FEDERAL RESERVE BANK OF KANSAS CITY / SUMMER 2023

TEN

FACING HEADWINDS

AS RAPID CHANGES HIT AGRICULTURE, PRODUCERS MUST ADAPT, INNOVATE

FedNow Service Launching | Why Food Prices Are So High | Expectations For Remote Work

FEDERAL RESERVE BANK OF KANSAS CITY / SUMMER 2023

TEN

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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.

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 » *Farmer Neal Keppy's snapshot of storm damage. Cover design by Casey McKinley*

How the Fed's new payment rail works and what it means for everyday transactions in the United States

The FedNow Service, the Federal Reserve's first new payment rail in 50 years, will enable financial institutions across the country to provide safe and efficient instant-payment services around the clock. The service is the culmination of four years of development and supports the Fed's mission of ensuring a stable and secure payments system for the United States.

With the FedNow Service launching in July 2023, let's answer some questions about how it works and how it will benefit financial institutions, businesses and consumers.

What exactly is FedNow?

The FedNow Service is a payment rail, meaning that it provides settlement between financial institutions. It joins the Federal Reserve's longstanding financial services suite, which includes FedCash Services, Fedwire Funds, Check Services and FedACH Services.

What makes FedNow different from payment apps?

The FedNow Service is not an application, in that consumers and businesses cannot download it or access it directly. It is an infrastructure designed for financial institutions of all sizes and enables them to offer truly instant payments to their customers—consumers and businesses. Consumer-facing applications such as PayPal, Venmo or Zelle appear to be instant because funds generally are immediately made available to end users, but the timing of interbank settlement depends on the applications' underlying payment rails, some of which might not provide real-time settlement. FedNow enables transaction settlement within seconds

How will I know that my bank is using FedNow?

When you need to send money, you won't see a FedNow Service option from your financial institutions. Rather, you will use a mobile app or online portal from your financial institution to initiate the payment, which the institution then will send through the FedNow Service for instant transaction settlement. Though it might not be obvious to you that your payment is being made via the FedNow Service rail, you will still experience the benefit of that payment being executed instantly.

Will FedNow replace U.S. currency?

No. The FedNow Service is not a form of currency. It is an infrastructure for financial institutions. Some people have mistakenly referred to FedNow as a Central Bank Digital Currency (CDBC), a form of digital money that would be widely available to the general public. It is true that the Federal Reserve is studying a CDBC (see *FederalReserve.org*). However, those ongoing considerations are separate from FedNow.

How can I learn more?

Go to ***FedNowExplorer.org*** to learn more about instant payments, use interactive guides and sign up to receive the latest updates on the FedNow Service.

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 programs and activities throughout the Tenth District and beyond. Here is a glimpse at the recent activities of Kansas City Fed leaders and staff.

KANSAS, MISSOURI and BEYOND »

Kansas City Fed directors at the Board of Governors

Several Kansas City Fed directors recently attended meetings at the Federal Reserve Board of Governors offices in Washington, D.C. Pictured, from left: Jandel Davis (Kansas City Board), John J. Coyne III (Denver Branch Board), Alex Williams (Kansas City Board), Joanne Li (Omaha Branch Board), Clark Lauritzen (Omaha Branch Board), Terry Salmon (Oklahoma City Branch Board), Del Esparza (Denver Branch Board), Paul Maass (Kansas City Board) and Ramin Cherafat (Kansas City Board).

Gruber and other Fed leaders discuss macroeconomic outlook

As part of OMFIF Live in June at the Federal Reserve Bank of Philadelphia, Kansas City Fed Executive Vice President and Research Director Joseph Gruber (second from left) participated in a panel discussion with (from left) moderator Mark Sobel of OMFIF (Official Monetary and Financial Institutions Forum) and research directors Chiara Scotti of the Dallas Fed and Kartik Athreya of the Richmond Fed.

Competing in the Kansas City Corporate Challenge
Each spring Kansas City Fed employees participate in several Olympics-style events during the Kansas City Corporate Challenge. The competition involves companies from across the metropolitan area and promotes recreation and fitness.

NFL Draft brings thousands 'next door' to Kansas City Fed
The National Football League Draft was conducted in late April at Union Station and the Liberty Memorial grounds next to the Bank's headquarters, bringing thousands of fans to the area. It also provided an opportunity for the Bank to showcase its Money Museum to visitors. Among employees assisting visitors were (above, from left) Assistant Vice President Lowell Jones, Museum Director Elizabeth Hartzler and Technology Manager Jennifer Clark.

Community Development Advisory Council meets in Kansas City
Assistant Vice President and Community Affairs Officer Jeremy Hegle (center) speaks to members of the Bank's Community Development Advisory Council during the group's spring meeting in Kansas City. The group learned about the Bank's partnership with Goodwill Industries, including a mobile technology lab for basic computer training and expansion of broadband access.

Chair of Bank's Board of Directors congratulates Student Board
Kansas City Fed Board Chair Patrick "Duke" Dujakovich (far right) joined members of the Bank's Kansas City Student Board of Directors at a pinning ceremony in April. The ceremony honored the high school students as they completed the 2022-2023 leadership development program.

Tenth District convenes economic roundtable
Federal Reserve economists gathered at the Kansas City Fed's headquarters in February for roundtable discussions.

At Junior Achievement BizTown, Bank employees help students learn about finances and leadership
In April, Bank employees served as guides during a Junior Achievement BizTown event for elementary school students in Kansas City. The setting combined in-class learning with a simulated town, where students learned to operate banks, manage restaurants and and write checks. Denver Branch employees participated in a similar event.

Speaking with Nebraska bankers
Kansas City Fed Senior Vice Diane Raley provided remarks during a spring meeting of the Nebraska Bankers Association. Raley leads the Bank's Regional, Public and Community Affairs Division and serves as chief of staff and corporate secretary.

COLORADO, NEW MEXICO, WYOMING »

Kansas City Fed economists visit Colorado State

Several economists from the Bank's Regional Affairs team visited Colorado State University in Fort Collins to speak to members of the Economics Club. Students' questions ranged from jobs at the Federal Reserve to recent economic conditions to what economists do on a daily basis. Pictured, from left: Senior Economics Specialist David Rodziewicz, Vice President, Economist and Denver Branch Executive Nick Sly, and Research Associate Bethany Greene.

Discussing regional economic issues with business leaders in Albuquerque

In May, the Economic Forum Group of New Mexico invited Nick Sly to share updates on the U.S. economy and discuss regional issues affecting the Albuquerque area. Pictured with Sly is Kathie Winograd, executive director of the Economic Forum Group and a former member of the Denver Branch Board of Directors.

Law Enforcement officers' memorial recognition

In honor of Peace Officers Memorial Day in May, Bank Officers Brian Hill and Joye Devlin paid tribute to the two fallen Tenth District Law Enforcement officers: Charles Linton, who was fatally shot during a 1922 robbery, and Randy Vocke, who died while on duty in 2021.

Sly speaks to business students at the University of Wyoming

Nick Sly was featured in a speaker series hosted by the University of Wyoming's College of Business. Sly provided remarks on the economy and interacted with students and community members to better understand economic trends in Laramie, Wyoming. Pictured with Sly: Sasha Skiba, the university's Economics Department chair.

OKLAHOMA »

Pinning ceremony for Student Board members

Federal Reserve staff and guests celebrated the 2022-23 Oklahoma City Branch Student Board of Directors at a pinning ceremony in May. On hand were Chad Wilkerson, senior vice president, economist and Oklahoma City Branch executive; Angel Allen, public affairs specialist with the Oklahoma City Branch; and Katrina Washington, Oklahoma City Branch Board chair, owner of Stratos Realty and executive director of Neighborhood Housing Services Oklahoma. This was the 11th class of the Oklahoma City Branch Student Board and the branch's largest, with 26 students from 13 schools.

Branch hosts Tulsa Economic Forum

The Oklahoma City Branch hosted the Tulsa Economic Forum in April, with Chad Wilkerson presenting an economic outlook to more than 100 attendees.

Outstanding Economics Students Awards

The Oklahoma City Branch and the Oklahoma Council on Economic Education honored 10 high school students at the 13th annual Outstanding Economic Student Awards ceremony and dinner in May.

CDFI Friendly Tulsa tour

In April, Steven Shepelwich, lead community development advisor at the Oklahoma City Branch, joined CDFI Friendly Tulsa and representatives of lending institutions for a tour of affordable housing and community facilities investment opportunities in Tulsa. A CDFI is a Community Development Financial Institution. Pictured: Shepelwich and other tour attendees at the Greenwood Rising Black Wall Street History Center.

NEBRASKA »

Conversation with U.S. senator

In May, Senior Vice President, Economist and Omaha Branch Executive Nate Kauffman spoke with Nebraska U.S. Sen. Deb Fischer at an event in Omaha.

Savings program recognizes student 'tellers'

As the school year wrapped up, area students who served as tellers for their schools' In School Savings Program visited the Omaha Branch for a recognition event coordinated by the University of Nebraska at Omaha Center for Economic Education. Nate Kauffman welcomed the students, mostly fifth-graders and sixth-graders, and explained the role of the Federal Reserve.

Korean War veteran's experiences shared during military engagement event

Kansas City Fed employees learned about one veteran's time in the Korean War during a May event hosted at the Omaha Branch by the Bank's Veteran Engagement Network. Kansas City Fed IT Analyst Linda Calder spoke about the service of her father, Army Veteran Wendell Harold, who was in attendance.

Omaha Branch hosts forum in Kearney

Nate Kauffman spoke about the state of the economy, inflation, the labor market and monetary policy during an Economic Forum in Kearney on April 17. The Omaha Branch hosts Economic Forums in communities throughout Nebraska to provide updates on the economy and hear firsthand about local economic issues.

Notes from around the Tenth District

Kansas City Fed named top-performing central bank in international rating for gender equity in leadership

The Federal Reserve Bank of Kansas City recently received the top score in a global measure of gender equity in leadership among central banks.

According to the 2023 Gender Balance Index (GBI) released in April by the Official Monetary and Financial Institutions Forum (OMFIF), the Kansas City Fed scored 96 of 100, placing it No. 1 among the 186 central banks around the world that were assessed by OMFIF.

According to the index, the top rating demonstrates that the Bank's leadership is the closest to equal representation between men and women among all institutions measured by OMFIF.

The GBI is weighted by seniority, with chief executive officers receiving the highest weights in the index. In this weighted measure, a score of 100 would reflect a perfect 50-50 representation of women and men.

According to the Kansas City Fed's 2022 Office of Minority and Women Inclusion Annual Report to Congress, 61.5 percent of the Bank's senior management team were women, and 42.5 percent of its officers and managers were women. This exceeds the 2020 Kansas City Metropolitan Statistical Areas averages of about 30 percent and 40 percent, respectively. In addition, the share of the Bank's women Ph.D. economists rose in 2022 to 36 percent from 27 percent in 2018.

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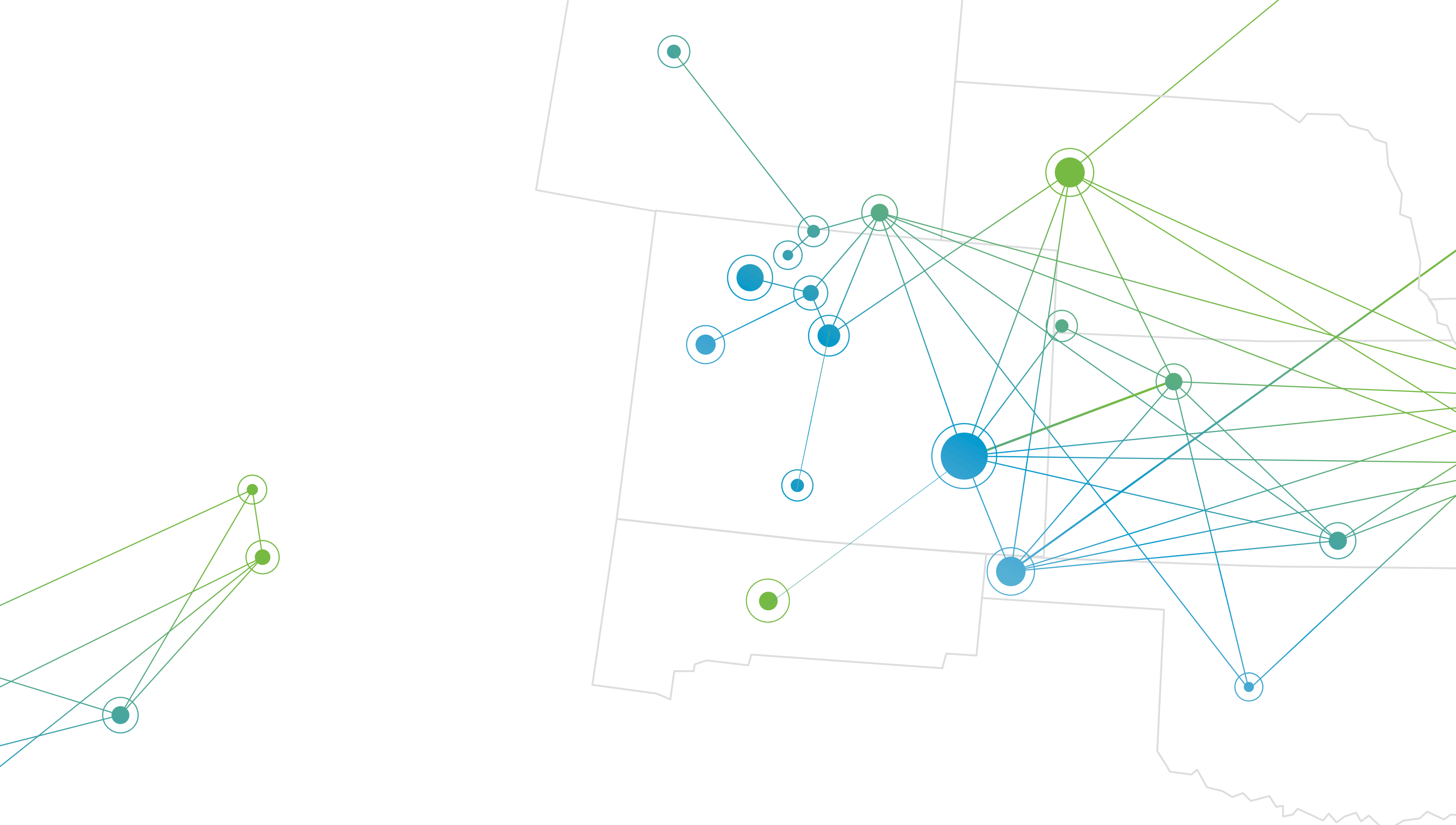
FURTHER RESOURCES
Visit *omfif.org* for more information on the GBI. Learn more about the Bank's diversity and inclusion efforts at *KansasCityFed.org/diversity.*



Jeremy Hegle appointed to lead Bank's Community Affairs team

The Kansas City Fed recently announced the promotion of Jeremy Hegle to the position of assistant vice president and community affairs officer (CAO).

In this role Hegle leads the Tenth District's Community Development and Engagement department, with responsibility for the Bank's community and economic development initiatives. Hegle also represents the Kansas City Fed on the Federal Reserve System's CAO Subcommittee and manages the Bank's Community Development Advisory Council.

Hegle joined the Bank in 2015 as a senior community development advisor. Later he was promoted to lead community development advisor, where he directed the Bank's digital equity efforts across the Tenth District and the System.

Before joining the Kansas City Fed, Hegle served in the Army National Guard and worked 12 years for a community development organization focused on entrepreneurship assistance. He holds a bachelor's degree and a master's degree in Business Administration from the University of Missouri-Kansas City.

Hegle has actively served in a variety of roles with civic and nonprofit organizations, including the Financial Opportunity Centers of the Local Initiatives Support Corporation and the Mid-America Regional Council's KC Rising collective. He is a 2014 graduate of the Greater Kansas City Chamber of Commerce's Centurions program and is a board member of Digitunity, a nonprofit organization aimed at eliminating the technology gap through device ownership.

Jeremy Hegle joined the Kansas CIty Fed in 2015.

Kansas City Fed Group Vice President Adam Winzenried (far right) with University of Kansas team members (from left) Nikhil Raja, Shad Ahmed Shahul Hameed, Rahul Amatapu and Abir Haque. Not pictured: Chase Burkdoll.

University of Kansas team wins 2023 Code-A-Thon competition

A University of Kansas team's learning aid took first place in the Kansas City Fed's seventh annual Code-A-Thon.

Each year the Bank hosts a competition among teams of college students from the region to support education and develop a talent pipeline in science, technology, engineering and mathematics (STEM). Information technology jobs comprise nearly 50% of the Bank's workforce.

This year's Code-A-Thon took place over two days in February and included 18 teams—the most in the event's history—and involved more than 70 students. Each year's competition presents a different specific challenge for the participating teams, and this year's task was to develop ways to help individuals learn code and use it in their everyday lives. Teams were judged on innovation, user experience, functionality, impact potential and presentation. Winners were announced at an awards ceremony in March.

The first-place KU team developed a program called "Simulearn" to help users learn the Python computer programming language through smart home devices. The award for second place went to the team from Langston University in Oklahoma, and the team from the University of Central Missouri in Warrensburg received the third place award.

The Bank presented additional awards for Code-A-Thon achievements:

- Best Use of Application Programming Interfaces - Langston University, Langston, Oklahoma
- Most Unique Solution - Truman State University, Kirksville, Missouri
- Best Code - University of Central Missouri, Warrensburg
- Best Execution - University of Kansas, Lawrence
- Best Presentation - Metropolitan State University, Denver
- University Champion Award - Langston University Professor Ralph Grayson. The award recognizes the most committed and engaged faculty member in the competition.

FURTHER RESOURCES

To learn more about Code-A-Thon or prepare for the 2024 competition, visit *codeathon.kcfed.org* or send email to *KC.Codeathon@kc.frb.org*.

Omaha Branch hosts statewide Econ Challenge for high school students

More than 70 high school students from across Nebraska assembled at the Kansas City Fed's Omaha Branch in April to take part in the state finals of the annual Econ Challenge.

For more than 20 years, Nebraska students have participated in the Econ Challenge to gain deeper understanding of economics and compete for awards and prizes. The 2023 competition marked the second year of the Federal Reserve partnering with the Nebraska Council on Economic Education to host the finals in the current format.

Educators from Nebraska high schools attended the event in support of the students.

"It's an opportunity to interact with other like-minded students and apply economic concepts in another setting," said Lincoln East economics teacher Matt Maw.

Organizer Jennifer Davidson, president of the Nebraska Council on Economic Education, said she hopes that the annual event provides a fun challenge for the students and piques interest in economics careers.

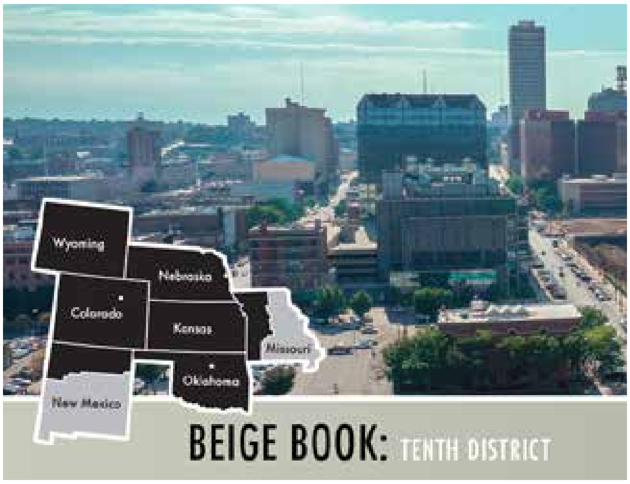
Students from Waverly High School work together to open the first lock to their backpack filled with economics-themed challenges during the 2023 Econ Challenge State Finals.

To qualify for the finals, 1,200 students participated in an online challenge, which narrowed the field to the students invited to Omaha. Among the tasks in the finals competition, students worked as teams to solve challenges contained in a backpack, decoding one clue after another—under a deadline—until the final clue was resolved.

"I like economics because it's integrated in your everyday life, more than people think," said Zoe Campbell, a junior from Lincoln East High School.

"Economics is so often referred to as the dismal science," Davidson said. "Our hope with the Nebraska Econ Challenge is to dispel that myth, give students an opportunity to apply what they are learning in the classroom to a unique challenge, and hopefully spark an interest in economics as a career field."

FURTHER RESOURCES
Learn more about the Bank's economic education resources at *KansasCityFed.org/education*.



Uptick in consumer spending; job growth slows

Total economic activity across the Tenth District changed little during May, according to feedback provided for the Federal Reserve's Beige Book. Consumer spending at restaurants and for travel picked up, but most contacts did not expect the surge in spending to persist into coming months. Job growth continued to slow.

The Beige Book reports—made available to the public eight times a year—offer summaries on the economy in each of the Federal Reserve's 12 regional bank districts. See the most recent Tenth District economic summaries and sign up to receive alerts at *KansasCityFed.org/surveys/beige-book*.

Prices rose at a moderate pace. Growth in housing rental rates remained elevated in several western District states, but the pace of increases declined broadly and swiftly from the growth rate experienced during the past year. Although many businesses indicated some persistence in their ability to pass on higher costs, they also reported slower expected growth in costs ahead.

Bank Anniversaries

The following banks in the Tenth Federal Reserve District are celebrating one, five, 10, 20 or more years as Federal Reserve members in July, August and September.

Uinta Bank	Mountain View	Wyo.	103
Wahoo State Bank	Wahoo	Neb.	91
Gunnison Bank & Trust Co.	Gunnison	Colo.	83
Union State Bank	Clay Center	Kan.	81
Bank of Holyrood	Holyrood	Kan.	80
Security State Bank	Basin	Wyo.	75
State Bank of Burrton	Burrton	Kan.	26
Five Points Bank	Grand Island	Neb.	26
Farmers State Bank	Quinton	Okla.	24
Bank of Bennington	Bennington	Neb.	24
Payne City Bank	Perkins	Okla.	24
First Pryority Bank	Pryor	Okla.	23
Lakeside Bank of Salina	Salina	Okla.	23
Security Bank	Tulsa	Okla.	23
Bank of Locust Grove	Locust Grove	Okla.	23
American Exchange Bank	Elmwood	Neb.	22
High Plains Bank	Flagler	Colo.	20
Vision Bank	Ada	Okla.	1

2023 banking forums scheduled

Upcoming forums offer professional development and career enhancement opportunities for emerging leaders in banking and the financial sector.

The Kansas City Fed will present its ninth annual Women in Banking Forum on Aug. 3 at the History Colorado Center in Denver. Registration details are available at *KansasCityFed.org/events/women-in-banking-forum*.

Minority leaders in financial services are invited to register for the Federal Reserve System's eighth annual Minorities in Banking Forum, Sept. 27-28 at the Federal Reserve Bank of Dallas. Go to *KansasCityFed.org/events/minorities-in-banking-forum* for registration details.

kcFED SOCIAL SEEN

Social media highlights of our engagement across the region


1

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1 **@KANSASCITYFED** Thank you to KPEO Radio for inviting Nick Sly, our Economist & Denver Branch Executive, on air to answer questions about the FOMC, labor markets & inflation. Outreach opportunities such as this are important in helping us share & gain insights into our regional economies. #Denver #Economy #KCFed #Economist

2 **@MICHELLEKLIEGER** Thank you @KansasCityFed for two great days of discussion about how agriculture is changing. #KCFedAg2023

3 **@KANSASCITYFED** Our employees had an opportunity to learn about one veteran's time in the Korean War during an event hosted by the Veteran Engagement Network in our Omaha Branch. Army Veteran Wendell Harold and his daughter, KC Fed IT Analyst Linda Calder, both spoke about his service.

4 **KANSASCITYFED** Our Facilities crew made sure we were ready for the NFL Draft! #MoneyMuseum #KansasCity #NFLDraft #FederalReserve #DowntownKC

5 **KANSASCITYFED** MARIE HAAKE, HR SPECIALIST | Looking forward to a great day at the @Fort Leavenworth Transition Assistance Program career fair!

6 **@COMPASSHMC1** Ms. Bell's fifth graders (Compass Elementary) took an A-Team Field Trip to Kansas City's Money Museum. They learned millions and spared no expen$e in having a great time. Go Compass! @HMC1Proud @KansasCityFed


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

Ask an ECONOMIST

Jason P. Brown and Colton Tousey

The shifting expectations for work from home

Before the COVID-19 pandemic, only about 15 percent of workers performed any full workdays from home over the course of a year. During the early stages of the pandemic, that percentage surged to nearly 40 percent as employers shifted toward remote work. As COVID-19 moves to an endemic state, workers are returning to offices, but many employees prefer to continue working from home at least some of the time. In a tight labor market, employers might feel pressure to provide greater worker flexibility while wrestling with concerns about productivity and employee engagement.

The resulting gap in expectations—between employees' preferences and employers' plans—is among the topics explored in a February 2023 *Economic Review* article by Vice President and Economist Jason P. Brown and Assistant Economist Colton Tousey. Their full article is available at *KansasCityFed.org/research*.

How did you approach this study?

Knowing who currently works from home a larger share of time and where this gap is narrowest across worker characteristics and locations helps explain where and for whom work from home is most likely to remain a permanent feature in the labor market. We used a relatively new data source, the Survey of Working Arrangements and Attitudes (SWAA), to help discern who works from home more frequently and investigate how expectations for work from home have changed for workers and employers.

What did the research reveal?

We found that the share of paid working days from home is higher for workers with higher income, those who live in more densely populated areas, and those with faster internet connections. One explanation for the positive relationship between population density and work from home might be that more dense areas also tend to have a higher share of telework-capable jobs, as shown in a 2020 study published by the National Bureau of Economic Research.

Our study showed that following the pandemic, workers reported a desire to work from home a larger fraction of time compared with their expectation—or understanding—of their employers' plans for permitting work from home. Overall, our results were consistent with previous findings on the determinants of work from home:

Photo by Getty Images

- An increase in worker annual income is associated with increases in employee preference for share of days worked from home and an increase in their expectations of their employer's plans for days worked from home.

- Older workers prefer to work fewer hours from home, in line with their employer's expectations. One reason for this preference might be that older workers have more experience and might be in managerial roles requiring more in-office work on the margin.

- Men prefer to work fewer hours from home compared with women, though employees do not believe their employers' plans differ for men and women. The difference in preference between men and women could result from differences in time spent caring for children, as the presence of young children is associated with a higher share of worker preference for work from home.

Looking ahead, how will expectations change?

Our study shows that, on average, workers in December 2022 worked from home around 27 percent of the time—nearly double the pre-pandemic estimate.

Although it is too early to determine whether these trends have fully stabilized, workers will likely continue to work a larger percentage of days from home than they did before the pandemic. The gap between workers' preferences for work from home and their expectations of their employers' plans has declined over the last two years. The gap appears to be closing because of upward movement in employers' plans. Our estimates suggest that if the trends in work from home continue, this gap might nearly close in the next three years.

Despite this shift in preferences toward work from home, our findings suggest that higher-income workers in more densely populated areas are most likely to be affected by this shift in preferences. Further, we suggest that work from home is more likely to be sustained in larger urban areas, potentially providing more economic flexibility and resiliency to these areas relative to smaller urban and rural areas.

FURTHER RESOURCES
Download the full *Economic Review* article at *KansasCityFed.org/research* or scan the QR code.

RESEARCH SNAPSHOTS

From inflation implications, to corporate profits and risks facing the banking sector

Here are summaries from recent economic research published by the Kansas City Fed. Go to *KansasCityFed.org/research* to read the full publications and follow the latest analysis in Charting the Economy, a new stream of timely economic data curated by the Bank's research staff.

Financial stress might do relatively little to bring down inflation

Financial stress has risen in the wake of recent bank failures. At the same time, the Federal Reserve has been tightening the stance of monetary policy to reduce elevated inflation. Even though financial stress and monetary policy tightening each can slow economic activity, they do not necessarily have the same implications for inflation. Analysis shows that financial stress generates more modest disinflationary effects than monetary policy tightening for the same increase in the unemployment rate. Therefore, to the extent financial stresses reduce inflation, they do so at a higher cost of unemployment, making them a less-than-ideal substitute for tighter monetary policy.

— Brent Bundick, Johannes Matschke and A. Lee Smith, May 2023 Economic Bulletin

Photo by Getty Images

Corporate profits contributed a lot to inflation in 2021 but little in 2022

Corporate profits rose quickly in 2021 along with inflation, raising concerns about corporations driving up prices to increase profits. Although corporate profits indeed contributed to inflation in 2021, their contribution fell in 2022. This pattern is not unusual. In previous economic recoveries, corporate profits were the main contributor to inflation in the first year and displaced by costs in the second year. Findings support the theory that firms set prices based on current as well as future production costs, which explains the contribution of corporate profits to inflation both before and after the COVID-19 pandemic. The amount of inflation generated by corporate profits early in a recovery may be a useful signal of future cost growth and subsequent inflation.

— Andrew Glover, José Mustre-del-Río and Jalen Nichols, May 2023 Economic Bulletin

Will high underlying inflation persist?

Sustained periods of elevated inflation pose particular risks for the economy. It is widely believed that the longer inflation remains elevated, the greater the risk that high inflation will become self-reinforcing and thus embedded in the economy. Underlying inflation—the rate of inflation that prevails after temporary imbalances in the economy are resolved—can help policymakers gauge whether current high rates of inflation are likely to persist. Using survey-based inflation expectations, the Kansas City Fed shows that if current inflation forecasts are realized, underlying inflation should decline toward 2 percent in 2024. However, if inflation continues to surprise to the upside, underlying inflation might remain elevated for some time.

— Amaze Lusompa and Sai A. Sattiraju, May 2023 Economic Bulletin

Photos (left and right) by Getty Images

The implications of unrealized losses for commercial banks in the U.S.

Interest rates have risen across the yield curve since the Federal Open Market Committee began tightening monetary policy in March 2022. After amassing securities during the pandemic, commercial banks saw rising interest rates erode the value of their securities portfolios by nearly $600 billion, or about 30 percent of their capital holdings. In some cases, declines in valuation of securities holdings in response to interest rate changes—known as "unrealized losses"—can mechanically reduce key regulatory capital and liquidity ratios. Should banks need to sell the securities to generate income when their valuations are low, the realized losses could erode capital buffers and threaten the banks' solvency. A Kansas City Fed study found four channels through which unrealized losses have reduced bank liquidity and capital, potentially dampening loan growth. These channels highlight that unrealized losses can affect all types of banks regardless of size, regulatory treatment or funding access.

— W. Blake Marsh and Brendan Laliberte, April 2023 Economic Review

Photos (above and right) by Getty Images

Will Rocky Mountain job losses be worse than when the tech bubble burst?

Job growth during the first quarter of 2023 was much slower in the Rocky Mountain region compared with the rest of the country. Recent layoffs in technology occupations, in which the region has a relatively heavy footprint, offset job growth in other sectors. Continued headwinds for tech sectors could create challenges for the regional economy reminiscent of the tech bubble bursting in the early 2000s. In fact, the share of workers in tech occupations has increased over the past several years, further exposing the region's economy to declines in the tech sector.

— Bethany Greene, David Rodziewicz and Nicholas Sly, May 2023 Rocky Mountain Economist

Oklahoma GDP growth has lagged the nation, but not everywhere in the state

Over the last decade, Oklahoma GDP growth averaged 1.5% per year, somewhat less than the 2.1% national growth rate. However, large fluctuations in the state's important energy sector played a significant role, and some places in Oklahoma have outpaced the nation. The Kansas City Fed investigated GDP trends across the state during three distinct time frames: the oil boom years of 2011-15, the oil bust and sluggish growth of 2015-19, and the pandemic years of 2019-21. The study found that much of the state greatly outgrew the nation early in the period but has lagged since that time. Also, the Oklahoma City metro area and a few micropolitan areas have experienced the fastest growth.

— Chad Wilkerson and Chase Farha, March 2023 Oklahoma Economist

Population growth needed to address Nebraska's labor scarcity

Labor scarcity has been an increasingly important issue in Nebraska for several years, but particularly in the wake of the pandemic. Across the nation, reports of worker shortages have been unprecedented in terms of both geographic scope and duration. The imbalance between strong demand for labor and a constrained labor supply has been more pronounced in Nebraska than many other states. Despite the significant need for workers in the state, however, Nebraska's labor force has not expanded as quickly as what might be needed to resolve the shortages.

— Nate Kauffman and John McCoy, April 2023 Nebraska Economist

China's post-COVID recovery: Implications and risks

Heading into the third quarter of 2022, the Chinese economy seemed to be struggling with substantial headwinds. The enforcement of China's zero-COVID-19 policy continued to weigh on the economy, disrupting manufacturing and limiting domestic consumption and travel. However, in November 2022 the government removed most COVID-19 restrictions, sparking debate over the potential economic effects. Since then, several data points have suggested that the Chinese economy has started to rebound. Because the rebound has so far been driven mainly by domestic demand, which tends to be less sensitive to imports, only minor effects on U.S. exporters are expected. As the recovery broadens over time, however, Chinese economic growth could spur global growth, with positive effects on the United States.

— Thomas R. Cook and Johannes Matschke, May 2023 Economic Bulletin

What consumer surveys say about the design of a U.S. CBDC for retail payments

Although researchers continue to discuss the possibility of a central bank digital currency (CBDC) for retail payments in the United States, the success of a CBDC will depend on consumer adoption. To understand how a CBDC could provide a good user experience, recent surveys in the United States and in other countries have asked consumers about what they would want and need in a potential CBDC. A review of U.S. and non-U.S. surveys suggests that if a CBDC for retail payments were created in the United States, consumers would want it to have three basic attributes: dependability, convenience and security. Consumers in other countries have mostly similar concerns.

— Franklin Noll, March 2023 Payments System Research Briefing

Ag credit conditions hold strong as interest rates continue rising

Agricultural credit conditions in the Tenth District during the first quarter of 2023 remained strong, and farm real estate values continued to increase. However, growth softened. While improvement in farm finances and credit conditions steadied and some lenders expected a degree of deterioration in the months ahead, multiple years of strong incomes continued to keep credit stress low. The outlook for the U.S. farm economy in 2023 remained favorable as prices of key commodities were at multi-year highs. Financial performance and liquidity at agricultural banks remained solid, and farm lenders appeared well-positioned to meet higher credit demand through the early months of 2023.

— Nate Kauffman and Ty Kreitman, May 2023 Ag Credit Survey

Slowing wage growth might lead to more delinquent debt

Subprime auto debt has risen nearly 10 percent above pre-pandemic levels, and delinquency rates have increased despite high wage growth in the economy. Historically, high wage growth has been associated with lower transitions into delinquency. Should wage growth slow, delinquency rates would likely rise even higher, especially among subprime borrowers. Subprime borrowers are likely to experience the economic stress of job loss and difficulty making debt payments ahead of other borrowers, thus serving as a leading indicator of what happens in the broader consumer debt market.

— Jason P. Brown and Colton Tousey, March 2023 Economic Bulletin

Home prices remain near their peak, boosting single-family construction

New permits to construct single-family homes climbed for the third straight month in April, increasing 14 percent from their low point in January. This marks a partial reversal from their collapse during 2022 and reflects the surprising resilience of home prices. Although the sharp run-up in interest rates has exerted strong downward pressure on prices, this pressure has thus far been offset by current homeowners' reluctance to sell and give up their low-rate mortgages. As a result, home builders face less competition and so can maintain high profit margins.

— Jordan Rappaport, May 2023 Charting the Economy

SUPERMARKET STICKER SHOCK

WHY U.S. FOOD PRICES ARE SO HIGH

by ANDREA GALLAGHER

Going to the grocery store is not getting any easier these days, as food prices remain high and shoppers are having to change their spending habits—or get creative in the kitchen.

According to a recent study by economists at the Federal Reserve Bank of Kansas City, prices for processed foods have driven the grocery price increases, and the labor market is one reason for that.

"American consumers experienced a broad-based increase in food prices at grocery stores in the last two years, but more recently, food items that require more processing and labor have contributed more to the overall increase in food prices," said Economist Francisco Scott, a co-author of a May 2023 *Economic Bulletin* article titled "Tight Labor Markets Have Been a Key Contributor to High Food Inflation." The full research article, by Scott, Senior Economist Cortney Cowley and Assistant Economist Ty Kreitman, is available at *KansasCityFed.org/research*.

Though food prices have ebbed and flowed over the last 20 years, they have continued to climb in the past couple years, remaining high since the pandemic. Tight labor markets and wage increases have put pressure on the costs of labor, production and distribution. This gets passed on to the consumers, who see it on their grocery bills.

"For each dollar spent on food, 45 cents go toward salaries and benefits of workers across the food supply chain," Scott added. "This suggests that increases in wages can substantially increase the cost of producing and distributing food. In an environment of strong demand for food items, as the one the U.S. economy is experiencing today, such cost increases end up putting additional upward pressure on the price of food at grocery stores."

Meanwhile, many of the factors affecting grocery prices are having an impact on menu items at restaurants. Kreitman said that demand for eating out has been

(Left and below) *Photos by Getty Images*

strong relative to the trends that economists were seeing before the pandemic.

"How strong that demand remains and how labor costs impact operational costs for restaurants will be important factors for prices going forward," he said.

Is there relief in sight? Economists say "Yes," for two reasons. One is that that there are signs of loosening in the labor markets: The supply of workers has increased, and demand for labor has softened. Secondly, there are examples of food prices that have increased sharply and then came back down. The most recent example is egg prices. American consumers have rarely paid more than $2 for a dozen eggs, until recently, after an outbreak of avian influenza.

"Similar adjustments in other categories of food could result in lower prices at the grocery store for consumers moving forward," she said.

Cowley said that it's easy to take for granted the amount of work, infrastructure and logistics required to get food from the field to grocery store shelves. Even though the United States has one of the safest and most efficient food systems in the world, something like the pandemic, war and labor shortages can disrupt it and cause an imbalance.

"Each of these shocks effectively reduced supplies of food. When supply declines, while demand stays constant—or even increases in the case of grocery shopping during the pandemic—prices increase," she

"FOR EACH DOLLAR SPENT ON FOOD, 45 CENTS GO TOWARD SALARIES AND BENEFITS OF WORKERS ACROSS THE FOOD SUPPLY CHAIN."

— Economist Francisco Scott

said. "One reason we are seeing much larger increases in food prices than in the past is because the shocks have been larger, more frequent and more persistent than what we have experienced in the past."

"By the end of 2022, millions of egg-laying chickens had died from the disease, causing the supply of eggs to plummet," Cowley said. "In December 2022, egg prices peaked at $5.30, the highest national average price on record for a dozen large white eggs. Luckily, flocks can be rebuilt quickly. So far in May 2023, the national average price of eggs has been back around $0.80 per dozen, suggesting that supplies of eggs have caught back up with demand."

Cowley added that beef prices also have had dramatic shifts in price since 2020, and only recently came down as supplies have increased.

In addition, depending on a family's income, the rising cost of food can affect budgets differently and cause more hardship for some than others.

"When we consider how critical food is to our well-being and how the costs of many other essential items have also increased, it's very easy to see how food inflation can be significant and stressful for many," Kreitman said.

Labor market could keep rent inflation elevated

by STAN AUSTIN

More than 35 percent of U.S. households are renters, and industry measures show that the prices for renting an apartment or house are continuing to rise.

The prime reasons: job gains, wage growth and increased demand following the pandemic. Those factors reflect the historically tight labor market—with far more available jobs than workers to fill those positions.

Understanding the connection between rent inflation and the tight U.S. labor market is important for the public as well as for the Federal Reserve and other policymakers. That connection is explored in an *Economic Bulletin* article published in March by Kansas City Fed Senior Research and Policy Advisor Brent Bundick, Senior Vice President A. Lee Smith and Research Associate Luca Van der Meer. The full article is available at *KansasCityFed.org/research*. Their study shows that rent inflation is more responsive to labor market conditions than to other components of inflation.

"Thinking about where inflation is now and where it might be going is kind of top of mind for policymakers," Bundick said. "One of the things that we think about is 'What are some of the underlying factors?' With this article the point that we really wanted to make is that there's this particular relationship between the tightness in the labor market—with very low unemployment and lots of job vacancies—and how that relates to rental inflation."

Shifting pressures

The study shows how inflationary pressures in the U.S. economy have increasingly shifted in recent years from goods to services. Higher prices for goods were responsible for much of the initial rise in core Consumer Price Index (CPI) inflation in 2021 and early 2022. Although goods inflation has moderated somewhat since then, that decline has largely been offset by increasing price pressures in the services sector, the study states. As a result, core inflation remains elevated, with rent inflation being especially notable. All measures of rent inflation show increases from measures before the pandemic.

For example, before the pandemic, when overall inflation was near 2% in the United States, rent inflation was contributing about 1.5% to core CPI inflation. By the fourth quarter of 2022, that percentage had nearly doubled, to around 3%.

Meanwhile, the V/U ratio—the ratio of job vacancies to unemployment—was near "1" before the pandemic, meaning that for every available job there was roughly one unemployed person. However, more recently that number has hovered near "2," indicating two available jobs per unemployed person.

"We have seen some easing in that tightness, and we have seen some moderation in rent inflation that has

(Left) *Photo by Getty Images*

accompanied it, but we're still pretty far from pre-pandemic levels," Smith said.

Key elements

Increased demand, rather than changes in supply, is one of the main drivers of rent inflation.

"Growth in employment and wages, which vary with broader economic conditions, are key determinants of demand for shelter and, hence, rent inflation," the economists wrote. In May, U.S. unemployment stood at 3.7%. For civilian workers, wages and salaries increased 5% for the 12-month period ending in March 2023, according to the Bureau of Labor Statistics (BLS). That followed an increase of 4.7% percent for the 12-month period ending in March 2022. Moreover, the economy has added more than 4 million jobs over the last year. These labor market conditions are providing consumers with income growth to support spending on shelter as well as other goods and services.

Additionally, the economists point to the increase in remote work brought about by the pandemic and higher input costs for building and maintaining rental units.

The inflation picture

In early June, the rental search company ApartmentList.com reported that the average median rent in Kansas City was $1,151, up 4% from a year earlier.

Earlier in the spring, Smith pointed out BLS data showing that national rent inflation in March was running near 9% nationally and more than 7% for the Midwest region, which includes the Kansas City market and other parts of the Tenth Federal Reserve District. Both figures were more than double their pre-pandemic rates of inflation.

"The fact that the national figures are running ahead of the Midwest region underscores that rent inflation in some areas, such as Denver and the Mountain West, have been much higher," Smith said. "This partly reflects pandemic-induced shifts in preferences for where people want to work—from home in desirable locales."

Outlook for rents

Still, the Kansas City Fed economists noted, some of the pandemic factors that contributed to the surge in rents appear to be unwinding. One sign of this is Zillow's measure of rent inflation. After running well above the official BLS measure of rent inflation, the Zillow rent inflation metric turned sharply lower. The Bank economists noted that some policymakers interpreted the decline in the Zillow measure as an indication that BLS rent inflation measures will soon peak as well.

However, the *Economic Bulletin* cautions that "a return to pre-pandemic rates of rent inflation could remain elusive."

"What it means is that policymakers can't assume that rent inflation is going to fall off organically," Smith said. "It's going to have to coincide with some re-balancing in the labor market."

(From left) Senior Vice President A. Lee Smith and Senior Research and Policy Advisor Brent Bundick. *Photo by Gary Barber*

FURTHER RESOURCES

Read and download *Economic Bulletin* articles and track other trends and analysis at *KansasCityFed.org/research.*

FACING HEADWINDS

AGRICULTURAL SECTOR ADAPTS AND INNOVATES AS PRODUCERS DEAL WITH WEATHER EXTREMES AND RAPID ECONOMIC CHANGES

by SU BACON

After a storm hit Neal Keppy's farm in Eldridge, Iowa, his family members recovered parts of a barn roof that was torn off and blown into corn fields. *Photo courtesy of Neal Keppy*

Corn is king in Giltner, Nebraska.

"And soybeans play second fiddle," said Brandon Hunnicutt, a fifth-generation farmer and member of the Corn Board of the National Corn Growers Association.

Although corn has enjoyed a long reign in the Cornhusker state and beyond, U.S. corn and soybeans are second to Brazil in global exports. Brazil accounts for 29 percent of corn exports worldwide compared with 27 percent for the United States, said Jay Debertin, president and chief executive officer of CHS Inc., a farmer-owned cooperative that sells good and services for grain products.

And soybeans are becoming more important with the increasing interest in renewable diesel fuel, which is processed from soybean oil. Expect to see more soybean processing plants built—actually overbuilt—in the United States by 2026, Debertin said in his keynote address at the Federal Reserve Bank of Kansas City's annual Agricultural Symposium in May.

"Energy and grain are once again merging, a trend that started with ethanol," Debertin said.

Nate Kauffman, Kansas City Fed senior vice president, economist and Omaha Branch executive, said the increased interest in soybeans is evident in the rural Michigan community where he grew up. Instead of piles of sugar beets that he used to see, "there are now 10 acres of soybeans to one acre of sugar beets."

Kauffman said that understanding the changes that affect how and where commodities are produced will lead to a better understanding of what agricultural structure and production will look like 10 years from now, as well as the access to and availability of investments needed to move forward.

"The Changing Geography of Agriculture Production" was the theme of the two-day symposium, hosted by Kauffman at the Kansas City Fed's headquarters. Speakers, panelists and attendees explored evolving trends, risk-management methods, financing strategies, global changes in markets, and weather extremes and disruptions.

Global dynamics

"Although U.S. agricultural land is expected to continue a slightly declining trend, this is expected to be compensated by yield improvements resulting in production growth for major crops," Holger Matthey, senior economist with the Food and Agriculture Organization of the United Nations, told symposium participants.

Matthey discussed commodity markets and trade in the context of global food security.

> "ENERGY AND GRAIN ARE ONCE AGAIN MERGING, A TREND THAT STARTED WITH ETHANOL."
>
> – Jay Debertin, president and chief executive officer, CHS Inc.

"For corn and soybeans, the U.S. is expected to maintain its global production share," he said.

Symposium speaker Sara Menker, founder and chief executive officer of Gro Intelligence, discussed China's growing influence on the global agricultural system.

"China is now the world's largest importer of grain," Menker said. China's reliance on imports is likely to continue, as it has been unable to achieve self-sufficiency in cereal grains, and only 10 percent of its land is suitable for producing crops, with little room to expand, she said.

Gro Intelligence provides analytics, such as a global drought index, used by others around the world to make such decisions as what to plant, when to plant and even whether to plant.

Kimberly Ratcliff, owner and manager of Caney Creek Ranch in north-central Texas, was a featured speaker at the Agricultural Symposium. *Photo by Gary Barber*

Adapting when harsh weather hits

Closer to home, Hunnicutt, who was a symposium panelist and grows corn and soybeans, is making crop decisions based on the drought he's experiencing in Nebraska.

"We've had less than seven inches of moisture since August of last year," he said.

In addition to drought, winds have been harsh.

"Wind erosion has really been bad the last two to three years," Hunnicutt said.

Adapting to changing weather patterns doesn't mean changing what he plants, Hunnicutt said. But it does mean making the crops more resilient, changing the way they are irrigated and adjusting the time of fertilizing.

"We don't want a rapid increase in growth that makes the plant brittle."

To keep winds from turning topsoil into dust, Hunnicutt plants cover crops after harvest to help stop erosion. It's a practice recommended by the Corn Board. Cover crops keep the soil from compacting and increase the soil's water-holding capacity.

As for rain, clouds can be fickle, said Matt Grabbe, who grows wheat and other crops on a family farm south of Hays, Kansas.

"You can drive down the road five miles and see a patch of wheat that looks good and a patch that looks terrible," Grabbe said. The healthy patch of wheat was lucky enough to be under the rain cloud when it passed by. The other patch missed out.

Rain clouds, coupled with a newer, higher-yield variety of wheat, were kind to Grabbe's crop in 2022. Both he and his brother, John, won awards for yields—97.88 bushels per acre and 103.24 bushels per acre, respectively—in the 2022 National Wheat Yield Contest.

"It was an above-average year," Grabbe said. Though rainfall was less than usual, it came at exactly the right time and the right place. By contrast, his 2023 crop will be below average, Grabbe said.

Across Kansas, of 8.1 million acres planted in the fall of 2022, 69 percent of the hard winter wheat being harvested now is rated poor because of drought, said Debertin of CHS Inc. The average yield is projected to be 30 bushels per acre.

Managing risk through innovation

Drought hasn't been limited to Nebraska and Kansas.

"When drought comes, income goes with it," said Kimberly Ratcliff, a north-central Texas rancher and symposium panelist.

Ratcliff raises Charbray and Wagyu cattle on her Caney Creek Ranch. Although the drought has ended in her area, she has prepared for more dry years by digging a pond to catch water and building a well that runs on solar power.

When an ice storm last year destroyed trees, froze pipes and cut off electricity, Ratcliff knew she once again needed to prepare for the next round of extreme weather.

"We've never had this before," she said. "We need to change our mindset of how we ranch."

To prepare, Ratcliff bought three generators, stocked up on salt and sand, and made plans to care for her cattle when ice made it difficult to reach them.

Sometimes it's not the farming practices that change—it's the crop. Consider cotton in Kansas.

"Cotton uses less water than corn and commands a better price," said Jonathan Aguilar, a Kansas State University researcher who has received funding to test the sustainability and economic performance of cotton on a field near Garden City.

> "IF A STORM IS PREDICTED ON THURSDAY, MAKE SURE TO GET YOUR CROP INSURANCE ON TUESDAY OR EVEN HOURS BEFORE."
>
> – Whitney Hansen, owner of farms in Colorado and Oklahoma

"Drought and changing climate in our region are favorable to cotton production," Aguilar said. "We're pushing the northern limits of cotton production."

Adverse weather disrupts farming operations and creates risk that producers must consider when planning for future crops or herds.

Kansas City Fed First Vice President Kelly Dubbert attended the Agricultural Symposium. *Photo by Gary Barber*

Neal Keppy's farm in Eldridge, Iowa, was disrupted in 2020 when he and his brother were sorting pigs in a barn.

"Suddenly the power went out, lights went off, and the roof disappeared," Keppy, a symposium panelist, recalled. They found the roof in a cornfield.

Farmers and ranchers face uncertainty in the market, the weather and the longer term changes in climate.

"Producers must choose how they manage risk," said Tom Coon, vice president of Oklahoma State University's Division of Agricultural Sciences and Natural Resources.

Whitney Hansen, a symposium participant from Burlington, Colorado, remembers running a combine for 22 hours to get a wheat crop out of the ground before a hailstorm. She mitigates her risk through crop insurance.

"Have a good insurance agent and be proactive," she said. "If a storm is predicted on Thursday, make sure to get your crop insurance on Tuesday or even hours before."

She recommends close working relationships with a crop insurer, a seed seller, a banker and a financial partner.

Hansen divides her time between a row-crop farm in Colorado and a cattle ranch in Oklahoma. She has experienced two different weather disruptions at the same time: flooding in Oklahoma and a drought in Colorado.

In Iowa, the widespread damaging windstorm—known as a derecho—that tore the roof off Keppy's barn also flattened half of his cornfields.

"It got us thinking about healthier plants," he said. He now nourishes the plants with a variety of treatments from roots to tassels.

Keppy also is growing shorter corn. He is experimenting with corn that will grow to be about five or six feet high rather than 10 to 12 feet.

"If the ear is closer to the ground, the plant won't tip over as easily," he said.

While Keppy has done much to make his crops more resilient, he recognizes that he can't control the climate for his corn and soybeans.

"We work with what Mother Nature gives us."

The ag investment horizon

Farmers and ranchers and their lenders face mounting challenges from weather extremes and variability.

Increasingly, agricultural investors are looking ahead to the next 10 to 20 years, said Jackson Takach, chief economist and senior director at Farmer Mac, and a symposium speaker.

"And they're talking about weather and climate more today than ever before."

> "AGRICULTURAL FINANCIAL INSTITUTIONS GRAPPLE WITH WHAT THEIR ROLE SHOULD BE IN NAVIGATING CLIMATE RISK."
>
> – Maggie Monast, senior director, Climate-Smart Agriculture, Environmental Defense Fund

Takach said that investors want answers to four questions:

"What is the cost?"
"What is the risk?"
"What is the return expected?"
"What are the inputs needed?"

"What lenders want to hear is that borrowers have a plan in place if there is no rain, or if it floods or if the well water dries up," Takach said.

If the cost of capital is too high, it might change behavior. If the cost is too high, the producer might decide not to build that barn or plant that orchard.

"Necessity may be the mother of invention," Takach said. "But the cost of capital is the midwife."

In the Kansas City Fed's regional footprint, researchers are finding that cotton grows well in parts of Kansas and Oklahoma. Even though cotton might grow and thrive in new regions, it takes a lot of acres to pay for

Cattle owned by Andy Breiter of Grama Grass & Livestock in Boulder County, Colorado, are part of a rotational-grazing program that helps restore pastures and degraded land. *Photo by Eric Weber*

a machine to harvest cotton bolls—about $1 million for a cotton stripper. The cost for capital to finance the cotton stripper might change farmers' minds about what they plant.

"Agriculture financial institutions grapple with what their role should be in navigating climate risk," said Maggie Monast, senior director of Climate-Smart Agriculture for the Environmental Defense Fund (EDF), and a symposium panelist.

EDF launched a pilot program in 2022, in collaboration with the Farmers Business Network, called the Regenerative Agriculture Financing program. The program offers a .05% interest rebate on operating loans for farmers who meet standards of nitrogen use and soil health, Monast said.

Forty-eight grain farmers from 18 states enrolled in the $25 million pilot program. It was so successful that the program doubled in size to $50 million in 2023.

Transitioning to climate-healthy practices often involves financial incentives. Producers might be more willing to try less traditional, more expensive practices when they have loans or grants to do so.

Compost, for example, can contribute more to soil health than synthetic fertilizer, but compost costs more. Andy Breiter, owner of Grama Grass & Livestock in Boulder County, Colorado, received a $15,000 Restore Colorado grant in 2021 to purchase compost for 30 acres of his operation.

Restore Colorado is a local program that was launched as the result of a U.S. Department of Agriculture grant in 2020 to support regenerative practices.

Breiter is a first-generation farmer who wanted to raise and graze cattle without purchasing land.

"One barrier that many first-generation farmers deal with is the ability to obtain land that we can use to produce food," Breiter said. "By working with private and public landowners, I've had the opportunity to reduce a traditionally large cost—owning land—and create additional income by providing ecosystem services such as grazing."

He contracted with the city of Boulder and other organizations to restore pastures and degraded land through rotational grazing, applying compost, and planting grass on bare ground. The cattle recently grazed on an area where a wildfire destroyed 1,000 homes in 2021.

The Restore Colorado grants "seek to ease the financial burden of conservation practices and to make possible the use of regenerative methods for farmers whose profit margins are already razor-thin," said Christian Herrmann with the Boulder County Office of Sustainability, Climate Action & Resilience.

The policy landscape

From local efforts to long-standing federal policies and new climate legislation like the Inflation Reduction Act of 2022, programs and policies are in place to address risks associated with food and agricultural production and to ease the adoption of newer practices.

"The 2022 Climate-Smart Commodity Program funds conservation projects to switch crops, use new irrigation practices and increase carbon sequestration," said Coon of Oklahoma State.

In the previous decade, the 2014 Farm Bill focused on risk management and expanded the scope of crop insurance and broadened policy coverage, Coon said.

> "IF WE CAN'T GET OUR GOVERNMENT TO APPROVE TECHNOLOGY, WE WON'T BE ABLE TO COMMERCIALIZE IT."
>
> – Gregg Doud, chief economist, Aimpoint Research

"Federal crop insurance is critical," said Aaron Harries, vice president of research and operations for the Kansas Wheat Commission. Crop insurance is the only way that Kansas wheat farmers can sustain their operation, he explained. In the third year of a drought, Kansas is now experiencing the worst winter wheat crop since 1963.

Through the Natural Resources Conservation Service of the USDA, cost-sharing provides the impetus for producers to make changes they otherwise couldn't afford.

"We know there are practices we should be doing," said Ratcliff, the Texas rancher and symposium participant. "But they're not in our price range."

She used cost-sharing on her ranch to cross-fence a 100-acre pasture to make rotational grazing possible. She also dug a well and planted windbreaks.

"You have to pay out of pocket first, but they then reimburse you," she said.

The USDA grants are available to encourage farmers to try planting cover crops after harvesting their main crops.

Grabbe, in Kansas, believes "cover crops are the right thing to do and have benefits."

Yet, he is participating in an experimental program offered by a private company rather than applying for the USDA grants. "Too many stipulations" with government programs, he said.

There are those who say the government also moves too slowly.

The pace needed to enact policies to keep up with climate change is too slow, said Gregg Doud, a symposium participant who is chief economist at Aimpoint Research, a global marketing research and competitive intelligence firm.

"Our limitation is our government," Doud said. "For example, it takes 15 to 17 years to approve a new herbicide."

Getting regulatory approval for new technologies is a bottleneck.

"If we can't get our government to approve technology, we won't be able to commercialize it," Doud said.

Another concern is the research gap, said Laura Wood, a symposium participant and owner of Laura Wood Peterson Consulting.

"U.S. spending on agricultural research has declined in the last 20 years," she said.

More research is needed and quickly, said David Lobell, symposium participant and a professor at Stanford University in California. Lobell studies how to effectively adapt agriculture to climate change.

The long lags in agricultural research and the rapid pace of climate change "raise the question of whether current levels of investment in agricultural research are sufficient to sustain 20th century rates of productivity growth in the 21st century," Lobell said.

FURTHER RESOURCES

Go to *KansasCityFed.org/agriculture* for more information about the symposium and the Bank's work as a leader within the Federal Reserve System on topics related to the agricultural economy.

KANSAS CITY FED HELPING COMMUNITIES

TAKE ACTION

ON EMERGENCY PREPAREDNESS, ENERGY EFFICIENCY

by ANGELICA GARCIA

Energy Resource Solutions installs insulation for low- and moderate-income housing in the Denver area.

Over the years, the seven states in the Federal Reserve Bank of Kansas City's region have experienced the commonality of natural disasters. Tornadoes, fires and flooding led to a growing need for partnerships with local organizations to help disaster-stricken communities.

For the Kansas City Fed, the need to work with community organizations to develop emergency preparedness plans was made even more clear after observing the aftermath of natural disasters that hit the Tenth District in 2013.

"We looked at 'What's the role of the Fed in our financial system,'" said Ariel Cisneros, Senior Community Development Advisor at the Bank. "We thought 'This is an opportunity for us to look at the space that we are in, in the financial system, and what products we can develop to help consumers and small businesses in that space.'"

That was the beginning of P3.

"I refer to P3—Plan, Prepare, Prevail—as disaster financial preparedness," Cisneros said.

After the 2013 disasters, the Kansas City Fed created the program to serve as a suite of resources to help households and small businesses with disaster preparedness and risk mitigation—issues that impact people everywhere.

The Bank held focus groups with business owners, community leaders and people who suffered from natural disasters. Input from the focus groups led to development of digital forms and checklists—all available on the Bank's website and presented in English and Spanish—that individuals and small businesses can use to document their finances to ensure that they're prepared. Additional resources include contact information for the insurance industry and banks in case people have problems or complaints.

"Ultimately, it's about how can you make a community and households and small businesses more resilient," Cisneros said.

The role of Investment Connection

Cisneros also leads Investment Connection, a program that connects community and economic development organizations with funders and banks. Through the program, organizations can submit proposals and present them to potential funders. Since Investment Connection's inception in 2011 as a Tenth District program, the model has expanded to eight Reserve Banks.

In the Tenth District, the program has helped organizations secure more than $68 million in funding. It also has highlighted the work of organizations that provide services to low- and moderate-income populations. In addition to disaster preparedness and workforce development assistance, these organizations' services include a variety of programs addressing energy efficiency, sustainability and even conservation and wildfire prevention.

Among the Investment Connection participants providing these services are Bridging the Gap, Energy Resource Solutions, Rocky Mountain Youth Corps and TBL Fund/ICAST.

Bridging the Gap, Kansas City

For more than 30 years, Bridging the Gap has been working to help make buildings more energy- and water-efficient to lower utility bills. It focuses on addressing the affordable housing crisis by assisting underserved neighborhoods. This work includes renovating low- to moderate-income apartment buildings, making them more sustainable.

"We are trying to divert as many of our resources to those areas that have a lower quality-of-life number," said Kristin Riott, executive director of Bridging the Gap. "Generally, they're historically redlined and households of color. We're really trying to put as much of our attention and resources in those areas as we can."

Bridging the Gap also installs water and energy-efficient devices, replaces toilets to lower water usage, repairs leaks, and replaces doors.

Additionally, the organization also donates trees to help cool the city and reduce air conditioning bills. The organization plans to give away 2,000 trees over the next few years.

"It can actually be the difference between life and death in a hot spell in Kansas City," Riott said.

Energy Resource Solutions, Denver

Energy Resource Solutions works to make homes energy efficient. The organization does this by insulating the homes of low- to moderate-income households with the goal of cutting energy waste.

"Low-income families tend to live in the oldest and least-efficient housing," said Howard Brooks, CEO of Energy Resource Solutions. "People that are low income have the least ability to pay a high-energy bill, and yet they have high energy bills."

Brooks said his organization was formed in response to low-income households not being able to pay their utility bills. The organization's services are free for those households.

Brooks said the most rewarding part for him is to hear how his organization has changed lives.

"When we are done working on their houses and they say 'I can already feel the difference…I'm cooler in the summer, I'm warmer in the winter, my bills have gone down, we're saving money,'" he said. "I can afford to buy medications for my wife, or I can afford a present for my grandchild, all the stories we hear from the people that we serve."

A worker handles insulation during an Energy Resource Solutions project.

Rocky Mountain Youth Corps members participate in programs focusing on climate action, environmental work and conservation. Photo by Irene Owsley

Rocky Mountain Youth Corps, Albuquerque

Rocky Mountain Youth Corps works with individuals aged 14 to 25. The organization has three programs designed to meet the needs of northern and central New Mexico's population: Canine leadership, prevention and conservation.

Corps members can learn to train service dogs to support individuals living with a disability. The prevention program allows college students to work with high school counselors to provide peer mentorship. The conservation program works with 17- to 25-year-olds and focuses on climate action, environmental work and conservation.

"We do a lot of forestry work to prevent high-intensity wildfires in our communities," said Ben Thomas, the organization's executive director.

The crews learn how to use chainsaws and are deployed to high-risk areas. They work to prevent wildfires, but they also deploy their crews to respond to natural disasters around the country.

"Our crews are on call to respond to that need in the community," he added. "Often times we go into communities that have been devastated and support the process to clean up."

TBL Fund/ICAST, Denver

The TBL (Triple Bottom Line) Fund provides financing packages for clean-energy projects in the multi-family affordable housing space and in Indigenous communities.

These services can include the removal of propane and installation of heat pumps or heating and cooling systems. The goal is to help communities move toward energy independence.

"Then you can put in solar for local (energy) generation, and some storage to give some resiliency in case there's a power outage," said Ravi Malhotra, TBL Fund's founder and president.

Malhotra leads another organization called ICAST (International Center for Appropriate and Sustainable Technology). That organization specializes in design, planning and construction and focuses on disadvantaged communities and the preservation of affordable housing.

He said data shows that low-income households pay three to four times the national average for energy consumption. For him, that was eye-opening. He said that his organization dropped all other projects to focus on combating this issue.

"When we started in 2010-2011, I think we did 800 apartments that first year, so we've grown from that 800 to 60,000," Malhotra said.

Cisneros, at the Kansas City Fed, said that these organizations are making an impact on the communities they serve while providing resources that can keep households prepared.

"(A disaster) can happen to anyone, regardless of where you're located, urban, rural, suburban," said Cisneros. "It's important to be prepared."

FURTHER RESOURCES

To learn more about readiness tools and resources available for households and businesses, go to *KansasCityFed.org/community/disaster-preparedness-and-recovery.*

Joseph Walker (center), founder and first president of Tri-State Bank in Memphis, in the 1940s.

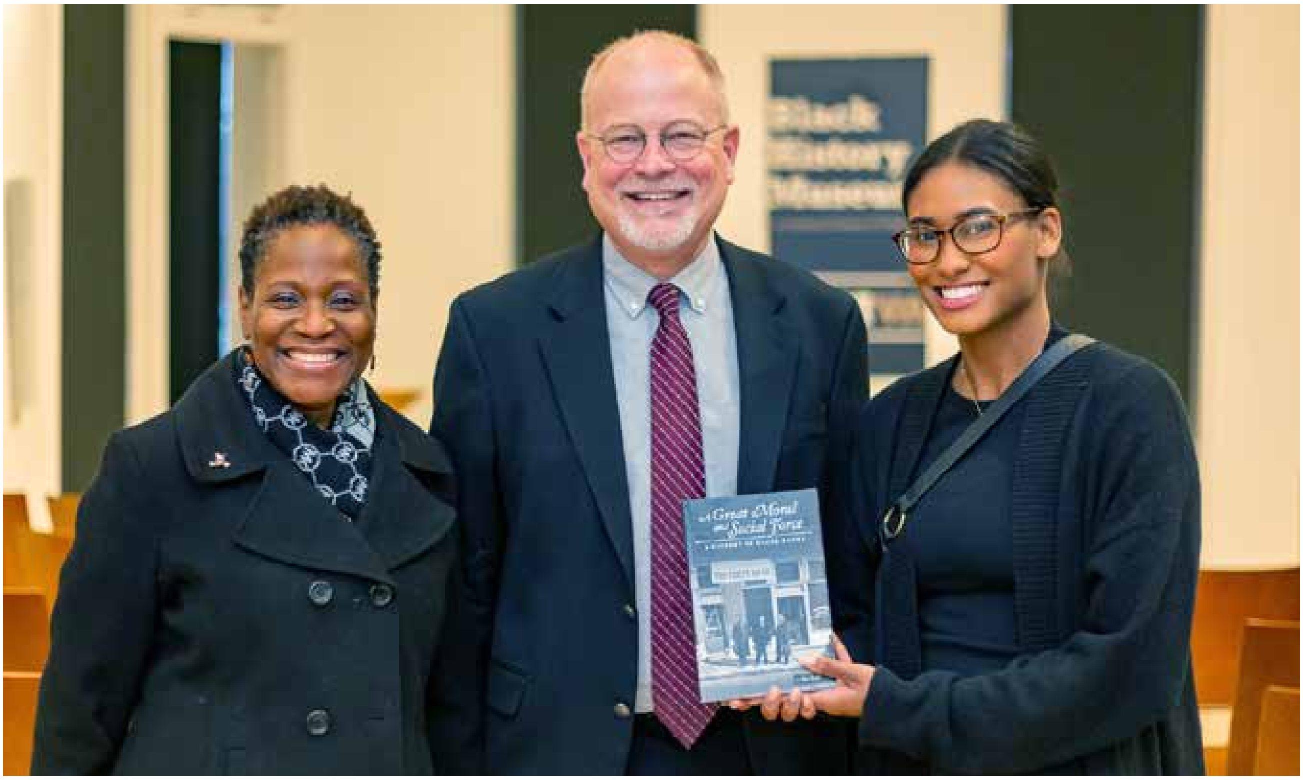
EXPLORING THE HISTORY OF BLACK-OWNED BANKS

Audiences in Richmond, Virginia, and New Orleans took advantage of opportunities to learn more about the history of Black-owned banks in the United States through the Kansas City Fed's book, "A Great Moral and Social Force: A History of Black Banks."

The book was featured at an event hosted by the Maggie L. Walker National Historic Site at the Black History Museum and Cultural Center of Virginia. Richmond's historic Jackson Ward neighborhood was the birthplace of Black finance in the United States in the late 1800s and home to numerous Black-owned banks.

After a presentation and discussion, Timothy Todd, the Bank's executive writer, met Liza Mickens, the great-great granddaughter of Maggie L. Walker. Walker was founder of the St. Luke Penny Savings Bank in 1903, making her the first Black woman to hold such a post and likely the most well-known Black banker of the era. In addition, Walker was a civil rights and education leader in the Jim Crow era.

From left: Dorian Williams, dean of the Dillard University College of Business, moderated a discussion with Alden McDonald Jr., founding president and chief executive officer of Liberty Bank and Trust Co.; Shennette Garrett-Scott, associate professor of history at Texas A&M University; and Timothy Todd, executive writer, Federal Reserve Bank of Kansas City.



(Above) Among the attendees at an event at the Black History Museum and Cultural Center of Virginia that was focused on Richmond's Black banking history was Maggie L. Walker's great-great granddaughter, Liza Mickens (holding the book). Walker was the first Black female bank president in the United States and a civil rights icon. Mickens and author Timothy Todd were joined by Audrey Thompson, a volunteer at the Maggie L. Walker National Historic Site.

In addition to the Richmond event, in March the Dillard University Center for Racial Justice presented "The Riches of Freedom and the Security of Justice: The Impact of African American Financial Institutions Towards Economic Justice," at the university's campus in New Orleans. The event included a panel discussion about the book, the history of Black banking, the current environment and the future. In addition to Todd, the event's other panelists were Alden McDonald Jr., the founder and long-time president of New Orleans-based Liberty Bank and Trust Co., and Shenette Garrett-Scott, associate professor of history at Texas A&M University and the author of "Banking on Freedom: Black Women in U.S. Finance Before the New Deal." The event was moderated by Dorian Williams, dean of the Dillard University College of Business, and Eva Baham, assistant professor of history at Dillard.

Order or download the Bank's free book

Free copies of "A Great Moral and Social Force: A History of Black Banks," including a digital version and hard copies, are available to the public at *KansasCityFed.org/about-us/a-great-moral-and-social-force.*

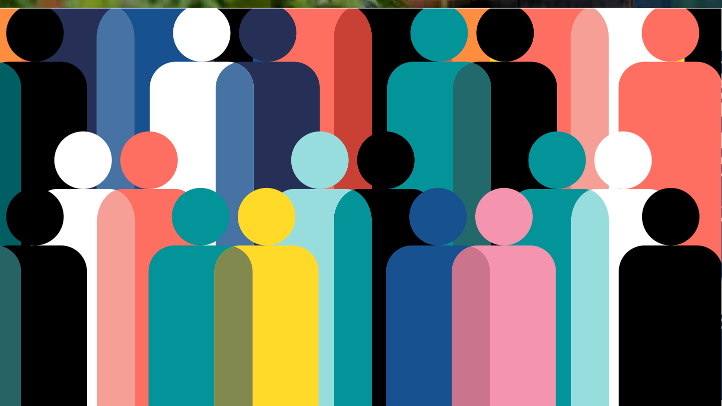
Tenth District *by the numbers*

ECONOMIC INDICATORS, FACTS AND TRENDS FROM THE SEVEN STATES

2,532

Number of jobs that the cannabis sector added in New Mexico for 2022, although employment for the country's overall legal-cannabis industry fell 2%.

Source: Vangst Jobs Report



1,898

Wyoming's net population gain in 2022, driven by migration into the state. The growth rate was 0.3% compared with the national rate of 0.4%.

Source: Wyoming Department of Administration and Information

No. 1

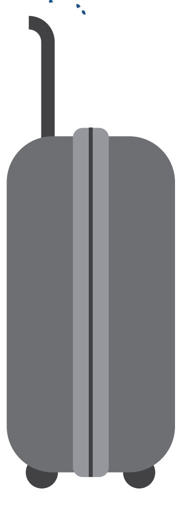
Where Nebraska's labor force participation rate of 69.5% ranked nationally for March 2023, ahead of South Dakota at 69.3% and Iowa at 68.2%.

Source: U.S. Bureau of Labor Statistics

944,234

Passenger traffic through Kansas City's new airport terminal in March 2023, the first full month of operation, up 21.3% from March 2022 at the former airport.

Source: Kansas City Aviation Department



MORE ECONOMIC DATA

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

03456431

$1.8 billion

Estimated value of the 2022 grain sorghum harvest in Kansas, which annually leads the nation in production of the crop.

Source: 2022 Kansas Grain Sorghum Commission Annual Report

$998

Oklahoma's median rent rate for housing in March 2023, an increase of 4.15% from the rent rate a year earlier.

Source: Rent.com

$955 million

The record-breaking amount of capital raised in 2022 by Colorado startups led by women, up 20% from 2021.

Source: Pitchbook

FROM THE VAULT

Kansas City Fed History

A postal unit operated on the 12th floor between 1969 and 1975. Bank archives

Bank tenants: A look at long-ago leases

From barbershops and salons to cigar vendors and the office of a former U.S. president, the Kansas City Fed had an eclectic roster of tenants over more than 80 years at its former headquarters, the 925 Grand building.

Tenant leases ended in the 1970s, and the Bank moved to its current building, at 1 Memorial Drive, in 2008. Harry S. Truman had an office on the 11th floor of 925 Grand for a few years in the 1950s and likely was the most famous tenant. However, archives show that tenants included some other entities that are recognizable today:

- Twenty federal-related offices, including the FBI, the FDIC, the Postal Service and several Treasury divisions.
- Ten financial services businesses, including Price Waterhouse.
- Twenty-seven "Industrial" businesses, including Mobil Oil and Pratt & Whitney.
- Eight businesses identified as "Barbershop" or "Beauty Shop" and four "Cigar Stands."
- Nineteen law offices and nine medical doctors.
- Twenty-six tenants in the "Other" category, including Mount Moriah Cemetery Association, Western Union Telegraph and the Research Institute of America.

Learn more about Bank's history at *KansascityFed.org/about-us/historical-publications.*

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

CHANGE SERVICE REQUESTED