target. This includes decisively raising its policy rates and letting the balance sheet shrink as well. (See “The Fed Is Shrinking Its Balance Sheet. What Does That Mean?” *Econ Focus*, Third Quarter 2022.) The Federal Open Market Committee (FOMC) has repeatedly stressed its commitment to stable prices and made clear that it has both the tools and the will to meet that commitment.

As a research director looking back at this period, just like anyone else, I’ve thought about the Fed’s role, too. To state the obvious, it’s important for those of us who work at the Fed to listen to and learn what we can from criticisms.

But first, let me level set a bit: The FOMC has since acted aggressively by historical standards to bring inflation back down. And as my colleague Alex Wolman documented in a recent Richmond Fed Economic Brief, market participants believe we’re on the right track — and presumably their expectations matter for setting the prices and wages that are the proximate drivers of inflation. The task ahead, then, is to validate those expectations, and FOMC members have been both exceptionally clear and unified in saying we will.

And while it is early days, inflation has moderated to some extent, and FOMC members continue to express their resolve to get inflation back to target.

But naturally, we might ask hard questions about the Fed’s role in how we got here. There are, I think, reasonable questions to be asked about our monetary policy actions during the pandemic. Starting early in the pandemic, the FOMC provided significant monetary support to the economy, at the same time Congress and the Treasury Department were providing sizeable fiscal transfers in various forms. In addition, agencies extended significant support through a rent moratorium and a pause in student loan repayments.

Should the Fed have acted differently in light of the other institutions’ stimulatory actions? My own view is that this is a hard case to make. The various actions of Congress and the agencies were in response to an economic shock

unprecedented in size and scope — the pandemic and the related shutdowns — and indeed, spanned two administrations. It is far from clear that the Fed should have looked around the corner at an inflation that appeared very far from even potentially taking place.

Another possible issue critics could raise is that the FOMC in August 2020 released a new Statement on Longer-Run Goals and Monetary Policy Strategy in which the committee announced a policy of “average” inflation targeting — widely viewed as meaning, in practical terms, that the Fed would be less inclined to take preemptive action against future inflation based on employment conditions. But it’s

important to bear in mind that the committee released that statement in the context of eight straight years of chronic underruns in inflation, and with the best research alerting it to further underruns in the absence of more aggressive action. Specifically, the median inflation projection from FOMC participants then was 1.7 percent for 2021 and 2 percent for 2023. In light of what was then known — both empirically and from economic research — the policy change seems to me like a reasonable one.

Yet, if we accept — and I think we must — that central banks generally own inflation, two related criticisms are harder for me to discount. First is that language in the FOMC’s September 2020 statement could be viewed as going beyond the general principles articulated in the longer-run goals document, and cementing a new, higher threshold for rate increases to commence. Second, as time went on, policy rates became increasingly far away from the prescription of an entire battery of “rules” for rate-setting. To be clear, the Fed does not follow any mechanical rule, but the gap between a broad set of rules and our actions must be noted. For reference, I’ll note that today this gap has been substantially closed.

Taking these together, one thing is clear: We will learn more as researchers assess the monetary policy of this period, and I’m looking forward to learning from this work as it comes out. For now, though, I think a fair-minded appraisal of the Fed’s performance during the pandemic era must give weight, and a lot of it, to the effects of the Fed’s actions in helping to prevent a more severe and longer-lasting downturn. But we will get more clarity, and this view is one I’m prepared to revise. **EF**

It’s important for those of us who work at the Fed to listen to and learn what we can from criticisms.

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

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THE HISTORY OF HOME MORTGAGES

Until the 1930s, homeownership in the United States was restricted to those who could afford to make a down payment of 50 percent and repay the loan in full within five to 10 years. A series of government programs from the Great Depression and World War II reformed the mortgage market, giving millions more Americans the opportunity to own a home. As buyers' needs and economic conditions shift, are more changes on the horizon?

AVERTING A TREASURY BOND CRISIS

In March of 2020, the uncertainty of the COVID-19 pandemic led to a liquidity crisis in the market for U.S. Treasury bonds, as bondholders seeking to convert these assets into cash could not find buyers at listed prices. There is concern that another major shock could wreak havoc, leading policymakers and regulators to explore ways to reform and strengthen this \$24 trillion market.

PUBLIC TRANSIT POST-PANDEMIC

The pandemic took a huge toll on public transit usage, knocking ridership levels down by 80 percent in the early months. Ridership remains below pre-pandemic levels, but bus transit has recovered faster than rail. Richmond's bus rapid transit, the Pulse, has stood out as one bright spot. Since launching in 2018, it has carried more than 5 million passengers, and several cities are looking to emulate its success. Will the pandemic lead to greater focus on buses to meet public transportation needs?

THE FED AND THE STOCK MARKET

In recent decades, the Fed has tended to ease monetary policy following large stock market declines. This isn't necessarily a surprise, as such declines often reflect the type of economic worsening that would normally elicit a Fed easing response. Yet by the late 1990s, the tendency had become known as the "Greenspan Put" due to the downside protection it was perceived as giving investors. How do equity market moves factor into Fed policy?



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