FEDERAL RESERVE BANK OF KANSAS CITY / SUMMER 2022

TEN

Triple Play

COMMEMORATIVE COINS, NEW EXHIBIT ON NEGRO LEAGUES ECONOMY DEBUT AT KANSAS CITY FED

Exploring Labor Force Participation | 2022 Agricultural Symposium | The Rise of Buy Now, Pay Later

FEDERAL RESERVE BANK OF KANSAS CITY / SUMMER 2022

TEN

VOLUME 18 • ISSUE 1 • ISSN 1554-7469

SENIOR VICE PRESIDENT
Diane Raley

ASSISTANT VICE PRESIDENT &
ADMINISTRATIVE OFFICER
Melissa Jackson

ASSISTANT VICE PRESIDENT &
PRODUCTION ADVISOR
Lowell Jones

ASSISTANT VICE PRESIDENT &
PUBLIC INFORMATION OFFICER
Bill Medley

EDITOR
Stan Austin

MAGAZINE DESIGNER
Alison Reichert

MANAGING EDITOR
Rick Babson

CREATIVE DIRECTOR
Angela Anderson

CONTENT CONTRIBUTORS
Su Bacon, Gary Barber, Cynthia Edwards, Steven Howland, Casey McKinley, Beth Norman, Kayla Regan, Victoria Rosengarten, David Tejada, Gigi Wolf, Marlina Yates

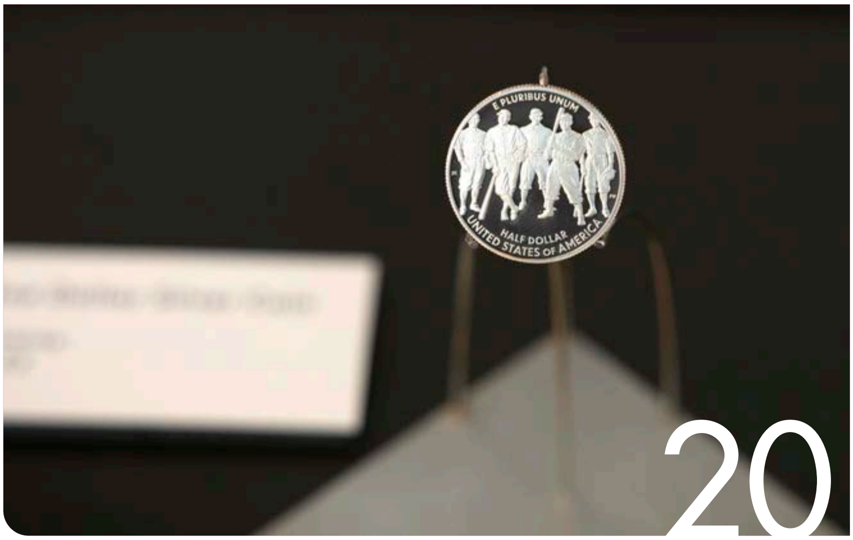
RESEARCH CONTRIBUTORS
Julian Alcazar, Terri Bradford, Elior Cohen, Alison Felix, Samantha Shampine

TEN magazine is a quarterly publication of the Federal Reserve Bank of Kansas City focused on the connection between the Bank's research and the Tenth Federal Reserve District. TEN features articles on the Federal Reserve's history, structure and operations. The views and opinions expressed in TEN are not necessarily those of the Federal Reserve Bank of Kansas City, the Federal Reserve System, its governors, officers or representatives.

TEN articles may be reprinted if the source is credited and the Public Affairs Department of the Federal Reserve Bank of Kansas City is provided with copies. Permission to photocopy is unrestricted.

Learn more about the Federal Reserve Bank of Kansas City and the history, leadership and governance of the Federal Reserve System at *KansasCityFed.org/aboutus*.

FEATURES



ON THE COVER» *Bob Kendrick, president of the Negro Leagues Baseball Museum, holds one of three new commemorative coins. Cover photography by Gary Barber, Design by Casey McKinley*

Photo by Gary Barber

Monetary policy in a supply constrained economy

This President's Message is based on remarks President George delivered at the Kansas City Fed's annual Agricultural Symposium, May 23, 2022.

After decades of low and stable prices in the United States, inflation has emerged as a central challenge in the economy. Prices are moving up, and more rapidly than at any point in the recent past. The inflation we are now experiencing is obviously both too high and too broad to dismiss. It has become a top priority for the Federal Reserve to return inflation to its 2% objective.

How did we get here?

The factors behind the recent increase in prices are fairly straightforward: When demand for goods and services exceeds the economy's ability to supply those goods and services, prices rise. The nature of this demand and supply imbalance, however, poses some challenging issues for policymakers.

As the economy reopened throughout 2021, demand surged, supported by a tremendous amount of policy stimulus. The federal government has provided about $6 trillion of fiscal stimulus since the start of the pandemic. Monetary policy was also very accommodative, as the Federal Reserve cut interest rates to zero and added over $4 trillion to its balance sheet. Together, fiscal and monetary policy provided a massive boost to the economy, encouraging consumers to spend.

And spend they did, particularly on goods. Additional time at home during the pandemic apparently allowed households to identify needs they might not have previously known they had, and demand for kitchen appliances, entertainment systems, and exercise equipment skyrocketed. Although purchases of durable goods have eased after jumping in the first half of last year, they remain about 10 percent above pre-pandemic trends.

The fast recovery of the labor market has also encouraged spending. The economy added a record number of jobs in 2021. In the first four months of this year, a further 2 million jobs were added, about equal to the total number of jobs created in each full year of the 2010s. More people working increases incomes and supports higher spending.

With the amount of stimulus injected into the economy, the strength of demand is not particularly surprising. Although the surge in consumption was certainly not a given recalling how uncertain the course of the pandemic remained throughout 2021. What is more surprising, from my perspective, is the underperformance of the supply side of the economy. Even as inflation suggests that the economy is operating far above capacity, practically bursting at the seams, the level of real GDP remains 2.5% below its pre-pandemic trend, a shortfall equal to a typical year's worth of growth.

The emergence of supply constraints has put the economy in somewhat unfamiliar territory. In the two decades prior to the pandemic, it was widely thought that the primary factor holding back economic growth was weak demand. Underlying this belief was the relative benign nature of inflation over this period, even in the face of historically low global interest rates and low unemployment. An apparently low neutral rate of interest, a level known to economists as r-star, suggested that monetary policy had to work pretty hard just to keep demand in the vicinity of the economy's available supply.

Now supply constraints dominate the economic narrative. What changed? One possibility is that nothing has changed. Perhaps the pre-pandemic economy was closer to full capacity than we realized. However, another possibility is that the pandemic has resulted in persistent, perhaps even permanent, damage to the productive capacity of the economy. This damage could be manifested along a number of dimensions. I'll highlight three: persistent damage to global supply chains, the quick destruction of capacity in the services sector, and long-lasting damage to workforce engagement and labor force participation.

Persistent disruptions to supply chains

The initial shock of the global shutdown in March 2020 tangled the carefully coordinated movement of shipping containers, the lifeblood of global commerce, and disrupted global production networks. Although progress has been made and the line of ships waiting off the shore of Long Beach has diminished, disruptions have migrated to other parts of the supply chain. For example, warehouse space has become scarce in many markets.

Production and capacity have also been affected. The semiconductor shortage and its impact on the automobile sector are well known, but other industries have also been hit by shutdowns. For example, in 2020, following a sharp fall-off in demand for diesel and gasoline, a number of refineries in the United States permanently shut down, lowering domestic refining capacity by 5%. This loss of capacity has contributed to the run up in fuel prices this year as remaining capacity is running flat out.

More broadly, the war in Ukraine has disrupted the supply and transportation of many commodities, pushing up prices for energy and food across the world. Similar to energy markets, the prices of many agricultural commodities also surged with the war in Ukraine and have remained very high. The price of wheat, for example, is about double what it was a year ago, but the prices of other major commodities are also considerably higher than last year and much higher than before the pandemic. While the increase in prices has supported incomes in the farm sector, I have heard many contacts in our region describe their angst about rising input costs, or potentially even the availability of some key inputs, such as fertilizer. Across the spectrum of these supply constraints is growing concern about the persistence of these issues.

The quick destruction of capacity in the service sector

A second factor pointing to supply-side damage can be found in the service sector of the economy. Transportation and production bottlenecks have been particularly important for explaining the upward movement in goods prices, but recently services prices have also been picking up.

The increase in services price inflation is occurring despite continued weakness in the sector. Consumption of services only returned to pre-pandemic levels in the first quarter of this year. Given apparent slack in the services sector, why are prices moving up so strongly? It could be that excess capacity in the services sector disappeared much more quickly than we might have anticipated, so that even with subpar output the sector is not actually operating with much slack.

The pandemic recession was different from most recessions in that demand for services was hit particularly hard while demand for goods skyrocketed. Typically, the consumption of goods falls more steeply

In May, President Esther George delivered remarks on the first day of the 2022 Agricultural Symposium. *Photo by Gary Barber*

than services with downward pressure on prices as slack opens up in the economy. What we may be seeing in the current services-led recession is a much quicker adjustment of available capacity than in a typical recession. Lower fixed costs in the services industry may have allowed firms to quickly eliminate excess capacity in reaction to a steep fall in demand.

Continuing labor market frictions

The inability of the service sector to quickly add capacity is intrinsically related to the third factor holding back the supply side of the economy: continued frictions in the labor market. By many metrics, the labor market appears to be unusually tight. The unemployment rate is close to a historic low. The number of posted job vacancies is the highest on record, as is the pace at which workers are quitting their jobs, an indicator of a hot labor market as workers are more likely to quit when alternative opportunities are abundant. Speaking to contacts in the region, hiring and retaining workers is an acute challenge. Yet, notwithstanding the apparent tightness of the labor market, employment remains over 1 million workers short of pre-pandemic levels and considerably further below the pre-pandemic trend. What explains this gap? I will highlight two dynamics weighing on the labor force: lagging labor force participation and a significant step down in the pace of immigration.

In April, the percentage of the working age population participating in the labor force was 1.2 percentage points lower than before the pandemic. Controlling for population growth and aging, this implies a gap of about 2 million workers relative to pre-pandemic levels.[1] Earlier in the recovery, prime age women made up a disproportionate number of the missing workers, possibly due to disruptions to childcare arrangements. More recently, prime age participation has rebounded to close to pre-pandemic levels, such that the largest contributors to the current gap in participation are workers older than 65. Participation for the 65-plus age group fell off sharply with the pandemic and has not shown much recovery, perhaps as fears of illness lessened the desire to work and this was a feasible option as rising asset values boosted retirement wealth.

Another factor contributing to the tight labor market has likely been a significant fall off in the number of immigrants. This issue is often highlighted by our regional contacts in the agricultural sector and other parts of the economy. Immigration started to move down in 2016 and then fell off sharply during the pandemic. If immigration had continued at its earlier trend for the previous five years, estimates suggest there would be an additional 3 million immigrants, many of whom would have joined the workforce.[2]

Where do we go from here?

With these thorny supply side issues affecting the economy, what role does monetary policy play? Certainly, monetary policy cannot fix supply shocks. But monetary policy does play an important role in addressing the imbalances between supply and demand. With inflation high, monetary policy must act to dampen the pace of demand growth, bringing demand into alignment with supply and relieving pressure on prices.

With inflation at a 40-year high and the unemployment rate near record lows, the stance of monetary policy has belatedly shifted to the removal of accommodation. A series of interest rate increases combined with significant reductions in asset holdings are underway. However, with real inflation-adjusted interest rates still deeply negative and the balance sheet twice its pre-pandemic size, questions about the path of policy are prevalent.

The responsiveness of the economy to changes in the interest rate can be difficult to predict in part because it is likely to vary over time. For example, with consumption skewed towards durable goods, which tend to be more interest-sensitive than other components of spending, it is possible that higher rates will have a more pronounced impact on demand and inflation than observed in the past. On the other hand, high levels of liquidity in the economy and healthy household balance sheets might make consumption less reactive to higher interest rates.

Fed policymakers have emphasized a commitment to act expeditiously to restore price stability, and I expect that further rate increases could put the federal funds rate in the neighborhood of 2% by August, a significant pace of change in policy settings. Balance sheet reduction plans will also be underway as a tightening mechanism, with financial markets far more unsettled currently than in 2017, when the Fed last initiated a rundown in the size of its balance sheet. Communicating about our policy path to avoid introducing any further uncertainty can ensure progress in significantly reducing the size of the balance sheet and lessening the central bank's footprint in financial markets. Evidence that inflation is clearly decelerating will inform judgments about further tightening.

The central bank's job is to prevent persistent imbalances from feeding into inflation and unmooring inflation expectations. By influencing interest rates, the Federal Reserve primarily affects the demand side of the imbalance. The evolution of its efforts alongside other factors will affect the course of monetary policy, requiring continuous and careful monitoring.

Esther L George

[1]See Tuzemen, "How Many Workers are Truly 'Missing' from the Labor Force?" Economic Bulletin, May 6, 2022.

[2]See Cohen and Shampine, "Immigration Shortfall May be a Headwind for Labor Supply" Economic Bulletin, May 11, 2022.

Esther George announces January retirement
SEARCH FOR SUCCESSOR UNDERWAY

Esther George, president and chief executive officer, announced in May that she intends to retire in January 2023 when she turns 65, as required by the Federal Reserve's mandatory retirement rules for Reserve Bank presidents.

George, who began serving as president on Oct. 1, 2011, marked 40 years of service at the Kansas City Fed in April.

Consistent with the Federal Reserve System's process, the Kansas City Fed's Board of Directors has formed a presidential search committee consisting of its members who are not affiliated with the banking industry. The committee has launched a nationwide search to identify a broad, diverse and highly qualified pool of candidates. Its work will be supported by Egon Zehnder, a global leadership advisory and executive search firm.

The appointment of the president is also subject to the approval of the Federal Reserve's Board of Governors in Washington, D.C.

The search committee:

- Search Committee Chair – María Griego-Raby, president and principal, Contract Associates, Albuquerque, New Mexico
- Board Chair – Edmond Johnson, president and chief executive officer, Premier Manufacturing, Inc. and ENFusion, Frederick, Colorado
- Patrick A. Dujakovich, board deputy chair and president, Greater Kansas City AFL-CIO, Kansas City, Missouri
- Doug Stussi, executive advisor, Love Family of Companies, Oklahoma City, Oklahoma
- Ruben Alonso III, chief executive officer, AltCap, Kansas City, Missouri

"Under Esther's leadership, the Kansas City Fed has continued to deliver operational excellence across its mission areas of financial services and financial institution supervision, as well as maintain a strong commitment to public engagement," Griego-Raby said in announcing the search. "Our challenge is to select a leader who can continue to build on the Bank's outstanding reputation and provide a thoughtful, independent view on monetary policy."

Among Reserve Bank presidents, George has a unique background, having rotated through leadership positions in several areas of bank operations, including human resources, economic research and statistical services, and public affairs. She served much of her career in bank supervision, where her roles ranged from commissioned examiner to eventually becoming the Bank's chief regulator, with oversight of 1,000 bank and financial holding companies. Immediately before being named Bank president, she served as chief operating officer.

For the last 11 years, George has hosted the Kansas City Fed's Economic Policy Symposium in Jackson Hole, Wyoming, and has been recognized for making the program's presenters and audiences more race and gender diverse. Currently she also provides leadership for the Federal Reserve's efforts to develop FedNow, an instant payments system.

Applicant referrals should be directed to Egon Zehnder at *KCFedSearch@egonzehnder.com*. To learn more about the search, see a full job description, and learn more about the role of the president, visit *KansasCityFed.org/ presidentialsearch*. Updates will be provided at this website as they are available throughout the process.

The search committee (from left): Edmond Johnson, Patrick A. Dujakovich, María Griego-Raby, Ruben Alonso III and Doug Stussi. Photo by Gary Barber

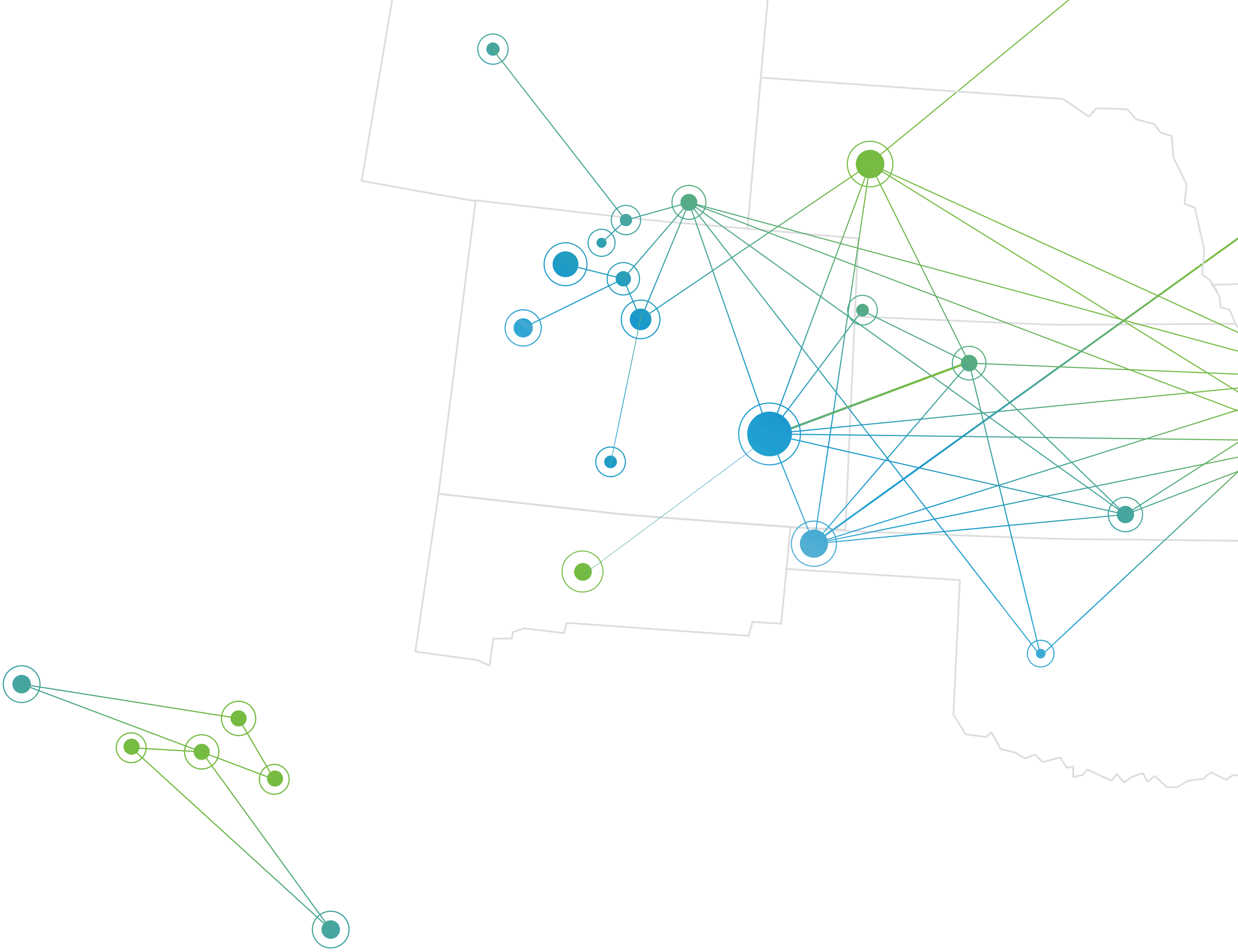
Notes from around the Tenth District

Student Board members complete programs

The Kansas City Fed's 2021-22 Student Board of Directors programs recently concluded with pinning ceremonies. Forty-four students from 19 schools completed the program across the Tenth District, in Albuquerque, Denver, Kansas City, Oklahoma City and Omaha. During the year, students learned about the missions of the Federal Reserve, as well as financial management, business etiquette, college and career readiness. Students also learned about local economies, toured local businesses, and networked with the Bank's Board of Directors. Learn more about the student board program at *KansasCityFed.org/education/student-board-of-directors*.

Denver Branch Executive Nick Sly with (from left) Denver Student Board graduates Layla Duong and Caleb Blumenthal-Roth and Denver Branch Public Affairs Specialist Liz Tran. Not pictured for Denver: Jack Collins, Niva Fishman, Mason Quicke, Evan Westervelt and Dean Wonnacott. Not pictured for Albuquerque: Ethan Romero.

Kansas City Board Chair Edmond Johnson and President Esther George participated in the Kansas City Student Board's pinning ceremony. Students (left to right): Michelle Resendez, Sidney Richardson, Robert Hill, Diana Perez, Carla Meraz, Evan Martinez, Jameson Rauth, Jonathan Haileselassie, Leila Harrity and Madelyn Villeda-Guevara. (Not pictured: Maria Duran, Reese Pratt and Oliva Rubio). *Photo by Gary Barber*



Albuquerque area high school teacher Brian Colburn (far left) with Albuquerque Student Board graduates (from left) Micaela Gallegos, Tyler Bernius, Kayla Hynes, Catalina Padilla, Jequelle Simkins and Sierra Sloan, with Public Affairs Specialist Liz Tran.

Oklahoma City 2022 Student Board graduates: (Back row) Brooklyn Bailey, Lindsay Flores, Ashley Saavedra, Beckham Schell and Iyana Freeman. (Front row) Delnaz Kazemi, Jocelyn Acevedo, Lauren McDowell and Khalia Tillis.

Fed Communities series illustrates the impact of Investment Connection

"WE REALIZED WE WEREN'T GOING DEEP ENOUGH IN SUPPORTING ENTREPRENEURS ... THE INVESTMENTS ALLOWED US TO FOCUS ON THE GOAL."

— Rob Smith

In the series *Investment Connection: Getting to 'We Have a Deal,'* Rob Smith, retired CEO of the Rocky Mountain MicroFinance Institute in Denver, shares experiences from the funding perspective. *Photos courtesy of Fed Communities*

The St. Paul, Minnesota, Frogtown Square neighborhood revitalization project, which held its grand opening in 2011 (above), is one of the community development partnerships highlighted at *FedCommunities.org*.

It's not always easy for community-based organizations to find investors. Furthermore, it's not always obvious to financial institutions and other funding entities whether a program is eligible for investments under the Community Reinvestment Act. The Investment Connection program, launched in the Tenth District in 2011, offers a bridge between funders and local organizations that need financing.

The scope and impact of Investment Connection is explained in a multimedia series of articles launched this year by Fed Communities, a community engagement arm of the Federal Reserve System. The series, written by Jennifer Wilding of the Kansas City Fed's Community Affairs staff, takes readers through the stages of the Investment Connection program, with perspectives from small business owners, community organizers, bankers, and the Federal Reserve community development experts who bring the entities together. See the series at *FedCommunities.org/stories/2022-investment-connection-series/*.

UCM team wins 2022 Code-A-Thon

A team from the University of Central Missouri (UCM) in April was awarded first place in the Kansas City Fed's sixth annual Code-A-Thon competition. In the two-day virtual event, six collegiate teams competed to build software solutions for certain scenarios. The winning UCM team designed an app that helps students who might be struggling to socialize after returning from remote classes to in-person campus life.

This year, students from Langston University in Oklahoma took second place, developing software to connect refugees with resources and aid groups. Third place went to a team from Southwest Baptist University in Bolivar, Missouri, for an app that helps young adults remember life skills. Langston University professor Ralph Grayson received the University Champion Award, which goes to the most committed and engaged faculty member in the competition.

Code-A-Thon is designed to encourage and inspire computer science and engineering students. Nearly 50% of Kansas City Fed employees are information technology professionals. Through Code-A-Thon and other programs, the Bank supports STEM education efforts and develops a talent pipeline. To learn more about the program or receive information about next year's competition, send email to *KC.Codeathon@kc.frb.org*.

Beige Book: Fast facts on the Tenth District economy

The public can now subscribe to receive timely and specific economic information for the Tenth Federal Reserve District. Eight times a year, the Federal Reserve gathers information on current economic conditions through reports from Bank and Branch directors, along with interviews with key business contacts, economists, market experts and other sources. The information on specific sectors is summarized by Reserve Bank district and then published in the Beige Book. Visit *KansasCityFed.org/surveys/beige-book* to sign up for the latest Beige Book releases.

Bank Anniversaries

The following banks in the Tenth Federal Reserve District are celebrating 20 or more years as Federal Reserve members in July, August and September.

Uinta Bank	Mountain View	Wyo.	102
Wahoo State Bank	Wahoo	Neb.	90
Gunnison Bank and Trust Co.	Gunnison	Colo.	82
Union State Bank	Clay Center	Kan.	80
Bank of Holyrood	Holyrood	Kan.	79
Security State Bank	Basin	Wyo.	74
Five Points Bank	Grand Island	Neb.	25
State Bank of Burrton	Burrton	Kan.	25
i3 Bank	Bennington	Neb.	23
Payne County Bank	Perkins	Okla.	23
Bank of Locust Grove	Locust Grove	Okla.	22
First Pryority Bank	Pryor	Okla.	22
Lakeside Bank of Salina	Salina	Okla.	22
Security Bank	Tulsa	Okla.	22
Bank of Locust Grove	Locust Grove	Okla.	21
American Exchange Bank	Elmwood	Neb.	21
Jonah Bank	Casper	Wyo.	10
Wyoming Bank & Trust	Cheyenne	Wyo.	10
RSNB Bank	Rock Springs	Wyo.	10

Making a CONNECTION

In founding the Federal Reserve more than a century ago, Congress recognized the importance of connecting the nation's central bank to the Main Streets of America. The Federal Reserve Bank of Kansas City carries out this role through its president and its programs and activities across Colorado, Kansas, western Missouri, Oklahoma, Nebraska, northern New Mexico and Wyoming. Here is a glimpse at the recent activities of President Esther L. George and the staff of the Kansas City Fed.

KANSAS, MISSOURI and BEYOND »

Metropolitan Community College
On May 19, President Esther George was the keynote speaker at the Metropolitan Community College (MCC) commencement ceremony in Independence, Missouri. Pictured with George: MCC Chancellor Kimberly Beatty and MCC Trustee Holmes Osborne.

Healthcare leadership development
In May, President George met at the Bank with students from the Bluford Healthcare Leadership Institute. The Kansas City group is a professional development program designed to introduce undergraduate scholars with exceptional leadership potential to careers in the health care industry.

Missouri U.S. senator visits

In April, Missouri U.S. Senator Roy Blunt visited the Bank and viewed the Money Museum exhibit featuring three newly minted coin designs highlighting Negro Leagues baseball. In the Senate, Blunt sponsored the Negro Leagues Baseball Centennial Commemorative Coin Act, which authorized the U.S. Mint to produce a limited run of the coins. Read more about the exhibit on page 20.

Speaking to bankers from Colorado and Arizona

President George spoke to about 200 attendees at the Colorado and Arizona Banker Summit in early May in Colorado Springs. Bankers' organizations from the two states co-hosted the event. Pictured above with President George (from left): Jenifer Waller, president and CEO of the Colorado Bankers Association (CBA); and Mark Hall, CBA chairman and senior vice president at Vectra Bank Colorado.

OKC Rotary Club speech

President George spoke in March to Rotary Club of Oklahoma City. Pictured above with President George is Jill Castilla, president and CEO of Citizens Bank of Edmond and the Kansas City Fed's representative on the Federal Advisory Council.

Oklahoma City bank visit

President George joined Oklahoma City Branch Executive Chad Wilkerson for a visit with officers of First National Bank & Trust Company. Pictured (from left): Wilkerson; Christopher Turner, a member of the Oklahoma City Branch Board of Directors and First National Bank & Trust's executive vice president and chief operating officer; David Durrett, executive vice president and chief lending officer; and Bryan Cain, president and CEO.

Missouri bank directors symposium
In April, President George spoke at the Missouri Bankers Association (MBA) Directors Symposium at the Loews Kansas City Hotel. The symposium brings together directors, bank management teams and senior officers from across the state to discuss emerging issues relevant to the industry. Pictured with President George (from left): Jackson Hataway, MBA, Jefferson City; Doug Fish, BTC Bank, Bethany; J.R. Buckner, First Federal Bank of Kansas City and John Everett, Legacy Bank and Trust, Springfield.

U.S. senator from Kansas
In May, Kansas U.S. Senator Roger Marshall visited the Kansas City Fed for a meeting with President George.

Missouri Independent Bankers
President George was a featured speaker in May at the annual Missouri Independent Bankers Association (MIBA) Directors & Officers Seminar in Osage Beach, Missouri. Pictured (from left): MIBA President Jack Hopkins, who is president and chief operating officer of Community Bank of Raymore, and MIBA Executive Director Matthew Ruse.

Speaking to financial executives in Omaha
More than 150 attendees were on hand in April at the University of Nebraska-Omaha campus when President George delivered remarks for an event jointly hosted by the school and Omaha Financial Executives International. The audience included Omaha community members as well as university faculty and staff.

Oklahoma City Branch Board of Directors visits Enid

In early June, President George and the Oklahoma City Board of Directors visited Enid and nearby communities to learn more about the state's wheat industry in a tour of businesses and technology guided by Director Brady Sidwell. Sidwell, who owns several businesses related to the grain industry, also hosted the Kansas City Fed group at his farm.

Learning about the grain industry and the regional economy

(Above, left) During the Kansas City Fed's activities in the Enid area, President George and the Oklahoma City Board of Directors visited Enterprise Grain Company, a grain handling and storage operation owned by Director Sidwell. (Above, right) At an Oklahoma State University agricultural research facility, Sidwell explained the concepts of "farm-to-table" and "farm-to-glass" from the grain industry perspective.

Business roundtable in Enid

During the Oklahoma City Branch Board of Directors' June visit to Enid, President George, Chad Wilkerson and Brady Sidwell hosted a roundtable and listening session with officials from area businesses.

Missouri bankers' convention

President George in June attended the Missouri Bankers Association (MBA) in Branson during the organization's 132nd annual convention. George addressed the group and provided an update on the economy and the Federal Reserve. On hand with George were (at left) former Kansas City Fed president Thomas Hoenig and MBA Chairman John Everett, CEO of Legacy Bank and Trust in Springfield.

COLORADO, NEW MEXICO, WYOMING »

Denver Branch staff presents to economics students

Recently, Research Associate Bethany Greene (left) and Public Affairs Specialist Liz Tran gave a presentation on the Federal Reserve and monetary policy for an advanced-placement economics class at East High School in the Denver area.

(Below) Earth Day in Colorado

In April, Denver Branch employees participated in Earth Day activities by picking up trash along the Cherry Creek Trail in downtown Denver.

Sly visits Albuquerque

Nick Sly, Denver Branch executive and assistant vice president, met with business leaders and community members in Albuquerque, New Mexico to talk about local economic trends and current issues.

Metro State University panel

Nick Sly participated in a panel conversation at Metro State University in Denver, Colorado about monetary policy and the Federal Reserve's recent actions. Pictured, from left: Paul Washington of IMA Financial Group, Mike Kopp of Colorado Concern, Sly, Janine Davidson of Metro State University, and Rick Pederson of Bow River Capital Partners.

Cultural exchange for minority developers

Steven Shepelwich, lead Community Development advisor at the Oklahoma City Branch, in May joined a two-day intensive tour of minority-led development projects throughout Oklahoma City. Hosted by PlaceKeepers and the Oklahoma Urban Land Institute, the event brought together minority housing and business developers to explore strategies for creating equitable, relevant and locally owned development.

Oklahoma City Branch hosts roundtables on agriculture, energy

Chad Wilkerson, Oklahoma City Branch executive, Cortney Cowley, senior agriculture economist in Oklahoma City, and other Reserve Bank staff recently met with agriculture and energy executives and industry leaders to learn about their organizations' current activity, challenges and future plans. Before the Agriculture Roundtable, Wilkerson and Cowley toured the Oklahoma City Stockyards – the world's largest feeder and stocker cattle market – to learn more about its history and operations. The Energy Roundtable (pictured above) was held at the Devon Energy Center and included a tour of Devon's Core Lab, which analyzes underground shale samples from the areas of their drilling operations. After a roundtable concludes, the information gathered is presented to President Esther George to help her prepare for Federal Open Market Committee meetings.

Awards presented to high school economics students

The Oklahoma City Branch and the Oklahoma Council on Economic Education honored seven Oklahoma students at the 12th annual Outstanding Economic Student Awards held at the Branch office. The program recognizes exemplary students and highlights the importance of economics in Oklahoma curriculum. The students and their guests were invited to attend the dinner and awards ceremony. The students (pictured left to right): Hunter Werkmeister, Mustang High School; Aries Rogers, Western Heights High School; Jose Rojas, Ringwood High School; Kathryn Hewitt; Muskogee High School; Abby Grand, Latta High School and Luetisha Poindexter, Muldrow High School. (Not pictured: Bradyn Settlemire, Tushka High School.)

NEBRASKA »

Omaha Branch co-hosts Econ Challenge finals

The Omaha Branch partnered with the Nebraska Council of Economic Education to host the Nebraska Econ Challenge State Finals on April 22. Teams of high school students worked against the clock, each with a backpack filled with economics problems to solve and a final secret message to decode. Branch staff volunteered as game masters, and Omaha Branch Executive Nate Kauffman hosted the final quiz bowl showdown for the state championship.

Exploring Omaha development

Teesha Miller, Kansas City Fed assistant vice president and Community Affairs officer, and Community Development Advisor Dell Gines met with representatives from Nebraska Economic Development and Millwork Commons in North Downtown Omaha to learn about future development plans for the area.

Recognizing stellar tellers

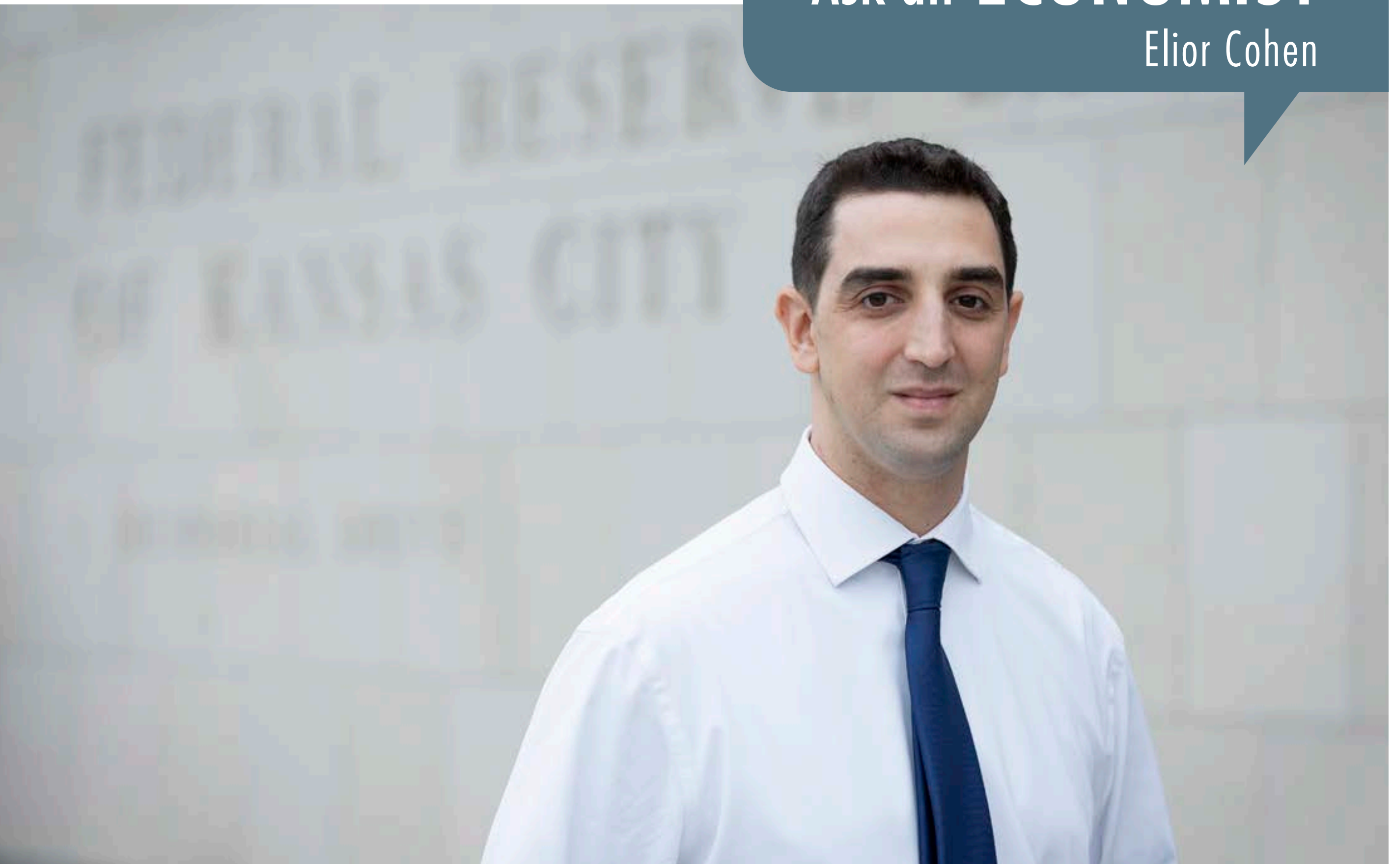
Public Affairs Specialist Nicole Downs showed the security features in U.S. currency and explained how to spot counterfeit bills during a celebration recognizing outstanding elementary student tellers of in-school savings programs from the Omaha metro area. The event was hosted by the University of Nebraska at Omaha Center for Economic Education in May.

Class is in session

Economics students from Omaha's Benson High School visited the Omaha Branch in May to kick off a class unit on monetary policy. Nate Kauffman met with the students to explain the role of the Federal Reserve.

Ask an ECONOMIST

Elior Cohen



Homelessness and the effect of 'Housing First' programs

Homelessness has rapidly grown in U.S. cities, with more than 1.4 million Americans using homeless services at least once a year. On any given night, approximately 580,000 individuals in the United States are homeless. Over the last several years, implementation and funding of "Housing First" programs for homeless individuals have steadily increased. These programs provide housing assistance without preconditions as a platform for rehabilitation. However, despite the increasing popularity, there has been limited evidence of the programs' effects on socioeconomic outcomes.

Kansas City Fed Economist Elior Cohen explored the rehabilitative impact and cost effectiveness of Housing First programs. His findings were published in a March 2022 Research Working Paper. The full paper is available at *KansasCityFed.org/research*.

What has driven the rise of Housing First programs?

Homelessness is associated with multiple adverse outcomes that can impose heavy administrative and financial burdens on public agencies and local governments, with some estimates showing that the average cost of direct public services alone is $83,000 per homeless person per year. To help address these issues, Housing First emerged as an alternative to more traditional and linear housing assistance systems based on such conditions as treatment, sobriety or service participation. The Housing First approach is based on the idea that housing stabilizes a person's life and thus serves as a platform for rehabilitation. Combined private and public funding for these programs, which can include such assistance as rental subsidies and support services, more than doubled over a 10-year span, reaching more than $18 billion nationally in 2019.

How was this research study conducted?

There has been mixed evidence regarding the impact of Housing First programs on housing stability and homelessness compared with traditional care. There also has been little evidence regarding the effect on non-housing outcomes (crime, employment and health, for example) due to a lack of comprehensive longitudinal data on individuals experiencing homelessness, non-random selection of participants into Housing First programs, and challenges in conducting randomized controlled trials. My study used a newly constructed panel dataset comparing outcomes for single adults experiencing homelessness who received Housing First assistance to those who did not. This comparison was made possible by linking administrative records across multiple public service agencies in Los Angeles County, California, including the homeless response system, health services, and the sheriff's department, among others. These links were used to create a panel dataset at the case-month level containing public service histories of all single adults experiencing homelessness who sought assistance from homeless services providers in Los Angeles County between 2016 and 2017.

What were your findings regarding the socioeconomic effectiveness of Housing First?

This study produced three main results. First, these programs reduce future interactions with the homeless support system. Through analysis of available data, I estimate that participation in Housing First programs lowers the probability of returning to the homeless support system within 18 months by 23 percentage points and a return within 30 months by 15 percentage points.

Second, the programs positively affect a wide range of non-housing outcomes. Specifically, Housing First assistance reduces the probability of being in jail within 18 months by 95%, the probability of having a criminal charge by 85%, the probability of receiving emergency cash assistance by 80%, and the probability of relying on social benefits by 35%. Additionally, I find no significant relationship between Housing First assistance and health services utilization.

Third, I provide descriptive evidence that both short-term (rapid re-housing) and long-term (permanent supportive housing) Housing First programs generate positive effects for recipients.

Why are these results important?

The findings detailed in this paper demonstrate that Housing First can be a rehabilitative and cost-effective means of addressing homelessness. Overall, these findings have important implications for policy debates regarding eligibility, duration, and targeting of Housing First assistance to individuals experiencing homelessness. One important policy question is whether the positive effects of housing are cost-effective. Calculations presented at the end of the paper show that program costs are offset by direct savings to public agencies within the first 18 months alone, which I compute as savings from reduced use of public services and increased employment. Lastly, this paper also relates to the growing literature in economics on the effect of housing policies on family and individual outcomes.

(Above) Photo by Getty Images
(Left) Photo by Gary Barber

?

FURTHER RESOURCES
The full Research Working Paper and other Kansas City Fed publications are available at *KansasCityFed.org/research*.

Triple Play

KANSAS CITY FED CELEBRATES HISTORY OF NEGRO LEAGUES BASEBALL

by VICTORIA ROSENGARTEN and KAYLA REGAN

Civic and government leaders gathered in the Federal Reserve Bank of Kansas City's Money Museum in April for the unveiling of the U.S. Mint's newly struck coins celebrating Negro Leagues baseball.

The event highlighted recent Bank efforts, including the "Triple Play" Money Museum exhibit and new educational materials, to help celebrate the legacy and history of African-Americans in baseball. Negro Leagues baseball was founded in Kansas City in 1920, and the Negro Leagues Baseball Museum is in the city's 18th & Vine Jazz District.

"These teams provided not only a place where baseball fans could see some of the era's top talent, but they also played an important role in the cultural and economic landscape of Negro League cities, where baseball games were the center of thriving African American businesses, providing retail, restaurants, hotels and other services to fans," Bank President and CEO Esther George said at the event.

In 2020, Congress passed the Negro Leagues Baseball Centennial Commemorative Coin Act, authorizing the U.S. Mint to produce a limited run of coins in celebration of the Negro Leagues' 100th anniversary. The program consists of three denominations—a $5 gold coin, a $1 silver coin and a half-dollar clad coin.

"We had the artist design around the themes of pride, passion and perseverance," said Negro Leagues Baseball Museum President Bob Kendrick. "And for me, those are really the key themes that are derived from this incredible story of triumph over adversity."

Kansas City area Congressman Emanuel Cleaver II sponsored the coins legislation in the House of Representatives, and Missouri's Roy Blunt did the same in the U.S. Senate. Cleaver called the event a special day for Kansas City, the hometown of the Kansas City Monarchs, one of the most celebrated and successful teams of the Negro Leagues era. Additionally, Andrew "Rube" Foster—whose likeness

<< At the opening of the "Triple Play" exhibit in April (from left): Jackson County Executive Frank White; Kansas City Mayor Quinton Lucas; Ashley Bailey, U.S. Mint director of the Office of Diversity Management and Civil Rights; Negro Leagues Baseball Museum President Bob Kendrick; Kansas City Royals President and CEO John Sherman and Kansas City Fed President Esther George. *Photos by Gary Barber*

appears on the gold coin—founded the Negro Leagues during a meeting at the Paseo YMCA in Kansas City.

"If you think about it, there's no other city on the planet and no other Federal Reserve Bank that can do this but us," Cleaver said.

> "THE BANK HAS ALSO DEVELOPED SPECIAL EDUCATIONAL PROGRAMMING AND TEACHING MATERIALS TO ENGAGE K-12 STUDENTS IN HISTORY AND ECONOMICS WITH BASEBALL-THEMED ACTIVITIES."
>
> — Esther George

George added, "It is our pleasure to display these coins in this special summer exhibit, and, after this, in the Money Museum's permanent collection. The Bank has also developed special educational programming and teaching materials to engage K-12 students in history and economics with baseball-themed activities."

Truman coins on display

Another feature exhibit at the Money Museum is the Truman Coin Collection, consisting of 450 coins on loan from the Harry S. Truman Presidential Library and Museum. Truman's history includes another Kansas City Fed connection: In the 1950s he leased office space in the original Bank headquarters at 925 Grand.

FURTHER RESOURCES

Go to *KansasCityFed.org/education* for free lessons and related material. See the Kansas City Fed's YouTube channel for video of Bob Kendrick introducing the coins and sharing historical context. Go to *KansasCityFed.org/moneymuseum* for exhibit information, hours and other details.

U.S. Rep. Emanuel Cleaver II, who spoke at the "Triple Play" opening, was a sponsor of legislation authorizing the U.S. Mint to create the commemorative coins, including (above) a $5 gold coin featuring Negro Leagues founder Andrew "Rube" Foster. *Photos by Gary Barber*

LOWER LABOR FORCE PARTICIPATION rates and slower population growth pose challenges for employers

Filling job openings remains difficult for employers across many regions and industries as the country continues to recover from the pandemic-induced recession. Job openings have exceeded the number of unemployed workers in the United States since July 2021. Although many researchers have pointed to the sharp decline in labor force participation as an explanation, a March 2022 Economic Bulletin asserts that less attention has been paid to the role of population growth over time. In the full article, available at KansasCityFed.org/research, Senior Policy Advisor Alison Felix and Research Associate Samantha Shampine examine state and national trends and show that slower population growth and an aging population may put downward pressure on labor force growth into the future.

Participation and population

Labor force participation isn't the only contributor to the size of the labor force. Population growth also is significant. In particular, the size of the labor force equals the size of the population age 16 and older multiplied by their labor force participation rate. Thus, changes in the size of the labor force can be decomposed into changes in population size and changes in participation rates.

Variance across states

Population growth helped offset declining labor force participation in most states between December 2019 and December 2021. However, the overall change in the size of each state's labor force varied widely. For some states, the pandemic led to shifts in migration patterns that exacerbated population growth or decline. In New York, for example, population declines exacerbated declines in labor force participation. In contrast, the population of Wyoming, in the Tenth Federal Reserve District, increased throughout the pandemic, partly offsetting labor force declines due to lower participation rates.

The baby boomer effect

History shows that age is a key factor in individuals' labor force participation, with participation rates increasing as individuals move into their twenties and then starting to decline later in life as individuals begin to retire. By the early 2000s, the oldest baby boomers had reached age 55, and lower participation rates among this group have since been putting downward pressure on overall labor force participation rates. Continuing retirements from the baby boom generation are likely to put additional downward pressure on labor force participation rates over the next decade.

Slowdown in population growth

Compared with participation rates, population growth has contributed more consistently to overall labor force growth from year to year. However, the size of this contribution has declined considerably since the youngest baby boomers reached working age. This declining contribution is mainly due to a trend toward lower birth rates. Looking ahead, trends in birth rates will play a large role in the size of the labor force, but migration also is a contributing factor to population growth and the labor force.

Post-recession trends

Although the size of the decline in labor force participation rates during the pandemic was unprecedented, historical analysis shows that participation rates frequently decline during or immediately following a recession. Moreover, participation rates typically rise during the expansionary periods following these declines as jobs become more plentiful, suggesting that participation rates could rise in the coming years as workers re-enter the labor force to fill high levels of job openings.

Historical context

As regions, states and localities seek to fill job openings and expand their labor forces in the years ahead, past national experiences may provide guidance. For example, women's mass entrance into the labor force in from 1960s through the 1990s provides one historical example of a large upward force on labor force participation rates. The share of women in the overall labor force increased from one-third in 1950 to 46.5% by 2000, and the share of dual-earner families in opposite-sex couples with children under 18 increased from 54% to 70% between 1976 and 1990. However, looking at current and unfolding conditions, a similar generational labor force influx is not immediately foreseen.

> "IN THE PAST WE'VE HEARD A LOT ABOUT COMPETITION TO ATTRACT BUSINESSES TO LOCATE IN A NEW CITY OR STATE. NOW WE'RE ALSO SEEING THE OTHER SIDE OF IT, WITH COMPETITION FOR LABOR … COMPETITION FOR PEOPLE TO TAKE JOBS THAT EMPLOYERS ARE HARD-PRESSED TO FILL RIGHT NOW."
>
> —Alison Felix, Senior Policy Advisor

Outlook for regions and states

As populations continue to grow older in most states, several states and localities have started to experience outright population declines as individuals move away and birth rates slow. To expand their labor forces, regions with aging and declining populations will need to increase participation rates among current residents and seek to attract new residents through domestic or international migration. Investing in initiatives that enhance the appeal of locations—either financially or with higher qualities of life —might help states mitigate downward pressures on their labor forces in the future.

FURTHER RESOURCES

Go to *KansasCityFed.org/research* for more analysis and data on topics relating to U.S. labor, including a recent Economic Bulletin by Senior Economist Didem Tüzemen examining why 2 million workers are missing from the labor force compared with the pre-pandemic trend.

RESEARCH SNAPSHOTS

From labor markets to the supply chain

Here are summaries from recent economic research published by the Kansas City Fed. Read the full publications and follow the latest analysis by Reserve Bank economists at *KansasCityFed.org/research.*

Turmoil in commodity markets following invasion of Ukraine

Russia's invasion of Ukraine, which began in February 2022, has caused broad disruptions for global commodity markets and consumers, and the effects could be long-lasting. Disruptions associated with the invasion have contributed to increases in commodity prices, which could support commodity-producing regions and businesses. However, higher prices for agricultural inputs, energy and food have created additional challenges for net-importing regions, supply chains and consumers. Outcomes of Russia's invasion are shrouded with extreme uncertainty but could include persistent disruptions and elevated prices. In the years ahead, the magnitude of this shock, the depth and breadth of imposed sanctions, and the rise in uncertainty are likely to have ramifications across global trade flows.

— Cortney Cowley, David Rodziewicz and Thomas R. Cook, May 2022 Commodities Market Paper

Photo by Getty Images

Photos (left and right) by Getty Images

Immigration shortfall might be a headwind for labor supply

Reduced immigration flows in recent years have contributed to labor shortages and tightened labor markets in the United States. Industries, occupations and regions that rely more heavily on foreign workers have been particularly affected. Even as pandemic-related immigration restrictions and delays wane and immigration levels increase, the demand for immigrant workers will likely continue to exceed the supply of these workers in the absence of broader changes in immigration policy. As a result, industries and regions that depend on immigrant workers may continue to experience labor shortages.

— Elior Cohen and Samantha Shampine, May 2022 Economic Bulletin

China's lockdown and the global supply chain

The recent lockdown in China is expected to exacerbate disruptions in the global supply chain. Using high-frequency data, a Kansas City Fed study indicates that supply chain disruptions from the current lockdown are likely to be less severe than those from the lockdown in 2020. However, uncertainty remains high given the existence of highly transmissible COVID-19 variants and possible further lockdowns in China. If the lockdown lasts for a much longer period or extends to more regions, the impact could be larger.

— Jun Nie, May 2022 Economic Bulletin

Closer look at dampened demand for bank loans and connection to supply chain bottlenecks

Throughout the pandemic, banks have experienced weak business loan demand. Although banks expect demand to grow as the worst of the pandemic wanes and the economy recovers, loan demand may remain weak in some industries due to persistent supply chain bottlenecks. Firm demand for bank loans—especially at small banks—will likely continue to be suppressed by supply bottlenecks as COVID-19 cases re-emerge in other parts of the world and geopolitical tensions escalate. Supply bottlenecks are likely to weigh especially heavily on loan demand from small firms in the retail sector, as larger firms may be better positioned to use their capital to overcome supply constraints.

— Padma Sharma and Jacob Dice, April 2022 Economic Bulletin

The efficiency of community banks

The number of community banks in the United States has been declining steadily for decades. Because community banks play an outsized role in originating loans to small businesses, a continued decline in their numbers and asset holdings could constrain entrepreneurs' access to credit and, accordingly, constrain growth in the overall economy. One possible explanation for the declining number is that larger banks have benefitted from economies of scale and outpaced community banks in efficiency. However, an

examination of the efficiency of community banks since the 2008 global financial crisis finds that community banks have in fact seen substantial improvements in efficiency, partly attributable to a relative decline in their brick-and-mortar expenses. The results suggest that community banks continue to make meaningful gains even as the banking landscape evolves.
— Stefan A. Jacewitz, May 2022 Economic Review

Photo by Getty Images

Assessing regulatory responses to banking crises

During banking crises, regulators must decide between bailouts or liquidations, neither of which are publicly popular. However, making a comprehensive assessment of regulators requires examining all of their decisions against their dual objectives of preserving financial stability and discouraging moral hazard. The Kansas City Fed assessed regulators on those dual objectives and evaluated banking and savings and loan (S&L) regulatory decisions during the 1980s crises. The assessment suggests that the banking authority (Federal Deposit Insurance Corporation) conformed to the objectives but the S&L regulator (Federal Savings and Loan Insurance Corporation) deviated from them. Based on that assessment, timely intervention could have redressed the FSLIC's decision structure and prevented losses to taxpayers.
— Padma Sharma, May 2022 Research Working Paper

Monetary policy and intangible investment

Since 1980, the share of business investment in "intangible" goods, such as software or research and development, has tripled. This shift in the composition of investment may have important implications for monetary policy. For example, some research suggests intangible investment is far less sensitive than tangible investment to changes in interest rates, both because intangible investment is less likely to be financed through bank loans and because intangible goods have a shorter useful lifespan. As a result, monetary policy could become less effective as intangible investment continues to gain prominence in the economy.
— Cooper Howes and Alice von Ende-Becker, March 2022 Economic Review

The cryptic nature of Black consumer cryptocurrency ownership

Owning cryptocurrency has become especially popular among Black consumers for reasons related to historical context as well as the forward-looking views of young consumers. Surveys show that Black consumers are more likely than white consumers to own cryptocurrencies. A 2021 Pew Research Center survey of U.S. consumers, for example, found that 18 percent of Black adults had invested in, traded, or used a cryptocurrency compared with 13 percent of white adults. While cryptocurrencies have the potential to meet Black consumers' expectations, they also pose risks to privacy and financial security.
— Terri Bradford, June 2022 Payments System Research Briefing

How many workers are truly 'missing' from the labor force?

As of March 2022, the U.S. labor force participation rate remained one percentage point below its pre-pandemic level. After accounting for the effects of slower population growth and the aging of the population in the past two years, it is estimated that around 2 million workers are missing from the labor force. Individuals 65 and older, whose participation rates remain persistently below pre-pandemic levels, constitute most of the missing labor force.
— Didem Tüzemen, May 2022 Economic Bulletin

NEW SURVEY BETTER TRACKS LMI conditions across the District

For 12 years the Federal Reserve Bank of Kansas City conducted the semiannual LMI Economic Conditions Survey to gain information from low- to moderate-income communities across the Tenth District.

This year that survey was retired and replaced by the Community Conditions Survey, which includes a broader array of topics, connects more closely with the Bank's engagement strategy, and seeks to obtain more context on what respondents are seeing and experiencing in the communities they serve. Respondents are individuals connected with entities that serve low- and moderate-income constituents.

In addition to the need to keep up with current needs and challenges, three key factors emerged in the analysis that led to the survey's redesign:

- The need for a fresh look at the survey during the global COVID-19 economic crisis
- Changes in Federal Reserve monetary policy guidance, as announced in August 2020
- The Federal Reserve's "Racism and the Economy" series, which examined racial inequities across social, political and economic systems

The new survey's format strives for a more inclusive reflection of economic conditions by enabling the Bank to ask questions pertaining to race.

"With the Community Conditions Survey, we can gather insights on a large scale," said Kansas City Fed Assistant Economist Steven Howland, whose work in community development includes administering the survey and analyzing the results. "It is a starting point toward being more intentional and inclusive. It also allows us to identify issues we might miss in one-on-one interactions, and it allows us to track conditions consistently over time."

Why the survey is important

Insight gained from the survey assists the Reserve Bank in many ways, including:

- Helping inform monetary policy decisions
- Helping staff target outreach efforts
- Identifying trends to which the Bank can respond

Part of the new survey lists several topic areas and asks respondents to identify positive and negative contributors to economic issues that affect their communities. Among these topics: Employment opportunities; job quality; housing; financial stability and credit; small business; health; education and digital inclusion.

How to participate

If your organization works to serve the needs of low- and moderate-income populations, you're invited to register to join the Community Conditions Survey at *KansascityFed.org/surveys/community-conditions-survey*.

READING THE SIGNS

ANNUAL AGRICULTURAL SYMPOSIUM EXAMINES EFFECT OF LABOR SHORTAGES ON LONG-TERM OUTLOOK

by SU BACON

Bob Mattive sees the effects of labor shortages from his potato farm in southern Colorado, and from his role on the executive committee of the National Potato Council. *Photo by David Tejada*

At Worley Family Farms in Monte Vista, Colorado, Bob Mattive grows 1,900 acres of potatoes – all harvested by machine.

Potatoes are grown, harvested, stored and packaged onsite. When they leave the farm, the potatoes are headed for a grocery store produce aisle.

Although much of Mattive's direct supply chain is onsite, "there are the indirect impacts to our farming operation from labor shortages in other areas," he said.

Parts for tillage, tractors and other equipment may not be readily available and they take much longer to get. Mattive said he ordered a tractor early this year "and we won't see it until November."

Issues raised by Mattive, an executive committee member of the National Potato Council, were among those discussed by speakers, panelists and attendees to the Federal Reserve Bank of Kansas City's annual Agricultural Symposium, titled "Help Wanted in Agriculture."

The two-day symposium at the Kansas City Fed's headquarters May 23-24 explored the role of labor in determining the long-term outlook for agriculture and related businesses, how policies will shape that outlook, and the potential for structural change.

"By many metrics, the labor market appears to be unusually tight," said Esther George, president and chief executive officer of the Bank. "The number of

"THROUGHOUT THE PANDEMIC SHUTDOWN, AGRICULTURE AND MOST FOOD PRODUCERS AND PACKING FACILITIES REMAINED IN SERVICE. IF WE HADN'T, I BELIEVE OUR COUNTRY WOULD HAVE COLLAPSED WITHOUT FOOD ON THE SHELVES. AGRICULTURE KEPT AMERICA MOVING."

— Bob Mattive

posted job vacancies is the highest on record. Hiring and retaining workers is an acute challenge."

And despite those challenges, Mattive remains optimistic about the future of agriculture.

"Throughout the pandemic shutdown, agriculture and most food producers and packing facilities remained in service," he said. "If we hadn't, I believe our country would have collapsed without food on the shelves. Agriculture kept America moving."

One way agriculture met the challenge was through different solutions for longstanding problems.

On Jeff Lakner's farm in South Dakota, for example, cattle aren't just livestock – they're perks.

Bob Mattive inspects plants growing at his potato farm in Monte Vista, Colorado. *Photo by David Tejada*

His 420 head of Simmental and Angus are part of a "mini profit-sharing plan" offered along with competitive wages, health insurance and a retirement plan.

Employees buy cattle from Lakner's herd and co-mingle them on the Lakner Farms pasture. Using Lakner's equipment and land, employees can earn a side income and grow their business to where they may expand on their own, though many choose to stay on the farm, said Lakner, a symposium panelist.

Lakner, 65, operates a fourth-generation grain and livestock farm of 5,200 acres in central South Dakota.

> "THERE SIMPLY ISN'T A READY SUPPLY OF AVAILABLE WORKERS ANYMORE."
>
> — Jeff Lakner

Lakner says the labor shortage in agriculture is real: "There simply isn't a ready supply of available workers anymore."

To attract workers, farm owners are increasing wages and offering such incentives as childcare, community college tuition for an employees' children and health care onsite.

By all accounts, the dwindling supply of labor isn't new.

"The problem was exacerbated by COVID," said Thomas Coon, vice president of the Division of Agricultural Sciences and Natural Resources at Oklahoma State University.

Coon referred to a 2015 Purdue University study that estimated 40% of new agriculture jobs were unfilled every year. A recent study projected 59,400 job openings annually from 2020 to 2025.

Workers who left the farm now are building houses, planting lawns, or serving food.

"With the recent housing boom, construction and landscaping are now competing with farmers for the labor supply," said Diane Charlton Thronson, assistant professor in the Department of Agricultural Economics and Economics at Montana State University, and a symposium speaker.

Trucker shortage

One visible example of where the agricultural supply chain is experiencing challenges is in moving the products that start on the farm.

Among those keeping products on the move is Craig Daniels, an over-the-road trucker for Crete Carrier Corp., of Lincoln, Nebraska.

Daniels' rig attracts attention and respect. Some salute. Others wave a thumbs-up. A U.S. Army veteran, Daniels is a member of Crete Carrier's Patriot Fleet, all of which are driven by veterans. The black trucks feature bold images of an eagle, an American flag and decals representing every branch of the U.S. Armed Forces.

The company recruits veterans because their military experience serves them well as over-the-road truckers, said Tonn Ostergard, Crete Carrier's chairman and chief executive officer, and a symposium panelist.

"Veterans are reliable, and they are used to being away from home," he said.

Daniels spends five days at home in Georgia for every 21 days on the road.

Hiring veterans is one way Crete Carrier is filling crucial positions: "Our business doesn't move without a driver," Ostergard said.

Competition for drivers is keen. Companies moving freight must compete with Amazon and FedEx, whose drivers return home every night. All along the agricultural supply chain, employers are feeling the pinch of a nationwide farm labor shortage.

"Currently there is a shortage of 160,000 truckers," said Tim Richards, professor and Morrison Chair of Agribusiness at Arizona State University, who spoke at the symposium.

Other stakeholders and interest groups are also studying the farm labor shortage and recommending solutions.

The National Potato Council, for example, recommends changes to regulations for both the truck driver and the truck. Recommendations include changing the age for obtaining a commercial driver's license from 18 to 21, relaxing regulations on the hours a driver can be in service and adding an axel to trucks to enable them to haul larger loads.

H-2A visa program

Thronson said another solution to the farm labor shortage could be found in the federal H-2A visa program for foreign workers.

"Recruitment in the H-2A program grew 450% from 2001 to 2019," Thronson said, adding that "historically, H-2A has not been a very popular program."

H-2A allows U.S. employers to bring foreign workers into the country to fill temporary agriculture jobs. However, many employers find the paperwork cumbersome and the expense, estimated at thousands per worker, prohibitive.

A.G. Kawamura, a symposium panelist who owns Orange County Produce in California with his brother, said, "Immigrants are an essential part of the workforce, yet H-2A is an unwieldly, difficult program for American producers."

Chuck Connor, president of the National Council of Farmer Cooperatives, and a symposium panelist, said, "It shouldn't take a farmer with a lawyer and an accountant to navigate the bureaucracy to get workers across the border."

Crete Carrier Corp.'s Patriot Fleet of trucks are decorated with images that represent each branch of the military and are driven by veterans. *Photo by Crete Carrier Corp.*

The program needs to be streamlined and expanded, he said. Currently, H-2A visas are issued only for seasonal temporary work.

One place they don't work is dairies, Alison Krebs, a symposium panelist and director of dairy and trade policy for Leprino Foods Co., in Denver.

"Dairies process milk 24/7/365 – all hours and on the weekend," she said.

Krebs would like to see H-2A used for year-round work and food processing jobs.

Year-round work is one of the reforms to the H-2A program included in the Farm Workforce Modernization Act along with increasing the visas to three years and allowing workers to work for different employers or for the same employer in different capacities. The Act passed the House in 2021 but has not passed in the Senate.

Despite shortcomings in the H-2A program, its use has grown sharply, said Kristi J. Boswell, who cited an increase from 77,246 certified H-2A positions in 2011 to 317,619 in 2021.

The increase, however, is not a testament to how well the program is working but to "domestic labor instability," said Boswell, who is an agriculture policy counsel for Alston & Bird in Washington, D.C., and a symposium panelist.

Technology and automation

Automation is making harvesting easier, and the results are having a worldwide effect.

Kawamura said that without workers to hire, he is turning to automation to tend to the green beans and butternut squash Orange County Produce grows on 600 acres in California.

In 2019, 250 of Kawamura's employees were hand-picking 500 acres of green beans. In 2020, 200 hand-pickers were replaced by five harvest machines. Fifty employees were retained.

"The competition for wages is the tightest we've ever seen," Kawamura said. "We couldn't compete for hand-pickers."

University of Arkansas administrator Deacue Fields says a new program at the school will help prepare students to be farm managers. *Photo by Gary Barber*

The future of food and agriculture is digital, said Shari Rogge-Fidler, president and chief executive officer of the Farm Foundation, a national nonprofit dedicated to solving challenges facing farmers and agriculture overall.

The Farm Foundation is building an innovation and education center to prepare learners for a future in agriculture. The center, north of Chicago O'Hare International Airport, is expected to open in 2023.

Rogge-Fidler, a symposium panelist, describes the center as "a high-tech facility on a small, 12-acre farm." Learners can study regenerative agriculture in a classroom, for example, and then go outdoors to connect what they've seen in the textbook to what they see in the topsoil.

The labor shortfall also affects higher-level jobs in management. To meet the need for a new set of skills in agriculture, early preparation in high school through such organizations as FFA and 4-H Clubs will be paired with new programs at universities such as the University of Arkansas.

"Agriculture is the No. 1 industry in Arkansas and as a land-grant university, we are educating the workforce for the ag sector," said Deacue Fields, dean of the University of Arkansas' Dale Bumpers College of Agricultural, Food and Life Sciences and Division of Agriculture.

A new program will offer university students full-time internships on a farm plot of up to 4,000 acres to prepare them to be farm managers. And while learning technical skills is important, students also need classroom time devoted to critical thinking and soft skills.

"They'll still need to know how to write an email," said Fields, a symposium panelist.

And while automation may ease the physical demands on workers, it won't eliminate the need for a mind behind the machine.

"One response to the labor shortage is to automate more," Oklahoma State's Coon said. "But if robots are milking the cows, you'll still need someone to manage the robots – and the cows."

A bit further into the future, however, is a day when machines will make all the decisions.

"We are shifting from automation of processes to autonomy," said Kurt Coffey, vice president of Case IH, and a symposium panelist.

Machines are making the kinds of adjustments previously made by an operator.

During harvest, for example, a farmer climbs into a combine and pushes the "corn" button. The machine then sets controls for the sieve and speed of the fan and it continuously monitors field conditions to make adjustments as terrain or other conditions change.

Supply chain solutions

The addition of an onsite processing facility completed the supply chain for the Lockhart Cattle Co. in Jackson Hole, Wyoming. Calves now are born and butchered on the ranch.

"The cattle are never more than seven miles away from where they were born," said Kelly Lockhart, 70, who owns and operates the sixth-generation family farm with his wife and son.

When the Lockharts' beef is ready to go to market, they don't go to a feedlot or a slaughter facility. The Lockharts take it there themselves.

"We have three avenues of distribution," Lockhart said. "We sell directly to consumers online and at farmers markets. We sell to restaurants and to various grocery stores in our area."

Although the shortage of truck drivers hasn't directly disrupted the Lockharts' supply chain agricultural supply chains nationwide have been stalled and slowed in producing, processing and delivering food to consumers.

That shortage has meant delays for farmers waiting for tractor parts, for grocers needing a delivery to re-stock shelves and for consumers who have ordered steak, fruit, weekly prepared meals or other perishables online.

Nate Kauffaman, vice president and Omaha Branch Executive, welcomed attendees and was the host of the annual Agricultural Symposium. *Photo by Gary Barber*

Yet, the labor shortage in agriculture is more than trucks without drivers.

It's the grocer waiting for a delivery who needs a crew standing by to unload the truck and stock the shelves. Manufacturers need workers to make parts for agricultural equipment. Truck drivers themselves depend on others – to clean and disinfect the trailer after hauling cattle to market.

"The pandemic exposed the dependence of agricultural producers, processors and others in the agri-food system on manual labor," Arizona State's Richards said.

Photo by Getty Images

And in addition to the effect of the COVID-19 pandemic, the supply chain has suffered a second setback with the Russian invasion of Ukraine.

"For our grains, the invasion was a big disruption," said Amy Hagerman, assistant professor in the Department of Agricultural Economics at Oklahoma State University.

"There is a lot of volatility and uncertainty now about the availability of sunflower oil and seeds, fuel and fertilizer – inputs necessary for ag production," she said.

Closer to home, all links along the supply chain feel the shortage of labor.

"The meat-packing industry is labor-intensive," said Julie Anna Potts, president and chief executive officer for the North American Meat Institute, and a panelist at the symposium.

To attract and retain workers, meat packers are increasing benefits and pay, reaching out to refugees settling in their communities and reskilling workers as some tasks become automated.

Reskilled workers "may no longer be wielding a knife but instead operating a computer and monitoring data," Potts said.

On the horizon

Roger Cryan gazed into his crystal ball and saw the future unfolding for agriculture.

Cryan is chief economist for the American Farm Bureau Federation. His crystal ball is a computer screen displaying the federation's economic analysis, market and policy insights as well as historical comparisons.

Although he can't predict what will happen, Cryan imagines two different futures related to the labor shortage. Each depends on the availability of workers to fill positions along the agricultural supply chain.

One future is filled with fresh strawberries, the other, with bologna sandwiches.

"With a short-term and a long-term labor solution, America can feed the world everything," Cryan said.

If U.S. producers have the workers they need, they will grow row crops and specialty crops and raise dairy and beef cattle. Mechanization on the farm will continue and ag wages will rise.

The other future asks, "How much can we do without a labor solution?" In this scenario, "mechanized and low-maintenance agriculture dominates," Cryan said.

Without enough workers, the U.S. still will produce grain, oilseeds and beef but may not be able to grow the more labor-intensive fruits, vegetables and nuts. For example, winter fruit and vegetables grown in Florida would be replaced with imports.

Because processing food requires less labor than handling fresh produce, there will be more frozen pizza and fewer fresh blueberries. In this future, producers will rely on and be limited by labor-saving technology.

To continue the growth in agricultural production and productivity, Cryan added, "a common-sense, immigration-based solution must be found to solve the labor shortage."

FURTHER RESOURCES

Go to *KansasCityFed.org/agriculture/agricultural-symposium* for a recap of topics, stories and video from the 2022 symposium.

kcFED SOCIAL SEEN

Social media highlights of our engagement across the region.

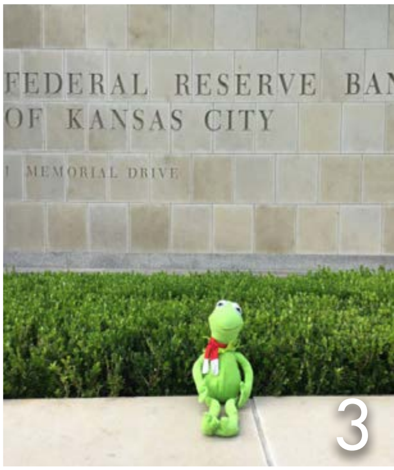
1 **VICTORIA R. @KCVICKIG** Fun day at work yesterday supporting @UnitedWayGKCw/a staff & management kickball game! @KansasCityFed

2 **ANNE RAUTH** I'm thankful that the woman in the middle, Trudie Hall, mentors many young men and women every year through the Federal Reserve Bank of Kansas City's Student Board Program. This was taken at the 2022 Pinning Ceremony for Jameson Rauth (left) and 12 other youth. His older brother, Benjamin T. Rauth is an alumnus of the program. #thankfulthursday #mentoring #grateful #federalreserve #bank

3 **KANSASCITYFED** This visitor had a little bounce in his step.

4 **TYLER M. BENDER SR. @TMBENDER** Esther George, President of the @KansasCityFed speaking on what is going on in the #economy. The #communitybanks in attendance appreciate her taking the time to update us! @theMIBA @ICBA

5 **@KANSASCITYFED** Let's hear it for these students who recently graduated from our #OklahomaCity Student Board of Directors program! During this year's program they had the opportunity to visit the @okcthunder while learning about the regional and local economy.



GET SOCIAL» *Find us on Instagram, LinkedIn, Pinterest, Twitter and YouTube to follow Kansas City Fed activities, share your photos and post feedback.*

The rise of BUY NOW, PAY LATER

Buy now, pay later (BNPL) products offered by fintechs have gained traction among consumers and merchants in recent years and could compete with credit cards as a payment option. In a 2021 Payments System Research Briefing series, Kansas City Fed Senior Payments Specialist Terri Bradford and Payments Specialist Julian Alcazar explored the rise in popularity of BNPL products, the reactions of banks and payment networks, and the current regulatory environment. Their full findings are available at KansasCityFed.org/research/payments-system-research-briefings.

About Buy Now, Pay Later

Fintechs including Affirm, Afterpay, Klarna and numerous others offer the option of paying for merchandise or services in four equal, interest-free payments over a short term to receive goods or services immediately. Although these payment options emerged before 2020, usage accelerated amid the surge in online shopping during the coronavirus pandemic.

Comparing BNPL and credit cards

Credit cards and BNPL share some key characteristics. Both enable consumers to take immediate possession of goods and delay payments. However, for some consumers and merchants, BNPL products may be more appealing because they can be approved without a full credit check and offer flexible financing options, transparent terms, predetermined repayment schedules and lower or no interest fees. In contrast, a credit card requires a full credit check, and balances can revolve over an extended timeframe, with interest that accrues.

What consumers like

Unlike the generations-old practice of lay-a-way, in which customers typically don't receive a product until all payments have been made, BNPL has the allure of purchasing and receiving items from clothing to electronics to medical services with only a fraction of the total cost paid up front. This is appealing to customers who don't have credit cards or don't want


Kansas City Fed Senior Payments Specialist Terri Bradford and Payments Specialist Julian Alcazar studied the usage and popularity of buy now, pay later products.

to use them, and it can appeal to Millennials and Generation Z consumers. However, BNPL products also carry risks such as impulse buying, financial overextension, and longer-term credit impact.

What merchants like

BNPL expands the pool of potential customers, which enables merchants to boost sales. From a purchasing behavior standpoint, BNPL can work in merchants' favor by making larger purchases seem smaller to customers, which reduces "cart abandonment." Also, for merchants, BNPL offers the ability to settle sales quickly and eliminate the risks of chargebacks and fraud, which are assumed by the BNPL provider. However, offering BNPL comes at a premium for merchants: Costs can be higher than accepting credit cards, and accepting BNPL can complicate a merchant's return process and damage customer satisfaction.

Impact on banks and credit cards

Historically, issuing credit cards has been highly profitable for banks—especially large banks—compared with other bank activities, and BNPL already is making a dent in banks' profits. According to McKinsey's Consumer Lending Pools data, over the last two years, banks lost $8 billion to $10 billion in revenue per year to fintechs offering BNPL products. Incumbent players in the U.S. payment industry have responded to this trend in various ways, from partnering with BNPL providers to attempting to acquire them to competing with them by offering BNPL options or installment loans via existing infrastructure.

The regulatory climate

Internationally, regulators have reacted by beginning to implement guardrails on BNPL products. In the United States, potential consumer risks have led to calls for regulatory attention at the state and federal levels, with regulators and Congress assessing the extent to which BNPL products might be covered by existing consumer protection laws.

Conclusion and outlook

The field of BNPL providers is increasing, and consumers and merchants appear to be readily adopting the products offered. Given the benefits for merchants and the appeal to consumers, BNPL products have the potential to increasingly replace credit card payments, further cutting into profits for banks and other providers of credit card services. Meanwhile, as BNPL adoption grows in the United States, calls for regulation of BNPL products may persist. The Kansas City Fed will continue to monitor developments related to the BNPL industry.

FURTHER RESOURCES

See more of the Federal Reserve Bank of Kansas City's analysis of payment methods, networks and trends at *KansasCityFed.org/research/payments-system-research-briefings*. Hear Terri Bradford and Julian Alcazar discuss their analysis in a May 13 Planet Money podcast at *NPR.org*.

OMAHA CONNECTION

KANSAS CITY FED BOARDS OF DIRECTORS ASSEMBLE AND ENGAGE WITH COMMUNITY

(Top left) Omaha Branch Executive, Vice President and Economist Nate Kauffman shared insight on agricultural markets and economic conditions. (Above) Directors, military officials, Stored Value Card officers, Branch staff and Bank senior managers joined President Esther George for a photo at the Branch office.

During the activities in downtown Omaha, Patrick A. Dujakovich, deputy chair of the Kansas City Board, spoke with Col. Paige Jennings of the U.S. Army Financial Management Command.

Members of the Federal Reserve Bank of Kansas City's boards of directors gathered in April in Omaha for a joint meeting and community engagement activities.

Regularly, directors from the Bank's Kansas City office will travel to a joint meeting with counterparts from Denver, Oklahoma City or Omaha to conduct Reserve Bank business, interact with local leaders and learn more about the areas of the Tenth District that each Branch office serves.

The April activities included meeting with military officials and U.S. Treasury executives to learn more about the Omaha Branch's support of the Bank's Stored Value Card program. The program is a fiscal agent partnership between the Federal Reserve and the Treasury that provides an electronic cash management solution for U.S. military personnel around the world. During the April gathering, directors also marked Kansas City Fed President Esther George's 40th year of service. Learn more about the Bank's directors at *KansasCityFed.org/about-us/leadership*.

Kansas City Board Chair Edmond Johnson presented President George's 40-year Reserve Bank service certificate.

Tenth District *by the numbers*

ECONOMIC INDICATORS, FACTS AND TRENDS FROM THE SEVEN STATES

$315,000

Median sales price of a single-family home in the Albuquerque, New Mexico market in February, the highest recorded mark for the area.

Source: Greater Albuquerque Association of Realtors

3.8 million

Annual megawatt hours of power projected for the new Traverse Wind Energy Center in central Oklahoma, described as North America's largest wind farm.

Source: Invenergy

MORE ECONOMIC DATA
The Bank regularly publishes data about regional and national economic conditions at *KansasCityFed.org/research/indicatorsdata.*

8th

Kansas City, Missouri's spot in an annual ranking of the hottest job markets in the United States.

Sources: The Wall Street Journal and Moody's Analytics

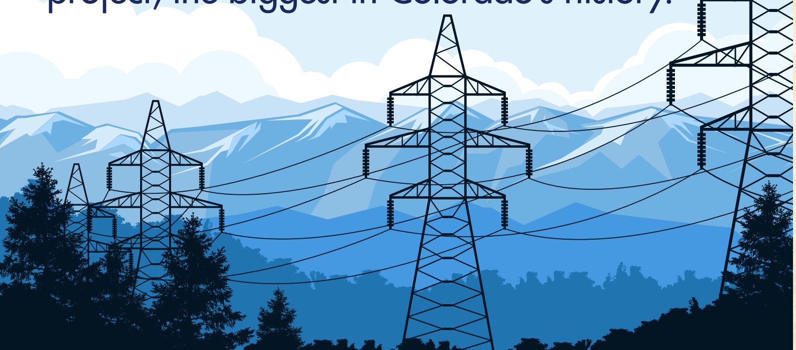
67.7%

Nebraska's employment-to-population ratio in 2021, the highest in the United States.

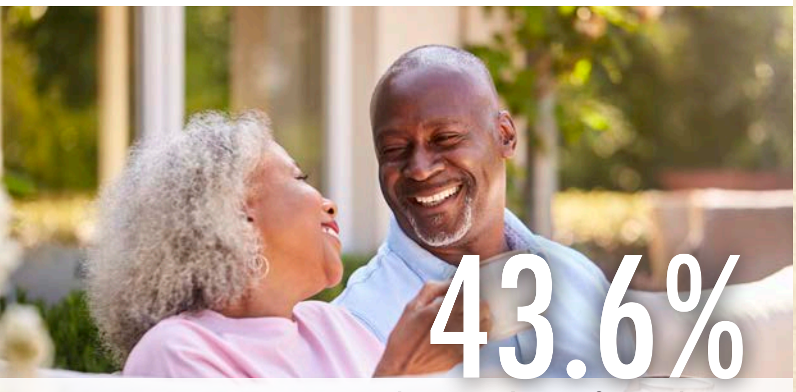
Source: U.S. Bureau of Labor Statistics

$1.7 billion

Estimated cost of the 560-mile Power Pathway electrical transmission line project, the biggest in Colorado's history.



Sources: Colorado Public Utilities Commission and Xcel Energy



43.6%

Wyoming's increase in the number of residents 65 or older from 2010 to 2020, the second-highest rise behind Alaska's 70% increase.

Sources: U.S. Census Bureau and AgingInPlace.org

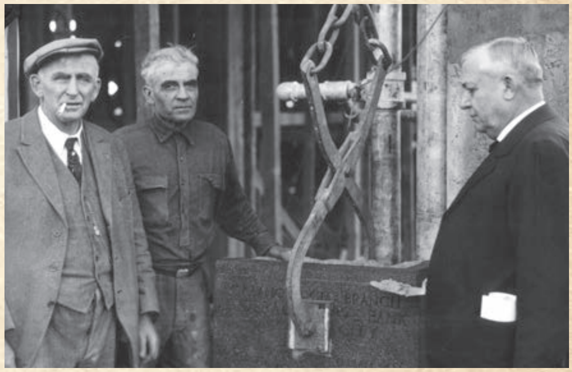
14.5

Percentage of Kansas private employers in 2021 who increased workers' base wages because of the coronavirus, matching the national average.

Source: U.S. Bureau of Labor Statistics Business Response Survey

FROM THE VAULT

Kansas City Fed History



Willis J. Bailey (right) at the cornerstone ceremony for the Oklahoma City Branch building, which opened in 1923. *Bank archives*

Transition to new leadership

Today, the top officer of a Federal Reserve Bank has the title of president and CEO. In the early decades of the Kansas City Fed, the title was a bit different—and so was the process for transitioning from one leader to the next.

In 1922, the Bank's Board of Directors turned to one its original members—influential Kansas banker Willis J. Bailey—to be Jo Zach Miller Jr.'s successor as "governor," essentially the Bank's day-to-day chief executive. For Bailey, who had been a key voice for locating a Reserve Bank in Kansas City, the title of governor was not new. He served as governor of the state of Kansas from 1903 to 1905. He led the Kansas City Fed until 1932. Over time, the top officer's title for Reserve Banks was changed to president.

Today, a Reserve Bank president is selected by a search committee comprising the Bank's Class B and Class C directors (board members who are not affiliated with a supervised financial institution). The committee hires a search firm to help ensure a broad, diverse candidate pool. Selections are subject to the approval of the Board of Governors in Washington, D.C.

(See page 5, for a summary of the current process to select the Bank's next president.)

Learn more about the Reserve Bank search process at *KansasCityFed.org/presidentialsearch.*

FEDERAL RESERVE BANK OF KANSAS CITY
1 Memorial Drive
Kansas City, Missouri 64198-0001

CHANGE SERVICE REQUESTED

KansasCityFed.org/education

CLICK. LEARN. ENGAGE.

Find a wide range of free personal finance and economic literacy resources and lessons.

Available classroom resources include:

- Common Cents
- Putting Your Paycheck to Work
- Financial Fables
- Money Mindsets
- Becoming a Conscious Consumer
- Everyday Economics Videos
- The Case for Youth Entrepreneurship
- Negro Leagues Baseball: Microlessons in Economics and Creativity
- Responsible Credit Use
- Employability Skills