

FEDERAL RESERVE BANK OF KANSAS CITY / WINTER 2019

TEN



BRIDGING THE

DIGITAL DIVIDE

Initiative launched to help address
broadband access dilemma

TEN

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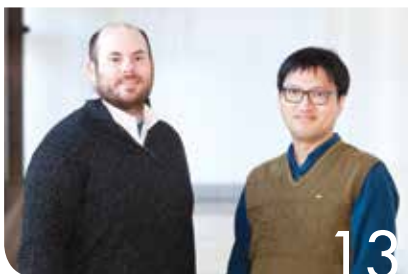
FEATURES



14

BRIDGING THE DIGITAL DIVIDE

Kansas City Fed's Digital Inclusion initiative highlights need for affordable broadband access



13

GAUGING FINANCIAL STRESS

Ask an Economist explains revamping of Kansas City Financial Stress Index



19

INVESTING IN AMERICA'S WORKFORCE

Tenth District contributes to Fed System's new resource book



22

'ROCK THE FED'

At Bank concert, The Reminders blend music with financial education for teens

ON THE COVER»

Nicholas Randolph, Kansas City, Kan., student at Connecting for Good. Photo by Gary Barber

From the *President*

ESTHER L. GEORGE



One of the most closely watched responsibilities that Congress has assigned the Federal Reserve is to administer monetary policy that supports both stable prices and maximum employment. Within the Fed System, this responsibility rests with a body known as the Federal Open Market Committee (FOMC).

The Federal Reserve System's design reflects congressional concern about a central bank operating under the exclusive control of either the government or the private sector. As a result, Congress chose a blended structure, combining elements of both. Although parts of the Fed share some characteristics with private-sector entities, the Federal Reserve was established to serve the public interest.

The Fed's Board of Governors is an independent agency of the federal government, while the 12 regional Federal Reserve Banks are separately incorporated, each with a board of directors composed of three Board of Governors appointees, three nonbankers and three bankers.

The FOMC consists of 12 voting members—the members of the Board of Governors; the president of the New York Fed; and four of the remaining 11 Reserve Bank presidents, who serve one-year terms on a rotating basis. All of the Reserve Bank presidents attend every FOMC meeting and participate in FOMC discussions.

As president of the Kansas City Fed, I vote on a three-year rotation with the presidents of the Minneapolis and San Francisco Feds. Mary Daly, president of the San Francisco Fed, completed a term as an FOMC voter in 2018, while I will vote this year. In 2020, Minneapolis Fed President Neel Kashkari will serve as a voter.

My views on monetary policy are informed in several ways. Within the Kansas City Fed, a small group of economists engages in research and analysis on the macro and regional economies and develops economic forecasts. Also, bank staff provides perspectives on issues related to community development, as well as financial and payments system dynamics. And discussions with business, community, banking and labor leaders across the region I serve bring relevant insight on current and emerging conditions.

My responsibility on the FOMC is to represent the region served by the Kansas City Fed and provide input on policy choices that best achieve price stability and maximum employment for the U.S. economy. It's a role that was purposefully built into the central bank's decentralized design, aiming to ensure broad representation on behalf of the American public.

A handwritten signature in black ink that reads "Esther L. George". The signature is written in a cursive, flowing style.

Notes from around the Tenth District

University of Central Missouri team takes top spot in Code-A-Thon

Nearly 50 percent of the workforce at the Federal Reserve Bank of Kansas City is in information technology. The Bank hosts an annual Code-A-Thon competition between teams of college students to support education and develop a talent pipeline in science, technology, engineering and mathematics (STEM).

In the 2018 Code-A-Thon, the “Mules 2” team from the University of Central Missouri (UCM) received the first-place award. It was the second consecutive Code-A-Thon championship for a UCM team.

The 2018 second-place award went to team “Thunderwolves” from Colorado State University-Pueblo. Another team from UCM, “Mules 1,” was third. In addition, “Team Lion” from Langston University in Oklahoma received the University Champion Award, presented to the school with the most committed and engaged faculty in the competition.

Sixteen teams from universities across the Federal Reserve’s Tenth District competed to develop software

solutions to address a real-life problem. The winning solution from Mules 2 was “Visual Dispatcher,” an application that provides a comprehensive dashboard to address multiple flight dispatcher issues.

Participation in Code-A-Thon has tripled since the event began in 2015. Several Kansas City Fed employees participated in Code-A-Thon as students.

“This year, we were thrilled to see an overall increase in participation again, an extended geographic footprint in teams and the highest percentage of female team members, at 24 percent,” said Brian Faros, Kansas City Fed vice president and chief information officer. “We look forward to building on this momentum and crafting a flagship event for university students throughout the region.”



Learn about careers in technology at [KansasCityFed.org/Careers](https://www.kansascityfed.org/Careers).



photo by GARY BARBER

FIRST PLACE in the 2018 Code-A-Thon went to the Mules 2 team from the University of Central Missouri (UCM). From left: Brian Faros, Bank vice president and chief information officer; Denise Bruce, UCM instructor; Mitchell Jurich, student; Grayson Kuhns, student; Jerome Tujague, student; Jon Bockhorst, student; and Karen Pennell, Bank senior vice president.



Kansas City Fed forum focuses on women in banking

The Federal Reserve Bank of Kansas City in 2015 launched “A Forum for Women in Banking” as a component of its engagement strategy. Through these annual forums, the Bank aims to build relationships with diverse industry professionals; enhance these professionals’ overall understanding of the Federal Reserve System; and help the industry retain and develop a diverse workforce at all levels.

The most recent forum, titled “Banking and the Economy,” was in October in Norman, Okla. It was presented in partnership with the Oklahoma Bankers Association and the Community Bankers Association of Oklahoma and was attended by 176 women bank leaders representing 69 organizations across Oklahoma.

“The Women in Banking forum provides a unique opportunity for an underrepresented population in the banking industry to participate in high-quality programming and networking,” said Chantell Garrett, senior stakeholder engagement adviser at the Kansas City Fed. “We are pleased to offer this professional development opportunity that supports the women bank leaders in our District.”

The forum included sessions on the economy, banking, financial technology, the U.S. payments system, tax reform and leadership strategies. Speakers included Susan Chapman Plumb, board chair and chief executive officer of Bank of Cherokee County; Shirley Davis, president of SDS Global Enterprises; Cynthia Blankenship, vice chairman and corporate president at Bank of the West; Jill Castilla, president and chief executive officer at Citizens Bank of Edmond; and Lynn Horton, American Red Cross regional executive for Oklahoma and Arkansas.



photo by JESSIE BLACKWELL

SHIRLEY DAVIS, president of SDS Global Enterprises, was a speaker at the forum.



Learn more about upcoming Kansas City Fed programs at [KansasCityFed.org/Events](https://www.kansascityfed.org/Events)



photo by GARY BARBER

Kahn named NABE Fellow

George Kahn, a vice president and economist at the Federal Reserve Bank of Kansas City, has been named a Fellow by the National Association for Business Economics (NABE).

With this recognition, Kahn joins a select group that includes former Federal Reserve Board Chairs Janet Yellen, Ben Bernanke, Alan Greenspan and Paul Volcker, as well as Alan Blinder and Milton Freedman.

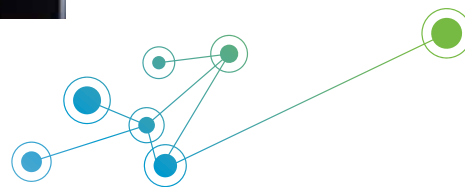
Kahn has been at the Bank since 1982. He joined NABE in the early 1990s as a way to network within his field, and has become more involved in the organization over the years.

“It provides opportunities for Fed economists to make connections with other economists in the real world who have industry- or sector-specific knowledge,” Kahn said.

NABE’s board of directors selects Fellows annually. Selection criteria include service as a professional business economist, contributions to the field of business economics and outstanding contributions to NABE.



Find research from Bank economists at [KansasCityFed.org/Research](https://www.kansascityfed.org/research).



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 January, February or March.

Colorado B&TC of La Junta	La Junta	Colo.	95
Lusk State Bank	Lusk	Wyo.	85
Community B&TC	Neosho	Mo.	77
Oklahoma Capital Bank	Tulsa	Okla.	27
Community State Bank	Poteau	Neb.	24
Adams B&TC	Ogallala	Okla.	24
Union State Bank	Arkansas City	Kan.	23
Exchange Bank of Missouri	Fayette	Mo.	23
Missouri Bank II	Sedalia	Mo.	23
Bank of Star Valley	Afton	Wyo.	23
Emerald Bank	Burden	Kan.	21
Exchange B&TC	Perry	Okla.	21
Bank of Wyandotte	Wyandotte	Okla.	21
First Option Bank	Osawatomie	Kan.	20
Small Business Bank	Lenexa	Kan.	10
Central Bank of Warrensburg	Warrensburg	Mo.	5
Central Bank of Oklahoma	Tulsa	Okla.	5



Cisneros receives inaugural Yellen Award for Community Development

Kansas City Fed Senior Community Development Advisor Ariel Cisneros was named the Federal Reserve System's first recipient of the Janet L. Yellen Award for Excellence in Community Development.

The award, named for the former chair of the Federal Reserve Board, honors outstanding achievement in community development activities and those who embody Yellen's commitment to serving low- and moderate-income communities. Yellen, who was chair from 2014 to 2018, joined current Chair Jerome H. Powell in December in Washington to present the award.

Cisneros led creation and growth of Investment Connection, a Kansas City Fed signature program that matches funders with nonprofit organizations that have projects focused on meeting a community need. Since its inception, Investment Connection has assisted in securing more than \$31million in funding for nonprofits throughout the seven-state district.

"Ariel successfully translated a complex investment process into a simple application and expanded it to include not only financial institutions but also foundations and government agencies charged with funding local economic development programs," said Tammy Edwards, Kansas City Fed vice president of Community Development and director of the Bank's Office of Minority and Women Inclusion. "This award recognizes not only the Investment Connection program, but Ariel's unwavering commitment to contribute to the advancement of building stronger communities."

Investment Connection is hosted in Kansas City, Oklahoma City, Denver, Albuquerque and Omaha. The success of the program across the Kansas City Fed's region led to its expansion in 2018 to the Federal Reserve Banks of St. Louis and Minneapolis.

"The most rewarding aspect of my job is being part of the commitment and passion from our constituents in our region and supporting them in building stronger, more vibrant communities," Cisneros said.

Before joining the Kansas City Fed, Cisneros worked at the Federal Reserve Bank of Dallas; combined, he has 24 years' service in the Federal Reserve System. Earlier he worked as a community extension officer in Botswana.

The Bank's Community Development team promotes fair and impartial access to financial products through research, relationship building and resource development.

"This is an honor for the Kansas City Fed and well-deserved recognition for Ariel," said Bank President Esther George. "These community development initiatives provide essential resources to local communities and are vital to developing a strong and healthy economy."

Find Community Development resources at [KansasCityFed.org/Community](https://www.kansascityfed.org/Community).



(From left) Fed Chairman Jerome Powell, Ariel Cisneros, former Fed Chair Janet Yellen and Eric Belsky, director of the Board of Governors Division of Consumer and Community Affairs.

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 throughout the Tenth District, and beyond. 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 »



»Pittsburg State University Finance Club President Matthew Barrett led a group of students that met President Esther George at the Bank in October.



»President George spoke Oct. 2 in Kansas City, Kan., at the United Way of Wyandotte County's 2018 campaign kickoff.



»In October, President George spoke with Satu Stechschulte, vice president and secretary of the CFA Society of Kansas City, when members of the chartered financial analysts' organization visited the Bank.



» In Cushing, Okla., Vice President and Oklahoma City Branch Executive Chad Wilkerson (left) and President George toured an oil transportation operation with Brad Dooley, terminal manager for Plains All American Pipeline.



» President George, Assistant Vice President Doug Gray (back left) and Vice President and Oklahoma City Branch Executive Chad Wilkerson (back right) visited Bank of Cushing, Okla., executives Brenda Magdeburg and John Bryant. The bank has been a Federal Reserve member since 1980.



» President George visited Missouri Gov. Mike Parsons at the capitol in Jefferson City, Mo.

» President George spoke Nov. 30 at the employee holiday reception at the Bank's headquarters. Employees donated numerous gifts for several area organizations



» At the Oklahoma City Branch's holiday reception, President George connected with Oklahoma bankers and business leaders. She shared Kansas City Fed highlights from the year and thanked Branch board members for their service.



» At the Omaha Branch holiday reception in December, President George visited with Jasmine Harris, program manager with the Defy Nebraska nonprofit organization.

COLORADO,
NEW MEXICO, WYOMING »



» In October, Federal Reserve Gov. Lael Brainard toured locations in the Denver area along with community leaders working in the affordable housing, workforce development and small business development sectors.



» The 2018-19 Student Boards of Directors for Denver (left) and Albuquerque assembled recently. Through various activities, students in the program learn about the nation's central bank and its role in the economy.

OKLAHOMA »



»The Kansas City Fed and Oklahoma City Branch boards of directors held a joint meeting in Tulsa in October. Attendees participated in a local innovation tour led by George Kaiser (center, with President George), chairman of the Bank of Oklahoma Financial Corp.



»The Kansas City Fed's Women in Banking forum in October in Norman, Okla., featured a session titled Leadership Lessons from the Top. The panelists, from left: Cynthia Blakenship, vice chairman and corporate president of Bank of the West; Tammy Edwards, Kansas City Fed vice president and director of the Bank's Office of Minority and Women Inclusion; Jill Castilla, president and chief executive officer of Citizens Bank of Edmond, Okla.; and Lynn Horton, American Red Cross regional executive.



»The Kansas City Fed's Investment Connection event in December at the Oklahoma City Branch showcased community and economic development proposals for potential funders. Attendees included (from left) Kimberly Baugh of BancCentral National Association; Conner Martin of Freedom West Community Development Corp.; and Kay Decker, Freedom West's executive director.

NEBRASKA »



» Economist Cortney Cowley shared insight on her educational background and career path with students from Omaha Bryan High School as part of Federal Reserve Financial Education Day on Nov. 2.



» Vice President and Omaha Branch Executive Nathan Kauffman shared an update on national and regional economic trends during the Nebraska Chamber of Commerce and Industry's Economic Development Summit in Lincoln, Neb.



» The Omaha Branch welcomed students from three local high schools for the branch's 2018-19 Student Board of Directors. The student board members will meet throughout the school year to learn about the Federal Reserve while exploring workforce and college readiness skills.

SNAPSHOTS

Summaries of reports and analysis from Kansas City Fed economists and staff

Trends in labor share post-2000

by DIDEM TÜZEMEN, W. BLAKE MARSH
and THAO TRAN

The labor share of income declined sharply in the United States from 2000 to 2010 but seems to have stabilized since 2010. The 2000-10 decline was driven by declines in the fraction of income paid to workers in all industries. The stabilization in the labor share after 2010 mostly reflects an increased share of services industries income paid to workers.

The Macro Bulletin, December 2018

Oil prices: Does the shale boom matter?

by NIDA ÇAKIR MELEK

After plunging from 2014 to 2016, the real price of oil more than doubled, renewing interest in the effect of price fluctuations on the economy. The positive correlation of oil prices and investment growth may be related to the production surge known as the shale boom. A look at the effect of unexpected oil-price changes ("shocks") finds U.S. investment has been more responsive to demand shocks and less to oil supply shocks since the boom.

Economic Review, Fourth Quarter 2018

Machine learning and macroeconomic forecasting

by AARON SMALTER HALL

Forecasting macroeconomic conditions can be a challenge, requiring forecasters to make discretionary choices about data and methods. Machine-learning approaches automate many of those choices, eliminating forecaster discretion. When supplied with diverse and complex data, a machine-learning model can outperform both simpler time-series models and a consensus of professional forecasters, with better performance at shorter horizons.

Economic Review, Fourth Quarter 2018

Small business lending up

by CHRISTI MAY-ODER and NEIL CARPENTER

Small business lending conditions were stable in the second quarter of 2018. Federal Reserve Small Business Lending Survey respondents indicated outstanding loans and new originations inched up from the first quarter. While credit line usage was little changed, interest rates on commercial and industrial loans continued to rise amid tighter lending terms.

Small Business Lending Survey, October 2018

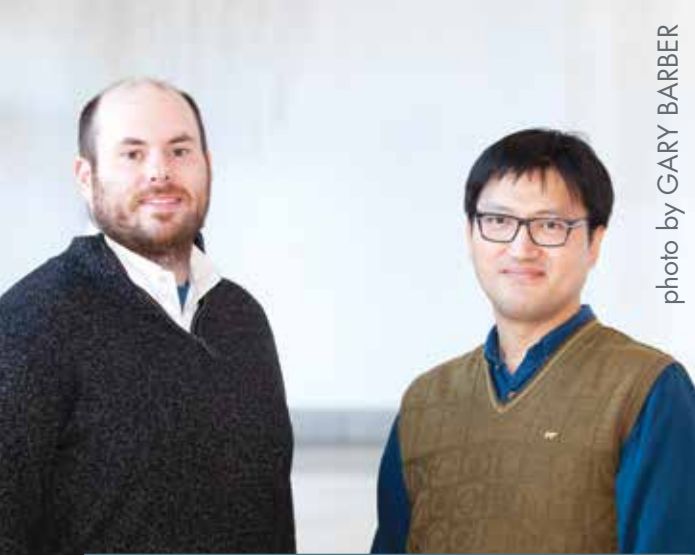


photo by GARY BARBER

Ask an **ECONOMIST**

Thomas R. Cook & Taeyoung Doh

Revamping the Kansas City Financial Stress Index Using the Treasury Repo Rate

Since its creation in 2009, the Kansas City Financial Stress Index (KCFSI) has used the London Interbank Offered Rate (LIBOR) to measure conditions related to money market borrowing. However, regulatory changes in the United Kingdom eventually will eliminate LIBOR. Kansas City Fed Data Scientist Thomas R. Cook and Senior Economist Taeyoung Doh have constructed a revised financial stress index with a variable that measures the cost of borrowing collateralized by Treasury securities (the Treasury repo rate) instead of LIBOR. This revised measure of the KCFSI is highly correlated with the current KCFSI, suggesting that the Treasury repo rate can replace LIBOR.

What is the KCFSI, and what information does it convey?

The index is a monthly measure of stress in the U.S. financial system based on 11 financial market indicators. These indicators are classified in two groups: one represents yield spreads and the other summarizes the volatility of asset prices. The statistical method underlying the KCFSI eliminates idiosyncratic noises in the indicators to extract the

common component driving all of them. Although the current index identifies widely recognized episodes of financial stress over recent decades, some input variables are likely to become less relevant over time as economic and regulatory environments change.

Why was the index revised?

We revamped the KCFSI to reflect the diminishing relevance of LIBOR. Regulatory changes announced by the Financial Conduct Authority in the United Kingdom will eliminate LIBOR by 2021 and are likely to force financial institutions to use another benchmark interest rate in their contracts. The current KCFSI relies on LIBOR for the TED spread, which is the difference between the three-month LIBOR and the three-month secondary market Treasury bill rate. The TED spread captures the stress in the money market, meaning that a higher spread is associated with a greater difficulty in obtaining funding in money markets. However, the cost of borrowing collateralized by Treasury securities (also known as the Treasury repo rate) increasingly is being used instead of LIBOR as an alternative benchmark for money market rates. Motivated by this change, we replaced the TED spread in the KCFSI with the spread between the Treasury repo rate and the three-month Treasury bill rate to construct a revised measure of financial stress. We concluded that the Treasury repo rate is an appropriate replacement for LIBOR in the KCFSI and in November 2018 began publishing the revised index using the repo rate.



FURTHER RESOURCES

For more information about the KCFSI, read *The Macro Bulletin* by Thomas R. Cook and Taeyoung Doh at [KansasCityFed.org/Research](https://www.kansascityfed.org/research).

BRIDGING THE DIGITAL DIVIDE

Initiative launched to help address
broadband access dilemma

written by STAN AUSTIN

Each week, dozens of neighborhood children stream into the Connecting for Good Community Computer Training and Donation Center in Kansas City, Kan., after school. They're among about 5,000 users per year who come through the center for free access to broadband-connected computers and exposure

to training such as a science, technology, engineering and math (STEM) program.

Many of the students live across the street in Juniper Gardens, a low- and moderate-income housing project. For several of them, the center fills a void by allowing them to develop skills they can't practice

at home because their households lack computer equipment or internet access.

"My door says I close at 6 p.m., but the lab might still be open at 8," because of demand, said Jackie Mittag, who coordinates access to the computers in her role as office management specialist. She calls the





photo by GARY BARBER

Nicholas Randolph, 12, is one of many Kansas City, Kan., students using the Connecting for Good computer center.

children “my babies” and says that many of them come straight from school and stay for hours.

Isaac Washington, 78, lives nearby and also is a frequent visitor at the tech center. The U.S. Army veteran and minister doesn’t own a computer or have internet access at his home. However he signed

up for training, realizing that he needed the fundamentals of internet usage to perform such basic tasks as keeping track of his military and medical benefits.

“With all this modern technology, I knew I eventually would have to learn computers to take care of my business,” Washington said.

Across the country, public libraries, academic institutions and community organizations like Connecting for Good are facing the same sweeping dilemma: How to bridge the so-called “Digital Divide”—the employment, education and opportunity gap between those with easy access to broadband services and those with

little or no such access. This disparity is highlighted in studies showing that broadband access increasingly is required to find and sustain employment, receive education, access basic financial services and pursue such opportunities as operating small businesses.

According to the 2016 Federal Communications Commission (FCC) Broadband Progress Report, 34 million Americans lack access to fixed broadband, defined as download speeds of 25 megabits per second (Mbps) and upload speeds of three Mbps. The Pew Research Center reports that 53 percent of adults with annual incomes lower than \$30,000 have broadband at home, compared with 93 percent of those with incomes above \$75,000.

The disparity isn't limited to urban areas. The FCC report said that 39 percent of rural Americans—about 23 million people—lack internet access.

To help raise awareness of these issues and improve overall access to affordable broadband, the Community Development arm of the Federal Reserve Bank of Kansas City has launched the Digital Inclusion initiative. In recent months, through roundtables with community leaders in five Tenth District cities; computer equipment donations; and partnerships with community organizations, the program has brought together a wide range of stakeholders working toward closing the digital divide. The initiative also has conducted a broad survey—in partnership with the National Digital Inclusion Alliance—to gain clarity about needs and identify potential programs and services. Kansas City Fed Senior Community Development Advisor Jeremy Hegle, who is leading the Digital Inclusion initiative, said the survey's results, stakeholders' feedback and other data will be part of a comprehensive report the Bank will release in 2019.



photo by BRETT SMITH

In October, Rick Deane of Connecting for Good picked up 25 laptop computers donated by the Kansas City Fed.

The Digital Inclusion initiative's basic objectives:

- Gain a deeper understanding of the digital divide's causes and impact on low- to moderate-income communities and the broader economy.
- Identify innovative approaches to bridging the divide.
- Inform policymakers, funders and influencers and assist them in implementing solutions.

“Just like access to electricity revolutionized people's lives 100 years ago, inclusion in the digital world is fundamental to today's economy,” Hegle said. “Ninety-five percent of students today report needing to use the internet to do their homework. What happens when they don't have computers or internet? They're immediately put at a disadvantage. We also know that teaching people computer basics can be a significant boost to their employability skills.”

Defining the divide

Although broadband access is at the heart of the digital literacy dilemma, it is not the only factor. Hegle said that effective strategies to ensure digital inclusion require a “three-legged stool” approach defined this way:

1. Affordable broadband access—Access to sufficient bandwidth to conduct data-intensive tasks such as online learning and job research.
2. Computer access—Access to up-to-date desktop computers or laptops. Although mobile devices (smartphones in particular) are helpful, they are not always sufficient for conducting such critical tasks as applying for jobs or doing homework.
3. Training and technical assistance—Basic competency also is needed for online learning and education. For example, at Connecting for Good’s recent State of Digital Inclusion Breakfast event in December, Chief Executive Officer Tom Esselman pointed out that nearly eight in 10 middle-skill jobs in today’s workforce require such digital acumen as mastery of spreadsheet and word-processing programs.

That requirement speaks to the need for improved digital equity, which the nonprofit National Digital Inclusion Alliance (NDIA) defines as “a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy and economy.”

The challenge is in finding low-cost ways to help bring that equity to those who need it in order to make financial or educational progress.

“Technical and digital skills are transforming jobs across all sectors,” Hegle said. “The paradox with this changing economy is the large number of unfilled jobs requiring these skills and the large sector of our population in need of jobs, but which lack the relevant skills.”

The broadband disparity can have impact beyond the employment and education arenas.

An NDIA report, citing the Henry J. Kaiser Family Foundation, said that some states are moving toward

“JUST LIKE ACCESS TO ELECTRICITY
REVOLUTIONIZED PEOPLE’S LIVES 100 YEARS
AGO, INCLUSION IN THE DIGITAL WORLD IS
FUNDAMENTAL TO TODAY’S ECONOMY.”

— Jeremy Hegle

requiring that Medicaid beneficiaries go online to file certain work or volunteer service reports. However, in four particular states cited in the report—Arkansas, Indiana, Kentucky and New Hampshire—one in five households don’t have home internet access.

“Without home internet service, individuals subject to work requirements would need to visit a public library or other community space to use a computer,” the NDIA report said.

Challenges for rural populations

Rural communities often lack affordable broadband options. State and federal efforts to increase broadband availability often target the areas of greatest need. However, Tenth District participants in the Bank’s Digital Inclusion roundtables said that steps to address those needs often are complicated by inaccurate or insufficient maps of broadband access.

The FCC provides broadband availability maps, but the maps have three substantial limitations:

- Fixed broadband maps report availability at the U.S. Census tract level. If just one house or business within the census tract has broadband access, the entire Census tract is considered “served.” This issue is compounded in rural areas where Census tracts cover wide areas. For example, Wyoming’s largest Census tract covers 525 square miles.
- Maps of wireless broadband coverage rely on data supplied by service providers, a practice criticized by broadband-user advocacy groups who say the maps are inaccurate. According to these maps, for example, Kansas is fully covered, and Oklahoma has just a few small areas lacking coverage.



In 2018, senior community development advisors Jeremy Hegle (center, right) and Dell Gines (center, left) led a Digital Inclusion roundtable discussion in Omaha.

- The maps do not reflect affordability. Where broadband is available, it often is expensive. Users in smaller communities often get slower speeds than those in larger areas, but costs trend higher in the smaller communities. In one example, roundtable participants in Nebraska reported paying \$90 per month for internet access at 10 Mbps, while in Kansas City \$40 per month can buy speeds of 100 Mbps.

Meanwhile, the NDIA in December 2018 published several interactive maps purporting to show broadband access status for every Census tract in the United States. The maps, available on the organization’s website, are based on data from the 2017 American Community Survey (ACS) Five-Year Estimates, released in early December by the U.S. Census Bureau.

“This is an incredible new resource for people in city neighborhoods, small communities, rural and tribal areas to understand and address the broadband divides in our own diverse communities,” NDIA Executive Director Angela Siefer said in the organization’s announcement.

Meeting community needs

One way that organizations and companies are helping improve the digital equity situation is by donating computers and related technology equipment that can still be put to good use.

For example, in 2018 Hegle worked with leaders at the Bank to donate 25 laptops that no longer met the Fed’s

technology standards. Under a recycling agreement, those laptops were donated to Connecting for Good, which refurbished them at its Kansas City, Kan., center, installing a fresh operating system and Microsoft Office on each.

The computers then were utilized across the state line—by another community organization, Operation Breakthrough. There, most of the computers are being used by teachers in an early childhood program for low- to moderate-income families.

Hegle said that the concept of repurposing computer equipment came up frequently in survey responses and during the Digital Inclusion roundtable discussions that the Bank conducted in Cheyenne, Wyo., Kansas City, Manhattan, Kan., Oklahoma City and Omaha. Such donations were seen as inexpensive ways for the business community to have meaningful impact.

“The digital divide issue is a complex puzzle with many pieces,” Hegle said. “Through this process we’ve already identified how some of those pieces fit together, and which entities hold them—banks, internet service providers, the business community, educators, etc. By identifying how the pieces fit together and who holds them, we can make significant impact.”



Learn more about the Kansas City Fed’s Digital Inclusion initiative and other Community Development programs at kansascityfed.org/community.

TENTH DISTRICT WORKFORCE ON CENTER STAGE OF SYSTEM BOOK

written by SARAH POPE

Staffing is a complicated issue for employers of typically high-turnover, lower-wage workers, but with a tighter than usual labor market, employers are especially motivated to attract and retain them.

To help bring attention to this issue and foster positive outcomes for workers and employers, the Federal Reserve System recently published *Investing in America's Workforce: Improving Outcomes for Workers and Employers*.

Among those contributing to the new book was Steve Shepelwicz, a Federal Reserve Bank of Kansas City senior community development advisor, whose work is reflected in a section of the book dedicated to strategies to improve job quality for lower-wage, frontline workers.

"We see this as a real need," Shepelwicz said. "Part of the story is that we have a lot of low-wage workers within tight labor markets. Employers are more pressed to fill these positions, which ultimately helps individuals, employers and the community."

Shepelwicz and co-author Elizabeth Sobel Blum, senior community development advisor at the Federal Reserve Bank of Dallas, wrote a chapter of the three-volume book titled "Partnering with Banks in Workforce Development." Liddy Romero, director of Denver-based WorkLab Innovations and a member of the Kansas City Fed's Community Development Advisory Council, wrote a chapter on workforce support titled "Playing for Keeps, Strategies That Benefit Business and Workers."

"I think everybody involved in workforce development will learn something new," Shepelwicz said of the book.

Supporting frontline workers

Investing in America's Workforce pools research, perspectives and stories from experts in workforce development, which consists of a range of strategies within a region to develop talent and skills, connect employers and workers and facilitate career mobility. The book includes solutions and creative ways to improve the lives of workers at little cost to employers.

Romero takes inspiration for her work from her experience growing up as the child of small business



Senior Community Development Advisor Steve Shepelwicz in December hosted a panel at the Omaha Branch to introduce *Investing in America's Workforce*.



Panelists in Omaha included Keisha Thomas, human resources project manager at North End Teleservices; Chad Mares, human resources manager at Chesterman Co.; and Liddy Romero, director of WorkLab Innovations.

owners in south Texas. Her parents owned a bakery and filled every role in the organization, from accountant to custodian.

“When you are a business owner you have very little time to think about frontline workers, especially when they are small businesses, like those that make up a majority of our economy,” she said. “I understand very clearly how sometimes worker issues take a backburner to other things, such as paying payroll or providing safety.”

Challenges arise when workers face issues related to job quality that have a negative effect on their quality of life at home and productivity on the job. Shepelwich says home health care workers are an example of those who often face difficult work circumstances.

To better understand the issue, Shepelwich has worked closely with Adrienne Smith, president of the New Mexico Caregivers Coalition and former member of the Federal Reserve’s Community Advisory Council. Smith leads a statewide task force to recommend state policies for improving job quality for frontline health care workers. She described the situation of an average worker in that field and their challenges:

“These are typically women—minority or immigrant women—who, depending on where they live are making \$9 to \$12 per hour. Because of the low wages,

they must often work two jobs just to make ends meet sometimes because an agency restricts the numbers of hours they can work in order to avoid overtime pay. At the same time, such a worker may also be a single parent, caring for a child and perhaps caring for an older relative, too.”

These types of situations often create negative ripple effects for both workers and employers and can directly affect the youngest members of society.

“What do you do with your kids?” Shepelwich said. “A lot of companies don’t realize the needs or pressures lower-wage workers are facing. What they may think is a great benefits package might be great only for middle-class employees.”

Instead, employers inadvertently may be creating instability, which hinders a worker’s ability to move ahead. Stability serves as a precursor to mobility and positive change for workers while providing an avenue for employers to increase loyalty, decrease turnover and ultimately see a positive economic impact for the business itself.

“These workers have a high turnover; the industry is just grinding through them,” Shepelwich said. “The reality is that people need stability and the ability to sit back and breathe, build a foundation. They may not be able to move up but they need a stable spot so their kids can eventually move up.”

Romero wrote the “Playing for Keeps” chapter with human resource professionals in mind. Her organization, WorkLab Innovations, works with employers to address barriers to work for frontline workers, including getting to work/staying at work; mental, behavioral and financial health; and understanding health-care benefits. The service is free to employees and covered by a fee charged to the employer.

“I think it needs to echo in the minds of talent managers and other HR professionals because they are the people who actually can be the bottleneck happening in some of these programs or they can really make it flourish,” she said.

Within the chapter, Romero lists challenges and promising practices for employers. One example considers how training programs for employees can conflict with their scheduled hours. She suggests employers collaborate with local educational or training institutions to see if the courses can be taught onsite. Employers also could consider tying the acquisition of certain skills to a rising wage.

“The goal is not to retain people in low-income jobs; our job is to stabilize the workforce,” she said. “All of our employers buy in because it’s no good to anyone to keep someone at a job that they’re not happy at, they’re disengaged in.”

She shares two adages: “What if I train them and they leave?” and “What if I don’t train them and they stay?” saying they underscore how work history would become irrelevant if employees aren’t trained at their workplaces.

Building on past success

The idea for *Investing in America’s Workforce* came about a few years ago following publication of *Transforming U.S. Workforce Policy*, a Federal Reserve System resource that has had more than 50,000 downloads. Building on the first book, the new volume aims to reach a broader audience and is written in laymen’s terms. Romero was invited early in the planning stages to be a contributor to *Investing in America’s Workforce* and her input helped shape the book’s theme.

Publication of *Investing in America’s Workforce* is part

“THE GOAL IS NOT TO RETAIN PEOPLE
IN LOW-INCOME JOBS; OUR JOB IS TO
STABILIZE THE WORKFORCE ...”

— Liddy Romero

of a multifaceted effort for the Federal Reserve System to invest resources in workforce development issues. The Kansas City Fed will continue its focus on job quality and host events around the Tenth District that highlight relevant aspects of the book throughout 2019.

In addition, Shepelwich has organized a range of events across the Tenth District on job quality strategies to assist both workers and businesses, often partnering with national organizations such as the Aspen Institute, a policy studies organization that provides a nonpartisan venue for dealing with critical issues, and the National Fund for Workforce Solutions, which develops regional collaborations to meet local workforce needs. Romero is a Job Quality Fellow at the Aspen Institute.

“Everybody can find themselves in there somewhere,” Shepelwich said of the book. “Flip a page and get an idea of a new resource or new topic to consider. All topics are grouped around reframing workforce development from a social service activity to an investment that provides a return to an employer.” Find more resources at kansascityfed.org/community/workforce and kansascityfed.org/community/jobquality.

FURTHER RESOURCES

Investing in America’s Workforce can be downloaded for free at www.investinwork.org

Hear more from Liddy Romero at sffed-education.org/podcast/access/



Footnote: The book was created with support from District Reserve Banks, in collaboration with Rutgers University, the University of Texas and the W.E. Upjohn Institute for Employment Research. Spanning more than 1,000 pages, the book includes more than 70 articles from more than 100 writers. The volumes are divided by category: Investing in Workers, Investing in Work and Investing in Systems for Employment Opportunity.



Event mixes hip-hop with financial education

written by SARAH POPE

A concert is not an unusual setting to see an audience of teens enthusiastically cheering and moving with the music—even at the Federal Reserve Bank of Kansas City.

In October, more than 300 Kansas City area high school students helped transform a large conference room into a music venue, complete with a performance by hip-hop and R&B duo The Reminders. The performance was the centerpiece of “Rock the Fed,” a special financial literacy event at the Bank.

The Reminders, Aja Black and

her husband, Big Samir, are among several musical acts who partner with Funding the Future, a Wyoming-based nonprofit, to help students learn about making smart financial decisions. In 2015 and 2016, the Bank and Funding the Future presented the rock band Gooding for students in Denver and Kansas City, respectively.

The Reminders’ performance was part of Federal Reserve Financial Education Day, an annual initiative by the Reserve Banks to host teacher- or student-focused financial literacy programs. The bank also had Financial Education Day events at its

branches in Denver, Oklahoma City and Omaha.

“The Bank’s economic education initiatives are key in promoting public understanding of the Federal Reserve and our impact on the daily lives of consumers,” said Community and Public Affairs Specialist Gigi Wolf, who organized the event. “Rock the Fed is one of the ways we support financial education in local urban high schools ... sharing real-world experiences and valuable life lessons about budgeting, smart spending, wise use of credit and much more.”



BIG SAMIR of The Reminders said children should be comfortable talking about money with their parents.

The music

Black and Big Samir say their musical influences include folk, reggae, hip-hop, R&B and world music. They said they were inspired to share their lessons of financial responsibility with students after encountering their own money troubles as young adults.

“I think what’s really innovative about this program is that we meet the students where they are,” Black said. “In mainstream pop culture and in hip-hop culture, money is one of the most discussed things. Artists are always talking about throwing money away and being rich, but they never talk about how to be rich. They treat money as if it has no value. We are here to send a different message.”

Black said The Reminders want to fight a recurring message they see in pop culture: The notion that

money is disposable, and that you can always get more. She warned students about entering a cycle of debt, reflecting on her family’s experiences.

“Looking back at my life as a child, I can see weak points in my parents’ financial situation,” she said.

It is particularly important to The Reminders to reach the 13-18 age demographic, Black says, because they have money to spend but aren’t yet responsible for typical household bills. When The Reminders met with Funding the Future they recognized the opportunity to reach young people and break down their perceptions of money.

“You see money, but how do you get, keep and spend money?” Black said. “Now we want to show you how to be successful, not celebrate our own success.” Bank employees Kenji Walker and Jared Freemon

“ROCK THE FED IS ONE OF THE WAYS WE SUPPORT FINANCIAL EDUCATION IN LOCAL URBAN HIGH SCHOOLS . . . SHARING REAL-WORLD EXPERIENCES AND VALUABLE LIFE LESSONS ABOUT BUDGETING, SMART SPENDING, WISE USE OF CREDIT AND MUCH MORE.”

— Gigi Wolf



AJA BLACK of The Reminders urged students to focus on saving versus spending. “You don’t have to have the freshest this or the newest that.”

kicked off the event by leading the students through a variety of quizzes and activities about understanding credit. Another employee, Casey McKinley, performed an original rap song describing the Federal Reserve’s mission.

Kansas City Fed President Esther George welcomed the students and explained how they play an important role in the economy by spending and saving. She shared her hopes that the Rock the Fed presentations would make students better prepared to plan financially.

Students stood to dance along with the duo and cheer their approval and support. Janiqua Williams, a senior at Northeast High School in Kansas City, said she loved the energy of the presentation.

“It was a lot of fun,” she said. “You think of financial education being a classroom lesson, but they’re singers. I didn’t think that would be what we did today. I loved them. They’re cool.”

The message

The Reminders engaged the crowd by inviting students to the front of the room to dance and sing, periodically breaking from the music to share stories from their lives and struggles from childhood. Black spoke of falling through a plate glass window at age 9 and returning to school after months of recovering only to have children tease her for her appearance.

“That helped me realize that my scars are my battle wounds,” she said. “This is what makes me me.”

The Reminders shared stories of growing up in economically distressed situations and experiencing financial hardships in their family. Big Samir said his mother took out a payday loan without understanding the interest rate or repayment schedule, which resulted in a devastating cycle of debt.

“She always owed people money,” he said, suggesting that students get comfortable with the idea of talking with their parents about money and opening a personal savings account.

The Reminders shared an in-depth presentation about the importance of saving, having a budget, building credit, delaying gratification with spending, avoiding the dangers of predatory lending and making wise financial decisions.

“Saving feels like a risk when spending everything is normal,” Black said. “After you learn about saving then spending feels like a risk. You don’t have to have the freshest this or the newest that.”

Mark Hood, a junior at Allen Village High School, really enjoyed the music and the accompanying lessons.

“I liked how they incorporated their vibe with an educational vibe,” he said. “It was really cool to see something like this happen. I will be careful with my credit score after hearing this.”

Taegan Denmon, a sophomore at Ruskin High School, enjoyed the show.

“I really loved it,” she said. “They had it all. I knew they would talk about financial education, but it was cool how they did it. They are really cool people that have great back stories. They aren’t just here to entertain us, but also inform us.”

Denmon plans to open a savings account after hearing The Reminders and save half of her regular allowance.



THE REMINDERS signed posters for students at the Rock the Fed event.

Educator Renee Alvarez of Northeast High School enjoyed how the message about financial literacy was delivered.

“This gave them things to think about with a way to present it and have it resonate,” she said. “I would definitely recommend this.”



Personal finance resources are available at [KansasCityFed.org/Education](https://www.kansascityfed.org/education)



THE CHEER TEAM from East High School in Kansas City performed before The Reminders’ concert.

Tenth District *by the numbers*

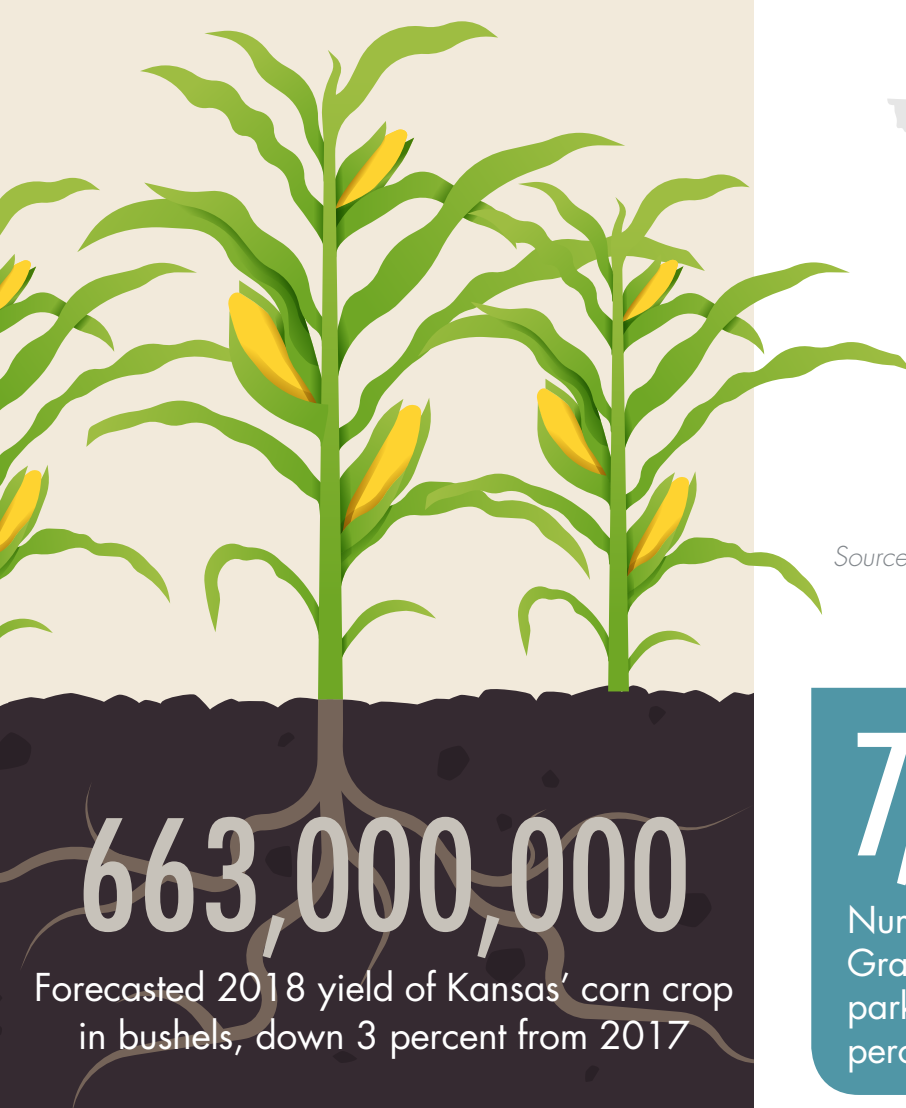
ECONOMIC INDICATORS, FACTS AND TRENDS FROM THE SEVEN STATES



48,291,378

Denver International Airport year-to-date passengers through September 2018, a 4.5 percent increase from a year earlier

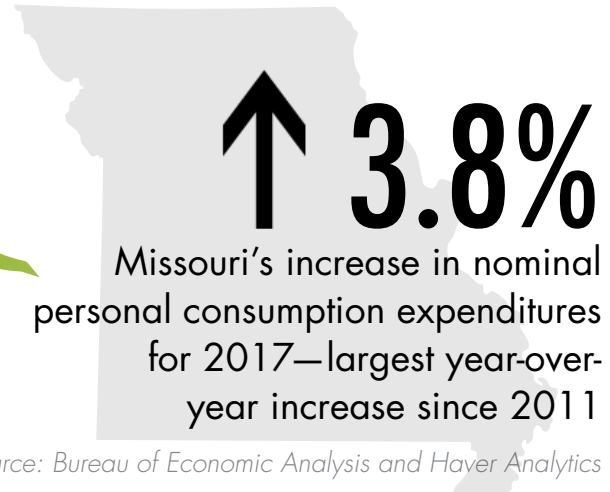
Source: City and County of Denver Department of Aviation



663,000,000

Forecasted 2018 yield of Kansas' corn crop in bushels, down 3 percent from 2017

Source: U.S. Department of Agriculture



↑ 3.8%

Missouri's increase in nominal personal consumption expenditures for 2017—largest year-over-year increase since 2011

Source: Bureau of Economic Analysis and Haver Analytics

7,052,879

Number of recreational visitors to Grand Teton and Yellowstone national parks through September 2018, up 2.1 percent from the same period in 2017

Source: National Park Service

0345643

3.0%

Rise in Nebraska net sales and use-tax collections through October 2018 compared with the same period in 2017

Source: Bureau of Labor Statistics and Haver Analytics



5.5%

Increase in New Mexico nominal gross domestic product in the second quarter of 2018 compared with 2Q 2017

Source: Bureau of Economic Analysis and Haver Analytics

\$24.18



Oklahoma's real average hourly wage as of October 2018, up 2.1 percent from 2017

Source: Bureau of Labor Statistics and Haver Analytics

FROM THE VAULT

Kansas City Fed History

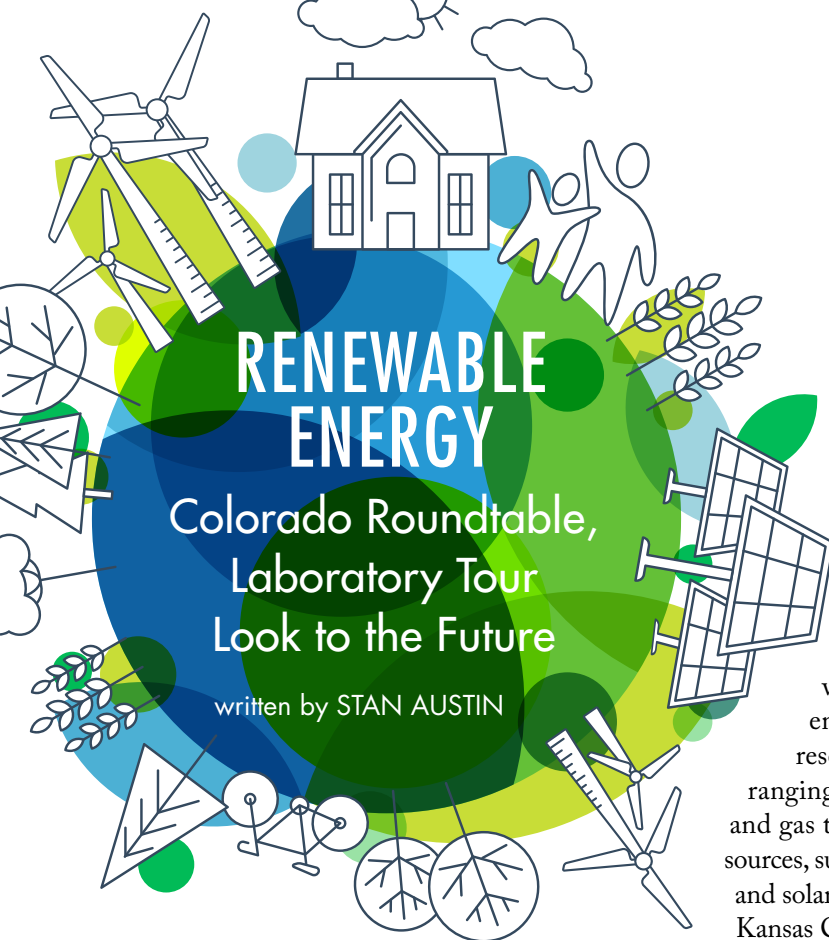


University Archives, Kenneth Spencer Research Library, University of Kansas Libraries.

Compared with the modern era, the presence of women in professional positions in the early 20th century was rare indeed across corporate offices, including those of the Kansas City Fed. Therefore, in retrospect, the 1920 hiring of Mary Billingsley as Bank librarian was a trailblazing moment.

Based on information in the Bank's archives, it is likely that Billingsley was the Kansas City Fed's first female employee with senior-level responsibility. Before her arrival, women working in the Bank's offices were mainly in stenographer, typist or clerk positions. Also, Bank records show that Billingsley, who retired in 1937 and died in 1963, was paid between \$2,000 and \$2,500 per year—putting her in the pay range of supervisors in those early years. Her duties likely included reference, research, cataloguing, news aggregation and acquisitions and collections development.

Billingsley was born in October 1880 near Fairfield, Iowa, graduated from high school in Belleville, Kan., and was a student at the University of Kansas in the early 1900s. She later earned a bachelor's degree in Library Science from the University of Illinois in Champaign.



RENEWABLE ENERGY

Colorado Roundtable, Laboratory Tour Look to the Future

written by STAN AUSTIN

Research experts from the Federal Reserve Bank of Kansas City participated in an energy roundtable hosted at the Denver Branch and a tour of the National Renewable Energy Laboratory (NREL) in nearby Golden, Colo.

Joining experts from industry, academia and NREL for the August roundtable were Bank representatives Alison Felix, vice president, Denver Branch executive and economist; Jason Brown, assistant vice president and economist; Sam Chapman, associate economist; and David Rodziewicz, commodity specialist. The NREL tour took place at the laboratory's main campus. The laboratory is the U.S. Department of Energy's primary center for research related to renewable energy and energy efficiency.

Rodziewicz said the roundtable and tour were timely and beneficial. He noted that the Tenth District

is in a unique geographic position, with robust energy resources ranging from oil and gas to renewable sources, such as wind and solar. Therefore, Kansas City Fed

economists and researchers continually study developments across the energy sector and the effect on factors such as employment, investment and prices. They also develop contacts and interact with energy professionals such as those at the NREL roundtable.

“Renewables have become a fairly large share of energy generation in our District, and that is expected to

rise as costs for those particular styles of generation decline,” Rodziewicz said.

Felix's presentation titled “U.S. & Colorado Economic Update” showed that Tenth District activity in renewable energy—mostly wind and some solar—in recent years has increased sharply.

This upward trajectory for renewable energy bears watching and further study.

“The renewable sector affects labor, manufacturing and other parts of the renewables supply chain, and this is something we'd like to learn more about,” Rodziewicz said. “It's really important for us to connect with those industries to better understand how those aspects are affecting the regional economy.”



(FROM LEFT) Jason Brown, Alison Felix, David Rodziewicz and Sam Chapman toured parts of the National Renewable Energy Laboratory in Golden, Colo.

kcFED SOCIAL SEEN

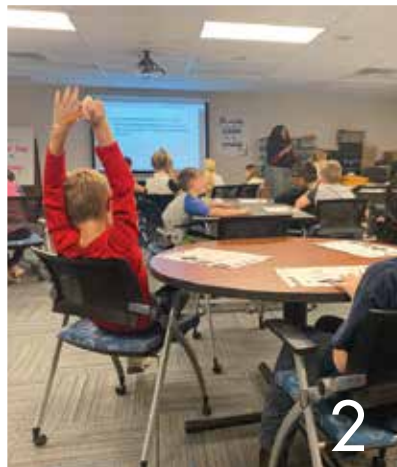


Social media highlights of our engagement across the region.

1 **KANSASCITYFED** Employees in our Community Involvement Program organized a donation drive for care packages & thank you notes to go to military & first responders deployed overseas through Operation Gratitude. Thank you to all our employees who participated to show our appreciation for those who serve! [in](#)



2 **@MRSJANKORD** Thanks to Mrs. Wolf from @KansasCityFed our kids got a great introduction to economics and entrepreneurs! We are excited to kick off this #PBL and can't wait for her to come back and see what we've done! #4thchat #Big3Challenge [tw](#)



3 **@KANSASCITYFED** Our #OklahomaCity Branch hosted students from Emerson High School for an employability skills workshop & mock interviews as part of #FedFinancialEd Day & #OklahomaCareerExpoWeek. [tw](#)



4 **KANSASCITYFED** Today we're celebrating #AmericaRecyclesDay with a recycling drive organized by our Green Team! The event gave employees an opportunity to responsibly dispose of old personal electronics. [in](#)

5 **@IAMDELLGINES** @KansasCityFed representing today @BlackTechWeek Margey Sendze from our TechEdge program and Calvin Robertson from User Experience joined me in learning how to build the #KansasCity #tech ecosystem for African Americans [tw](#)



6 **KANSASCITYFED** 50 students from George Washington High School spent the day at our #Denver Branch for Federal Reserve Financial Education Day. The students learned about employability skills & #PersonalFinance, while having a little fun, too! [in](#)



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