

TEN

IN THEIR PRIME

Exploring labor force participation for women
amid uneven recovery from the recession

TEN

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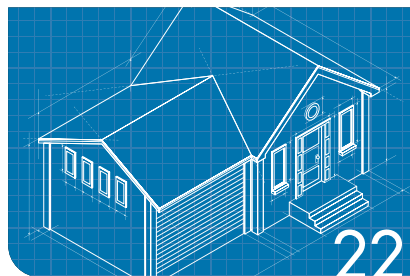
Federal Reserve Chairman Jerome Powell heard directly from business and community leaders during an October visit to Kansas City.



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Tiffany Bailey works in the tool shop of Pelco Structural, a manufacturer of steel poles in Claremore, Oklahoma. Photo by Gary Barber

From the *President*

ESTHER L. GEORGE



Oklahoman Robert Owen laid foundation for today's Fed banks

This message is based on remarks from President Esther George's visit in October to Tahlequah, Oklahoma.

The history and design of our nation's central bank often is misunderstood, but is as important today as ever. Tahlequah, Oklahoma, is an especially appropriate location to discuss this history because events that occurred in this area more than a century ago had a direct and significant impact on the Federal Reserve's design.

Sometime before 1880, Robert L. Owen came to the Tahlequah area as a teacher and supervisor of the Cherokee National School System. The historic Owen School House now is known as the Park Hill/Owen Community Center, near the Cherokee Heritage Center that bears his name.

After leaving the school, Owen became a lawyer and practiced law not far from here in Muskogee, where he organized and served as president of the First National Bank for a decade. In 1907, he was elected one of Oklahoma's first U.S. senators and one of the first two Native Americans to serve in the Senate.

He joined the Senate at a time of economic turmoil. Only a few weeks earlier, the nation experienced a financial crisis that became known as the Panic of 1907.

Soon after, Congress began discussions about how to improve the nation's financial system, launching a process leading to the Federal Reserve Act of 1913.

Owen played a key role, serving as the legislation's Senate sponsor and chair of the Senate Banking Committee.

Owen's 10 years in Oklahoma banking contributed importantly to his thinking about the role of a central bank and how it should be designed. Owen was a banker during a particularly volatile time for our nation's banks and the U.S. economy. The panic of 1893 led to the closing of 500 banks. Owen later talked about how he saw the problems in the banking sector during this period ripple across the economy, affecting property values, business failures and unemployment, which reached 25 percent or higher in some areas of the United States.

He later wrote that the panic of 1893 "demonstrated the complete instability of the financial system of America and the hazards which businessmen had to meet under a grossly defective banking system."

He had spent much time considering how to address these issues and, as fate would have it, was ideally suited to shape a solution when the opportunity was presented.

Mission areas

Although monetary policy likely is the first thing that comes to mind when the Fed is mentioned, as the central bank of the United States, the Fed has other responsibilities that focus on the stability of our nation's financial system.

We are a banking supervisor with regulatory responsibilities that entail not only examining depository institutions for financial fitness, but also ensuring that all customers are offered financial services on fair and appropriate terms. Here we focus on such matters as the ability of borrowers to access the credit that may be necessary to fund an education, establish a business or purchase a home.

We are a bank for banks and also serve as the government's bank. This means we not only hold deposits but we are a provider of important services such as those necessary for the smooth functioning of the payments system. This has included the processing of checks along with the use of other payment rails to transfer funds between depository institutions. Recently, there have been headlines about a new Fed initiative for real-time payments, a system which will expedite the actual flow of funds to match the speed with which consumers pay for things using apps on their phones or other online services. This initiative, which might be thought of as a high-tech plumbing network for the financial system, is the most substantial innovation in payments in at least 40 years.

And, of course, there is our role in conducting the nation's monetary policy, where we operate under a directive from the U.S. Congress that is widely known as the Fed's dual mandate: to foster economic conditions that achieve stable prices and a maximum level of sustainable employment.

The Fed relies on a substantial foundation of research in support of these operations. The economists who study a variety of economic issues include for example, our Oklahoma City Branch with particular expertise in the nation's energy economy. Others are experts in banking, financial markets and payments.



Esther George in Tahlequah, Oklahoma, with Cherokee Nation Principal Chief Chuck Hoskin Jr. (right), Deputy Principal Chief Bryan Warner and Oklahoma City Branch Director and Bank of Cherokee County Board Chair and Chief Executive Officer Susan Chapman Plumb.

Foundation of today's Fed

Looking at these responsibilities, it is clear that there are many instances where the financial system has evolved in ways that Owen and the Fed's other congressional founders could not have predicted.

For example, when Congress was debating the Federal Reserve Act, the gold standard literally was the standard for the world's most important currencies. That began to change internationally during World War I and changed later in the United States. Thus monetary policy, as it is administered today by the Federal Open Market Committee (FOMC) under the delegation of Congress, is an area that has seen significant change. In addition, technology has increased the pace of commerce around the globe. Meanwhile, innovation in financial products and services has fostered with it a corresponding expansion of risks.

In the same way the authors of the Constitution could not plan for every eventuality, the framers of the Federal Reserve Act recognized that they were establishing a

framework for a central bank that would have to evolve if it would be capable of serving the public interest. In terms of structure and governance, there were two main ideas put forward during the deliberations: On one side were those who supported a decentralized structure under the control of the private sector; on the other side were those who believed that the system should be highly centralized under government control.

Owen, however, believed in what might be considered a third option: He was among those who supported the idea of a balanced system where both sides could share in governance. With a background in rural Oklahoma banking, Owen understandably had strong opinions about the potential risks associated with a central bank operating under Wall Street's direct control. In a debate on an early proposal that did not advance, Owen voiced his concern about a system that was "concentrated in any one city where a small clique could control" it. Such an arrangement could present a couple of key risks. First, a closely aligned group of like-minded leaders might not have sufficient perspective for gauging risks since they likely would have similar views. For example, a group dominated by an East Coast

perspective might not have an appreciation for the full diversity of our banking system and the economy. The banking needs of a Wall Street firm and a Tahlequah entrepreneur are very different.

Thanks in part to Robert Owen, we have a central bank structured in a manner that serves our nation well. General oversight of the Federal Reserve is through a government-appointed Board of Governors in Washington, D.C. The 12 regional Reserve Banks, meanwhile, are independent corporations that, along with their affiliated Branch offices, operate under the leadership of a local board of directors.

In addition to their oversight roles, these directors are especially important to me in my role representing the Tenth District in FOMC policy deliberations. Along with our advisory councils and other local contacts, they are a source of information regarding emerging developments in banking and the economy. As intended by Robert Owen, they are the critical link in ensuring that our nation's central bank is not an isolated institution but one that considers the broad economic experience of all Americans.

This broad representation across the United States provides the regional Reserve Banks with a degree of protection against a risk that was recognized early in U.S. history by Alexander Hamilton. That is the risk that politicians could try to wield undue and dangerous influence over the central bank.

Robert Owen, a school teacher from Tahlequah, might not have imagined that the institution he shaped more than 100 years ago would have proven so durable amid the economic and political challenges it would face. But I think he would be pleased to see that the Fed, by design, has a system that provides a forum for civil discourse about monetary policy and other important central bank issues. And in my view, it continues to serve our nation well.



While in Tahlequah, George spoke at the main campus of Northeastern State University.

Notes from around the Tenth District



Clyde McQueen (right) of the Full Employment Council in Kansas City was among community and business leaders who shared concerns with Federal Reserve Chairman Jerome Powell and Kansas City Fed President Esther George during a Fed Listens event in October at the Bank. *Photos by Blaine Fisher*

Powell connects with community, business leaders at Fed Listens session

In October, the Kansas City Fed hosted Federal Reserve Chairman Jerome Powell as part of the System's Fed Listens program, a year-long public review of the central bank's strategy, tools and communication practices. The session in Kansas City was part of a series of nationwide Fed Listens events.

The Kansas City event allowed community and business leaders to engage in a roundtable discussion with Powell and Kansas City Fed President Esther George.

The leaders shared perspectives on several issues, including the ability to find qualified workers, the price of goods and services, and economic challenges in low- and moderate-income communities.

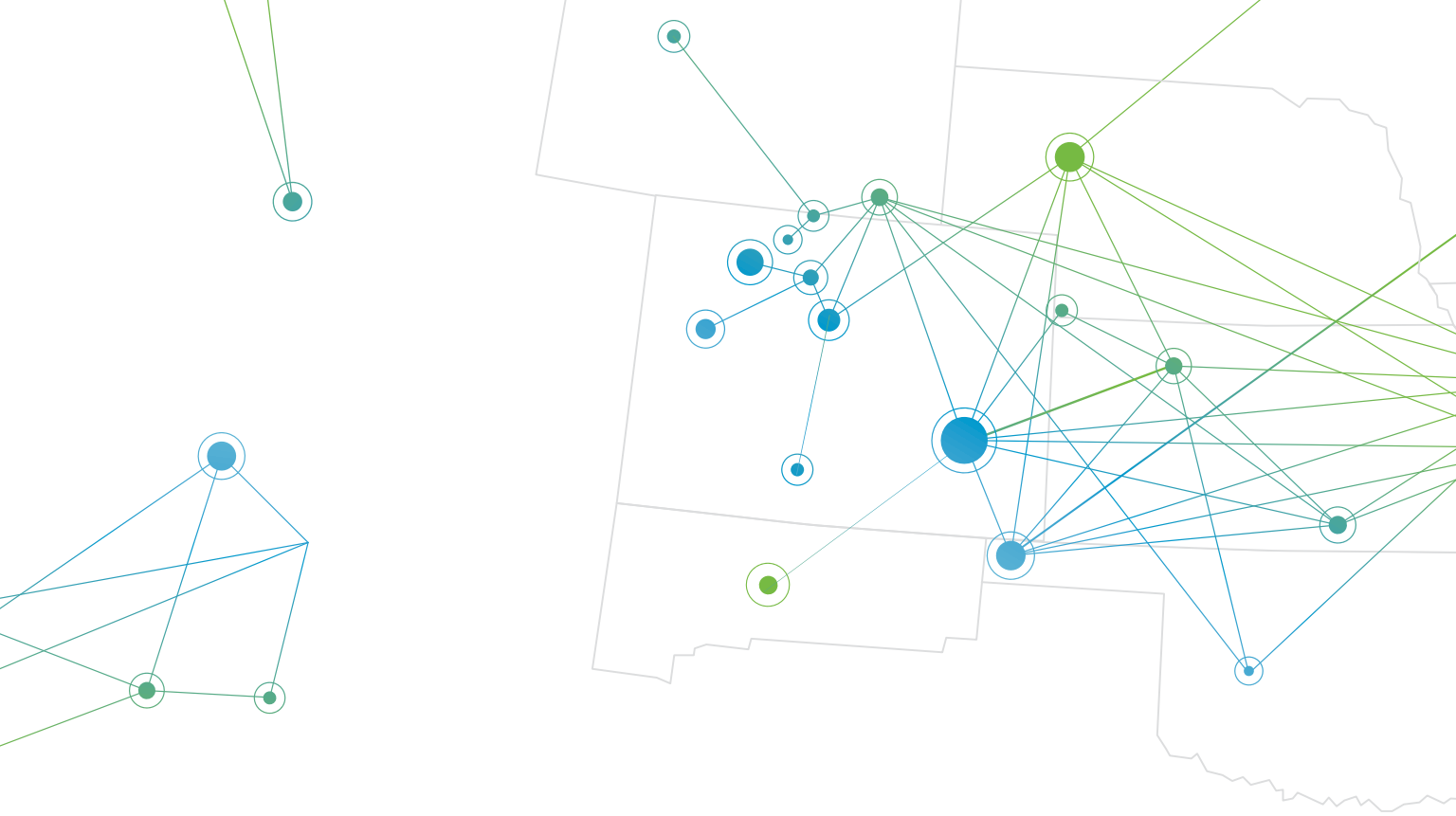
"Understanding how you experience the economy is an important aspect of our ability to fulfill our congressionally mandated objectives for stable prices

and maximum sustainable employment," George said in her opening remarks.

Powell noted the Fed Listens meetings "have been open to the press and live-streamed on the internet. Both the breadth and the transparency of the review are unprecedented for the Fed."

Community and business leaders in attendance shared a wide range of economic concerns. These included challenges related to affordability of health care and child care; hiring and retaining talented job candidates; financial hardship for farmers; wage competition; pension funding; and educational system limits that make it harder for lower-income students to attain certification or degrees for their chosen fields.

Clyde McQueen, chief executive officer of the Full Employment Council in Kansas City, described



constraints on workers from low- and moderate-income (LMI) backgrounds. He cited a George Washington University survey finding that 51 percent of Kansas City area jobs paying \$55,000 a year require a college degree, with the remaining 49 percent requiring some sort of certification. Degrees and certification requirements prevent a sizable hurdle, in addition to limitations related to transportation and child care, he said.

His organization is working to support various approaches that offer post-high school opportunities to students from LMI communities, including two years of access to training after the 12th grade.

“(If we) create a system where people can access credentialing without worrying about ‘How do I finance it?’ that will increase the ability for people to show up with the right skills at the right time,” McQueen said.

Challenges related to attracting, hiring and retaining qualified job candidates were expressed across industries. The issue seemed to hit the construction industry particularly hard following the economic downturn in 2008, and the industry continues struggling with increased costs of building materials, health care and pension contributions, according to Alise Martiny of the Greater Kansas City Building and Construction Trades



Alise Martiny of the Greater Kansas City Building and Construction Trades Council speaks during the Fed Listens event.



Federal Reserve Chairman Jerome Powell spoke with Kansas City area community leaders before the Fed Listens session.

Council. Martiny highlighted an unemployment rate in the construction industry that hovered around 20 percent to 25 percent during the Great Recession.

“Some of that workforce came back, but you’ve got to have a livable wage,” she said.

Lee Blank, chief executive officer of GFG AG Services, shared that his industry is experiencing some slowing.

“We’re maybe a darker story than the rest of the U.S. economy,” said Blank, whose company provides a variety of services to farmers throughout the crop cycle. The U.S. economy is doing well, but the U.S. farm economy really is struggling. It’s an economy that’s under some stress.”

He said the U.S. farmer’s topline revenue has changed since 2012-13, related to three primary factors: a

glut of commodities globally, the trade environment and the strength of the U.S. dollar, which can create issues when it comes to exports.

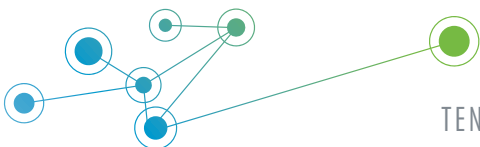
“Unfortunately the revenues have dropped almost 50 percent to the farm gate based on the commodities they deal with from 2012-13 to today,” while costs and operating expenses have held steady or grown, Blank said. “It’s really a concern for all of agriculture ... the whole industry has been built to export farm commodities across the globe, and unfortunately today that’s not happening.”

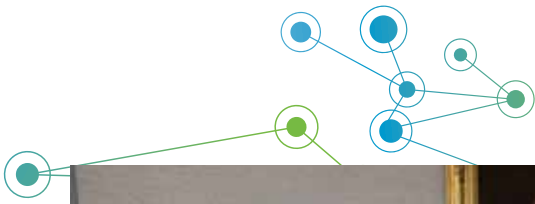
Powell and George questioned the participants throughout the session and led the conversation through topics that helped them understand a more complete landscape of challenges and areas of opportunity for the region’s economy. Before the Fed Listens session, Powell and George attended a breakfast meeting of community leaders with U.S. Rep. Emanuel Cleaver of Kansas City and U.S. Rep. Sharice Davids of Kansas. The group discussed the labor market, banking and other economic issues. The Fed chairman also met with U.S. Sen. Jerry Moran and other leaders from Kansas as part of his visit to the area.



FURTHER RESOURCES

Watch the complete Kansas City Fed Listens session at youtube.com/user/KansasCityFed/featured. Learn more about the program at federalreserve.gov/monetarypolicy.htm.





First place in the 2019 Code-A-Thon went to a team from Pittsburg State University, a first-time entrant. From left: Don Coats, Bank technology manager; Pittsburg State students Aubri Stahl, Devon Tinsley, Chris Evans, Lydia Winters, David Sexton and instructor John Kuefler; and Brian Faros, Bank vice president and chief information officer.

Pittsburg State team wins 2019 Code-A-Thon

In the school's first year as a contestant, Pittsburg (Kansas) State University fielded the first-place team in the Kansas City Fed's annual competition among computer science and engineering students.

The 2019 Code-A-Thon was the Bank's fourth, with the virtual event kicking off Oct. 25 with 11 teams from nine universities across the country. The teams had 48 hours to come up with software solutions for a challenge presented by Kansas City Fed Information Technology and Community Development professionals: Develop a tool to help entrepreneurs create or support their small businesses. Finalists presented solutions to judges on Nov. 7.

The Pittsburg State team's solution was a social media platform called "Entrepreneurchute," designed to connect small business owners with mentors and entrepreneurs who can offer support for specific problems. A team from the University of Central Missouri won second place for a website called

"Binder," created to link business owners with potential employees.

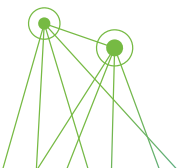
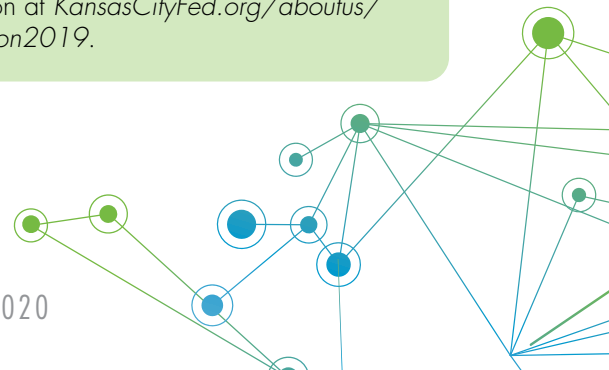
"I was truly amazed at the professionalism, the depth of thought the competitors put into the subject matter and the polish on these applications in less than 48 hours," said Brian Faros, Bank vice president and chief information officer.

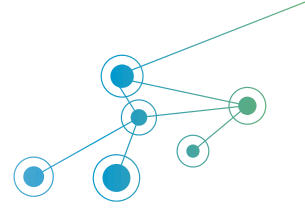
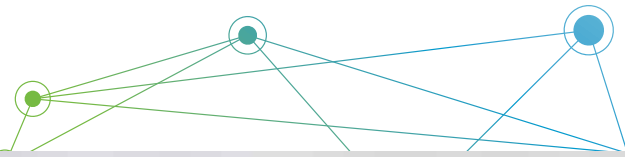
Of the Bank's nearly 2,000 employees, almost half are IT professionals. Through Code-A-Thon and other programs, the Bank supports STEM education efforts. Information regarding the 2020 Code-A-Thon will be announced at KansasCityFed.org.



FURTHER RESOURCES

See a video, photos and other Code-A-Thon information at KansasCityFed.org/aboutus/code-a-thon2019.





Edwards to lead new Community Engagement and Inclusion Division

The Kansas City Fed has announced that Tammy Edwards, director of the Office of Minority and Women Inclusion, will expand her responsibilities to lead a new Community Engagement and Inclusion Division as senior vice president. Edwards previously led the community development function of the Bank as vice president.

The new Community Engagement and Inclusion Division aligns with the Bank's strategic focus on addressing challenging community and economic development issues, promoting the role of women and minorities in banking, and fostering an engaged and inclusive workplace. Edwards will serve on the Bank's Management Committee and lead diversity and inclusion strategies and programs across business lines. She also will lead community development, strategic stakeholder engagement, and the Office of Minority and Women Inclusion (OMWI) for the seven states of the Federal Reserve's Tenth District.

Edwards joined the Bank in 2008 as assistant vice president and community affairs officer.



FURTHER RESOURCES

Learn more about the Bank's senior officers at [KansasCityFed.org/aboutus/leadership](https://www.kansascityfed.org/aboutus/leadership).

Zahnd selected to lead Bank's Legal Division

Craig Zahnd has joined the Kansas City Fed as senior vice president, general counsel and chief compliance officer. In that role, he leads the Legal Division and serves as advisor to the Bank's Management Committee.

Zahnd, who has nearly 30 years of legal experience, reports to President Esther George and works closely with First Vice President Kelly Dubbert.

Before joining the Bank in November 2019, Zahnd was managing director and general counsel of Reinsurance Americas at Swiss Re. In that position, he managed a team of attorneys on a variety of legal and regulatory matters, including analysis of reinsurance laws and regulations, employment law, corporate governance, contracts and compliance. Earlier he held several positions at General Electric Co., including vice president and associate general counsel.

Zahnd is a graduate of the University of Virginia School of Law, and he holds a bachelor's degree in Business Management from William Jewell College in Liberty, Missouri.



Tammy Edwards' promotion was effective Nov. 1, 2019. Craig Zahnd joined the bank on Nov. 18.



PNC Financial Services employees Bethany Arnold (left) and Tiffany Woodruff were among the Kansas City area community partners and professionals sharing ideas during a diversity and inclusion summit in September at the Bank.

Bank hosts community diversity and inclusion summit

In September 2019, nearly 150 community partners and area professionals gathered at the Kansas City Fed's head office to exchange concepts, insights and best practices about diversity, equity and inclusion.

The event was hosted by the Bank's Office of Diversity and Inclusion in partnership with the Diversity & Inclusion Consortium of Kansas City. The theme was "COMMITTED! Intentional, Impactful and Inclusive Leadership in Diversity and Inclusion." Presenters led discussions and group exercises to illustrate each aspect of the theme:

- **Intentional:** Courtney Thomas, president and chief executive officer of the Central Exchange, a leadership development organization that connects women across professions.

- **Impactful:** Michael Gonzales, co-founder of the Diversity & Inclusion Consortium.
- **Inclusive:** Marnita Schroedl, chief executive officer of Marnita's Table Inc., which promotes inclusivity in community decision-making.
- **Committed:** Chantell Garrett, the Kansas City Fed's manager of Diversity, Inclusion and Strategic Engagements.



FURTHER RESOURCES

Learn more about the Bank's Diversity & Inclusion work at [KansasCityFed.org/diversity](https://www.kansascityfed.org/diversity).




Banking forums help develop rising leaders

In recent months the Kansas City Fed and the Federal Reserve System have hosted “Banking and the Economy” forums focusing on diversity, inclusion and emerging leadership in the banking industry.

These forums are aimed at sharing industry knowledge and providing professional development opportunities to senior leaders and high-potential managers from other levels of banking organizations. They offer continuing professional education credits and feature regional and national experts to help attendees enhance their careers and networks.

In September 2019, the System’s fourth annual “Minorities in Banking” forum took place at the Federal Reserve Bank of St. Louis, convening 169 diverse bank leaders from 27 states and 64 organizations. In August, the Kansas City Fed hosted two forums at the Denver Branch in partnership with the Colorado Bankers Association, the Independent Bankers of Colorado, the Independent Community Bankers Association of New Mexico, and the Wyoming Bankers Association:

- The “Women in Banking” forum was attended by 105 women bank leaders from Colorado, Missouri, Nebraska, New Mexico, Oklahoma and Wyoming representing 41 organizations.
- The “Emerging Bank Leaders” forum brought together 47 attendees from California, Colorado, Missouri, Nebraska, New Mexico and Wyoming representing 30 organizations.



FURTHER RESOURCES

See a continually updated list of banking forums and other Tenth District events at [KansasCityFed.org/events](https://www.kansascityfed.org/events).



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 and March.

| | | | |
|---------------------------|---------------|-------|----|
| Colorado B&TC of La Junta | La Junta | Colo. | 96 |
| Lusk State Bank | Lusk | Wyo. | 86 |
| Community B&TC | Neosho | Mo. | 78 |
| Oklahoma Capital Bank | Tulsa | Okla. | 28 |
| Community State Bank | Poteau | Okla. | 25 |
| Adams B&TC | Ogallala | Neb. | 25 |
| Union State Bank | Arkansas City | Kan. | 24 |
| Exchange Bank of Missouri | Fayette | Mo. | 24 |
| Missouri Bank II | Sedalia | Mo. | 24 |
| Bank of Star Valley | Afton | Wyo. | 24 |
| Emerald Bank | Burden | Kan. | 22 |
| Exchange B&TC | Perry | Okla. | 22 |
| Bank of Wyandotte | Wyandotte | Okla. | 22 |
| First Option Bank | Osawatomie | Kan. | 21 |
| First Bank & Trust Co. | Broken Bow | Okla. | 20 |
| Town & Country Bank | Ravenna | Neb. | 20 |
| Lamar Bank & Trust Co. | Lamar | Mo. | 20 |
| Community Bank | Topeka | Kan. | 10 |
| Equitable Bank | Grand Island | Neb. | 1 |

Regulatory Update Seminars

The Federal Reserve Bank of Kansas City’s Supervision and Risk Management Division will host its annual Regulatory Update Seminars in the spring of 2020. These seminars are offered to state member banks as well as bank and savings and loan holding companies.

Invitations containing dates, locations and the registration link will be extended to supervised entities in early 2020. The seminars are free, but registration is required. Attendees may also earn Continuing Professional Education credits. For more information, contact Lisa Aquino at 800-333-1010, extension 881-2491, or at Lisa.Aquino@kc.frb.org.

For schedule updates, visit [KansasCityFed.org/events](https://www.kansascityfed.org/events).

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 »



» During Federal Reserve Chairman Jerome Powell's visit to the Bank in October for a Fed Listens session (*Notes, page 4*), he joined President Esther George for a conversation with Kansas City Mayor Quinton Lucas.



» In September, William Jewell College in Liberty, Missouri, presented its William F. Yates Medallion for Distinguished Service to Esther George. She was joined by William Jewell alumnus Dawn Morhaus (left), Kansas City Fed executive vice president, and the school's president, Elizabeth MacLeod Walls.



» When the Bank's Kansas City, Denver Branch, Oklahoma City Branch and Omaha Branch boards of directors assembled in September for a joint meeting, Esther George addressed the group during a dinner at the Kansas City Urban Youth Academy, near the 18th & Vine Jazz District.



» The joint boards of directors and guests also toured SubTropolis, an underground business complex in Kansas City that has more than 6.5 million square feet of space. The tour was hosted by Ora Reynolds, president and chief executive officer of Hunt Midwest Enterprises.



» As a part of the Energy and the Economy conference (see page 20) in October in Denver, Esther George joined conference attendees and Federal Reserve staff members for a visit to the National Renewable Energy Laboratory in Golden, Colorado. The annual conference is hosted by the Federal Reserve Banks of Kansas City and Dallas.



» In September 2019, Missouri U.S. Sen. Roy Blunt visited Esther George at the Kansas City Fed.



» During a visit to Tulsa in October, Esther George joined Oklahoma City Branch Executive Chad Wilkerson (far right) and others for a tour of a new hotel property operated by Promise Hotels Inc. The company is led by Chief Executive Officer Pete Patel (far left) and Chief Financial Officer Tina Patel (second from left), who is a member of the Oklahoma City Branch Board of Directors.

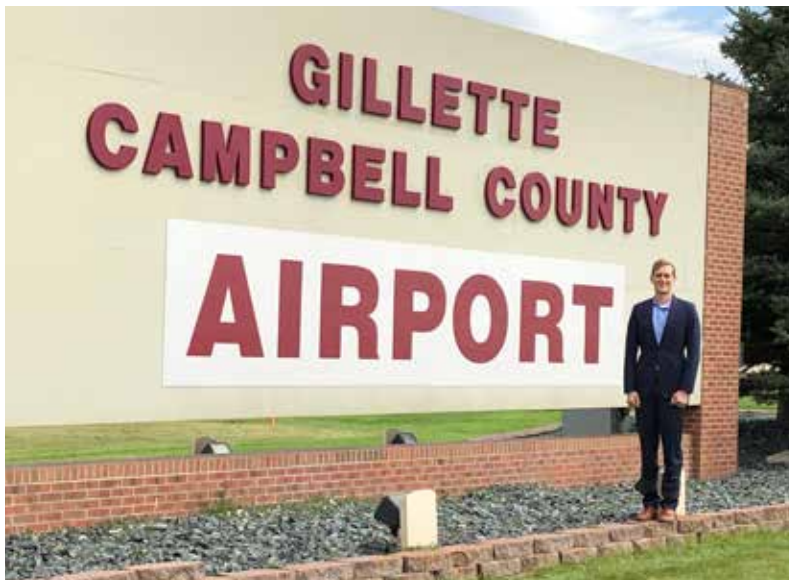


» In October, Esther George spoke with students at an event hosted by the Friends of Finance at the University of Tulsa. The organization comprises business professionals, university alumni and supporters of the university's Collins College of Business.

**COLORADO,
NEW MEXICO,
WYOMING »**



» Many Denver Branch employees participated in Bike to Work Day in June 2019. The statewide initiative aims to reduce the number of vehicles on the road and help the environment.



» Sam Chapman, associate economist at the Denver Branch, spoke to the Wyoming Economic Development Association about the regional economy during a September event in Gillette, Wyoming.



» The 2019-2020 Student Board of Directors program for Denver (top) and Albuquerque, started in the fall. This program is designed to teach high school students about the Federal Reserve and provide a mentoring experience on personal finance, education opportunities and career choices.

OKLAHOMA »



- » President Esther George, Oklahoma City Branch Board of Directors and Federal Reserve staff toured Tahlequah, Oklahoma, during an October remote board meeting. One stop was the Bank of Cherokee County, hosted by Oklahoma City Branch Board director and Bank of Cherokee County Board Chair and Chief Executive Officer Susan Chapman Plumb. (second from left)



- » Student Board of Directors meetings at the Oklahoma City Branch kicked off in the fall with 18 students from 10 schools, who learned about the Fed by doing an activity in the branch's Money Museum.



- » The Bank's Community Development Advisory Council held its fall meeting at the Oklahoma City Branch. During the visit, the group toured Goodwill Industries of Central Oklahoma to learn about donations to the organization and Goodwill's community impact.

NEBRASKA »



- » Doug Pauley, associate dean of Training and Development at Central Community College in Columbus, Nebraska, shared information about workforce training programs with Omaha Branch Executive Nathan Kauffman. Kauffman visited Central Community College in October as part of a series of northeast Nebraska events, which included an Economic Forum in Norfolk and a discussion with students at Wayne State College.



- » In September, Omaha Branch Executive Nathan Kauffman welcomed Northwest High School students to a rock concert focused on financial literacy. The event featured a performance by the band Gooding.



» During an Investment Connection event Nov. 14 at the Omaha Branch, potential funders learned about eight new and existing community and economic development projects focused on Nebraska that might be eligible under the Community Reinvestment Act. The Kansas City Fed's Investment Connection program is an efficient way for community organizations to outline their community and economic development projects and interact with funders.



» The 2019-2020 Omaha Branch Student Board of Directors includes students representing all seven high schools in the Omaha Public School District. Throughout the school year, the students will learn about the economy, personal finance and potential future careers through interactions with Federal Reserve staff, their peers and Omaha business leaders.

Energy and the Economy

Fed conference assembles experts to explore outlook for traditional and renewable sources

by SARAH POPE

The fourth annual joint energy conference led by the Federal Reserve Banks of Kansas City and Dallas examined the outlook for the global crude oil market, the future of renewable energy, transitions in energy finance and several other topics.

The conference, titled “Energy and the Economy: Markets in Transition,” took place Oct. 18, 2019, at the Kansas City Fed’s Denver Branch. In previous years the conference has taken place in other cities with strong energy economies: Houston, Oklahoma City and Dallas.

Chad Wilkerson, vice president, economist and Oklahoma City branch executive, conducts energy research and helps organize the conference each year. He explained the natural fit for the Dallas and Kansas City banks to jointly lead the event.

“A key reason for moving the conference around is to reach new local audiences each year,” Wilkerson said. “We have a group of attendees who come regardless of location, but a sizable part of the audience is local. Our partnership with the Dallas Fed on this event has been great, and it makes sense because nearly half of total U.S. energy activity in the country and over half of oil and gas activity occurs in our two Districts.”

The conference featured presentations by energy experts and a panel discussion with industry executives.

David Rodziewicz, a senior risk specialist at the Kansas City Fed who contributed research to the conference, talked about how energy conversations are shifting.

“We are broadening the lens on how we think of energy,” he said. “With the research and outreach we’ve

conducted in recent years, we have a much better sense of how oil and gas affects the regional and national economy. Renewable energy—wind and solar electricity generation are newer entrants in the energy landscape, both regionally and nationally. These sources of energy fall in the power utility sector of the economy and have different investment and labor dynamics than we see with oil and gas. They are two different structures.”

The seven-state region that comprises the Federal Reserve’s Tenth District reflects a variety of forms of energy production, from legacy coal mines, natural gas and petroleum to solar power and wind farms.

Rodziewicz is researching how new energies interplay with traditional forms of energy. For example, natural gas in recent years has contributed to the displacement of coal more than renewable energy sources. However, with lower costs of production, renewables are expected to take a larger share of electricity generation in coming years.

Denver is viewed as an ideal place for conversations about energy because of the knowledge base for all aspects of energy (fossil fuels and renewables) in the Rocky Mountain region.

“Denver is in the cross-currents for all of it—oil and gas, as well as people pushing the envelope on renewables,” Rodziewicz said. “The themes for this conference reflect this.”



Oklahoma City Branch Executive Chad Wilkerson helps organize the annual conference.



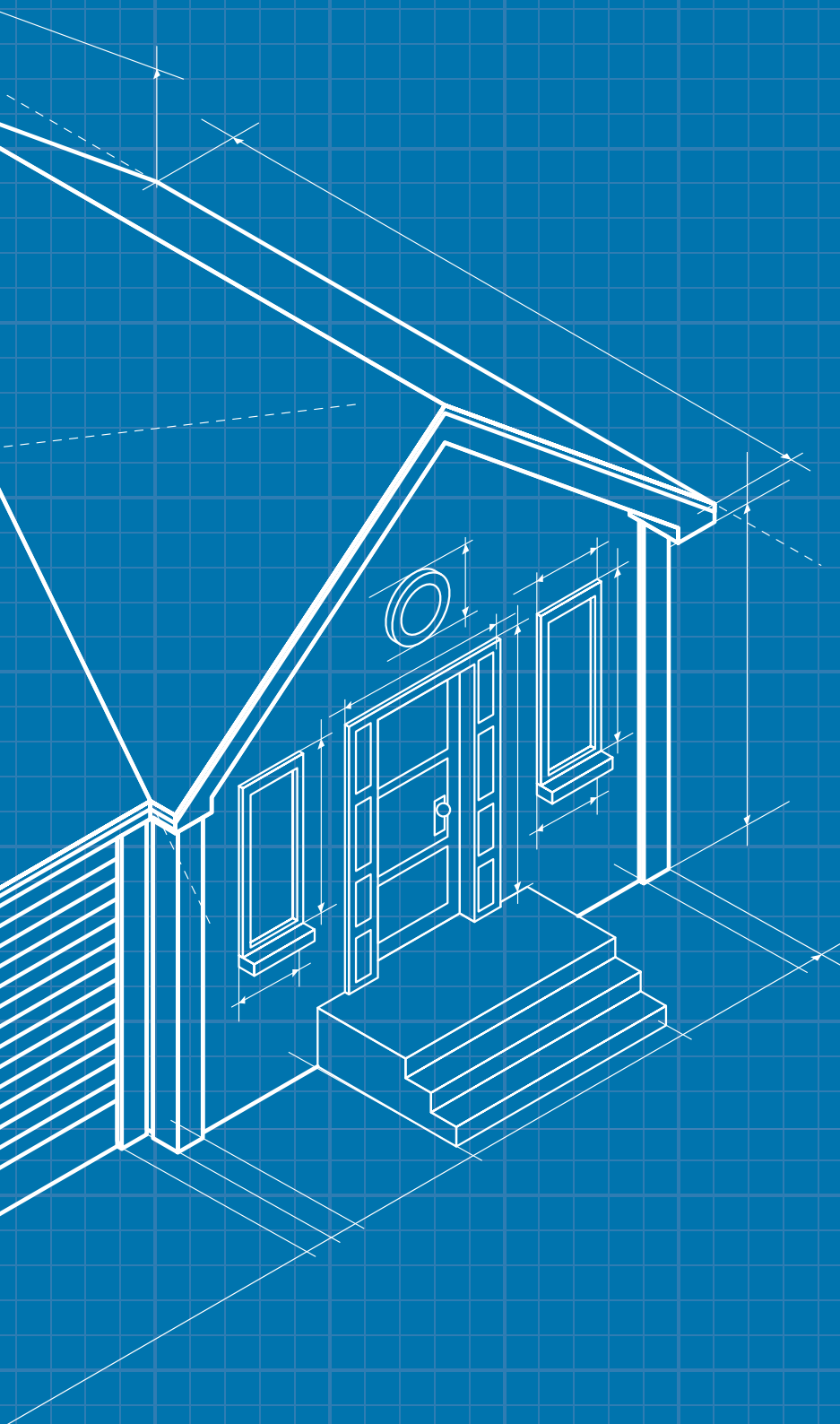
FURTHER RESOURCES

View presentations from the conference under Agenda at KansasCityFed.org/events/2019/energy%20conference%2010-18-2019.

See conference video featuring energy experts and Fed economists, including the Kansas City Fed’s Chad Wilkerson, at DallasFed.org/research/events/2019/19energy.



Escaping the housing shortage



Research by Kansas City Fed Senior Economist Jordan Rappaport found that, despite the continuing economic expansion, home construction remains extremely low by historical benchmarks, constrained by the scarcity of undeveloped land in desired locations and land use regulations. He concluded that breaking free of the resulting housing shortage will take many years and likely will require multiple developments to occur:

- ▶ A shift toward multifamily construction
- ▶ The freeing up of single-family homes by downsizing baby boomers
- ▶ The faster relative growth of medium-sized metropolitan areas

Here is a summary of Rappaport's June 2019 *Economic Bulletin* article, available at [KansasCityFed.org/research](https://www.kansascityfed.org/research).





Home construction sputters

The U.S. economy has been expanding for 10 years, but home construction continues to falter. In April 2019, the annual rate of single-family home starts was more than one-quarter below its level in the late 1990s, before the country's housing boom. Excluding its collapse during the Great Recession, the current rate of single-family construction relative to the number of U.S. households is at its lowest since the late 1950s, the earliest date for which data were available. In partial contrast, multifamily apartment construction had fully rebounded from its recessionary collapse by mid-2015. But since then, multifamily construction has remained flat, leaving the combined level of home construction very low by historical benchmarks.

Supply-side factors


The contrast of solid economic growth with weak home construction suggests that conditions on the supply side are constraining the latter. Briskly growing home prices and rents over the last few years reinforce this interpretation. Sales prices of single-family homes rose steadily, at a nearly 6 percent annual rate, from late 2014 through early 2018—a 23 percent cumulative increase. Home price growth has since slowed to a 3 percent annual rate, as the cumulative increase in prices along with rising mortgage interest rates have deterred many potential buyers from purchasing a first home or upgrading to a larger one. High prices are thereby bringing the quantity of housing demanded in line with the quantity of housing supplied. But underlying demand for single-family housing—the quantity demanded at each price level—continues to build.

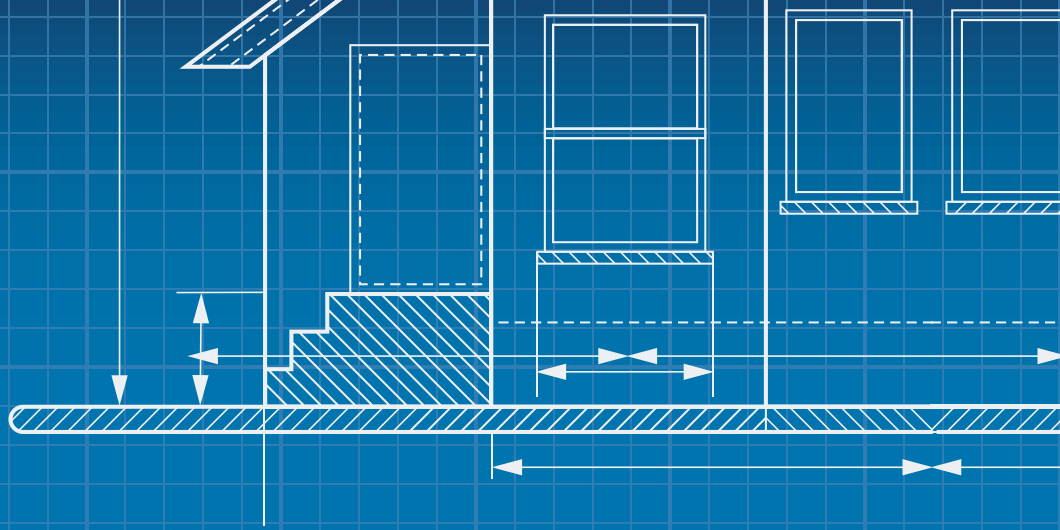
Apartment rents continue rising

Construction of multifamily housing also appears to be constrained by supply-side factors in the face of strong underlying demand. For example, the vacancy rate of apartments in 2019 was very low by historical benchmarks (notwithstanding some saturation in the market for luxury units near metropolitan downtowns), suggesting the supply of apartments is low relative to demand. Consistent with this interpretation, apartment rents have been continually increasing at an annual rate of nearly 4 percent since late 2014. In contrast, growth in other consumer prices, as measured by the core Consumer Price Index excluding shelter, has stayed close to 1 percent.

Regulations and land availability

Reversing the trend of rising rents and declining household formation may require an uptick in home construction in the face of several obstacles. For multifamily construction, land use regulations appear to be the main constraint. In urban areas, builders face maximum density restrictions, caps on permits, and lengthy approval processes. In suburban areas, minimum lot size and maximum floor space requirements—along with opposition from single-family homeowners—tightly restrict multifamily construction. For single-family construction, the main constraint appears to be a lack of undeveloped land in desired locations.





Multifamily construction's broad reach

Regarding addressing housing shortages, multifamily construction has several benefits over single-family construction:

- ▶ It economizes land use and so can be more profitable where land prices are relatively high and undeveloped parcels scarce.
- ▶ The rise of ride-sharing services makes it easier for residents to forego car ownership, in turn lessening the need to build expensive parking structures.
- ▶ Many firms have been shifting employment from suburban to urban locations, increasing demand to live nearby, where apartments typically predominate.

The baby boomer effect

In 2021, the leading edge of the baby boom turns 75—the age at which adults increasingly downsize from single-family to multifamily units. Downsizing by baby boomers and the mortality associated with age also will increasingly free up existing single-family homes for re-occupancy. In 2017, seniors age 75 and older vacated about 700,000 single-family homes. Projections suggest this number will accelerate to 900,000 homes per year in 2027 and then to 1 million homes per year in 2031. Younger households who move into these homes from apartments will in turn free up multifamily units for newly forming households.

The future: Shifting population

Escaping the housing shortage is also likely to require a continuing shift in population from the largest, most crowded metropolitan areas to medium-sized, less densely settled ones. From 2000 to 2017, metro areas with an initial population from 500,000 to 3 million averaged significantly faster population growth than those with an initial population above 3 million. Similarly the growth of medium and large metros was significantly negatively correlated with population density. Differences in housing prices and traffic congestion incentivize this population shift. In essence, housing prices and traffic congestion in a number of medium-sized metros currently “undervalue” these metros’ healthy business environments, high amenities, and moderate tax burdens. More generally, the costs associated with proportional increases in population rise sharply as metropolitan areas become very large, allowing medium-sized metros to more easily accommodate national population growth than large ones.

FURTHER RESOURCES

Read the full Economic Bulletin article at [KansasCityFed.org/research](https://www.kansascityfed.org/research).





Ask an **ECONOMIST** Huixin Bi

States' rainy day funds grow as tax revenue strengthens

Many state governments have seen solid growth in their tax revenue over the last two years. A study led by Kansas City Fed Research and Policy Officer Huixin Bi shows that recent changes in the federal tax code contributed to the uptick in states' revenue. The study explores how states have used this revenue windfall to build rainy day funds at a much faster pace than before the Great Recession.

How much recent tax revenue growth have states experienced?

According to the Fiscal Survey of States by the National Association of State Budget Officers, state revenue collections grew 7 percent on a nominal basis in fiscal year 2018, compared with 2.4 and 1.8 percent in fiscal 2017 and 2016, respectively. Also, strong gains in April tax collections led many states to end fiscal 2019 with revenue growth higher than estimated.

Did special circumstances contribute to revenue increases?

Yes. The Tax Cuts and Jobs Act (TCJA) of 2017 enacted changes in the federal tax code regarding

personal income and contributed to the uptick in states' revenues. The size of this boost varies depending on how states choose to measure personal income. For example, various states may use federal tax income (FTI), federal adjusted gross income (AGI), or their own definition of income as a starting point for state income taxes. The majority of changes in the TCJA that broadened the tax base, such as eliminating personal exemptions and limiting itemized deductions, directly affected FTI but not AGI. Our study showed that states using FTI saw much stronger growth, as they directly inherited most TCJA changes. States using AGI or their own definitions would have needed to take legislative actions to conform with the federal tax code.

How do tax windfalls help states weather economic downturns?

Rainy day funds are reserves that help states manage budget shortfalls during times of economic slumps or declines. In recent years, states have bolstered these reserves at a much faster pace than before the Great Recession. From fiscal 2003 to 2007, GDP-weighted state revenue grew at an average annual rate of 7.3 percent.

Over the same period, states raised their GDP-weighted average of rainy day funds (measured as a share of state expenditures) by only 0.44 percent. By comparison, in fiscal 2018, state revenue grew at a slightly faster pace, but the increase in rainy day funds more than tripled to 1.52 percent. Also, before the recession, states with smaller rainy day fund balances did not appear to invest many resources in shoring up these funds. However, by fiscal 2018, states with smaller or no rainy day funds—such as New Mexico, Connecticut and Oklahoma—had raised their rainy day funds at a much faster pace than most states.

FURTHER RESOURCES

Read the full *Economic Bulletin* article at [KansasCityFed.org/research](https://www.kansascityfed.org/research).





IN THEIR PRIME

Exploring labor force participation for women amid uneven recovery from the recession

by SU BACON

Left: Tiffany Bailey's husband Taylor became a welder at Pelco Structural through an apprentice program.
Below: Rows of bolts used to anchor custom steel poles to their bases. Photos by Gary Barber



“PRIME-AGE INDIVIDUALS ARE IN THEIR MOST PRODUCTIVE WORKING YEARS, AND A DECLINE IN THEIR LABOR FORCE PARTICIPATION HAS IMPORTANT IMPLICATIONS FOR THE FUTURE OF ECONOMIC GROWTH.”

— Didem Tüzemen

Tiffany Bailey of Claremore, Oklahoma, remembers exactly where she was in 2008 during the Great Recession.

She was working—just as she’s been doing every year since she was 17. Now 30, Bailey said she has followed her mother’s advice: “Always keep a job.”

Over the years, Bailey has worked in construction, maintenance and fast food. Now she works in the tool room of Pelco Structural, a manufacturer of custom steel poles for utility, traffic, lighting and communications uses.

Bailey, who earned a GED diploma when she was 19, now

is among a group of “prime-age” women whose participation in the labor force is not yet back to where it was before 2008. Prime-age women and men—those between the ages of 25 and 54—were the focus of Kansas City Fed research examining labor force participation rates after the Great Recession. Senior Economist Didem Tüzemen studied four groups of prime-age workers—men with a college education, men without a college education, women with a college education and women without a college education.

Bailey is an example of someone who has defied the trend in the group of prime-age women

without a college education. The overall participation rate for that group dropped from 72.4 percent in 2008 to 69.9 percent in 2019. Labor force participation was not fully recovered by the end of that 10-year span, Tüzemen said.

“Prime-age individuals are in their most productive working years, and a decline in their labor force participation has important implications for the future of economic growth,” said Tüzemen, whose research was published in October 2019 in the Bank’s *Economic Review*.

Through the period of 2008 (during the recession) to 2011, 5.7 million prime-age individuals—

men and women—lost their jobs, and the overall participation rate has not fully recovered.

“Prime-age men and women without bachelor’s degrees may have a harder time returning to the labor force because they are unable to find jobs suitable for their skills and education levels,” Tüzemen said.

Family considerations

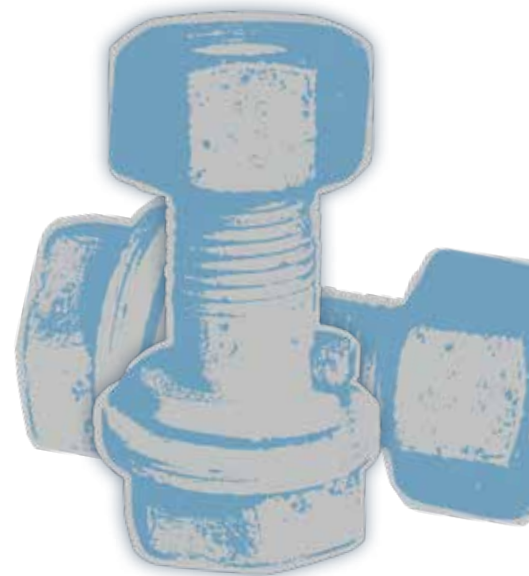
As part of her labor force participation research, Tüzemen studied statistics for the years 2008 through 2019 from the U.S. Census Bureau’s monthly survey of about 60,000 households nationwide. The survey asks respondents whether they are employed, unemployed or not in the labor

force. If the respondents are not in the labor force, they are asked, “What best describes your situation at this time?”

More than 60 percent of the women without a college education and more than 68 percent of the college-educated women responded with “taking care of family.”

One example of that situation is Crystal Marticke, 38, of Kansas City. Marticke taught in private and public schools after earning a bachelor’s degree in 2003. In 2008, she left teaching to work for a direct marketing firm. Marticke said she felt the “heat of the recession in 2010” when her pay was slashed by 15 percent and two-thirds of the work force was laid off.

“I missed teaching, and I knew I could find another job,” she said. Marticke’s degree in Elementary Education and a certification in Early Childhood Development played an important role in keeping her employed despite the recession. Marticke left the direct marketing firm in 2010 to accept



Changes in Prime-Age Employment by Sex and Education Groups

| Employment changes | Non-college men | College men | Non-college women | College women |
|--------------------------|-----------------|-------------|-------------------|---------------|
| Recession (2008–11) | -2,848,038 | -385,318 | -2,550,715 | 76,456 |
| Early recovery (2011–15) | -16,977 | 1,701,656 | -949,029 | 2,316,496 |
| Late recovery (2015–19) | -38,416 | 1,986,352 | -815,653 | 2,795,598 |

Note: Employment changes are calculated using annual averages for the corresponding years. Sources: CPS and calculations by Didem Tüzemen and Thao Tran.

a job teaching kindergarten. She quit working in 2014 when she and her husband started a family. They now have two girls.

If she had decided to continue working, Marticke said, “child care is so expensive that I would have been working to pay for the cost of child care.”

A lack of affordable family care may prevent many prime-age women from joining the labor force, Tüzemen said.

Tüzemen said others have studied labor-force participation among prime-age women in countries such as Canada, France and Japan. She said they found that family-friendly workplace policies in those countries have allowed more prime-age women to work and care for families. Such policies in the United States could help increase labor-force participation among prime-age women, she said.

Adrienne R. Smith, president and chief executive officer of New Mexico Direct Caregivers Coalition, said that such policies are becoming vital in order for companies to find or retain good workers.

“I can see that employers with good job policies are the ones that will thrive in the future,” said Smith, whose organization advocates for caregivers statewide.

Some companies have been enacting policies to support women employees.

In 2017, for example, the Lowe’s hardware store chain revamped its paid parental leave policy and increased leave for mothers to 10 weeks and leave for fathers to two weeks. Adoption benefits now cover expenses up to \$5,000 and two weeks paid leave for adoptive parents.

“We wanted a way to give back that would create the most benefit,” said Christine Jackson, who recruits to fill manager positions in 14 Lowe’s stores in the eastern half of Oklahoma.

Skill levels and job polarization

Other policies that could bring more prime-age workers into the labor force are those that equip workers with the skills and education employers need.

“Skills demanded by employers and the composition of job opportunities have changed dramatically over the past several decades,” Tüzemen said.

As many jobs at the “middle-skill” level have gone away, workers are finding employment at the upper and lower ends of the skills spectrum—a trend called “job polarization.”

For example, middle-skill jobs—such as assembly line work and routine jobs in sales, office and administrative services, construction, maintenance and transportation—have been disappearing. Computers, artificial intelligence and robotics have replaced many middle-skill workers.

What is left are jobs described as “low-skill,” such as food service and security, and “high-skill” jobs, such as engineering, medicine, finance and others requiring analytical ability, problem solving and creativity.

“Job polarization accelerates during economic downturns,” Tüzemen said.

Workers whose skills have become obsolete may simply quit looking for work. Or they can choose to return to the classroom, polish their skill sets and apply for positions that require their new skills.

In northeast Oklahoma, for example, there is a

“SKILLS DEMANDED
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— *Didem Tüzemen*



projected gap of 24 percent between jobs that require an associate degree, a postsecondary training certificate or industry credential and workers qualified to fill them. These jobs are in health care, manufacturing, information technology, transportation and logistics, said Michelle Bish, executive director of the Northeast Workforce Development Board in Oklahoma.

The board works with local businesses and other partners in rural Oklahoma to help job seekers acquire skills, degrees and certifications in high-demand occupations.

In Claremore, Tiffany Bailey’s husband, Taylor Bailey, became

a welder at Pelco through an apprenticeship collaboration between the company, the Northeast Workforce Development Board and other agencies.

“Apprenticeships are a win-win,” Bish said. “We customize the approach for every business and every occupation within a business.”

Internships are another way companies train their future work force.

April L. Vise, 36, of Las Cruces, New Mexico, was spared an after-graduation job search, thanks to an internship during her senior year of college.

In 2006, she interned 20 hours a week and not only earned



Crystal Marticke of Kansas City, with daughters Carly (left) and Annie, said her background in teaching helped keep her employed despite the recent recession.

a paycheck but also four credit hours toward a bachelor's degree in journalism.

"When I graduated, they offered me a full-time position with benefits and a raise of \$1 an hour," Vise said.

She stayed with the company until 2010 and has continued to work in the field of technical writing and editing.

"If I didn't have a degree and experience, I wouldn't have had constant employment," she said.

Vise is among the only group of prime-age workers whose participation rate has rebounded after the recession.

"Only women with a college degree have seen their participation return to its pre-recession level," Tüzemen said.

In 2008, college-educated women were 16.6 percent

of the prime-age labor force. In 2019, the share had risen to 21.7 percent.

In Wichita, Cheri Koke, 47, was laid off in 2008 from a job she held in the aircraft industry. She saw the economy begin its downward turn in 2007.

"The recession hit the aircraft industry earlier than other industries," she said. "Companies began cancelling advance orders for private jets."

Koke holds bachelor's and master's degrees. Like others in the group of prime-age women with college education, Koke wasn't out of work long. She is now working full time in commercial lending for a bank in the Wichita area.

In Albuquerque, Sara Maria Araujo, 40, found the job market much friendlier in 2019 than it was in 2009.

After earning a master's degree in Public Health in

2009, Araujo searched for openings in the job market in New Mexico.

“Looking for a full-time position was difficult,” she said.

So, she parlayed her education and experience into work as public health consultant. Though demand for her expertise was constant, after 10 years without a steady income or benefits, Araujo decided in 2019 that she wanted the security and perks of a 40-hour work week.

This time, the job search was rewarding. Araujo

IN THE TENTH DISTRICT, WORKFORCE AGENCIES ARE COLLABORATING WITH BUSINESSES, SCHOOLS, VOCATIONAL PROGRAMS AND OTHER PARTNERS IN THEIR COMMUNITIES TO MATCH JOB SEEKERS WITH EMPLOYERS.

found a full-time job that matched her “education, experience and interests.”

With regard to labor force participation, college-educated women overall have fared better than the other three groups of prime-age workers. If the other groups had caught up to their 2008 levels, 1.8 million more individuals would be in the labor force in 2019.

‘Opportunity’ employment

In the Tenth District, there are programs and initiatives that help get prime-age individuals into the work force. State workforce agencies are collaborating

with businesses, schools, vocational programs and other partners in their communities to match job seekers with employers.

In Colorado, for example, retail is a key area of focus for the state’s Workforce Development Council.

“Colorado is the eighth fastest-growing state for retail,” said Britta Blodgett, senior communications strategist with the council.

In addition to selling goods directly to customers, retail includes hospitality and food and beverage services.

In 2018, the “Lives Empowered” initiative was launched through funding from a \$4.1 million grant from Walmart.

The initiative includes regional retail partnerships throughout Colorado and training so that workers can acquire skills and credentials.

In Oklahoma, where the labor participation rate is among the lowest in the country, “the state has introduced policies and programs to increase skill development and thus, the participation rate,” said Steven Shepelwich, a Kansas City Fed senior community development advisor based at the Oklahoma City Branch.

Shepelwich said that one strategy has been to identify “opportunity occupations”—jobs in a regional economy that pay well, don’t require a four-year degree and have the greatest opportunity for local employment. The Federal Reserve System has published research and resources pertaining to opportunity employment as part of its role in the “Investing in America’s Workforce” initiative. ([Learn more at investinwork.org.](https://investinwork.org))

In Tulsa in 2017, for example, the top 10 opportunity occupations were registered nurses, supervisors of retail sales workers, machinists and bookkeepers. For registered nurses, there were 6,500 job openings paying annually around \$60,000; and for machinists,

Prime-Age Labor Force Participation Rates

| Prime-age group | 2008 (percent) | 2011 (percent) | 2015 (percent) | 2019 (percent) | Change 2008–19 (percentage point) |
|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------------------------|
| All | 83.1 | 81.6 | 81.0 | 82.4 | -0.7 |
| Non-college men | 88.4 | 86.1 | 85.5 | 86.4 | -2.0 |
| College men | 95.2 | 94.5 | 93.9 | 94.1 | -1.1 |
| Non-college women | 72.4 | 70.8 | 68.7 | 69.9 | -2.5 |
| College women | 83.1 | 82.4 | 82.4 | 83.7 | 0.6 |

Note: Monthly data are averaged for each year. Sources: CPS and calculations by Didem Tüzemen and Thao Tran.

2,100 job openings paying around \$49,400.

Opportunity occupations may be a quicker route to employment than a four-year degree and require less investment of time and money, Shepelwich said.

In Kansas, the Workforce Alliance of South Central Kansas Inc., answered the challenge of filling jobs in the male-dominated field of manufacturing by training 64 women.

The alliance received a two-year grant of \$180,000 to train women for entry-level manufacturing work in composites, sheet metal and machining. Those who completed the training found employers eager for their skills, said Keith Lawing, president and chief executive officer of the alliance. In addition to training, grant funds also paid for all participants to be fitted with personal protective equipment, he said.

Policies to help encourage labor-force participation among prime-age workers include those geared toward “equipping workers with new skills and education demanded by employers” or that provide support for family care, Tüzemen said.

In Claremore, Tiffany Bailey understands. She has stayed in the labor force in part because she has been willing to pursue training and upgrade her skills. She learned tool room skills on the job at Pelco, where she also acquired forklift certification and first-aid training.

“Be persistent about learning new things,” Bailey said. That’s one of the lessons she wants to pass on to her four children, she said.

Looking ahead: “I’d like to learn how to weld and how to read blueprints,” Bailey said. Adding to her skills, she said, reminds her of another lesson she learned from her mother: “Have something to fall back on.”



FURTHER RESOURCES

Go to [KansasCityFed.org/research](https://www.kansascityfed.org/research) to read the *Economic Review* article on labor force participation.

Tenth District *by the numbers*

ECONOMIC INDICATORS, FACTS AND TRENDS FROM THE SEVEN STATES



11%

Colorado's health care and social assistance sector's share of total employment in September 2019, little changed from September 2018.

Source: Bureau of Labor Statistics and Haver Analytics



-5.9%

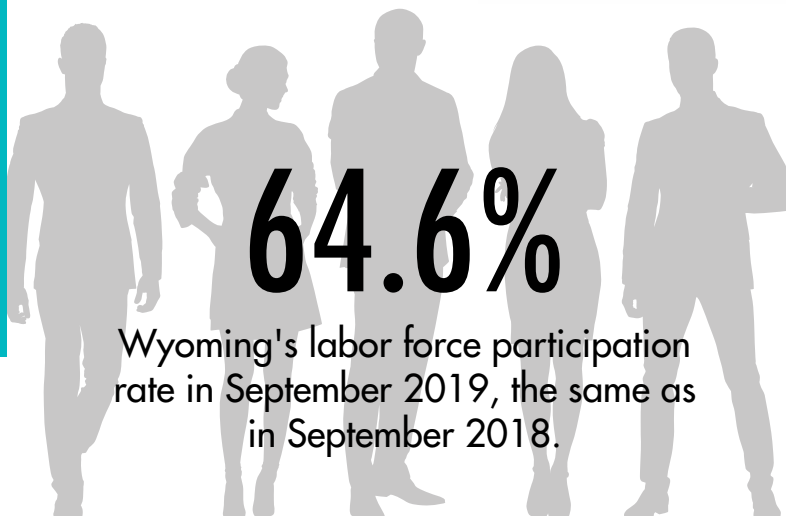
Nebraska's year-to-date decline in new privately owned housing permits through September 2019, compared with 2018.

Source: U.S. Census Bureau and Haver Analytics

5.2%

Missouri sales and use tax collected from July through October 2019 compared with the same period in 2018.

Source: Missouri Office of Administration: Budget & Planning Division



64.6%

Wyoming's labor force participation rate in September 2019, the same as in September 2018.

Source: Bureau of Labor Statistics and Haver Analytics

MORE ECONOMIC DATA

The Kansas City Fed regularly conducts surveys about regional economic conditions and publishes the data at [KansasCityFed.org/research/indicatorsdata](https://www.kansascityfed.org/research/indicatorsdata).



0345643

43.1%

The increase in New Mexico's exports to Mexico through September 2019 compared with the same year-to-date period in 2018.



Source: WISERTrade and U.S. Census Bureau

17,438,000

Barrels of oil produced in Oklahoma in August 2019—a level almost identical to August 2018 production.

Source: Energy Information Administration and Haver Analytics

\$25.76

Average hourly wage in Kansas in September 2019, a 4.1% year-over-year increase.

Source: Bureau of Labor Statistics and Haver Analytics

FROM THE VAULT

Kansas City Fed History



RAMAC promotional photo, courtesy of IBM © 1956

1958: Dawn of the Fed's computer age

In today's technology-driven world, it might be hard to imagine that momentous developments in computing were happening more than 60 years ago. In 1958, the Defense Department launched a patchwork of military computers (ARPANet) that laid the foundation for the internet.

In December of that year, the Kansas City Fed's head office made its own groundbreaking step into the computer age by installing the IBM RAMAC, the first computer deployed in the Federal Reserve System. The 16 foot-square RAMAC—Random Access Method of Accounting and Control—weighed more than a ton and was the first computer to use a random-access disk drive. It stored about 5 million characters of accounting data and had storage capacity of about 5 megabytes. That was a major breakthrough, but by comparison a single picture on today's mobile phones can take up more space.

In January 1959, the RAMAC installation was featured in *10 J News*, a Bank publication for employees. The article noted that the Bank allocated nine employees to a new department in charge of the computer. In perhaps a sign of the times, the article included a section labeled "What is a Computer?" to explain data processing—and assuage concerns about an "electronic brain" acting on its own. "The machine cannot think for itself," the article assured.

By the time IBM ceased production of the RAMAC in 1961, the Bank was switching to a more advanced computer, the IBM 1401.

SNAPSHOTS

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

Consumption in the Great Recession

by KARTIK ATHREYA, RYAN MATHER, JOSÉ MUSTRE-DEL-RÍO and JUAN SÁNCHEZ

The United States entered the Great Recession with a high and geographically diverse incidence of household financial distress. This dispersion, combined with the fact that highly financially distressed regions experienced the largest housing busts, exacerbated the drop in aggregate consumption during the recession.

Research Working Paper, October 2019

Negative nominal interest rates and liquidity traps

by ANDREW GLOVER

Central banks have used negative nominal interest rates in recent years to try to stabilize demand during recessions. However, negative rates would likely deepen a recession caused by self-fulfilling pessimism—unless they descend to a functionally impossible level.

Research Working Paper, October 2019

How have banks responded to declining reserve balances?

by W. BLAKE MARSH and RAJDEEP SENGUPTA

Reserve balances have declined by more than \$1 trillion since 2014, leading banks to increase their holdings of other high-quality assets to meet liquidity requirements. However, the composition of these assets varies substantially across banks.

Economic Bulletin, August 2019

As manufacturing slows, consumers pull back

BY JOSÉ MUSTRE-DEL-RÍO AND EMILY POLLARD

During the current downturn in manufacturing, changes in consumption growth have been smaller in states with a higher share of workers in that sector.

Economic Bulletin, November 2019

See full reports, papers, data and more at [KansasCityFed.org/research](https://www.kansascityfed.org/research).

kcFED SOCIAL SEEN

Social media highlights of our engagement across the region



1 **@GIVINGTHEBASICS** The employees of @KansasCityFed have pretty important jobs and we are glad they came to the warehouse to help us provide #personalcare and #hygieneproducts to the #KansasCity Metro! [Twitter](#)



2 **APRIL BOYD-NORONHA, MBA** Enjoyed moderating today's panel on the #FutureOfWork, especially in the tech realm of UX and coding thanks to fellow SMEs #AugustMatlockCarter and #NiciKelly! Kudos on "another one" to FeleciaHatcher, founder of #BlackTechWeek and the continued support from the #KansasCityFed and #KauffmanFoundation. [LinkedIn](#)



3 **KANSASCITYFED** We recently hosted a networking event with the University of Missouri-Columbia Alumni Association to offer members the opportunity to learn about our Bank's work and engage with our employees. [LinkedIn](#)



4 **KANSASCITYFED** We caught the @AdventuresOfNalls family having fun with our hands-on #origami activity at our #KansasCity #MoneyMuseum! [Instagram](#)



5 **KANSASCITYFED** More than 920 pounds of produce were harvested and donated to community food pantries this year through our Community Involvement Program's #KansasCity Urban Garden! [LinkedIn](#)



6 **@KANSASCITYFED** Last week local high school students attended our Power Of You conference. Learn more about our career readiness resources at expi.co/01nWKD. #Education [Twitter](#)



7 **@KANSASCITYFED** Thank you to @okgoodwill for giving our #CommunityDevelopment Advisory Council the opportunity to visit! The council learned about the organization's efforts to remove barriers to employment for all. Learn more about our advisory councils at expi.co/01nYDX. #CommDev [Twitter](#)

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