



FEDERAL
RESERVE
BANK *of*
ST. LOUIS

CENTRAL TO AMERICA'S ECONOMY®

**ANNUAL
REPORT
2020**

THE COVID-19 ECONOMY:

How the Pandemic
Defined 2020

Table of Contents

PRESIDENT'S MESSAGE	2
THE COVID-19 ECONOMY: ESSAYS	
Introduction	4
Crises in Corporate Debt Markets: COVID-19 vs. the Global Financial Crisis	8
How Severe Was the Contraction in U.S. Employment?	11
An Uneven Crisis for Lower-Income Households	14
State and Local Governments Harness Federal Funding	17
International Trade of Essential Goods during COVID-19	20
Reopening the Economy by Realigning Private and Public Interests	22
OUR LEADERS. OUR ADVISERS.	25
Chair's Message	26
Boards of Directors, Advisory Councils, Bank Officers	28
OUR PEOPLE. OUR WORK.	41

PUBLISHED APRIL 7, 2021

Our financial statements are available online. To read them, go to the website for the annual report, stlouisfed.org/annual-report/2020, and click on the Financial Statements button in the navigation bar.



PRESIDENT'S MESSAGE

Reflections on the Pandemic at the One-Year Mark

James Bullard is the president and CEO of the Federal Reserve Bank of St. Louis.

Over the past year, countries across the world have been navigating the ravages and uncertainties brought on by COVID-19. Ultimately, the pandemic is a global health crisis and human tragedy. But the virus and efforts to contain its spread have also caused an unprecedented shock for many economies.

In the U.S., these effects have been widespread, and although the pandemic began more than a year ago, they continue today—both from a health standpoint and an economic standpoint.

REDUCTION IN ECONOMIC ACTIVITY

Unlike the 2007-09 financial crisis and many previous economic shocks that were driven by underlying problems in the economy, the current shock to the economy was directly related to the actions needed to contain the virus and invest in public health. Prior to the pandemic, U.S. labor markets were strong—with the unemployment rate at 50-year lows in early 2020—and real gross domestic product (GDP) had increased by 2.2% in 2019.

In early spring of 2020, authorities in many locales issued orders that curtailed certain forms of economic and social activity, particularly nonessential services, sporting events, concerts and other large gatherings. At the same time, many people limited their shopping and travel voluntarily, and many firms limited production or asked their employees to work remotely. These efforts were intended to contain the pandemic and prevent the health care system from being overwhelmed, but they also caused a sharp reduction in economic activity.¹

RESPONSES FROM POLICYMAKERS

The fast-moving nature of the pandemic caused policymakers on both the monetary policy side and the fiscal policy side to act swiftly.² Indeed, U.S. monetary and fiscal policies during the crisis have been significant and exceptionally effective.

Monetary Policy

One of the Federal Reserve's immediate actions was to lower the target range for the federal funds rate to near zero in mid-March. The Fed subsequently provided liquidity to financial markets through a variety of emergency funding programs supported by the U.S. Treasury.

These programs—authorized under Section 13(3) of the Federal Reserve Act—helped the U.S. avoid an incipient financial crisis during the March-April time frame that could have occurred on top of a health crisis. Financial stress, as measured by the St. Louis Fed Financial Stress Index, rose dramatically in March but declined to pre-pandemic levels over subsequent months.

Fiscal Policy

The health crisis has had uneven effects across the economy, with some businesses—like those in the leisure and hospitality sector—being hit especially hard. Consequently, some workers have been more adversely affected by the crisis than others.

The fiscal policy response aimed at providing pandemic relief to these businesses and workers has been large. While this process has been understandably

uneven, the spirit of the intervention has been to keep disrupted firms and households whole and help them to sustain their incomes to pay their bills. This policy has been so successful that personal income did not fall as it usually does during a recession; instead, the fiscal response drove personal income to an all-time high in the second quarter of 2020.

REAL-TIME DATA

As policymakers were considering possible responses to the pandemic, large swings in key economic indicators posed a challenge. For example, the unemployment rate increased by more than 10 percentage points in one month—from 4.4% in March to 14.8% in April. Similarly, second-quarter real GDP decreased by 31.4% at an annual rate (a post-World War II record low), while third-quarter real GDP increased by 33.4% at an annual rate (a post-World War II record high).

Timely insights from our various contacts throughout the Eighth Federal Reserve District—including our boards of directors and advisory council members—have been especially helpful in taking the pulse of the economy in real time.

CUTTING-EDGE RESEARCH

Analyses from St. Louis Fed economists have also helped identify real-time economic trends during this pandemic period. Our Research Division ramped up its research and data analysis on the pandemic's economic impact and the policy responses. These efforts were under the leadership of then-Research Director Chris Waller, who became a member of the Fed's Board of Governors in December.

Our long-standing commitment to rigorous economic research and data dissemination was tested and proven during this crisis. As expected of a highly ranked research institution, our economists proved even more prolific, authoring new working papers and articles to help keep the general public, analysts and policymakers alike informed.

Our economists are a well-trained, diverse group who work at the frontiers of economic research and are equipped to study the types of issues that have emerged during the pandemic. Their research has been invaluable in informing my monetary policy views and also in providing expert analyses to anyone who wants to understand the pandemic's economic impact. This annual report describes some of these insights.

MANAGING THE COVID-19 RISK

Throughout 2020, many businesses and households adapted to the new mortality risk posed by COVID-19. At the St. Louis Fed, our leaders have worked to keep employees safe while also meeting business goals. We adapted by having mostly remote work, while maintaining support for and the safety of essential on-site employees who process currency for redistribution into communities and who guard our vaults 24/7. Our organization has demonstrated resilience, agility and innovation in getting our work done and continuing to serve the public's interest.

At the time of this writing, the pandemic is ongoing, but the arrival of vaccines suggests the health crisis will wane. Of course, no one knows how the pandemic will end, and a great deal of uncertainty remains regarding the health crisis and the economy.

In looking ahead, the St. Louis Fed—through its Research Division, now led by Carlos Garriga—will continue producing high-quality academic research and policy analysis to help solve the economic challenges presented by the pandemic and beyond. ■



James Bullard

President and CEO
Federal Reserve Bank of St. Louis

ENDNOTES

- 1 See my On the Economy blog post "Expected U.S. Macroeconomic Performance during the Pandemic Adjustment Period," from March 23, 2020.
- 2 For more discussion, see my *Regional Economist* article "Monetary Policy and Fiscal Policy Responses to the COVID-19 Crisis," from Nov. 10, 2020.

Introduction



Kevin L. Kliesen is a business economist and research officer whose research interests include U.S. macroeconomic performance, and monetary and fiscal policy analysis. He joined the St. Louis Fed in 1988.



Christopher J. Neely is a vice president of research. He conducts empirical research in international finance, with an emphasis on issues of market efficiency. He joined the St. Louis Fed in 1993.

By Kevin L. Kliesen and Christopher J. Neely

In early January 2020, U.S. and world health organizations began to sound the alarm about a novel coronavirus that originated in Wuhan, China, in late 2019. At the time, there were few signs of the subsequent pandemic that was about to throttle the world economy.

For example, the U.S. unemployment rate in January and February was effectively at a 50-year low of 3.5%. As Federal Reserve Chair Jerome Powell and other Fed officials have pointed out, the strong job market was especially beneficial for low-income workers.¹ The consensus of economic forecasters—surveyed by the Federal Reserve Bank of Philadelphia in early February—was that “the U.S. economy in 2020 looks stronger now than it did three months ago.”²

This optimism ended up being misplaced, though it shouldn’t be surprising, given the impossibility of predicting pandemics.

COVID-19’S EFFECTS ON THE ECONOMY

The effects of the pandemic spread through the economy in late winter and early spring. By the end of February, global stock markets had plunged; in March and April, payroll employment likewise fell sharply. The National Bureau of Economic Research’s Business Cycle Dating Committee would later declare that the nation’s record-long business expansion ended sometime in February.

The COVID-19 pandemic was the second major shock to throttle the nation’s economy in the past dozen years. However, it was unique in that it resulted partially from the policies enacted intentionally, albeit with the expectation they would be temporary. These measures triggered massive job losses and the shuttering of businesses—some briefly, some permanently.

With virus case counts and fatalities rising, federal COVID-19 guidelines issued on March 16 urged the public to, among other things, work from home if possible, avoid social gatherings of more than 10 people—including outside-the-home activity (e.g., dining out)—and avoid discretionary travel.³ State and local governments followed suit with various measures to curb the pandemic, including many that reduced economic activity. In addition, many people voluntarily chose to avoid restaurants, gyms and travel.

Some 22 million jobs were lost in March and April. To put this in perspective, the number almost matched the total number of jobs the U.S. gained over the previous 10 years. The official unemployment rate more than tripled to 14.8% in April (Figure 1), but this rate likely significantly understated the true rate. The Bureau of Labor Statistics (BLS) reported that the official unemployment rate likely would have peaked at about 20% if many survey respondents had correctly classified themselves as unemployed but on temporary layoff because of COVID-19-related business closures.⁴

The decline in national output and income was as staggering as the job losses: Real gross domestic product (GDP) fell at a 5% annual rate in the first quarter of 2020 and at an unprecedented 31.4% rate in the second quarter (Figure 2). The decline in real GDP was worse in other countries. In the United Kingdom, for example, real GDP fell at a nearly 60% rate during the second quarter.

With the U.S. economy weakening at a rapid pace, the Federal Open Market Committee cut its federal funds rate target to zero and expanded its purchases of Treasury and mortgage-backed securities. Meanwhile, the Board of Governors, with the approval of the U.S. Treasury secretary, restarted several special lending facilities from the 2007-09 financial crisis and devised five new facilities. Four pandemic-specific pieces of legislation were signed into law during the spring, including the CARES Act. The total amount allocated by Congress exceeded \$2.7 trillion, including a little more than \$450 billion to fund the five new Federal Reserve lending facilities.

Some weekly indicators suggest that the economy bottomed out in late April/early May. As the initial pandemic wave eased and social distancing protocols were relaxed, key monthly indicators—such as payroll employment, personal consumption expenditures, new home sales and industrial production—rose sharply in May and continued to rise during summer. Real GDP rose at an unprecedented 33.4% annual rate in the third quarter, erasing much of the declines of the previous two quarters. Large increases in expenditures and production and

FIGURE 1

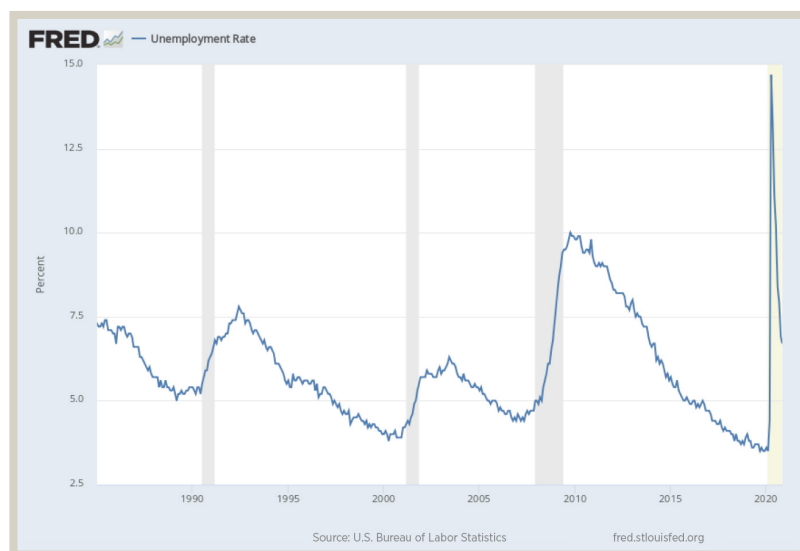
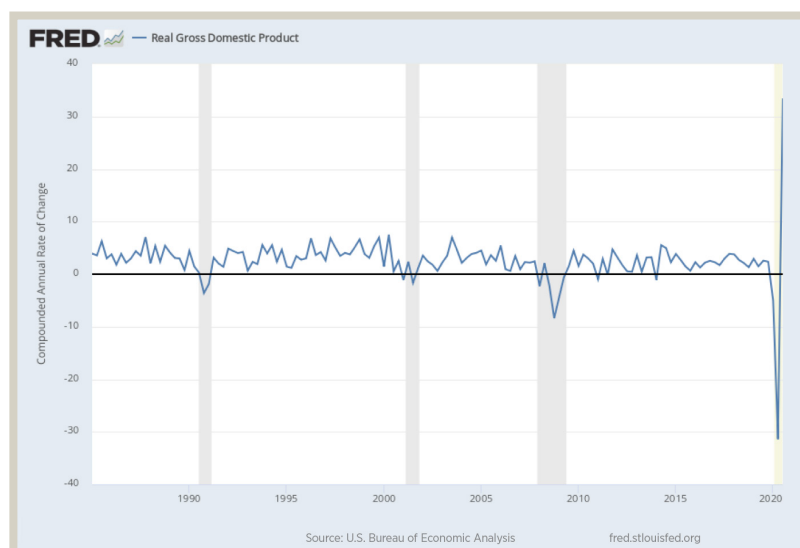


FIGURE 2



These charts and others are available in FRED® (Federal Reserve Economic Data), a database created and maintained by the St. Louis Fed's Research Division. (See Page 6.)

the rehiring of furloughed workers suggested that the worst had passed.

The pace of U.S. economic activity continued to increase over the last three months of the year, although a resurgence of the virus during the fall of 2020 spurred some economists to dramatically dial back their expectations for the economy's late 2020 and early 2021 performance.

To insure against the possibility of much weaker growth, an additional fiscal support package totaling a little more than \$900 billion was signed into law in late December. This fiscal package spurred many forecasters to expect positive real GDP growth in the first quarter of 2021; prior to passage of

the legislation, some forecasters had expected negative growth in the first quarter.⁵

The pandemic-spawned economic contraction and recovery is one for the record books. Economists have begun to focus on the potential longer-run effects of the pandemic, and three questions stand out:

1. Will the large number of bankruptcies, permanent business closures and the possible erosion of job skills due to long-term spells of unemployment (all of which contribute to what economists call “economic scarring”⁶) lower long-term GDP growth?
2. Will the shift to e-commerce and a corresponding greater propensity to work from home permanently reduce the number of retail establishments and lower the demand for commercial office space?
3. Will global supply chains need to be reconfigured to mitigate future disruptions to the production and distribution process for manufacturers?

ST. LOUIS FED PANDEMIC RESEARCH

To better understand how the pandemic and the various policy responses to it have affected the U.S. economy, the St. Louis Fed’s Research Division undertook a remarkable amount of research and analysis on the pandemic economy. From mid-March through December 2020, our economists produced scores of articles, blog posts and working papers on pandemic-related topics. In addition, they maintained and updated various data series related to the pandemic on our websites.

The essays contained in this report describe a portion of our pandemic-focused work in 2020—highlighting the effects of the pandemic on financial and labor markets, fiscal policy, international trade and designing policies to address pandemics with the lowest economic costs. ■

EXPLORE OUR COVID-19 ONLINE RESOURCES

- St. Louis Fed COVID-19 Resource Page and Statement from President Bullard
- St. Louis Fed Research Division COVID-19 Page
- FRED COVID-19 Economic and Financial Data Tracking Dashboards
- FRASER COVID-19 Timeline

To access these resources and more, go to stlouisfed.org/annual-report/2020.

ENDNOTES

- 1 See Powell’s Aug. 27, 2020, speech, “New Economic Challenges and the Fed’s Monetary Policy Review.”
- 2 See the Philadelphia Fed’s “First Quarter 2020 Survey of Professional Forecasters,” released Feb. 14, 2020.
- 3 FRASER’s Timeline of Events Related to the COVID-19 Pandemic contains links to announcements such as this one. Visit fraser.stlouisfed.org to see more.
- 4 The BLS offers a more detailed explanation on its webpage discussing frequently asked questions about the impact of the pandemic on the April 2020 employment situation.
- 5 The consensus of professional forecasters in early 2021 was that the development and distribution of vaccines would help trigger a vibrant rebound in economic activity over the final six to nine months of 2021, perhaps extending into 2022.
- 6 For more about economic scarring, see Julian Kozlowski’s 2020 *Economic Synopses* article “COVID-19: Scarring Body and Mind.”

Bringing Data to the Public Since 1991

The St. Louis Fed’s FRED® (short for Federal Reserve Economic Data) is a public database that houses nearly 800,000 economic data series from regional, national and international sources worldwide.

Millions of users—from high school students to Nobel Prize winners—turn to FRED for their data questions. FRED’s relevance as a data aggregator has only grown during the COVID-19 pandemic as researchers and the larger public attempt to quantify the pandemic’s effects on the economy and their daily lives.

FRED’s tools make it easy for users to find, download, graph and share needed information—in the format they need it in. Series are updated continuously and can be accessed via desktop or smartphone using the FRED App. Data enthusiasts can also try GeoFRED® (for geographical maps of data found in FRED) and ALFRED® (for vintage, or unrevised, data). Start at fred.stlouisfed.org.



Transitioning Leadership, Maintaining Strong Research

CHRISTOPHER WALLER: A DECADE OF LEADING THE ST. LOUIS FED'S RESEARCH DIVISION

After more than a decade serving as the St. Louis Fed's research director, Chris Waller was confirmed by the U.S. Senate as a member of the Board of Governors of the Federal Reserve System and was officially sworn into his role in December 2020. Waller is the second St. Louis Fed economist to be elevated to the Board, following Susan Bies, who served as a Fed governor from 2001 to 2007.

Following a distinguished career in academia, Waller joined the St. Louis Fed in 2009. He is a highly respected scholar, professor and expert in central banking and monetary policy. In 2020, he directed the Research Division's intensive study of the economic impact of the COVID-19 pandemic at a time when very little was known about the virus.

"Given the significant challenges the pandemic imposed on the global macroeconomy, we began an intensive effort at the St. Louis Fed to research all aspects of this health shock to better understand the differing outcomes on



certain segments of society in hopes that policy could be directed to those most impacted," Waller noted. "This rigor in macroeconomic research and real-time data analysis underscores the St. Louis Fed tradition of being a pioneer on the frontier of macroeconomic research. It's a tradition that I carried on during my tenure as research director and makes me proud to be a St. Louis Fed alum."

Waller's impact on the St. Louis Fed was indelible, and his colleagues expect he will have a positive and lasting influence in his term on the Board of Governors. ■

MEET THE ST. LOUIS FED'S NEW RESEARCH DIRECTOR: CARLOS GARRIGA

Carlos Garriga succeeded Chris Waller as research director of the St. Louis Fed, continuing its tradition of world-class thought leadership in economic research. Garriga oversees a department within the St. Louis Fed that ranks among the top of all research institutions in central banking and academic research worldwide.

Garriga joined the St. Louis Fed in 2007 and advises Bank President Jim Bullard on monetary policy issues. Garriga's research focuses on macroeconomics and housing, household finance, monetary economics and asset pricing, and public economics. His work has been widely published in leading economic academic journals.

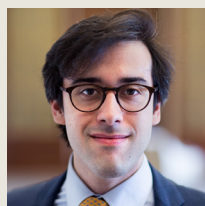
"I'm honored to carry on the St. Louis Fed tradition in using academic-style research to help shape the debate in the economics profession," Garriga said. "The diversity of experience among our research staff, including the depth and breadth of research coverage and innovative thinking, allows



the Bank to do work that can help address the economic challenges of the day. In fact, this report highlights our economists' groundbreaking study of the emerging pandemic on the U.S. and world economies."

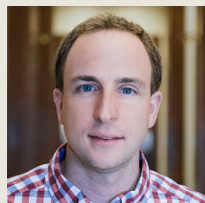
Garriga, who previously was an assistant professor of economics at Florida State University and the Universitat de Barcelona in Spain, is eager to continue the Research Division's investigations and de novo research into the effects of COVID-19 on the nation's economy. ■

Crises in Corporate Debt Markets: COVID-19 vs. the Global Financial Crisis



Miguel Faria-e-Castro

is an economist with research interests in fiscal and monetary policy and banking and financial institutions. He joined the St. Louis Fed in 2017.



Julian Kozlowski

is an economist whose research focuses on macroeconomics and finance. He joined the St. Louis Fed in 2018.

By Miguel Faria-e-Castro and Julian Kozlowski

In response to the pandemic in early 2020, the Federal Reserve returned to the toolkit it used during the global financial crisis of 2007-09 (GFC) and created facilities to purchase asset-backed and other types of securities, such as corporate debt, to ensure credit markets would continue to function.

Corporate debt, especially in the form of bonds, constitutes a major source of financing for nonfinancial companies. Bonds comprised almost 60% of total nonfinancial corporate debt at the end of 2019.¹

Corporate bond prices provide us with a window into the connection between financial market conditions and the larger economy: They measure the perceived risk that firms might default on their obligations; and in the secondary market, changes in these prices reflect changes in perceptions of that default risk (among other factors).

THE TWO CRISES WERE SIMILAR IN THE EARLY STAGES

The financial volatility caused by the COVID-19 pandemic in 2020 was similar in many ways to the volatility during the GFC. One indicator of that volatility is corporate credit spreads, which measure the difference between yields in corporate bonds and yields on similar (but safer) U.S. government securities.

Figure 1 compares the evolution in the median of credit spreads around the peak of financial market turmoil during the COVID-19 pandemic in early 2020 and during the GFC. The figure plots the credit spreads minus their value at time “0,” the beginning of increases in financial market volatility, which allows the comparison of the evolution of credit spreads in the crises. The vertical lines in the figure show the timing of Fed announcements about interventions.

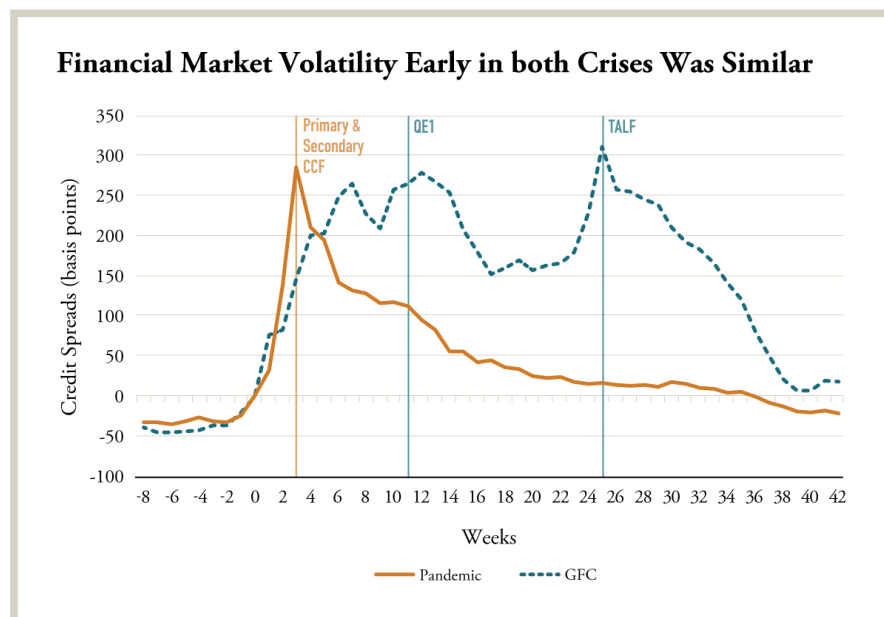
HOW THE TWO CRISES DIFFERED

The increase in corporate credit spreads was qualitatively and quantitatively similar in the two crises. But swifter Fed action in 2020 may have helped curb financial market volatility even more than in 2008, as shown by the steeper downturn of the orange line in Figure 1.

However, there may be more to the story than the timing and size of the policy responses, such as the difference in the underlying shocks driving the two crises. For

The first economic impact of the COVID-19 pandemic revealed itself in forward-looking financial markets, as stock prices plunged, uncertainty skyrocketed, trading sometimes froze up, and investors sought refuge in safer assets. Miguel Faria-e-Castro and Julian Kozlowski describe how such short but sharp financial turmoil played out in corporate bond markets, comparing conditions to those of the 2007-09 financial crisis.

FIGURE 1



SOURCES: FINRA's TRACE, Mergent FISD and authors' calculations.

NOTES: Time "0" marks the beginning of the increase in volatility in financial markets for the COVID-19 crisis (Feb. 28, 2020) and the GFC (Sept. 15, 2008). Vertical lines mark the timing of the Fed's intervention in corporate credit markets. The first vertical line identifies the announcement of Primary and Secondary Market Corporate Credit Facilities (March 23, 2020) during the pandemic. The second and third vertical lines identify the announcement of QE1, the initial round of quantitative easing, (Nov. 25, 2008) and of the Term Asset-Backed Securities Loan Facility (March 3, 2009), respectively, during the GFC. The y-axis shows credit spreads in basis-point differences from time 0. (A basis point is one-hundredth of 1 percentage point.)

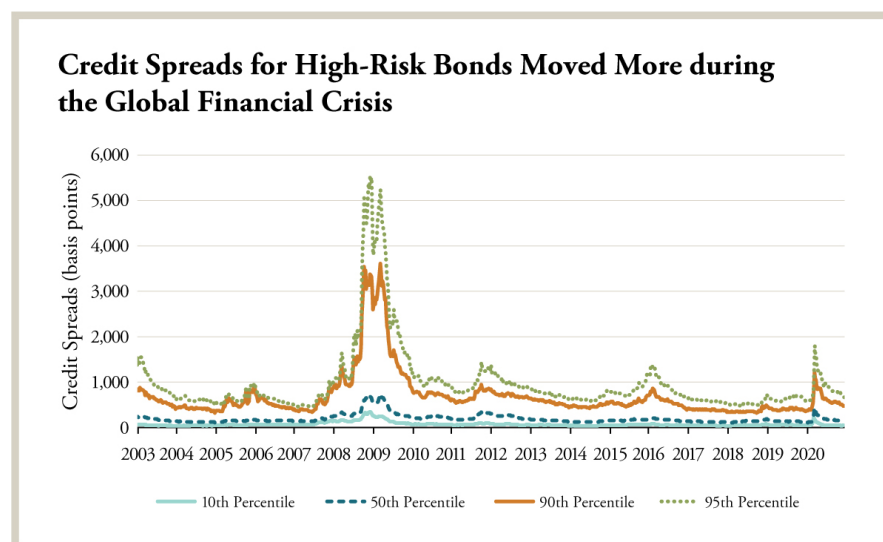
example, the most affected sectors in each of the crises were different: The fall in employment and rise in borrowing costs was very large in the construction sector during the GFC, while the leisure and hospitality sector was the most affected sector during the pandemic in 2020. The two crises have also differed in the types of perceived risk, as reflected in the movements of credit spreads. Figure 2 on Page 10 shows the distribution of corporate credit spreads, from the least-risky bonds (with lower spreads, the 10th percentile) to the most-risky bonds (with higher spreads, the 95th percentile).

The movements in the median spreads were relatively similar during the two crises, as we can see from the dashed-teal line (50th percentile), but the GFC featured much larger increases of the top percentiles: The relative sizes of the movements, shown by the dashed and dotted green lines, were almost three times larger.

SOURCES: FINRA's TRACE, Mergent FISD and authors' calculations.

NOTES: The figure shows the distribution of corporate credit spreads for the 10th, 50th, 90th and 95th percentiles. Spreads in the higher percentiles reflect higher-risk bonds.

FIGURE 2



We split the variation in credit spreads before and during each crisis into three components: differences between sectors, between firms in the same sector, and within firms (i.e., in the spreads of bonds issued by the same firm).

We find that differences between firms were more relevant in the GFC, but that differences between bonds issued by the same firm were more relevant in 2020. This suggests that markets were more concerned about a firm's solvency during the GFC (as a firm's solvency risk should equally affect all its bonds), while funding and liquidity factors were more relevant in 2020.

Indeed, firms with solvency concerns had larger increases in credit spreads during the GFC. But the relevant dynamic in 2020 was that better liquidity meant smaller increases in credit spreads.

While the two crises have many similarities, the divergent paths of financial market indicators such as average corporate credit spreads may reflect the different policy responses and the different underlying aggregate shocks. ■

Mahdi Ebsim, a research associate at the St. Louis Fed, contributed to this article.

ENDNOTE

- 1 This percentage is from the tables of Financial Accounts of the United States produced by the Federal Reserve Board of Governors. It can alternatively be accessed using FRED.

RELATED RESOURCES

- "Corporate Bond Spreads and the Pandemic," On the Economy blog, April 9, 2020
- "Corporate Bond Spreads and the Pandemic II: Heterogeneity across Sectors," On the Economy blog, April 14, 2020
- "Corporate Bond Spreads and the Pandemic III: Variance across Sectors and Firms," On the Economy blog, May 11, 2020
- "Corporate Bond Spreads and the Pandemic IV: Liquidity Buffers," On the Economy blog, June 12, 2020

How Severe Was the Contraction in U.S. Employment?

If the economic impact of COVID-19 first manifested in financial markets, it came home to many Americans through the sharpest and greatest rise in unemployment since the Great Depression. Maximiliano Dvorkin and Amanda Michaud review this labor market upheaval with a focus on uneven effects across sectors, noting that the leisure and hospitality sector saw some of the worst losses.



Maximiliano Dvorkin is a senior economist whose research focuses on labor reallocation and the effect of different economic forces on workers' employment and occupational decisions. He joined the St. Louis Fed in 2014.



Amanda M. Michaud is a senior economist whose research interests include macroeconomics, labor economics and international macroeconomics. She joined the St. Louis Fed in 2020 and was also named to the White House Council of Economic Advisers.

By Maximiliano Dvorkin and Amanda Michaud

The Federal Reserve carefully monitors the evolution of labor markets as it strives to fulfill its mandate of maximum employment. Early in the COVID-19 pandemic, from February to April 2020, the number of employed people in the U.S. fell by 25 million, a 16% decline. In the Great Recession of 2007-09, employment fell by 8.5 million, close to 6%, but it took 18 months for it to decrease that much.

Some of the unprecedented effects of the pandemic stem from the nature of the shock: Social distancing measures and other restrictions on daily activities in 2020 had a direct impact on many sectors and businesses, particularly those that require close physical contact with customers.

SEVERITY OF EMPLOYMENT LOSSES

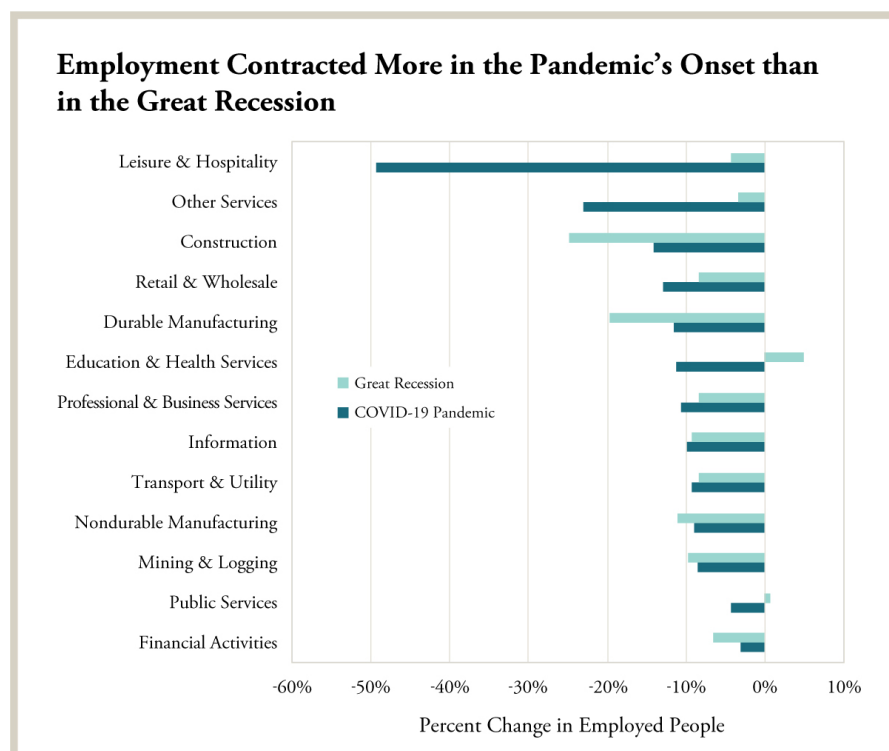
Figure 1 on Page 12 compares the contraction in employment by sector during the Great Recession with the contraction during the first two months of the pandemic. During these two months, employment in the leisure and hospitality sector contracted by around 50%, with a contraction of over 20% in the other services sector, which includes repair and maintenance and personal services, such as beauty shops. During the Great Recession, the largest drop in employment (in construction and durable goods manufacturing) was around 20%.

Figure 2 on the next page helps us understand these differences by showing a potential relationship between the contraction in employment and the ability of workers to work from home. Those sectors with more options to work from home, such as financial activities, had a milder drop in employment. The opposite was true in sectors with fewer options to work from home, such as leisure and hospitality.

EFFECTS NOT FELT EQUALLY BY WORKERS

The pandemic has also affected individuals' availability to participate in the labor market. The labor force participation rate of prime-age workers

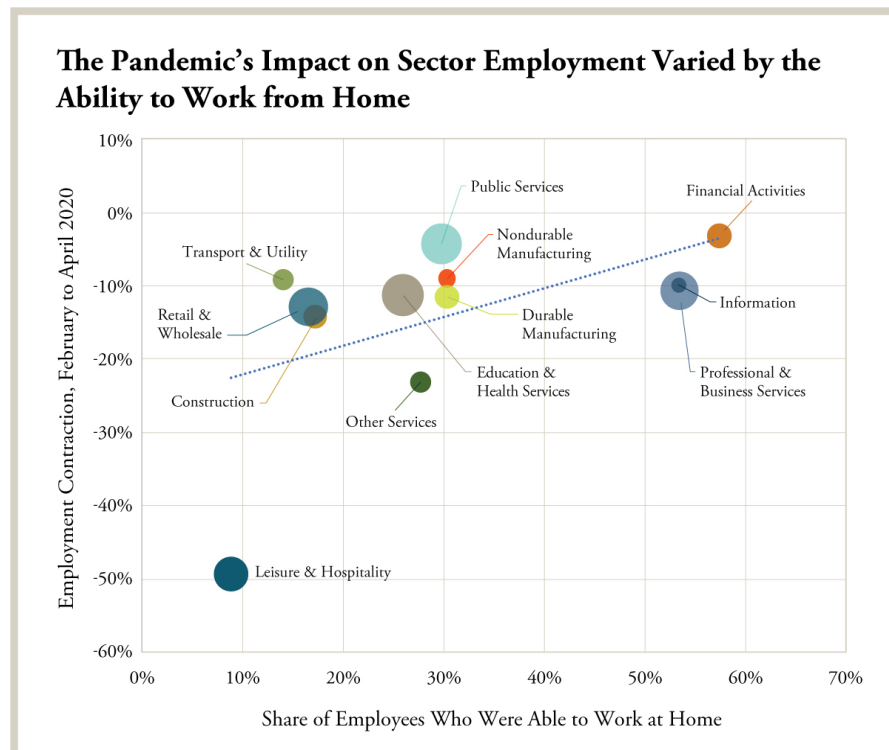
FIGURE 1



SOURCES: Bureau of Labor Statistics' Current Employment Statistics survey and authors' calculations.

NOTES: For the Great Recession, the percent change represents the sector's contraction from December 2007 to June 2009; for the pandemic, the percent change represents the contraction from February to April 2020.

FIGURE 2



SOURCES: Bureau of Labor Statistics' Current Employment Statistics survey and Job Flexibilities and Work Schedules, and authors' calculations.

NOTES: The employment contraction is the percent change in the number of employed people from February to April 2020. The share of employees able to work from home is based on averages from 2017-18. The size of the bubble represents the relative size of sector employment.

(ages 25 to 54) declined from 82.9% to 79.8% from February to April 2020. That amounts to 3.8 million Americans who left the labor market, a figure six times larger than during the Great Recession.¹

Older individuals, married women and some minority groups also reported much higher exit rates from the labor force:²

- For workers over age 60, the rate nearly doubled from the typical 6% per month to 11% in April.
- For prime-age married women, the rate doubled from 3% to 6%.
- For prime-age Black males, the rate more than doubled from 4% to 9%.
- For prime-age Hispanic women, exit rates more than doubled from 5% to 12%.

MITIGATING THE IMPACT

This decline in available workers was historically large, but government programs mitigated the impact on households and the economy. In March, unemployment insurance benefits were increased and offered to workers not covered by state benefits.

While time spent working for pay fell during the early months of the pandemic, additional work was done at home through child care, cooking and related activities, which has important economic value. Recent research co-authored by St. Louis Fed Research Officer Oksana Leukhina estimated that the value of such home production rose by \$30.8 billion during April, which is 10.5% of the fall in the value of paid work during that month.³

Employment recovered at an extraordinary pace after April 2020, with large gains in the sectors that were deeply affected early on. A speedy recovery has the potential to mitigate scarring effects associated with temporary declines in employment and to aid in reclaiming the historic employment gains among minority groups. Yet, the strength of the continued recovery ultimately rests on the ability of the U.S. to check the pandemic. ■

ENDNOTES

- 1 These figures on participation rates by age and race are authors' calculations using the Bureau of Labor Statistics' Current Population Survey (seasonally adjusted and noninstitutional population).
- 2 The exit rate of the labor force is defined as the share of people in one of the demographic groups that were part of the labor force in one month and not in the labor force in the following month.
- 3 See Oksana Leukhina and Zhixiu Yu's 2020 St. Louis Fed working paper "Home Production and Leisure During the COVID-19 Recession."

RELATED RESOURCES

- "The Decline of Employment During COVID-19: The Role of Contact-Intensive Industries," *Economic Synopses*, Sept. 10, 2020
- "Which Jobs Have Been Hit Hardest by COVID-19?" *Regional Economist*, Aug. 17, 2020
- "The Recent COVID-19 Spike and the U.S. Employment Slowdown," *On the Economy* blog, Aug. 4, 2020
- "The Impact of COVID-19 on Labor Markets across the U.S.," *On the Economy* blog, April 13, 2020

Home Production Activity during the COVID-19 Shutdown



Published Sept. 30, 2020

In a *Regional Economist* article, Research Officer Oksana Leukhina examined the increase in home production, or homemaking activities, during the COVID-19 pandemic. Leukhina found that home production activities such as child care and cooking increased nationwide from February to April primarily because of jobs lost to the pandemic. Read the article at stlouisfed.org/publications/regional-economist.



THE COVID-19 ECONOMY: ESSAYS

An Uneven Crisis for Lower-Income Households

Effects of the labor market upheaval on workers varied considerably across wages and skill levels in 2020. Serdar Birinci and YiLi Chien explain the notable impacts on low-wage workers, who saw larger rises in unemployment, sharper declines in hours worked and slower recoveries.



Serdar Birinci is an economist whose research interests include macro-economics and labor economics. He joined the St. Louis Fed in 2019.



YiLi Chien is an economist and research officer. His research focuses on macroeconomics, household finance and asset pricing. He joined the St. Louis Fed in 2012.

By Serdar Birinci and YiLi Chien

Economists study individual earnings groups because, as one might expect, changes in the economy have different effects on households, depending on their income and wealth. The COVID-19 pandemic had disproportionate effects on certain earnings groups in 2020, and in some cases these effects were severe.

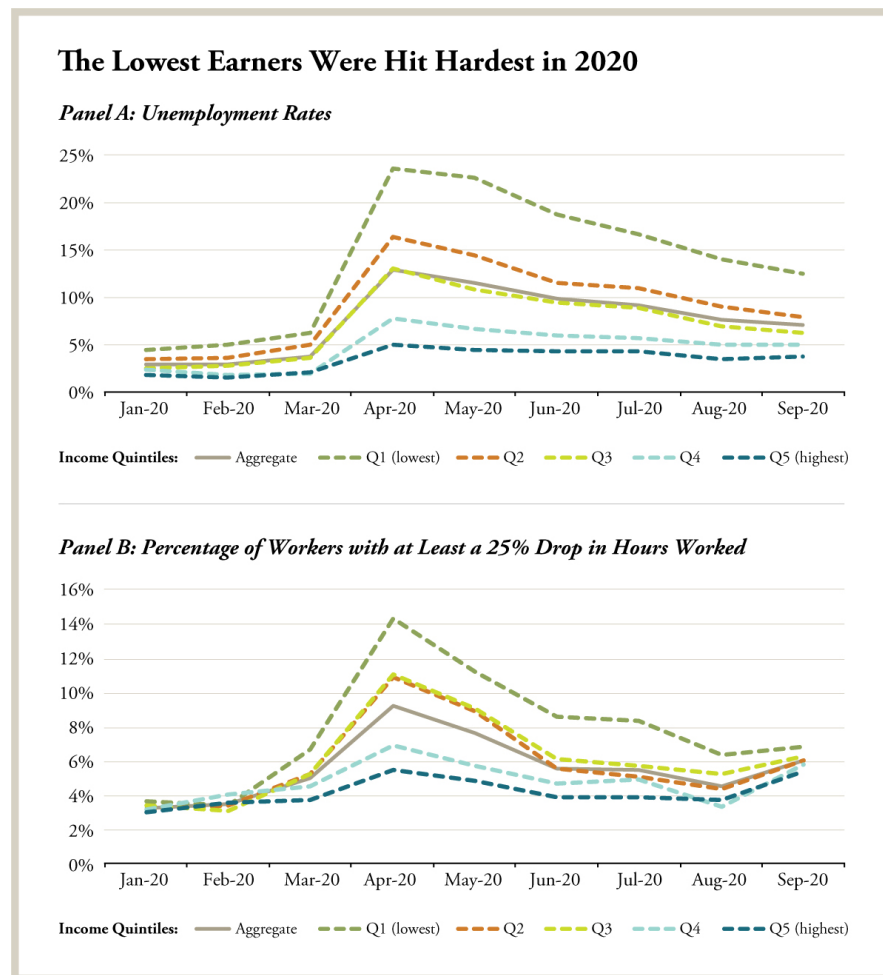
A portion of our research on this topic, outlined here, looks at households' different experiences with unemployment, reduced work hours and the ability to respond to financial stress.

Figure 1 shows differences in unemployment (Panel A), with three important findings:

- Even before the crisis, households with lower earnings had higher unemployment rates. In January 2020, the lowest earnings quintile (Q1) had an unemployment rate of 4.4%, while the highest earnings quintile (Q5) had an unemployment rate of just 1.8%.
- Unemployment pressures in the early stages of the pandemic were much larger for those in lower earnings groups: The unemployment rates for the lowest and highest earnings groups increased by 19 percentage points and 3 percentage points, respectively, from January to April 2020.
- The recovery of employment in 2020 was much slower for those with lower earnings: By September, the unemployment rates of those in the top two groups had already dropped to 5% or less, while those in the lowest quintile still had an unemployment rate above 10%.

Even among workers still employed during the pandemic, those with lower earnings experienced a larger drop in working hours. Panel B in Figure 1 plots the percentage of employed workers in each earnings group who reported working less than 75% of their usual hours: for example, those who usually work 40 hours per week, but who worked less than 30 hours. Although the percentage of workers with reduced hours was similar across earnings groups prior to the crisis, lower earnings groups lost much more once the pandemic began.

FIGURE 1



SOURCES: IPUMS Current Population Survey (CPS) data and authors' calculations.

NOTES: "Q" refers to quintile, from lowest earnings (Q1) to highest earnings (Q5). Panel A shows that the lowest earners (those in Q1 and Q2) saw a significant spike in unemployment in April 2020. Panel B shows that lower earners also experienced greater losses in hours worked, with nearly 15% of those in Q1 losing at least 25% of their working hours in April.

These findings are especially alarming, since low-income households tend to run deficits, meaning their spending exceeds their incomes. In addition, they have less or even no savings to fall back on once they encounter a financial hardship.

A LOOK AT FINANCIAL CHOICES FROM THE PAST

The Federal Reserve Board of Governors 2016 Survey of Consumer Finances (SCF) provides supporting evidence of this dynamic. About 15% of households ran income deficits in 2016. For the remaining 85%, the survey asked how they would respond to a financial emergency, given the following options:

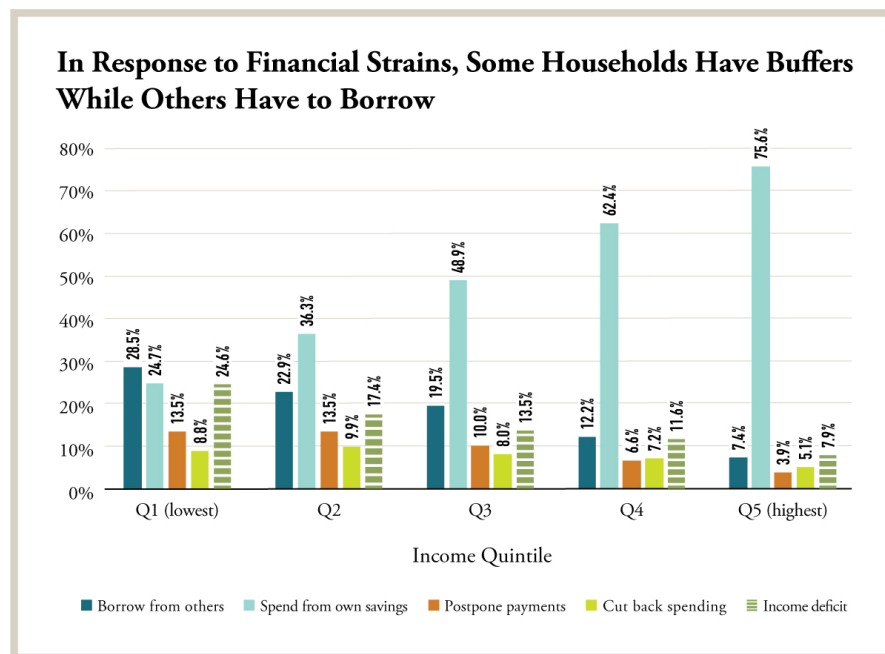
- Borrow from others
- Spend from own savings
- Postpone payments
- Cut back spending

Figure 2 on Page 16 shows each earnings group's responses to financial strains—the share who resorted to income deficits for *actual* financial

SOURCES: Federal Reserve Board's 2016 Survey of Consumer Finances and authors' calculations.

NOTES: "Q" refers to quintile, from lowest earnings (Q1) to highest earnings (Q5). The chart suggests that higher-income earners (those in Q4 and Q5) entered the COVID-19 crisis better able to weather financial strains. In the 2016 SCF, a significant percentage of both higher-income quintiles reported that in a financial emergency, they would fall back on personal savings (62.4% and 75.6%, respectively). In contrast, those in the lowest earnings groups (Q1 and Q2) would rely on borrowing (28.5% and 22.9%, respectively) and postponing payments (13.5% for both quintiles) more than all other earnings groups.

FIGURE 2



strains (green bar with dashed lines) and the shares who chose other survey responses for *hypothetical* financial emergencies. Clearly, high-income groups are much less likely to run a deficit: The fraction of top-quintile households with income deficits was just 7.9%, compared with 24.6% of households in the bottom quintile. In addition, in response to a financial emergency, only 24.7% of households in the bottom quintile would opt to use savings to maintain spending, while 75.6% of those in the top quintile would do so.

In summary, households with lower earnings were disproportionately affected by the COVID-19 crisis in 2020. They experienced higher unemployment rates and reduced working hours. Based on 2016 survey data, they also likely entered the crisis more financially vulnerable, with less or no savings to hedge against unexpected income declines caused by the pandemic. ■

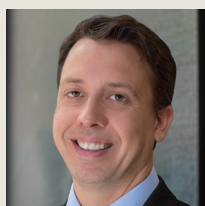
Aaron Amburgey and Julie Bennett, both research associates at the St. Louis Fed, contributed to this article.

RELATED RESOURCES

- "Which Earnings Groups Have Been Most Affected by the COVID-19 Crisis?" *Economic Synopses*, July 14, 2020
- "How Has the COVID-19 Recession Affected U.S. Labor across Occupations and Industries?" On the Economy blog, Nov. 9, 2020
- "How Do People Handle Financial Emergencies?" On the Economy blog, March 11, 2019

State and Local Governments Harness Federal Funding

Many unemployed workers received greater-than-normal unemployment benefits in 2020. The money for those benefits was part of the massive fiscal policy response from the federal government, which Bill Dupor and Fernando Martin explain. Much of that fiscal effort was funneled through state and local governments.



Bill Dupor is an economist and assistant vice president with research interests in fiscal policy and dynamic economics. He joined the St. Louis Fed in 2013.



Fernando M. Martin is an economist and research officer whose research focuses on macroeconomics, monetary economics, banking and public finance. He joined the St. Louis Fed in 2011.

By Bill Dupor and Fernando M. Martin

Early in the pandemic, economists and policymakers recognized the need for a quick and large government response.¹ And, unlike the federal response to the 2007-09 recession, this federal response was indeed quick: Congress passed four measures in March and April 2020, with a total budget impact of \$2.4 trillion, much of which was spent within the fiscal year.² The largest of these measures was the CARES Act. The following table provides a summary.

Three Key Rounds of Federal Spending Were Disbursed for COVID-19 Relief in Early 2020

Billions of Dollars

	2020	2021-30	TOTAL
Paycheck Protection Program	541	0	541
Unemployment Compensation Expansion	370	71	442
Recovery Rebates	272	9	281
Coronavirus Relief Fund	150	0	150
HHS Public Health and Social Services Emergency Fund	135	89	225
Disaster Relief	58	53	111
Medicare Accelerated Payments	47	-46	1
Medicaid Financial Assistance to States	41	132	172
Increase in SNAP Beneficiaries and Average Benefits	24	41	66
Other Programs	138	90	228
TOTAL	1,777	440	2,217

SOURCE: Adapted from Congressional Budget Office, “An Update to the Budget Outlook: 2020 to 2030,” September 2020.

NOTES: The table gives the budget impact by fiscal year of the Families First Coronavirus Response Act; the CARES Act; and the Paycheck Protection Program and Health Care Enhancement Act. Medicaid financial assistance to states also included coverage continuity for enrollees. HHS is the U.S. Department of Health and Human Services. SNAP is the Supplemental Nutrition Assistance Program. Federal fiscal year 2020 ended Sept. 30, 2020. Sums are not exact because of rounding.

FEDERAL MONEY FLOWS TO STATE AND LOCAL GOVERNMENTS

The CARES Act provided over \$300 billion to federal agencies, much of which flowed through state and local governments. Funding to combat COVID-19 came in the form of several specific federal grants-in-aid to state and local governments. For example, \$150 billion went directly to state and local governments for COVID-19-related expenses through the Coronavirus Relief Fund.³ States directed federal funding through their own distribution systems, administering (among other programs) expanded unemployment benefits and using additional Medicaid financial assistance (as shown in the table).

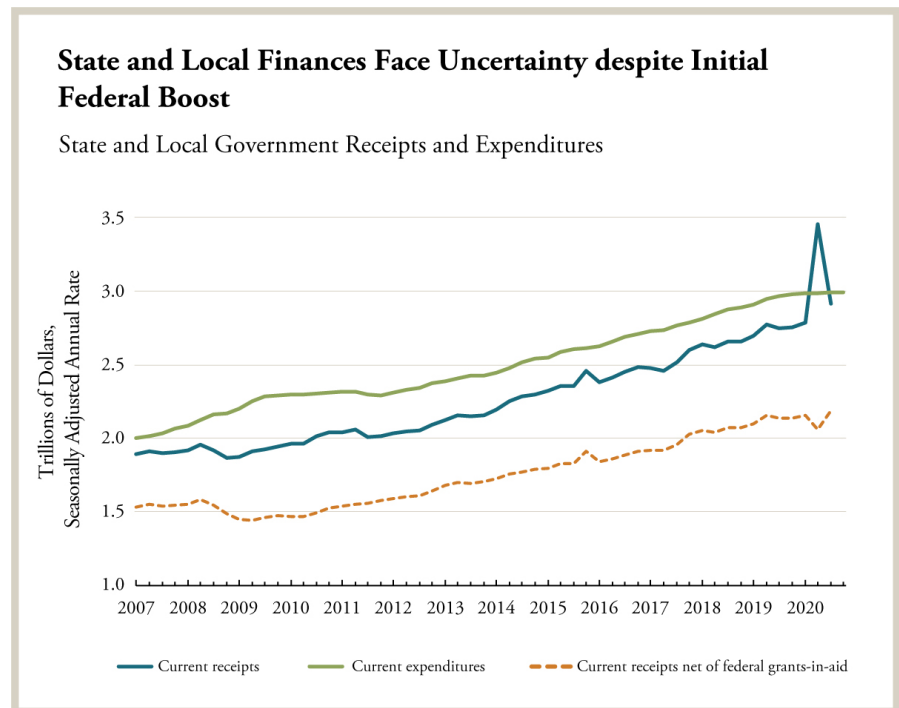
Although the CARES Act provided state and local governments with aid to combat COVID-19, there was no general aid to patch state and local government revenue shortfalls caused by the recession.⁴ In the second quarter of 2020, combined state and local government taxes for property, sales and gross receipts, and income taxes fell by 16.5% relative to the same quarter of 2019.

STATE AND LOCAL COFFERS SAW INITIAL BOOST

The increase in grants-in-aid from the federal government actually boosted total receipts. Combined with a slowdown in their expenditures, state and local governments saw net savings during the second quarter of 2020. (See accompanying figure.) Note, however, that these savings may not be sufficient to cover expected losses in the remainder of the current fiscal year (which ends in June 2021 in most jurisdictions). In addition, the fiscal burden of the pandemic has varied greatly across states and municipalities.

SOURCE: U.S. Bureau of Economic Analysis.

NOTE: Federal grants-in-aid boosted state and local receipts in the second quarter of 2020, covering concurrent and potentially future revenue shortfalls.



The CARES Act also authorized the Federal Reserve and the U.S. Treasury to establish a Municipal Liquidity Facility, among the other so-called 13(3) facilities. It allowed large municipal authorities and governments of states and larger cities to borrow directly from the Federal Reserve. Unlike the Paycheck Protection Program, however, the act required that these loans be repaid. In the end, there was very little borrowing at this facility, although some have argued that the program's existence helped stabilize private municipal markets.⁵

State and local governments closed 2020 facing an uncertain financial outlook. The course of the virus (with its associated monetary costs and impact on tax receipts) and the extent of additional federal support will play key roles in 2021. Given the large footprint these governments and the programs they administer have on the economy, this evolving situation merits continued close monitoring. ■

ENDNOTES

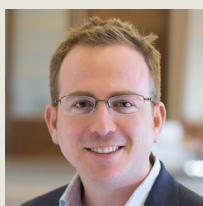
- 1 See St. Louis Fed President James Bullard's "Expected U.S. Macroeconomic Performance during the Pandemic Adjustment Period," On the Economy blog, March 23, 2020; and Fernando M. Martin's two-part series, "Economic Realities and Consequences of the COVID-19 Pandemic," *Economic Synopses*, March 30, 2020.
- 2 The U.S. government's fiscal year begins Oct. 1 and ends Sept. 30 of the subsequent year; it is designated by the year in which it ends. Budget figures are taken from the Congressional Budget Office. See also Fernando M. Martin's "Financing the U.S. Response to COVID-19," On the Economy blog, Dec. 1, 2020.
- 3 See the U.S. Treasury Department's "The CARES Act Provides Assistance for State, Local, and Tribal Governments."
- 4 A December 2020 study estimated that the combined shortfalls in state and local government revenues would equal \$300 billion from April 2020 through June 2021. That same month, the federal government enacted an additional \$900 billion fiscal package; it did not include general purpose aid for state and local governments.
- 5 See testimony by Kent Hiteshew, a Federal Reserve official, before the Congressional Oversight Commission, "Municipal Liquidity Facility," Sept. 17, 2020. For a more general overview, see Fernando M. Martin's "The Impact of the Fed's Response to COVID-19 So Far," On the Economy blog, June 16, 2020.

RELATED RESOURCES

- "How Quickly Does Fiscal Policy Get Implemented?" On the Economy blog, March 18, 2020
- "Possible Fiscal Policies for Rare, Unanticipated, and Severe Viral Outbreaks," *Economic Synopses*, March 17, 2020
- "How COVID-19 Has Affected the Municipal Bond Market," *Regional Economist*, Oct. 22, 2020

International Trade of Essential Goods during COVID-19

Most of the research on the economic effects of COVID-19 has focused on financial and labor markets, and fiscal and monetary policy. Fernando Leibovici and Ana Maria Santacreu tackle the less-studied issue of international trade. They show that U.S. imports of medical equipment rose sharply, expanding the U.S. trade deficit and providing a new angle on the old issue of the resilience of self-reliance versus the efficiency of free trade.



Fernando Leibovici is an economist whose research focuses on international trade, international finance and macroeconomics. He joined the St. Louis Fed in 2016.



Ana Maria Santacreu is a senior economist whose research interests include international trade, macroeconomics, economic growth and international finance. She joined the St. Louis Fed in 2014.

By Fernando Leibovici and Ana Maria Santacreu

Countries open to international trade, with production patterns determined by comparative advantage, have gained vast benefits from access to world markets. But the COVID-19 pandemic in early 2020 revealed tensions and some limitations inherent in the design of international trade policy: Countries that relied heavily on imports of critical medical goods—such as personal protective equipment—found themselves at a distinct disadvantage when the pandemic created a sharp worldwide increase in the demand for these goods.

International trade plays a key role in allowing countries to access essential medical products. Their production is heavily concentrated in a few countries, and most countries import them. The increase in the demand for these products along with the slow increase in the supply led to worldwide shortages.

The accompanying figure shows that several countries resorted to trade policy to mitigate these shortages. By March 2020, 58 countries had implemented export curbs and 50 countries had liberalized their imports of these goods. While these policies were largely temporary, several countries still had them in place at the end of 2020, nine months into the pandemic.¹

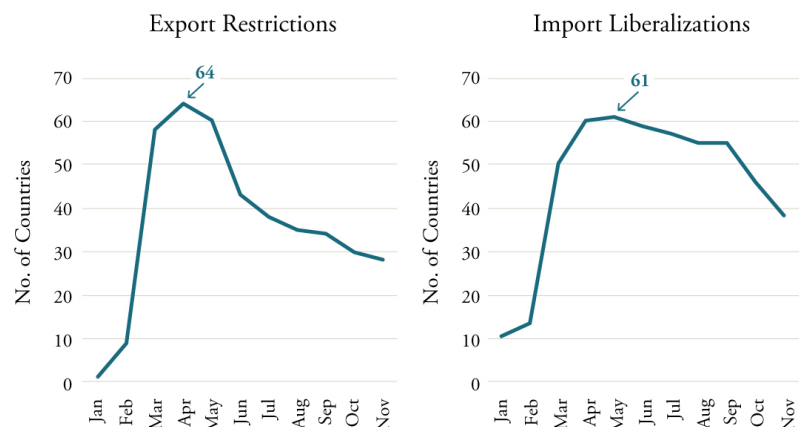
So, during a pandemic, should countries respond by introducing export curbs and liberalizing their imports? Are there other policies that might be better suited to improve an economy's welfare once a pandemic has begun?

Our 2020 working paper, “International Trade of Essential Goods During a Pandemic,” investigates the optimal trade policy response during a pandemic, in the context of a dynamic model of international trade with essential and nonessential sectors. We found that, just as observed during COVID-19, the optimal unilateral trade policy is to simultaneously and temporarily raise export barriers while reducing import barriers.

But the pandemic also raised several questions regarding the design of trade policy during normal times, prior to a pandemic taking place:

- To what extent should countries implement trade policy differently for goods that might prove essential during a pandemic?
- Should countries introduce import barriers or domestic subsidies to encourage domestic production?

Trade Policy on Essential Medical Goods Had Large Changes during 2020



SOURCE: "International Trade of Essential Goods During a Pandemic," a 2020 working paper by Fernando Leibovici and Ana Maria Santacreu.

NOTES: Values for each month report the number of countries with active trade policy changes introduced during COVID-19. At the peaks, 64 countries had implemented export restrictions in April, and 61 had liberalized imports in May.

- Should countries stockpile these goods to accumulate a sufficient supply to ensure adequate access during a pandemic?

These considerations extend further than the ongoing pandemic, from access to food to the production of raw material and intermediate inputs that might be critical for important industries. We expect that future discussions on the desirability of openness to international trade will revolve around many of these issues. ■

ENDNOTE

- 1 Data are from Global Trade Alert and include trade policies related to import liberalizations and export restrictions for COVID-19 products, according to World Trade Organization information on COVID-19 and world trade.

RELATED RESOURCES

- "How Much Does the U.S. Rely on Other Countries for Essential Medical Equipment?" On the Economy blog, April 8, 2020
- "Protectionism and Dependence on Imports of Essential Medical Equipment," On the Economy blog, April 10, 2020
- "International Trade Policy during COVID-19," *Economic Synopses*, June 12, 2020
- "The Dynamics of the U.S. Trade Deficit during COVID-19: The Role of Essential Medical Goods," *Economic Synopses*, Sept. 16, 2020

COVID-19 and U.S. Reliance on Medical Equipment Imports



Released May 13, 2020

During a Timely Topics podcast, Economist Fernando Leibovici and Senior Economist Ana Maria Santacreu discussed their Economic Synopses research into the role of essential medical goods on the U.S. trade deficit. The economists' analysis showed that because the U.S. relied heavily on China and the European Union for its stocks of these medical products, supply interruptions from the COVID-19 pandemic caused shortages of this much-needed equipment in the U.S. and also helped widen the U.S. trade deficit. Listen at stlouisfed.org/timely-topics.

Reopening the Economy by Realigning Private and Public Interests



Carlos Garriga is senior vice president and director of research. His current research is in the areas of macroeconomics and housing, household finance, monetary economics and asset pricing, and public economics. He has been with the St. Louis Fed since 2007.



Guillaume Vandenbroucke is an economist and research officer whose research focuses on the relationship between economics and demographic change. He joined the St. Louis Fed in 2014.

By Carlos Garriga and Guillaume Vandenbroucke

Throughout 2020, economists at the Federal Reserve Bank of St. Louis produced a large number of articles and blog posts related to the COVID-19 pandemic. The Bank's attention to the pandemic is exemplified by the topics covered in these publications and discussed in the pages of this annual report.

Central bankers in general and the St. Louis Fed's Research Division economists in particular view the world through the lens of economics. Economists will not end the pandemic. Health officials and medical researchers are among those who will. But an economist's perspective on the pandemic can help with understanding its management—through the study of individuals and how they react to incentives such as prices, policies and risks, including health risks.

Some of the challenges posed by the pandemic are not new; they have been familiar to economists at least since Scottish economist and philosopher Adam Smith originated the invisible hand metaphor in 1776. Smith posited that sometimes a person's private, or individual, interest is beneficial to the public interest, as if an “invisible hand” were aligning both. But what happens when these interests are not aligned? The COVID-19 health crisis created a challenge that is, essentially, a breakdown of this alignment.

INDIVIDUAL AND PUBLIC INTERESTS

During a pandemic, individual behavior motivated by self-interest may not be beneficial to society. Someone who is asymptomatic may decide not to practice social distancing, for instance. If that decision results in infections, it imposes costs on society that the individual does not bear directly. In economics, we call this a negative externality. An externality is a cost or benefit imposed on someone or a group of people who had no say in another person's decision.

Private and public interests are at times misaligned, which is why governments enact regulations—for example, against child labor, pollution

An important question is when and how to fully reopen the economy. Carlos Garriga and Guillaume Vandenbroucke bring an economist's viewpoint to the study of this question. The fact that people do not necessarily consider how they might spread COVID-19 infection to others is an “externality” that introduces a role for government to regulate or coordinate actions. They lay out the balance between benefits and risks of reopening.

and impaired driving. Some limits on certain individual actions can benefit society as a whole.

Regulations on health-related behavior are less common. In normal times, a worker with a cold might choose to work a few hours in the office, which may be beneficial for the worker and the firm but not for co-workers. Government regulations don't often play much of a role here. But in a pandemic, of course, the stakes are higher and the effects more immediate. Regulations must scale up to the magnitude of the problem: in this case, mask wearing, social distancing, quarantines, and restrictions on travel and gatherings.

But what happens when regulations shift heavily toward the public interest and limit or even thwart private interests? Extreme misalignments can make both public and private efforts much less effective. To counter this, it's necessary to keep people whole during such times and thereby help to realign public and private interests. This may take several forms: for instance, unemployment insurance payments for workers unable to work or economic relief funds for disrupted businesses and their employees. Other workers, especially in the health care sector, may work longer hours and take on more risk than during normal times. Making them whole may require some form of extra compensation.

The COVID-19 pandemic may end as a result of herd immunity—potentially from a combination of vaccination efforts and post-infection immunity. Until that time, effective regulations can serve to reduce infections, deaths and strains on the health care

system. But regulations are effective only if people's behavior aligns with those regulations. To realign private and public interests, regulations intended to limit the suffering caused by COVID-19 must be counterbalanced with policies that limit the potential suffering caused by the regulations. ■

RELATED RESOURCES

- “Responses of International Central Banks to the COVID-19 Crisis,” *Review*, Oct. 22, 2020
- “Possible Fiscal Policies for Rare, Unanticipated, and Severe Viral Outbreaks,” *Economic Synopses*, March 17, 2020
- “Should Social Distancing Be Mandatory during a Pandemic?” *Regional Economist*, Dec. 30, 2020



ANNUAL REPORT 2020

OUR LEADERS. OUR ADVISERS.

The Federal Reserve's two-part structure—its central governing body in the Board of Governors and decentralized network of 12 Reserve banks—provides for a central banking system that broadly serves the public interest. Its design ensures that monetary policy reflects the economic conditions of communities and industries nationwide.

The members of the St. Louis Fed's boards of directors and advisory councils are among the diverse voices representing Main Street that inform the work of the Federal Reserve.

The following pages list our board members from each of the four zones of the Eighth Federal Reserve District: St. Louis, Little Rock, Ark., Louisville, Ky., and Memphis, Tenn. Members of our six advisory councils are also listed, as are members of the Bank's Management Committee, officers of the Bank, and retirees from our boards and our advisory councils.

All listings are as of March 25, 2021.



CHAIR'S MESSAGE

Continuing to Serve through the Most Challenging Times

Suzanne Sitherwood is the president and CEO of Spire Inc.

In a year of unknowns, one thing is certain: Historians will be studying 2020 for generations to come. The wide-ranging effects of COVID-19 will ripple through the coming decades, shaping our lives in new and unforeseen ways well into the future.

While no one has been more affected by the pandemic than those who've experienced its direct effects—from becoming sick, to dealing with the loss of a loved one or heroically working on the front lines—as a society, we will forever be changed.

And, as we've seen, these fundamental changes are having short- and long-term economic impacts—which have been analyzed and documented by economists at the Federal Reserve Bank of St. Louis.

For more than a half-century, the St. Louis Fed has staked a claim as an economic research engine that, today, ranks among the top research institutions worldwide. Knowing the importance of this expertise as COVID-19 gripped the world last spring, we shifted into high gear, and the Bank's team of economists pivoted to produce new research, policy analysis and public information related to the pandemic.

And while this research is critical, it's not all we did to address the ongoing needs of our communities throughout the pandemic. We also adapted so we could continue serving constituents in the Eighth Federal Reserve District and beyond.

As the majority of employees shifted to working remotely, the Bank continued its outreach efforts across its seven-state footprint. From the Treasury and Supervision business areas supporting federal COVID-19 relief payments, to the Bank's buildings in

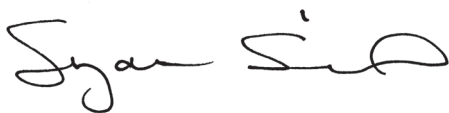
St. Louis and Memphis remaining open to process cash and keep it recirculating throughout communities—we were here.

And behind the scenes, the board of directors and the Bank’s advisory councils helped the Fed take a constant pulse of Main Street businesses and organizations, ensuring they had what they needed throughout the pandemic.

St. Louis Fed President Jim Bullard frequently talks about the organization’s resilience and innovation, which I’ve witnessed on many occasions during my time on the board—never as much, however, as in 2020.

While we all hope life will slowly return to normal, the St. Louis Fed—led by Jim and First Vice President Kathy Paese—is poised to continue leading the way in caring for its communities, no matter what circumstances arise.

I’ve seen it firsthand. And as you read through this report, I know you’ll see it too. We will always adapt so we can keep honoring our mission to promote a healthy economy and financial stability. This was true in 2020, and it will remain true for centuries to come. ■



Suzanne Sitherwood

Chair of the Board of Directors
Federal Reserve Bank of St. Louis

BOARD OF DIRECTORS

Federal Reserve Bank of St. Louis

CHAIR



Suzanne Sitherwood

President and CEO, Spire Inc.

St. Louis

Class C

DEPUTY CHAIR



James M. McKelvey Jr.

Founder and CEO, Invisibly Inc.

St. Louis

Class C



Patricia L. Clarke

President, First National Bank
of Raymond

Raymond, Ill.

Class A

As required by the Federal Reserve Act of 1913, each Federal Reserve bank is governed by a board of directors comprising three classes:

Class A: Elected by district Fed member banks to represent member banks

Class B: Elected by district Fed member banks to represent the public in the interests of agriculture, commerce, industry, services, labor and consumers

Class C: Appointed by the Federal Reserve Board of Governors to represent the public in the same interests as Class B directors

Learn more about the St. Louis Fed's leadership and oversight at stlouisfed.org/about-us/leadership-governance.



R. Andrew Clyde

President and CEO,
Murphy USA Inc.

El Dorado, Ark.

Class B



Carolyn Chism Hardy

CEO, Chism Hardy Investments LLC

Bartlett, Tenn.

Class C



Alice K. Houston

CEO, HJI Supply Chain Solutions

Louisville, Ky.

Class B



Elizabeth G. McCoy

CEO, Planters Bank Inc.

Hopkinsville, Ky.

Class A



Penny Pennington

Managing Partner, Edward Jones

St. Louis

Class B



C. Mitchell Waycaster

President and CEO, Renasant Bank

Tupelo, Miss.

Class A

BOARD OF DIRECTORS

Little Rock Branch

CHAIR



Jamie J. Henry

Vice President, Finance, Emerging Payments Walmart Inc.
Bentonville, Ark.



Chris Hegi

President and CEO,
First Financial Bank
El Dorado, Ark.



Vickie D. Judy

Chief Financial Officer and Vice President, America's Car-Mart Inc.
Rogers, Ark.



Vincent Logan

Chief Financial Officer and
Chief Investment Officer,
Native American Agriculture Fund
Fayetteville, Ark.



Jeff Lynch

President and CEO,
Eagle Bank and Trust
Little Rock, Ark.



Millie A. Ward

President, Stone Ward
Little Rock, Ark.



REGIONAL EXECUTIVE

Robert A. Hopkins

Senior Vice President, Little Rock Branch
Federal Reserve Bank of St. Louis

BOARD OF DIRECTORS

Louisville Branch

CHAIR



Emerson M. Goodwin
Senior Vice President of Business
Development, KentuckyCare
Paducah, Ky.



Tara E. Barney
Co-CEO, Evansville Regional
Economic Partnership
Evansville, Ind.



Patrick J. Glotzbach
Director, The New Washington
State Bank
Charlestown, Ind.



Ben Reno-Weber
Director, Greater Louisville Project
Louisville, Ky.



Sadiqa N. Reynolds
President, Louisville Urban League
Louisville, Ky.



David E. Tatman
Director of Engineering, Bendix
Spicer Foundation Brake LLC
Bowling Green, Ky.



Blake B. Willoughby
President, First Breckinridge
Bancshares Inc.
Irvington, Ky.



REGIONAL EXECUTIVE

Nikki R. Lanier
Senior Vice President, Louisville Branch
Federal Reserve Bank of St. Louis

BOARD OF DIRECTORS

Memphis Branch

CHAIR



Kathy Buckman Gibson

President and CEO,
KBG Technologies
Memphis, Tenn.



Jeff Agee

Chairman and CEO,
First Citizens National Bank
Dyersburg, Tenn.



R. Davy Carter

Regional President, Centennial Bank
Jonesboro, Ark.



Beverly Crossen

Owner, FarmHouse Tupelo
Tupelo, Miss.



Henry N. "Hank" Reichle Jr.

President and CEO, Staple Cotton
Cooperative Association (Staplcotn)
Greenwood, Miss.



Eric D. Robertson

President, Community LIFT Corp.
Memphis, Tenn.



Michael Ugwueke

President and CEO, Methodist
Le Bonheur Healthcare
Memphis, Tenn.



REGIONAL EXECUTIVE

Douglas G. Scarboro

Senior Vice President, Memphis Branch
Federal Reserve Bank of St. Louis

Industry Councils

Council members represent a wide range of Eighth District industries and businesses, and report on economic conditions to help inform monetary policy deliberations.

AGRIBUSINESS COUNCIL

Bruce L. Ahrendsen

Professor, University of Arkansas,
Division of Agriculture and
Bumpers College
Fayetteville, Ark.

John Rodgers Brashier

Vice President, Consolidated
Catfish Producers LLC
Isola, Miss.

Aaron Carroll

Certified Crop Advisor,
Nutrien Ag Solutions
Lexington, Ind.

Ray Dillon

Former President and CEO,
Deltic Timber Corp.
Little Rock, Ark.

Cynthia Edwards

Deputy Secretary, Arkansas
Agriculture Department
Little Rock, Ark.

Dana Huber

Vice President, Marketing/Public
Relations, Huber's Orchard,
Winery & Vineyards, and
Starlight Distillery
Borden, Ind.

Jennifer H. James

Owner, H&J Land Co.
Newport, Ark.

Susan L. Lang

President, Bumper Crop Farm LLC
Somerville, Tenn.

Wade Litton

President and CEO, Wade Inc.
Greenwood, Miss.

James "Jim" McLaren

CEO, Strathkirk Inc.
Chesterfield, Mo.

Kathleen Roberts

Regional Vice President, CoBank
St. Louis

Shari Rogge-Fidler

President and CEO,
Farm Foundation
Oak Brook, Ill.

Tania Seger

Vice President of Finance, North
American Commercial Operations,
Bayer Crop Science
St. Louis

Richard C. Siemer

President, Siemer Milling Co.
Teutopolis, Ill.

HEALTH CARE COUNCIL

Rhamy Alejeal

Founder and CEO, People Processes
Memphis, Tenn.

Carla Balch

Founder and CEO, Spesana Inc.
Memphis, Tenn.

Mike Castellano

CEO, Esse Health
St. Louis

Zach Chandler

Executive Vice President and Chief
Strategy Officer, Baptist Memorial
Health Care Corp.
Memphis, Tenn.

Cynthia Crone

Research Faculty Member,
University of Arkansas for Medical
Sciences, College of Public Health,
Department of Health Policy and
Management
Little Rock, Ark.

June McAllister Fowler

Senior Vice President,
Communications and Marketing,
BJC HealthCare
St. Louis

Diana Han

Vice President, Global Health,
Unilever
Louisville, Ky.

Lisa M. Klesges

Professor and Founding Dean
Emeritus, University of Memphis,
School of Public Health
Memphis, Tenn.

Leanne L. Lefler

Associate Professor, University of
Arkansas for Medical Sciences,
College of Nursing
Little Rock, Ark.

Brandy N. Kelly Pryor

Senior Director of Programs,
Humana Foundation
Louisville, Ky.

Robert "Bo" Ryall

President and CEO, Arkansas
Hospital Association
Little Rock, Ark.

Alan Wheatley

President, Retail Segment, Humana
Louisville, Ky.

REAL ESTATE COUNCIL

Amy Berg

President, S.M. Wilson & Co.
St. Louis

William “Bill” Burns

Broker/Owner, RE/MAX FIRST
Jeffersonville, Ind.

Andy Cates

CEO, Colliers International-
Memphis
Memphis, Tenn.

John F. Eilermann Jr.

Chairman and CEO,
McBride & Son Homes
Chesterfield, Mo.

Lisa C. Ferrell

Founder, President and CEO,
North Bluffs Development Corp.
North Little Rock, Ark.

J.T. Ferstl

President, Ferstl Valuation Services
Little Rock, Ark.

David L. Hardy

Managing Director, CBRE Inc.
Louisville, Ky.

Larry K. Jensen

President and CEO,
Cushman & Wakefield |
Commercial Advisors
Memphis, Tenn.

Greg M. Joslin

Senior Broker, Colliers International
Arkansas
Little Rock, Ark.

Joshua Poag

President and CEO, Poag Shopping
Centers LLC
Memphis, Tenn.

Lester T. Sanders

President, Kentucky REALTORS®
Lexington, Ky.

Madison C. Silvert

President, The Malcolm
Bryant Corp.
Owensboro, Ky.

TRANSPORTATION COUNCIL

Scott A. Brockman

President and CEO, Memphis-
Shelby County Airport Authority
Memphis, Tenn.

Aaron S. Burkes

CEO, Northwest Arkansas Regional
Airport Authority
Bentonville, Ark.

Condrad Daniels

President, HJI Supply Chain
Solutions
Louisville, Ky.

Bryan Day

Executive Director, Little Rock
Port Authority
Little Rock, Ark.

Rhonda Hamm-Niebruegge

Director of Airports, St. Louis
Lambert International Airport
St. Louis

Bertram C. “Bert” Hodge

General Manager, Heritage Ford
Corydon, Ind.

Stephanie Ivey

Director, Intermodal Freight
Transportation Institute,
University of Memphis
Memphis, Tenn.

William J. “Bill” Mines

Senior Vice President of Finance
and Strategy, Supply Chain,
Walmart U.S.
Bentonville, Ark.

Ron Tindall Jr.

President, Terminal Railroad
Association of St. Louis
St. Louis

John Waggoner

Vice Chairman, Hornblower Group
New Albany, Ind.

Zach Wagner

CEO, Gateway Truck &
Refrigeration
Collinsville, Ill.

Community Depository Institutions Advisory Council

The members meet twice a year to advise the St. Louis Fed's president on the credit, banking and economic conditions facing their institutions and communities. The council's chair also meets twice a year in Washington, D.C., with the Federal Reserve chair and governors.

Margaret “Marnie” Oldner, *Chair*

CEO, Stone Bank

Mountain View, Ark.

Misty Borrowman

President and CEO, Bank of Hillsboro

Hillsboro, Ill.

Joseph T. “Joe” Henderson

Executive Vice President and Chief Credit Officer,
Central Bancompany

Jefferson City, Mo.

Robert “Bob” McKay

President and CEO, Together Credit Union

St. Louis

Charles “Chuck” Morgan Jr.

Chairman and CEO, Relyance Bank

Pine Bluff, Ark.

Bertram “Buddy” Mortimer

President and CEO, Bank of Kilmichael

Kilmichael, Miss.

Bill Schirmer

President and CEO, Evansville Teachers Federal Credit Union

Evansville, Ind.

Robert S. Shaw Jr.

Co-founder, CEO and Director, Paragon Bank

Memphis, Tenn.

Samuel T. Sicard

President and CEO, First National Bank of Fort Smith

Fort Smith, Ark.

Scott E. Spencer

Vice Chairman, President and CEO, Sterling Bank

Poplar Bluff, Mo.

John Taylor

President and CEO, Limestone Bank

Louisville, Ky.

Kelley Workman

President, Planters Bank Inc.

Hopkinsville, Ky.

Community Development Advisory Council

The council keeps the St. Louis Fed's president and staff informed about community development in the Eighth District and suggests ways for the Bank to support local development efforts.

Adam Hall

Vice President and Community and
Economic Development Manager, Fifth Third Bank
Louisville, Ky.

Tracy Hall

President, Southwest Tennessee Community College
Memphis, Tenn.

Robyn Heidger

Senior Vice President, Enterprise Bank and Trust
Clayton, Mo.

Mervin Jebaraj

Director, Center for Business and Economic Research,
Sam M. Walton College of Business, University of Arkansas
Fayetteville, Ark.

Christopher Jones

Executive Director, Arkansas Regional Innovation Hub,
Winrock International
Little Rock, Ark.

Steve Lockwood

Executive Director, Frayser Community Development Corp.
Memphis, Tenn.

Jessica Love

Executive Director, Prosperity Indiana
Indianapolis

Bridget McDermott Flood

Executive Director, Incarnate Word Foundation
St. Louis

Sara McGibany

Executive Director, Alton Main Street
Alton, Ill.

Karen Minkel

Home Region Program Director, Walton Family Foundation
Bentonville, Ark.

Amy Shir

President and CEO, LHOME
Louisville, Ky.

Clifton Williams

Community Development Officer, Guaranty Bank and Trust Company
Belzoni, Miss.

Federal Advisory Council Representative

The council is composed of one representative from each of the 12 Federal Reserve districts. Members confer with the Fed's Board of Governors at least four times a year on economic and banking developments and make recommendations on Fed System activities.

D. Bryan Jordan

President and CEO, First Horizon Corp.

Memphis, Tenn.

Our Retirees

*We express our gratitude to members of our boards of directors
and advisory councils who retired over the past year.*

FROM THE BOARDS OF DIRECTORS

Federal Reserve Bank of St. Louis

John N. Roberts III

Little Rock Branch

Keith Glover

Karama Neal

Memphis Branch

Michael E. Cary

David T. Cochran Jr.

FROM THE INDUSTRY COUNCILS

Agribusiness

Henry N. "Hank" Reichle Jr.

Health Care

Michael Holmes

Real Estate

Martin Edwards Jr.

Transportation

Michael D. Garriga

FROM THE COMMUNITY DEPOSITORY INSTITUTIONS ADVISORY COUNCIL

Louisville Zone

Marvin Veatch

Memphis Zone

Roy Molitor "Mott" Ford Jr.

FROM THE COMMUNITY DEVELOPMENT ADVISORY COUNCIL

St. Louis Zone

Rodney Crim

Little Rock Zone

Marta Loyd

Hillis Schild

Louisville Zone

Kevin Dunlap

Memphis Zone

Timothy Lampkin

Bank Management Committee



James Bullard
President and CEO



Kathleen O. Paese
First Vice President
and COO



Cassie R. Blackwell
Senior Vice President,
Treasury Operations



Karen L. Branding
Senior Vice President, External
Engagement and Corporate
Communications Division; and
Corporate Secretary



Carlos Garriga
Senior Vice President and
Director of Research



François G. Henriquez II
Senior Vice President, People,
Strategy and Administration
Division; Chief Administrative
Officer; and General Counsel



Amy C. Hileman
Senior Vice President,
Supervision Learning, Center
for Learning Innovation and
Shared Learning Services



Michael J. Kraus
Senior Vice President,
Information Technology
Division; and Chief
Information Officer



Nikki R. Lanier
Senior Vice President,
Louisville Branch



James A. Price
Senior Vice President,
Internal Support, Payments
and SASTeC Division



Matthew W. Torbett
Senior Vice President and
Treasury Relations and Support
Office Product Manager



David C. Wheelock
Senior Vice President and
Special Policy Advisor to the
Bank President



Carl D. White II
Senior Vice President,
Supervision, Credit and
Learning Division

Bank Officers

James Bullard*

President and CEO

Kathleen O'Neill Paese*

First Vice President and COO

David Andolfatto

Senior Vice President

Cassie R. Blackwell*

Senior Vice President

Karen L. Branding*

Senior Vice President

Carlos Garriga*

Senior Vice President

François G. Henriquez II*

Senior Vice President

Amy C. Hileman*

Senior Vice President

Robert A. Hopkins

Senior Vice President
and Regional Executive

Terri L. Kirchhofer

Senior Vice President

Michael J. Kraus*

Senior Vice President

Nikki R. Lanier*

Senior Vice President
and Regional Executive

James A. Price*

Senior Vice President

B. Ravikumar

Senior Vice President

Douglas G. Scarboro

Senior Vice President
and Regional Executive

Matthew W. Torbett*

Senior Vice President

David C. Wheelock*

Senior Vice President

Carl D. White II*

Senior Vice President

Jonathan C. Basden

Group Vice President

Timothy R. Heckler

Group Vice President

Dawn R. Howell

Group Vice President

Debra E. Johnson

Group Vice President

Katrina L. Stierholz

Group Vice President

Jane Anne Batjer

Vice President

Alexander Baur

Vice President

Heidi L. Beyer

Vice President

Adam L. Brown

Vice President

Timothy C. Brown

Vice President

Christopher D. Chalfant

Vice President

Nicholas J. Clark

Vice President

Daniel P. Davis

Vice President

James W. Fuchs

Vice President

Jennifer A. Haynes

Vice President

Jackie S. Martin

Vice President

Christopher J. Neely

Vice President

Douglas O. Nelson

Vice President

Arthur A. North II

Vice President

Craig E. Schaefer

Vice President

Angela Schelker

Vice President

Scott M. Trilling

Vice President

James L. Warren

Vice President

Jeffrey S. Wright

Vice President

Nathan G. Zelinske

Vice President

Jennifer M. Beatty

Assistant Vice President

Susan M. Black

Assistant Vice President

Nicole K. Bommarito

Assistant Vice President

Ray J. Boshara

Assistant Vice President

April D. Buchanan

Assistant Vice President

Winchell S. Carroll Jr.

Assistant Vice President

Heather W. Dell

Assistant Vice President

Andrea E. Donsbach

Assistant Vice President

Jill S. Dorries

Assistant Vice President

William D. Dupor

Assistant Vice President

William R. Emmons

Assistant Vice President

Patricia M. Goessling

Assistant Vice President

Anthony Grantham

Assistant Vice President

Stephen P. Greene

Assistant Vice President

Tamara S. Grimm

Assistant Vice President

Karen L. Harper

Assistant Vice President

Kevin L. Henry

Assistant Vice President

Edward A. Hoering V

Assistant Vice President

Douglas B. Kerr

Assistant Vice President

Jeffrey J. Leaver

Assistant Vice President

Tian Liu

Assistant Vice President

Carolann M. Marker

Assistant Vice President

Michael W. McCracken

Assistant Vice President

Michael T. Milchanowski

Assistant Vice President

Michael T. Owyang

Assistant Vice President

Christopher M. Pfeiffer

Assistant Vice President

Eric A. Reckamp

Assistant Vice President

Daniel P. Riordan

Assistant Vice President

Jennifer L. Robinson

Assistant Vice President

Lili Saint Christopher

Assistant Vice President

Juan M. Sánchez

Assistant Vice President

Philip G. Schlueter

Assistant Vice President

Debra M. Schultz

Assistant Vice President

Amy B. Simpkins

Assistant Vice President

Scott B. Smith

Assistant Vice President

Kristina L. Stierholz

Assistant Vice President

Rebecca M. Stoltz

Assistant Vice President

Mary C. Suiter

Assistant Vice President

Brenda Torres

Assistant Vice President

Bryan B. Underwood

Assistant Vice President

Yi Wen

Assistant Vice President

Ranada Y. Williams

Assistant Vice President

Christian M. Zimmermann

Assistant Vice President

Jeffrey M. Zove

Assistant Vice President

Subhayu Bandyopadhyay

Officer

Rajeev R. Bhaskar

Officer

YiLi Chien

Officer

Carrie M. Drake

Officer

Richard T. Harper

Officer

Megan E. Kahlenberg

Officer

Kevin L. Kliesen

Officer

Oksana M. Leukhina

Officer

Fernando M. Martin

Officer

Manila T. Mathema

Officer

Alexander Monge-Naranjo

Officer

Deborah Radbill

Officer

Keith G. Taylor II

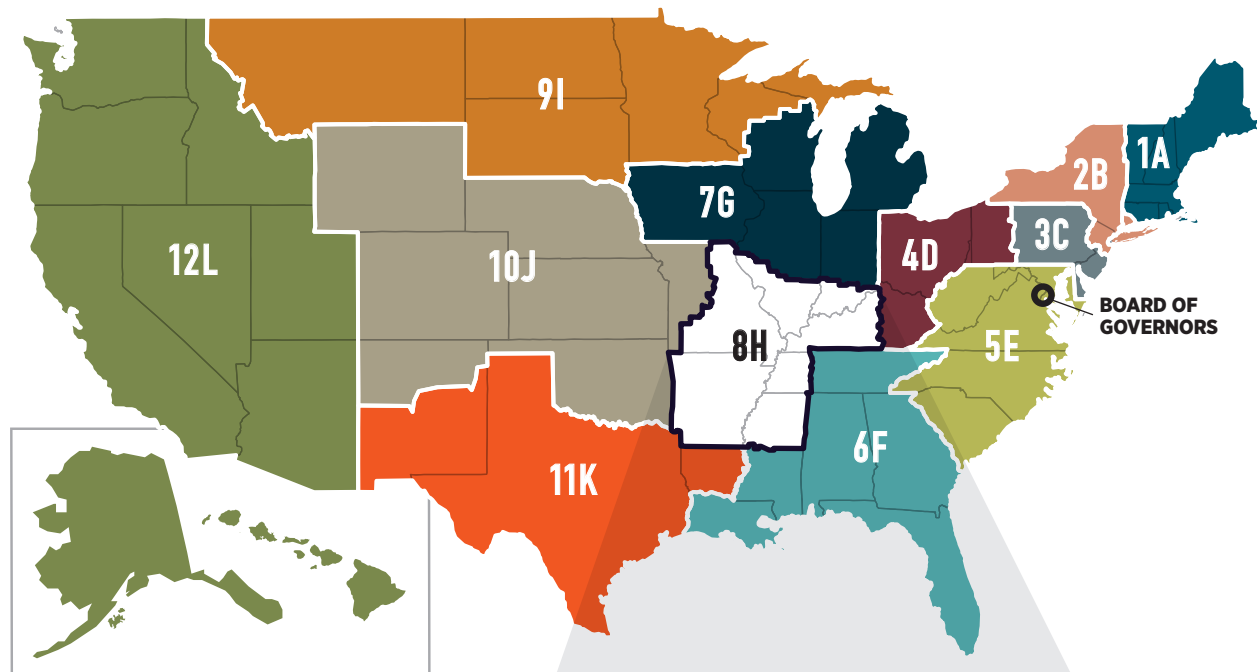
Officer

Guillaume A. Vandenbroucke

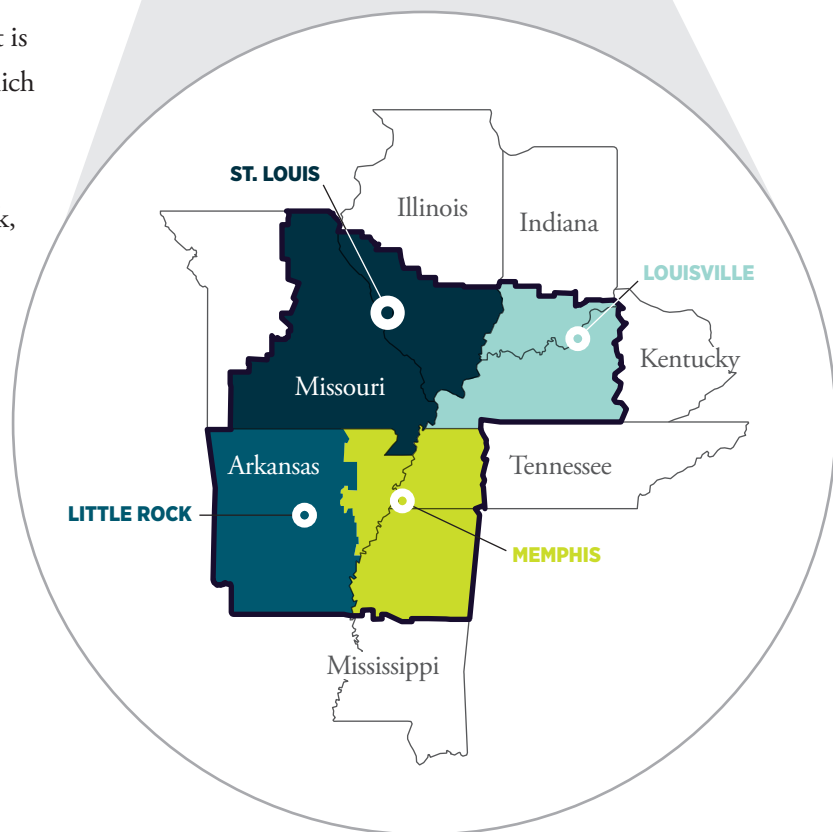
Officer

*Members of Management Committee

The Eighth Federal Reserve District



The Eighth Federal Reserve District is composed of four zones, each of which is centered around one of the four cities where our offices are located: St. Louis (headquarters), Little Rock, Louisville and Memphis. Nearly 15 million people live in the Eighth Federal Reserve District.





FEDERAL RESERVE BANK *of* ST. LOUIS
CENTRAL TO AMERICA'S ECONOMY®

ANNUAL REPORT 2020

OUR PEOPLE. OUR WORK.

At the St. Louis Fed, we are driven by our mission to promote a healthy economy and financial stability. In 2020, we carried out our mission while actively monitoring the developments of the spread of COVID-19 and its profound impact on our nation, the Federal Reserve's Eighth District and our workforce.

The Bank's **1,436** staff members—from our District's head office in St. Louis to branches in Louisville, Little Rock and Memphis—serve the public's interest in many ways, as seen in the following numerical snapshot of 2020. However, this snapshot will look different from past years': On March 16, 2020, the Bank moved to operating on a full-time remote basis except for staff engaged in essential on-site operations. As a result, event attendance and figures tied to meeting in person were lower than in past years, though Bank activities were robust, and certain participation categories exceeded those of previous years. ■

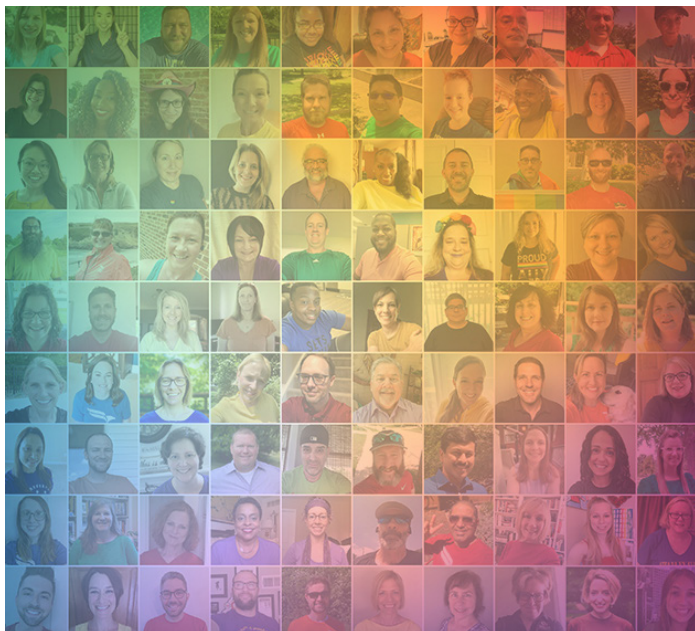
All numbers are as of Dec. 31, 2020, unless otherwise noted.

Standing Together Against Racism and Injustice

*Statement from President Jim Bullard
and First VP Kathy Paese*

The St. Louis Fed stands where east runs into west and north meets south and where major cities are within reach of small towns and rural communities. Our seven-state Federal Reserve District represents people from every demographic group. Our role is to foster an economy that works for everyone. We stand in opposition to economic inequities, racism, violence and other injustices that tear apart our society. We will continue to conduct meaningful research, convene conversations across industries and pursue initiatives that advance equity, inclusion, economic mobility and resilience for all. The pursuit of those aims is at the root of our ambition as an institution and in the work we do alongside the communities we serve. ■

Jim Bullard
Kathy Paese



The Bank celebrates and supports our LGBTQ+ employees and allies in June and throughout the year. The St. Louis Fed is committed to being a workplace where all employees can be their authentic selves ... and selves.

EMBRACING DIVERSITY, EQUITY & INCLUSION

100

—a perfect score earned for a fifth straight year in the Human Rights Campaign's Best Places to Work Corporate Equality Index, a national benchmarking tool for policies and practices pertinent to LGBTQ+ employees.



94%

of inner-city, majority-minority and all-girls high schools across the Eighth District reached through the St. Louis Fed's economic education resources.

31%

of the Bank's workforce engaged in employee-led resource groups, which are focused on African Americans, Asians, Latino/Hispanic Americans, women, people with disabilities, military veterans and the LGBTQ+ community.

181

Bank employees attended a Minority Women in Business virtual event, co-sponsored by the African American and women employee resource groups, on the intersectionality of being minority women and breaking barriers.

Supplier Diversity Outreach

The Open Vault blog post “How the Pandemic Affects Minority-Owned Small Businesses,” authored by the Bank’s Supplier Diversity team, covered how the pandemic has disproportionately affected minority entrepreneurs and offered ideas for how people can help.



The Bank's Supplier Diversity team plans the next outreach event.

As part of the St. Louis Fed's Native American outreach initiative, our Supplier Diversity and Economic Education teams collaborated with the Federal Reserve Bank of San Francisco to provide the Native American Contractors Association (NACA) with an overview of the Federal Reserve System's procurement procedures and bidding opportunities—exploring how the System can engage NACA members.



LEFT: Our Economy Museum's newest exhibit—"Ancient and Unique Money"—features currency made of glass, porcelain and even axes. Look for more currency displays in the museum's expansion, opening later in 2021.

RIGHT: Our 2020 intern class represented 27 colleges/universities, four high schools, 17 majors and seven states.

EMPOWERING COMMUNITIES THROUGH EDUCATION & OUTREACH

110,324

bankers, regulators and other industry participants engaged in webinars and in-person information sessions held on timely financial and regulatory developments. This outreach helped to facilitate the national distribution of COVID-19 relief payments.

This number may not include branch events such as Bankers' Breakfasts.

13,937

people signed up for 24 in-person and virtual workshops, conferences and other events led by the Bank's Community Development department to promote economic resilience and mobility for low- to moderate-income and underserved households and communities across the District.

\$2.73 million

in grants, loans and investments—and 421 documented connections—committed to date by funders participating in community and economic development projects through the St. Louis Fed's Investment Connection program.

4

rounds of the COVID-19 survey, Main Street Perspectives: How COVID-19 Is Affecting Low- to Moderate-Income Communities, conducted to help gauge the pandemic's impact in the Eighth District.

10,360

attendees at presentations requested through the St. Louis Fed's public speakers bureau.

6,576

attendees at St. Louis Fed public dialogue and outreach events held in person and virtually in St. Louis, Little Rock, Louisville and Memphis.

2,005

visitors welcomed to the St. Louis Fed's Economy Museum until it temporarily closed on March 13 to help protect public health and safety.

8,496

visits to the Economy Museum's new Virtual Experience page, at stlouisfed.org/inside-the-economy-museum.

535,000+

students reached through educators who participated in St. Louis Fed economic education programs.

724,000+

active engagements in the Bank's Econ Lowdown economic education curriculum. This represented a 35% increase, as our online portal equipped teachers to share economic and personal finance content virtually throughout the pandemic.

2,000+

third- through eighth-grade students enrolled in our new Personal Finance Virtual Summer Camp.



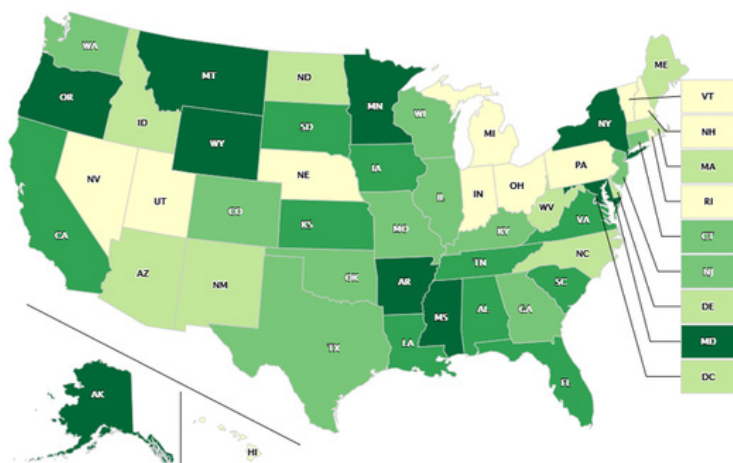
20

new high school students from a diverse array of area schools appointed to the St. Louis Fed's student board of directors.

39

college and 4 high school students served as interns for the Bank, with a record 9 college students returning to build on previous internships.





RIGHT: Economists B. Ravikumar (left) and Paulina Restrepo-Echavarria of the Research Division discuss their work.



PROVIDING THOUGHT LEADERSHIP THROUGH SCHOLARLY ECONOMIC RESEARCH

Top 3%

ranking for President James Bullard on RePEc in a number of categories, including the h-index.

RePEc is Research Papers in Economics, at ideas.repec.org. The h-index, or Hirsch index, is a compound measure of publications and citations used to highlight research productivity.

#9

in research productivity among all central bank research departments worldwide.

- #29 among all U.S. research institutions.
- #41 among all research institutions worldwide.

3.4 million

economic research items from around the world available to search and download for free via IDEAS, including 10,000 new papers related to COVID-19 posted to the site.

IDEAS is the world's largest bibliographic database dedicated to economics. This service, provided by RePEc, is hosted by the St. Louis Fed's Research Division.

51 million

page views of the St. Louis Fed's research site by people in 193 United Nations countries.

79,073

page views of the St. Louis Fed's COVID-19 Research Resources page.

51

new working papers authored by our economists to stimulate discussion and critical comment.

44

Economic Synopses articles on COVID-19 and other economic issues of the day.

768,000

data series in FRED®, the St. Louis Fed's free economic database.

134,292

page views for GeoFRED®, a tool that allows users to create, customize and share geographical maps of data found in FRED.

586,118

items in FRASER®, the St. Louis Fed's historical digital library, with materials dating from 1791.

FRED
ECONOMIC DATA | ST. LOUIS FED

GEOFRED
GEOGRAPHICAL ECONOMIC DATA | ST. LOUIS FED

FRASER
DISCOVER ECONOMIC HISTORY | ST. LOUIS FED



Kathy Paese, the Bank's new first vice president, previously served as the executive vice president over the Treasury Division, providing oversight and direction to the Treasury Relations and Support Office, and 14 operational/technical services the Eighth District provides to the U.S. Treasury.



FOSTERING FINANCIAL STABILITY & SOUNDNESS

129

state member banks and 461 bank, financial, and savings and loan holding companies supervised by the St. Louis Fed.

909 million

currency notes inspected.

- 838 million notes deemed fit for circulation.
- 71 million notes removed from circulation and shredded.

1,607

suspected counterfeit notes withdrawn from circulation.

\$4.25 billion

in improper and stopped payments identified by the St. Louis Fed in its role as fiscal agent to the U.S. Department of the Treasury and its Do Not Pay program, helping federal agencies eliminate payment error, waste, fraud and abuse. This total includes more than \$3.6 billion in improper payments identified after analysis of economic impact payments issued as part of the CARES Act.

Total is for the 2020 federal government fiscal year.

22,182

hours spent by internal auditors reviewing St. Louis Fed operations.

Does not include time spent on training, administrative work and special projects.

SHARING TIMELY INFORMATION ABOUT THE ECONOMY & THE FED

1.193 million

page views of the On the Economy and Open Vault blogs, reflecting a 42.5% jump in readership fueled by content highlighting pandemic-related research and everyday economics.

483,305

page views for *Regional Economist*, providing insights on economic issues in today's headlines—now in its 28th year of publication.

107

articles in the Bank's Central Banker e-newsletter, sampling everything from academic research to practical lessons on personal finance.

10,324

followers on Facebook.

16,537

followers on LinkedIn.

114,126

followers on Twitter.

10

boards and 57 Pins focusing on economic education materials added to the St. Louis Fed's newly launched social media account, Pinterest.



446,580

page views for the FRED® Blog, which provides insight and analysis on key data found in FRED.

23,597

downloads of episodes from our Timely Topics and Women in Economics podcast series, including two newly launched miniseries. The first explores COVID-19's impacts on local, national and global economies. The second, our Economic Equity miniseries, highlights research, insights and experiences surrounding a more inclusive, equitable economy.



Our Women in Economics podcast series highlights the studies and careers of those making their marks in the field of economics. The series has featured prominent women such as Fenaba R. Addo, Ph.D., associate professor at the University of North Carolina at Chapel Hill.



Regional Executive Douglas Scarboro joined in the parade for essential, on-site staff at our Memphis Branch.



Some of our essential, on-site employees enjoyed a parade for staff on July 7, 2020.

DOING GOOD FOR THE SAKE OF GOOD

64,842

pounds of waste recycled and 77,064 pounds of waste (including food) composted as a result of the Bank's Zero Waste initiative.

This figure is much lower than in 2019 due to the work-from-home posture during the pandemic.

\$226,432

in employee donations to the United Way of Greater St. Louis.

\$35,513

raised by employees to help support St. Louis area food banks and other food programs for people in need.

Recognizing the Significant Service of Our Executive Leader Retirees



Karl W. Ashman,
executive vice president:
31 years of service



Cletus C. Coughlin,
senior vice president and chief
of staff: 33 years of service



Michael D. Renfro,
senior vice president and general
auditor: 31 years of service



David A. Sapenaro,
first vice president and COO:
35 years of service

MORE FROM THE ST. LOUIS FED



Institute for Economic Equity

FEDERAL RESERVE BANK of ST. LOUIS

What if we had an equitable economy for all?

The St. Louis Fed recently launched the **Institute for Economic Equity** to support an economy that works for all, regardless of race or ethnicity, gender or place of residence. Learn about our goal to promote a more equitable economy for households and communities in the Fed's Eighth District and beyond.

Learn more at stlouisfed.org/institute-for-economic-equity.



FRED
ECONOMIC DATA | ST. LOUIS FED

econlowdown
click teach.engage.

Have you met FRED's new modules?

FRED Interactives are online modules that use FRED, the St. Louis Fed's signature economic database, to teach data literacy and economic content at the same time. Students learn how to build and customize FRED graphs and then interpret the data—all within the Econ Lowdown Teacher Portal.

Lessons include: **Comparative Advantage** | **Data Citations** | **Doing Basic Math** | **The Great Recession** | **Index Numbers** | **Information Literacy** | **Nominal and Real Wages**

Get started at stlouisfed.org/education/fred-interactives.



Keep up with what's new at the St. Louis Fed.

Sign up for our monthly e-newsletter **Central Banker** for a sample of what we do—from academic research and public events to podcasts, blogs, videos, and more.

Subscribe at stlouisfed.org/central-banker-newsletter.

CONTACT US

Federal Reserve Bank of St. Louis

One Federal Reserve Bank Plaza
Broadway and Locust Street
St. Louis, MO 63102
314-444-8444

Little Rock Branch

Stephens Building
111 Center St., Ste. 1000
Little Rock, AR 72201
501-324-8300

Louisville Branch

PNC Tower
101 S. Fifth St., Ste. 1920
Louisville, KY 40202
502-568-9200

Memphis Branch

200 N. Main St.
Memphis, TN 38103
901-531-5000

FOR ADDITIONAL COPIES, CONTACT:

Federal Reserve Bank of St. Louis

External Engagement and Corporate
Communications Division
P.O. Box 442
St. Louis, MO 63166
or email pubtracking@stls.frb.org

This report is also available online at
stlouisfed.org/annual-report/2020.

CREDITS

Doreen Fagan

Project Manager and Editor

Greg Cancelada

George Fortier

Heather Hennerich

Lindsay Jones

Contributing Editors

Ally Davis

Brian Ebert

Joni Williams

Art Direction and Design

Shera Dalin

Kristie Engemann

Suzanne Shenkman

Content Contributors

Adam Robinson

Photographer

Sharon Van Stratton

Web Optimization



FEDERAL RESERVE BANK *of* ST. LOUIS
CENTRAL TO AMERICA'S ECONOMY®

FOLLOW THE FED
stlouisfed.org/followthefed

