

### Pursuing a safe, secure and reliable payments system : What can history tell us?

**U**n recent years, the way we make payments has undergone a dramatic change. Online banking and bill payment, debit cards, greater credit card usage and smart cards rapidly are replacing our use of cash and checks, which have made up the traditional payments system throughout U.S. history. This payments revolution is far from over, with transactions through enhanced mobile phones and new developments in identification and authentication technologies on the horizon.

For all of us, this evolving electronic payments system is bringing with it many benefits, including lower costs, and greater convenience and control when making payments. Also, we now have the ability to make payments on an instantaneous basis—an important feature for those of us engaged in online shopping and last-minute bill paying.

At the same time, though, this new payments system is raising a variety of concerns, including identity theft, data breaches, unauthorized access to one's financial accounts, misuse of sensitive information and computer breakdowns. Some of us may already have firsthand experience with such risks, having been targets of phishing attacks or victims of stolen credit card numbers or data breaches.

Part of these risks would appear to be unique—a new technology is involved, new players are providing payments services, and electronic payments often go to businesses or

individuals that can be identified only through a Web address. In many ways, though, these risks mirror what we have seen before in the development of our payments system. A common feature in the history of our payments system is that consumers, financial institutions, the business community and public authorities all have played important roles in helping to contain risk and build confidence. Because this experience may shed some light on the fundamental issues and risks, it is worth taking a brief look at how our payments system has evolved to the present and the lessons that we have learned.

#### **Wildcat banking**

One of the earliest experiments in U.S. payments history was when banks were allowed to issue their own bank notes as a means of payment. Before the Civil War, most states authorized the banks they chartered to issue bank notes or paper money in each bank's own name. These notes were to be secured by a comparable amount of government bonds or other acceptable assets deposited with the state banking authority. Banks were further required to stand ready to redeem their notes for gold or silver coins upon the request of any





noteholder. For any bank that failed to do so, state authorities could close the bank and sell the pledged securities to pay off the remaining noteholders.

On the surface, this framework appeared to establish a secure payments system, but a number of problems eventually arose. Most important, if the pledged securities declined in market value, whoever held the notes could be less than fully secured and would have trouble finding someone to accept them at face value. The wide array of bank notes in circulation—and the resulting opportunities for counterfeiters—further added to these questions of acceptability.

Beyond this, a number of states even allowed bankers to buy depreciated bonds and then exchange them for notes on the basis of the bond's higher par value or issue price. This oversight provided an instant profit to banks in addition to the interest they could earn on the bonds, thus encouraging some bankers to issue much greater volumes of notes. Such incentives led to what became known as wildcat banking—one of the most colorful times in U.S. banking history. A handful of bankers with less than stellar reputations located their banks in backwoods areas among the wildcats. These inaccessible locations prevented people from coming in and redeeming notes for gold and silver, thus enabling the wildcat bankers to continue capturing the extraordinary profits on their inadequately backed currency.

Although there is still debate about how severe the problems and losses were with wildcat banking, this system was, without

doubt, inefficient. In fact, people often had to carry silver and gold coins just to be sure they could conduct business in distant locations. A variety of private and public responses were initiated to deal with the inherent problems. For example, private brokers would collect bank notes from merchants and individuals and, for a fee or discount, would then present these notes to the issuing banks for redemption in gold or silver. Several publications even arose to report these discounts and thus extend such information to a wide group of individuals and merchants.

Sound banks performed a similar role in collecting the notes of other banks and then presenting them all at once for redemption.

The eventual solution to this seemingly chaotic system was to make paper money a more direct function of the government, starting first with national bank notes, which had tighter standards for pledged securities, and eventually leading to Federal Reserve notes, whose issuance depends on the public demand for currency and the Federal Reserve's monetary policy operations.

## **Payments by check**

After the wildcat banking era, our payments system began to change in other and even more significant ways. Deposits that could be withdrawn by checks quickly became the focal point of what was an emerging payments system. In comparison to notes, checkable deposits demonstrated some notable advantages. People and businesses no longer had to carry as much currency around, and



checks proved to be especially ideal for large transactions and for transferring money over a distance.

Like bank notes, though, checks have not been without problems. Anyone accepting a check bears the risk that a check might be a forgery or have been written against an account with insufficient funds to cover it.

While other forms of ID theft and financial fraud have drawn more of the headlines recently, the risks associated with checks are significant and certainly familiar to many businesses and continue to draw their attention. These risks, in fact, were portrayed some years ago in the movie “Catch Me If You Can,” based on the life of a master of check forging, Frank Abagnale, and his ability to easily pass off fraudulent checks on unsuspecting parties. In an interesting twist to that story, Abagnale now helps law enforcement agencies and businesses design better systems for controlling the types of check fraud and ID theft he had mastered.

To deal with the risks inherent in accepting checks, merchants, bankers and others now employ a number of approaches. These range from asking for several pieces of identification from anyone cashing a check to using check verification systems and penalty fees for bad checks. Other steps include requiring cashier's checks or bank letters of credit to make a major purchase, and placing holds on the use of funds or shipment of goods until after a check has time to clear. Public laws further provide recourse for victims of check fraud. In addition, banking regulations and clearinghouse rules contain provisions designed to speed up

the return process on unpaid checks and to provide prompt notification to the bank and the customer who received the check.

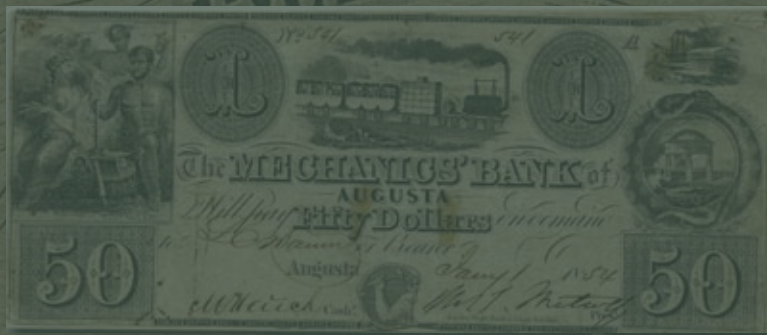
## Lessons to be learned

What can we learn from these experiences, and how do such lessons apply to the new payments revolution?

Perhaps the most important things we can learn are that our payments system has not been without risk during the different stages of its development and that consumers, businesses, financial institutions and public authorities must all play a role in containing risks and protecting those making and receiving payments.

The basic issue in our payments system—historically and now—is in verifying the soundness of a payment and authenticating its source. With wildcat banking, people were sometimes faced with the issue of whether to accept the notes of a bank they knew little about. Similar problems arose with the introduction of checks and not knowing if someone had sufficient funds to cover the checks they wrote. These verification issues were further complicated by the large number of banks issuing notes and the enormous volume of checks being written.

Now we are seeing a repeat of this problem with electronic transactions, where individuals and businesses may receive payments from unknown sources and be at risk from a fraudulent exchange. Both consumers and businesses can be victims, and the efficiency, integrity and prospects for a successful,



innovative payments system can be jeopardized as a result. One further complication in electronic banking is the proliferation of different payment channels—credit, debit, ACH, wire or PayPal—along with a wide array of payment instruments—cards, computers, phones and cell phones. Each of these combinations may have different vulnerabilities and thus different arrangements and rules with regard to user safeguards and security, authentication processes, liability, and error resolution and responsibility. The result is confusion and increased payments risk.

Should electronic payments be addressed in a manner similar to wildcat banking, where the federal government eventually took over and standardized how currency would be issued, or more like payments by check, where a wide variety of steps have been taken by private companies to limit the uncertainty?

Realistically, a combination of private and public approaches likely is necessary, and, ideally, these approaches should support each other. Electronic banking developments have been very innovative, and private markets can help ensure that this innovation continues and new and better ways are found to protect participants. But we must also be confident in the integrity and reliability of the means of payments, and that's where the public authority has a role.

On the public side, an example of a possible approach is the Electronic Fund Transfer Act of 1978, as implemented through Federal Reserve Regulation E. This legislation has been a very important step in establishing the basic rights, liabilities and responsibilities

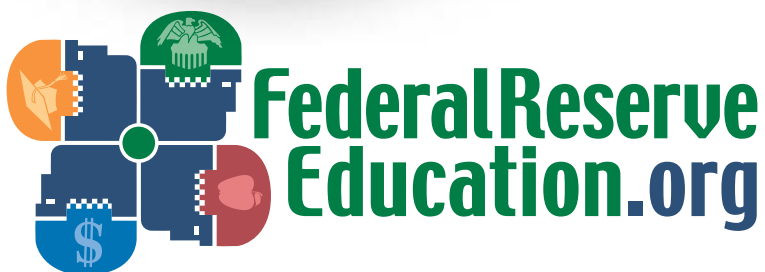
of consumers when they conduct transactions through electronic terminals from their accounts at financial institutions. By setting a common platform for all financial institutions and consumers to follow, this act provided an important impetus to electronic banking and may help establish a framework for additional public actions.

Another example of public-private cooperation is the development of ACH for small electronic payments in which the Federal Reserve System and the National Automated Clearing House Association (NACHA) have worked together as payments providers to develop a framework and rules that facilitate the safe, efficient and reliable movement of small electronic payments among parties.

Although it may still be too early to predict what combination of approaches will prove most fruitful in reducing risk and uncertainty in electronic payments, we must continue to do all that we can to build confidence in our payments system. The advantages of a safe, secure and reliable electronic payments system are likely to grow over time, particularly as e-commerce expands, consumers look for greater convenience, and merchants seek faster and lower-cost payments channels. And as before, our success will be defined by how private and public entities work together toward this common goal.

**THOMAS M. HOENIG, PRESIDENT  
FEDERAL RESERVE BANK OF KANSAS CITY**

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A photograph of two women standing in front of a store window. The woman on the left is wearing a dark denim jacket and is pointing towards the window. The woman on the right is wearing a dark blue jacket with a logo that says "Summer" and is smiling. The window has a chalkboard with some drawings on it. The background shows a building with a decorative facade and some trees with yellow leaves.

# Card *carrying* consumers

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Stored-value cards go beyond the mall



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Lucy Wietharn's holiday shopping this year was easy. But admittedly, so is all her gift giving these days.

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**B**irthdays, Christmas, graduation, weddings ... for relatives, teachers, the cleaning woman..."

Whether it's from Starbucks, Target or a popular restaurant, most everyone on the Wietharn family's list receives gift cards. It's a no-brainer, says the Overland Park, Kan. wife and mother of two. Shopping time is condensed, shipping costs are minimized, and returns and exchanges are eliminated.

"The failure is low" for both the giver and the receiver, Wietharn says.

Many are in agreement. More than two-thirds of consumers polled said they expected to buy at least one gift card during the holiday season, according to a National Retail Federation 2006 survey. Gift card sales increase each year by billions of dollars. Such big bucks are prompting spinoff businesses and even more ways to use stored-value cards.

The concept that perhaps started with prepaid phone cards more than a decade ago and has since transformed gift giving is now expanding beyond the mall into the workplace and even the doctor's office. Stored-value cards allow more consumers than ever the option of an electronic payment in a variety of capacities.

"It's clear stored-value cards are meeting a host of needs and addressing perceived voids in payments options," says Terri Bradford, a payments system research specialist at the Federal Reserve Bank of Kansas City.

Bradford first examined stored-value cards a few years ago when they were emerging as a payment method. At that time, the

extent to which consumers would accept the cards was still uncertain, but now the answer seems quite evident.

“Yes, stored-value cards have definitely come into their own, albeit to varying degrees, depending on the category,” Bradford says. “These cards have become an important and dynamic component of the payments landscape, and their presence and popularity continue to grow.”

### Gift cards: Kiosks, websites

“After diamonds, or perhaps a 42-inch flat panel TV, nothing apparently says ‘Thinking of you’ like a gift card,” Bradford says.

That’s Summer Richards’ mantra. The 14-year-old Lee’s Summit, Mo. girl loves to shop but knows she can be hard to shop for.

And rather than end up with a bad gift (like the “Lady and the Tramp” DVD or the “High School Musical” CD—“I was stuck with them”), Richards says she prefers gift cards to her favorite clothing stores like Abercrombie & Fitch or American Eagle Outfitters.

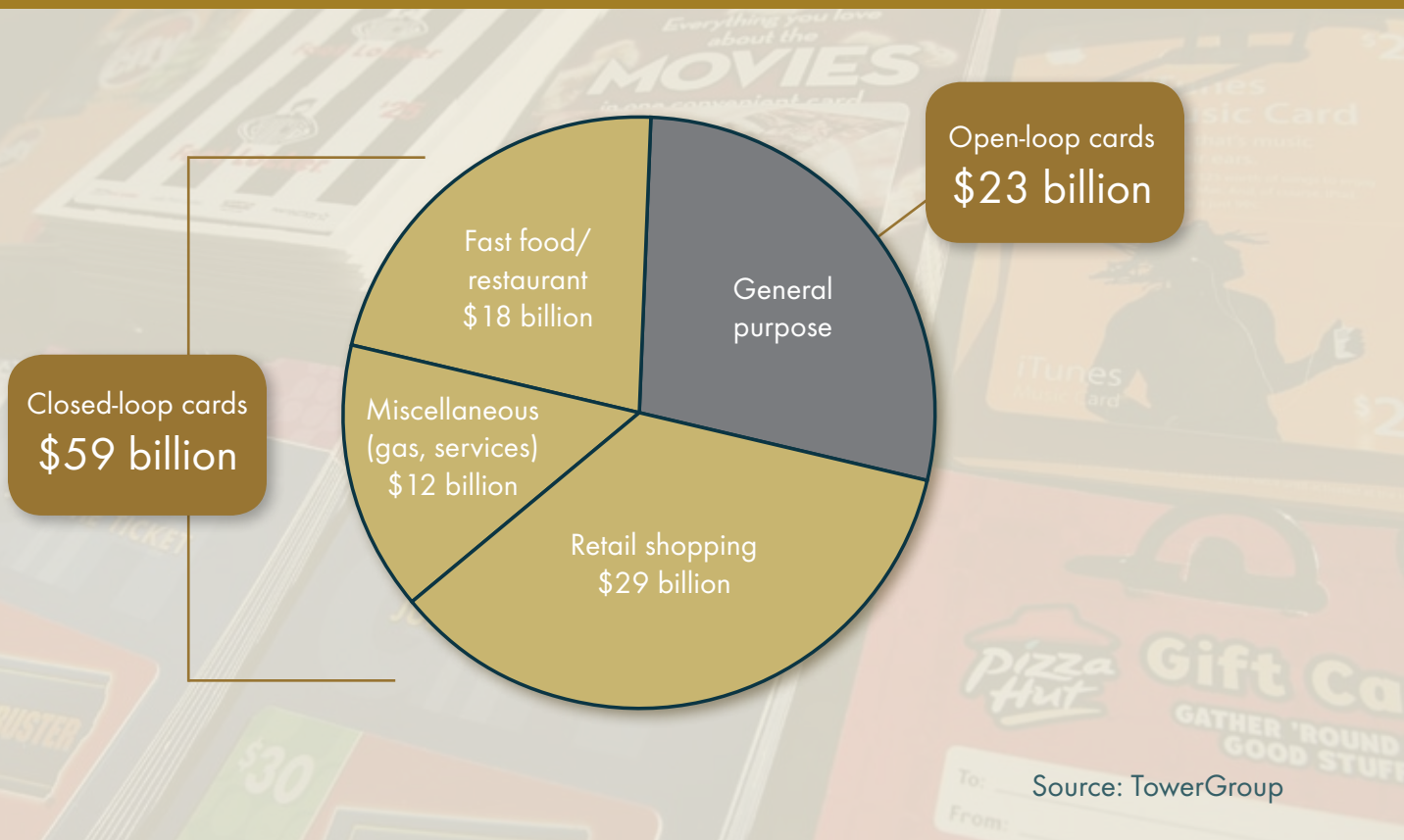
Not only are gift cards ideal for recipients, purchasing them is becoming even more

convenient for the giver as issuers expand their reach. Gift card “malls” are being set up in places shoppers visit often, such as grocery stores. These gift card kiosks feature a variety of merchants and services—Barnes & Noble, iTunes, The Gap—as well as general-use gift cards. Typically located near the stores’ checkout, these kiosks allow shoppers to quickly choose their gift card and denomination, pay, and go.

The gift card issuers pay a commission to both the companies that set up the kiosks, such as Blackhawk Network, and the stores that allow the kiosks on their sites. These merchants may benefit from increased foot traffic as a one-stop shop for the cards as well as their own products.

According to TowerGroup, consumers spent more than \$80 billion on gift cards in 2006. Of that, nearly \$60 billion was spent on cards for specific merchants, such as restaurants or clothing stores, and more than \$20 billion was spent on general-purpose cards, which are those that carry network logos such as Visa or MasterCard and are accepted anywhere the network is accepted.

## More than \$80 billion was spent on gift cards in 2006



Source: TowerGroup





PHOTO BY SCOTT INDERMAUR

SUMMER RICHARDS, 14, takes her gift card to Brighton Collectibles at The Country Club Plaza in Kansas City, Mo., one afternoon while out shopping with her mom. Summer's favorite gifts are gift cards.

While merchants may benefit from the gift card recipients spending even more than the value of their card, there's also a relatively high chance the funds on the cards won't be fully redeemed. In 2006, an estimated \$8 billion, or 10 percent, of gift cards weren't used, according to TowerGroup.

This is where websites such as [cardavenue.com](http://cardavenue.com) come in. This site and others like it facilitate the buying, selling and trading of consumers' unwanted gift cards; sellers and traders are charged a small fee. The site's operators verify and secure all transactions, combating scammers who purchase gift cards with stolen credit cards and then resell them online.

Cardavenue.com Founder and CEO Bob Butler started the website in late 2004 for "not very glamorous" reasons.

"I had a couple of gift cards that I didn't want," he says.

Thousands of cards—mostly from popular retailers and restaurants in varying denominations—are posted on the site each month. Traffic spikes during the holidays through February, he says.

Most site visitors trade their gift cards, Butler says. They still want gift cards, just from a different merchant. Plus, consumers are value conscious and don't want "stored money" to just sit in a drawer at home.

### General-purpose, payroll cards

A second type of stored value-card are the general-purpose card and payroll card, which have similar features, Bradford says. The general-purpose cards can be loaded with funds in a variety of ways, including direct deposit, and payroll cards most often are set up through an employer. In addition, many offer the ability to reload funds.

Both types of cards carry a network brand

(MasterCard, for example), and may be used at ATMs, online or at the point of sale.

For instance, Wal-Mart and partners are issuing a Visa-branded stored-value card that consumers can load with payroll or other funds at Wal-Mart stores, or via direct deposit. The card is accepted almost anywhere Visa is accepted, can be used at ATMs and is covered by Visa's zero-liability policy.

These stored-value cards offer consumers another electronic payment option, one that may be especially important to those who primarily use cash.

"Prepaid products have provided the marketplace with an offering that provides cash-like benefits, while offering the convenience and ease associated with plastic," says Dana Traci, vice president of prepaid and partner marketing for Discover, which has issued a general-purpose card since 2003.

In general, there has been a significant increase in the use of all payment cards, especially debit and credit cards, in lieu of writing checks or using cash. While not all consumers can obtain a debit or credit card, anyone with cash can easily get a stored-value card.

"The growing popularity of these stored-value cards may be linked to the country's millions of unbanked consumers, who often pay expensive fees for check cashing, money orders to pay bills and other services," Bradford says.

Stored-value cards are a way to reduce these fees for the consumer, plus offer benefits that cash doesn't, such as replacement

if lost or stolen. For card issuers, this is an opportunity to convert cash payments to electronic ones, creating new revenue from associated fees.

For employers, payroll stored-value card programs can eliminate the expense of issuing paper checks to employees who don't have an account for direct deposit. The cards also can eliminate the possibility of check fraud and make the payroll process faster and easier—reasons why TriCentury Bank, based in Simpson, Kan., developed a payroll card several years ago for companies and its own employees.

Large companies, such as FedEx, McDonald's and Coca-Cola, offer payroll card programs to employees.

## Flexible-spending, health account cards

A third type of stored-value card is the flexible-spending and health-care reimbursement card. These particular cards hold funds, often pre-tax income up to a certain limit, contributed by employees to accounts offered by their employer. The money can be used for eligible dependent care and medical expenses and is typically accessed via a network-branded prepaid debit card as the expenses are incurred.

Benefits for contributors to health and flexible-spending accounts include convenience and time savings—reimbursement requests, which often require submitting receipts, are eliminated or reduced.

Because the process is less cumbersome, employees are more likely to contribute, say employers. And both the employee and employer benefit from the reduction in taxable income.

In January 2006, Cerner Corporation, a Kansas City-based supplier of health-care information technology services, launched Healthe—one of the first combined health plan ID and debit cards.



BUSY WIFE AND MOM, LUCY WIETHARN, with daughter, Cate, 4, and son, Marshall, 6, loves the convenience and ease of purchasing gift cards. She can pick up them up while running errands. "At any time you can go get them," Lucy says.



More than 11,000 employees and dependents under the Cerner health-care plan are able to access in real time their health-care dollars at Cerner's on-site health clinic and pharmacy with the swipe of their card, says Kelli Christman, Cerner spokesperson.

Cerner partnered with First Data Corporation and United Missouri Bank, and is in the early stages of providing a similar card to other employers with on-site employee health clinics.

"When you leave the appointment, every financial aspect is settled up," says Christman, who has used the card since its inception. Cerner employees, herself included, have responded favorably to the program.

The program gives employees control over their health care, streamlines the care and payment process, and significantly reduces time away from work.

It's the kind of convenience that gift card giver Lucy Wietharn loves about stored-value cards, and she'll continue to happily use them in as many ways as possible, she says.



BY BRYE STEEVES, SENIOR WRITER

## FURTHER RESOURCES

### STORED-VALUE CARDS: A CARD FOR EVERY REASON ...

By Terri Bradford  
[www.KansasCityFed.org/TEN](http://www.KansasCityFed.org/TEN)

**COMMENTS/QUESTIONS** are welcome and should be sent to [teneditors@kc.frb.org](mailto:teneditors@kc.frb.org).



# Economics of diversity

**F**or Marco Listrom, the challenges of running his own small company may pale in comparison to what could have been a steep climb up the career ladder when he entered the workforce decades ago.

As a second-generation Mexican-American, he knew it might have been a struggle to advance in a homogenous workplace. So Listrom, now 54, has always been his own boss, creating the kind of office environment he wants to work in.

“I didn’t want to have to fight going upstream,” he says. “There’s a better way, a more diverse way.”

At Valdes & Moreno, his small institutional brokerage and investment banking firm (named after his mother and grandmother), Listrom’s philosophy is: Diversity runs from the top down.

“The important thing for me to understand (as a manager), is that not everyone is like me,” he says.

The environment at Valdes & Moreno in Kansas City, Mo., is respectful of differences among its employees. This is challenging, but it teaches staff members flexibility, tolerance and how to learn from one another. The company reflects the outside world, which, ultimately, is good for business, Listrom says.

“The success of our firm hinges on how well we serve our customers, and that implies how well we manage productivity and changes,” he says.

While workplace diversity certainly is trendy, it may actually be necessary to conduct business competitively as the marketplace continues to grow more global. But, if it’s not managed effectively, diversity can be costly, says Alan Garner, an economist and assistant vice president at the Federal Reserve Bank of Kansas City.

“Sometimes in discussing diversity, we tend to oversimplify and make it sound as if diversity automatically is an economic plus,” Garner says. “That isn’t necessarily true.”

Garner recently researched whether companies' increasingly diverse pool of workers help or hurt economic performance. His conclusion: It depends.

"Diversity can have both economic costs and benefits," Garner says. "Its effects on economic performance are complex and hard to identify clearly."

While a more diverse staff will have a broader mix of skills and ideas that may benefit output, it also might be difficult for them to communicate with each other because of different backgrounds or even languages. From an economic standpoint, it's not clear which factors would more greatly affect a workplace.

"As the workforce becomes increasingly diverse and continues to grow more global," Garner says, "organizations that master these tricky tasks are more likely to excel."

After nearly 15 years of business, Valdes & Moreno is able to measure with certainty its success in the marketplace.

"We have achieved diversity," Listrom says.

## Trends, effects of workplace diversity

While many often think of diversity in a racial or ethnic sense, people can be diverse in religion, country of origin, age, gender and many other ways. Even in the most homogeneous environments, workers will

differ, whether it's something like marital status or the college they attended. Because of its personal nature, diversity obviously affects society at many levels, and the workplace is no exception.

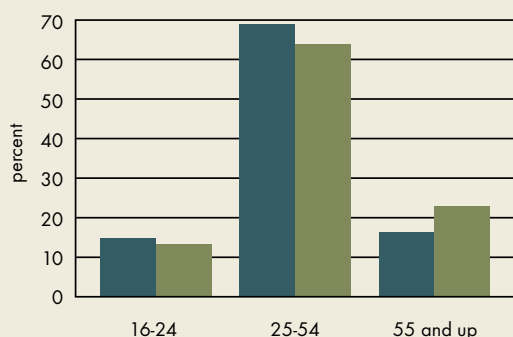
According to data from the Bureau of Labor Statistics, there are three key factors related to diversity that are affecting the U.S. labor force:

- The aging of the baby boom workforce, which has begun retiring, will slow the growth rate of the labor force overall. But the percentage of workers age 55 and older is projected to rise 7 percent by 2050.
- Women's labor force participation is expected to stabilize after peaking in 1999 and then gradually decreasing. By 2050, women still will make up an estimated 47 percent of the workforce.
- Racial and ethnic diversity in the workforce is expected to continue increasing. Especially noteworthy is the projected decline in the share of white, non-Hispanic workers from about 70.5 percent in 2005 to about 50.5 percent in 2050—something that can be attributed to lower birth rates, among other factors. Changes in the country's immigration policy also could affect growth in the Hispanic share of the labor force.

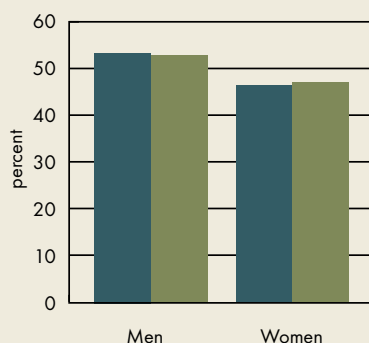
In addition to the growing diversity in the labor force, U.S. companies more and more are doing business in a global economy, with a

# Workplace diversity

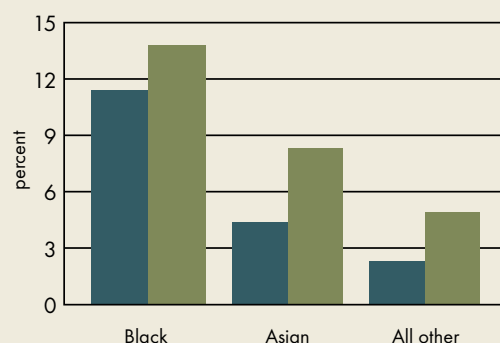
More older workers



Stable share for women



Rising nonwhite share



2005 2050

presence—and growth opportunities—in other countries. Today, U.S. imports and exports of goods and services add up to roughly 28 percent of the domestic economy.

Research on the effects of diversity differs, Garner says. One unpublished experiment that examined how diversity affected the performance of student groups shows more diverse groups can have the potential to perform better, but that's not always the case.

In this study conducted by university professors, students were placed in groups that varied by age, gender and race. Their performance was evaluated by group projects and individual exams. Sometimes diversity mattered; sometimes it didn't. For example,

In a way, it's an unwritten part of the business plan for the Kansas City, Mo.-based firm, which offers engineering, architecture, construction, environment and consulting services around the globe. While it's important for the workplace culture, Burns & McDonnell realizes it affects the way the company does business, says Melissa Wood, associate vice president of human resources.

"We need to be cognizant that our clients look different, talk different and think different," Wood says. "We need to evolve with them" as the marketplace continues to grow even more global.

With this in mind, nearly all of the company's 2,000-some employees have

**“ Companies that manage diversity well just may get more ideas and cooperation out of any given level of talent than other companies. ”**

male-dominated groups performed worse than female-dominated and equally mixed gender groups. Individuals who had been in a more age- and gender-diverse group scored higher on exams. Groups' racial makeup didn't appear to affect group or individual performance.

Some research shows developing countries that are diverse grow slower than less-diverse developing countries. Ethnic fragmentation can cause struggles over how to divide the "economic pie" rather than decision making for the common good. A strong framework, such as laws and property rights, as well as higher levels of income per person, lessens the negative effects. Other studies suggest more diverse cities may be more economically successful because of the diverse workforce.

### **Managing diversity**

Whether it's browsing the company's intranet section on diversity for a few minutes during the workday, or sampling ethnic foods at the Diversity Day celebration held on-site annually, employees at Burns & McDonnell are encouraged to recognize the differences among each other—and their clients.

attended in-house sessions on diversity. A diversity advisory committee was formed a few years ago, and internal focus groups identify diversity training opportunities. The idea is for employees to be self-aware and recognize that differences must be appreciated in the workplace, Wood says. This allows Burns & McDonnell to meet its clients' needs.

"It always goes back to the business client," Wood says. "We can offer a client something similar to their own background. We build relationships."

In contrast, a lack of commitment to diversity could mean high staff turnover, or a team of employees not able to meet production goals.

There are a number of ways diversity can affect the workplace, Garner says.

#### **Economic costs of diversity include:**

- Communication problems from different languages and cultural assumptions;
- Different ways of motivating and managing diverse employees;
- Additional costs of education; and
- Differing views on public policies.



PHOTO BY GETTY IMAGES

**Economic benefits of diversity include:**

- Increased access to talent;
- Better decision making as a result of dissimilar ideas;
- Increased ability to market across diverse cultures; and
- Increased adaptability of the company to respond to the marketplace.

“To excel, positives from diversity must exceed the negatives,” Garner says, adding, “It may be necessary to change the company’s culture.”

The costs of diversity can be reduced in several ways, such as offering programs to improve communication, says Deth Im, workplace diversity coordinator at Harmony, an organization that offers programs for companies, schools and other groups in the Kansas City metro area.

Im facilitates these sessions to prompt self-awareness and create dialogue. His presentations include videos, interactive activities and role-playing exercises.

“It really gives folks a lens to view, and understand, diversity,” he says. “Most of us have biases and we make judgments. ... One of the worst things diversity training can do is guilt people.”

Instead, it’s important to create an environment of honesty, Im says. There also

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**AS THE MARKETPLACE CONTINUES TO GROW** more global and more diverse, research shows companies that are able to make diversity an economic benefit are more likely to excel.

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needs to be a willingness to tackle tough issues. Employees may not want to embrace their co-workers’ differences, but they should accept them. Effectively managing diversity means problems, such as communication and coordination issues, need to be minimized, and benefits, such as the increased number of ideas and access to a larger talent pool, need to be maximized.

“That’s just part of doing business,” Im says. “The world is growing more diverse.”

Garner agrees.

“Diversity can either be a plus or a minus depending on the circumstances,” he says. “Companies that manage diversity well just may get more ideas and cooperation out of any given level of talent than other companies.”



**BY BRYE STEEVES**, SENIOR WRITER

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# Industry players

Emerging, long-standing sectors define a region







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IN SHORT, BRIAN BOOKER'S JOB IS TO  
MAKE SURE VIDEO GAMES ARE FUN.

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**N**ot a bad way to earn a paycheck, Booker, 40, acknowledges, but it was a long time coming.

When he was a teen, just simple computer games like solitaire were around, and Booker was an avid player of the tabletop game Dungeons and Dragons. It was then, while patiently waiting for technology to advance, that "I knew exactly what I wanted to do," Booker says.

But by the time he got to college, majoring in video game design wasn't an option. When he entered the workforce, Booker's first jobs were mostly IT work for various companies, though he was able to do some freelance design work and later started his side business, Creative Brain Studios.

Now, working at NetDevil as a design director, Booker, along with others, is responsible for game content. NetDevil's virtual creations include Jumpgate, a multiplayer flight simulator, and Warmonger, a first-person action game, among others.

NetDevil staffers, including Booker, are now developing LEGO Universe. Collaborating

with the popular toy manufacturer to produce a large-scale, mass-market, multiplayer game is a benchmark for NetDevil, which began in the Denver suburb of Louisville in 1997 with just three part-time staff. It now employs more than 75, and is growing as the popularity of games rapidly spans the globe.

For Booker, this may mean job security. For the region, this industry may mean a significant economic impact.

Business demand has pushed the software industry into the projected top 10 growing sectors in the country. Software publishing and computer design already have experienced significant expansion in Colorado especially, with the video game market standing out as a key component of the industry, say Chad Wilkerson, economist, and Megan Williams, associate economist, both at the Federal Reserve Bank of Kansas City's Oklahoma City Branch. Wilkerson is also the Branch executive in the Oklahoma City office.

Wilkerson and Williams recently researched what industries define (in terms of concentration and the number of employees)

# TOP DEFINING INDUSTRIES

## IN THE TENTH DISTRICT

Defining industries—those that make a region or state different from the nation—tend to drive growth. The industries that define specific states in the District vary widely, although some industries define several District states. Most District states have a large industry presence in the energy or agriculture sectors, or both. The seven states in the District are: Missouri, Nebraska, Kansas, Oklahoma, Wyoming, Colorado and New Mexico. In each state, recent employment growth has mirrored the growth of each of the state's defining industries. Missouri's industrial structure most resembles that of the nation, while Wyoming's has the least resemblance.



the Tenth Federal Reserve District, which is made up of western Missouri, Nebraska, Kansas, Oklahoma, Wyoming, Colorado and northern New Mexico.

“Identifying defining industries and understanding how they are changing can provide context for growth and help recognize future risks to the region,” Wilkerson says.

The industries of the District continue to evolve, and although industry trends often mirror those of the nation, the regional variety still makes the District unique. It’s these defining industries that often dictate overall growth and economic strength, Williams says.

The District remains heavily concentrated in several long-standing industries, such as oil and gas, agriculture, and aircraft manufacturing. The outlook for these sectors is mixed; based on their research, Wilkerson and Williams project modest growth at best.

Several emerging industries, however, may affect the region favorably in both urban and rural areas, Williams says. Like the software industry, others with anticipated high growth include call centers, data processing, biosciences and wireless telecom. These sectors may have a direct impact on economic prospects.

As an area’s defining industries change, so might the potential for economic growth there. States with little growth in defining industries also had slow overall growth. Many industries that have no specific location requirements may even offer new opportunities for growth in rural America.



AIRCRAFT MANUFACTURING is the top defining industry in Wichita, Kan.

PHOTO BY GETTY IMAGES

## Defining industries in the region

When Scott Miller came to Wichita, Kan., in 1988 to teach aerospace engineering at the university, he knew he was moving to the Mecca of aircraft manufacturing, but he didn’t know to what extent until he heard children bickering in a parking lot.

“They were arguing about what type of plane had just flown overhead,” Miller remembers.

## “ Identifying defining industries and understanding how they are changing can provide context for growth and help recognize future risks to the region. ”

“States with defining industries that have prospered in recent years have grown quickly overall, while states with defining industries that have struggled in turn have grown sluggishly,” Wilkerson says.

Research shows several District states’ economies remain among the most distinct in the country, but “aeronautics is pretty unique,” Miller says, especially for Kansas. The industry has been prominent since planting its roots in

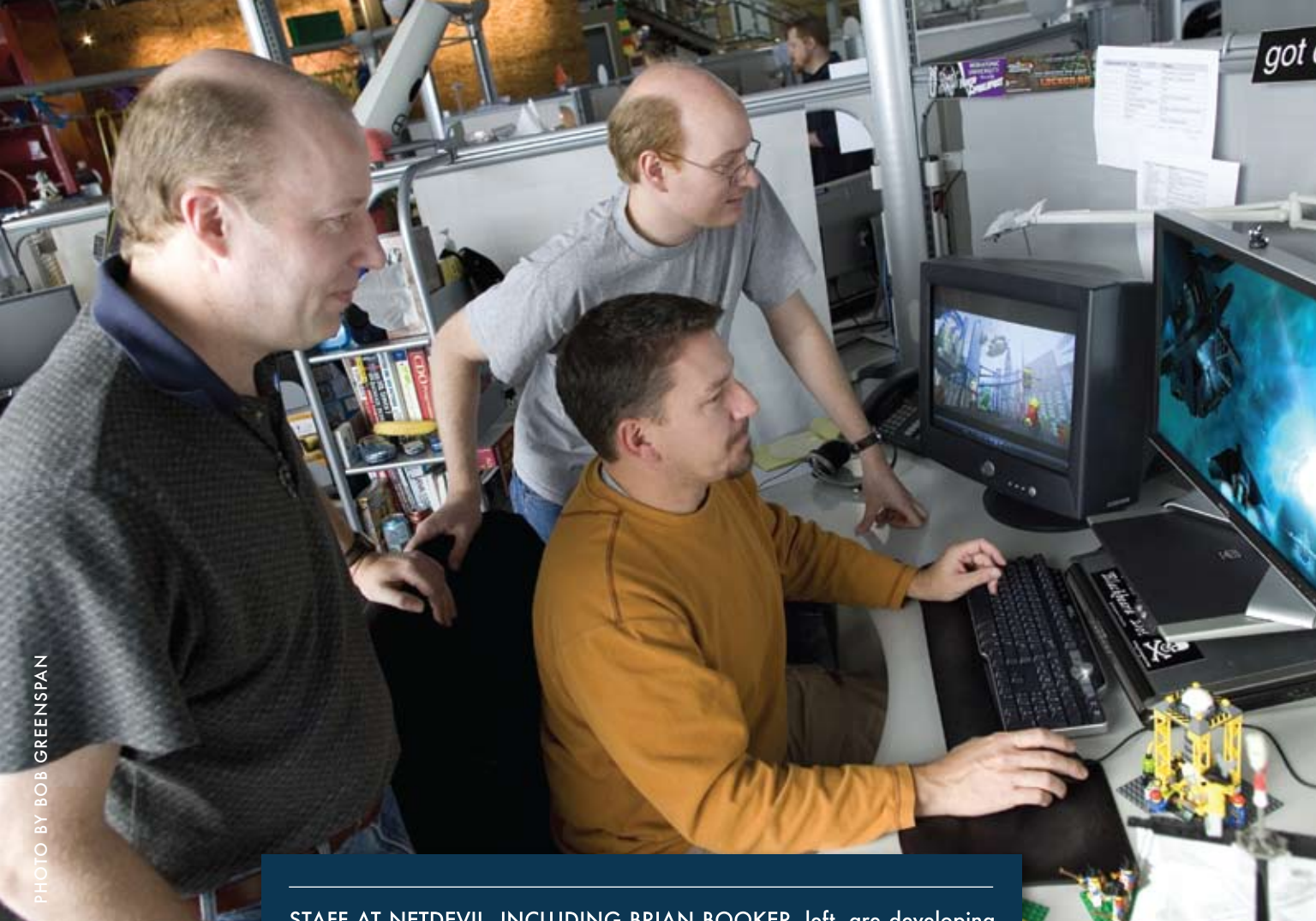


PHOTO BY BOB GREENSPAN

STAFF AT NETDEVIL, INCLUDING BRIAN BOOKER, left, are developing the LEGO Universe computer game. The software industry is one of the fastest growing in the country, and a top defining industry in Colorado.

Wichita almost a century ago.

Known as “The Air Capital of the World,” the city of 350,000-some is home to six major aircraft manufacturing companies as well as McConnell Air Force Base. The area’s top three largest employers are Cessna Aircraft Co., Spirit Aerosystems Inc. and Raytheon Aircraft Co. The manufacturing sector as a whole employed 58,400 of 282,800 nonfarm jobs in the Wichita metro area in 2004, according to the chamber of commerce.

Miller sees signs of industry expansion, something he attributes to its history, the co-location of many aircraft companies and

resources, and the partnership with Wichita State University. The majority of the 300 or so students in aerospace engineering there find post-graduate work locally. It’s like six degrees of separation, Miller says; everyone in Wichita has a tie to the aircraft industry.

Though research is mixed on whether it’s better for a state’s economy to be diversified or specialized, industries that define an area’s economy seem to play a significant role in growth through time. There’s no doubt the aircraft manufacturing industry defines Kansas.

Wilkerson and Williams consider an

industry “defining” if it is more concentrated in the region than in the rest of the nation. This measurement distinguishes defining industries from driving industries, which may employ large numbers of people but are not more important in the region than in the nation, such as the health-care industry. Defining industries also account for at least 0.2 percent of employment in the region, which equated to more than 25,000 jobs each in 2005.

Based on these two criteria, Wilkerson and Williams analyzed a group of 15 defining industries in the District, which accounted for about 10 percent of the area’s total employment in 2005. The top five were the same in 1990.

### **The District’s five most defining industries overall are:**

**Oil and gas extraction:** Employment in the District is most highly concentrated in this industry; activity is up significantly after a period of moderate growth. High energy futures prices and new extraction possibilities have improved the outlook. Oklahoma, New Mexico and Wyoming have the heaviest concentration in the District, followed by Colorado and Kansas.

**Farming:** Employment has been weak as technology replaces workers; little growth is forecast, although ethanol production recently boosted farmland values and incomes in corn-growing states such as Nebraska.

**Rail transportation:** Computers have changed the industry’s operations considerably, leading to a decrease in employment, but activity has improved recently. The industry is heavily concentrated in Nebraska, Kansas and Wyoming.

**Aircraft manufacturing:** Cutbacks in national defense spending and struggling airlines have hurt the industry, and employment has declined considerably since 1990. The outlook is brighter as demand for personal air travel rises and spending for defense aerospace production increases.

**Animal slaughtering and processing:** Recent growth is a result of rising demand for meat products, especially beef. Plants are located throughout the District, particularly in rural Nebraska, Kansas and Oklahoma.

“Overall, recent growth in these industries—which have defined the District for so long—has been sluggish at best,” Wilkerson says. “They are unlikely to create a sizeable number of jobs in the years ahead. The region may need to look elsewhere for new jobs.”

### **Emerging industries**

Unlike most of the long-time defining industries of the District, several saw rapid employment growth from 1990 to 2005. As a result, they have become increasingly concentrated in the region, and may offer growth opportunities, Williams says.

#### **High-growth defining industries in the District include:**

**Gambling:** New legislation has expanded gaming significantly in Oklahoma, New Mexico and Missouri, in both urban and rural areas.

**Business support services and data processing services:** While located mostly in metro areas, increased technology allows call centers, electronic and mail order houses, and data processing and related services to operate in rural locations. Google, for example, recently announced it will open a new data center in Pryor, Okla., a town of less than 9,000.

**Retail superstores:** Retail superstores, such as Wal-Mart Supercenter and SuperTarget, are now more concentrated in all of the District’s seven states than in the nation as a whole.

Despite their growth opportunities and overall popularity, the desirability of superstores and casinos often is debated. The superstores generally offer lower prices and large selections, but can drive out locally owned shops, more so in rural areas than metros. Research is mixed on superstores’ effect on local employment.

In some areas, casinos have increased employment growth by double digits, often in Native American communities where unemployment was high. But, there are potential economic drawbacks associated with gambling. In order to boost economic growth in a casino's surrounding area, the gambling money must come from outsiders, not local residents, Wilkerson says. Other costs may include increased crime and more frequent personal bankruptcy.

A little more than a year ago, the Potawatomi Nation opened a 125,000-square-foot, Vegas-style casino off Interstate 40 near Shawnee, Okla. The multimillion-dollar facility includes restaurants and bars, and an entertainment venue that has featured Wayne Newton, the Beach Boys and other performers

not from the immediate area.

"I think gaming has been a real blessing for the tribe," Capps says. "It all started with bingo (in the 1980s). It was successful and people loved it. Americans love to gamble."

In 2006, Oklahoma brought in about \$2.2 billion in gambling revenue. This is a 33 percent increase from the year prior, according to the North American Gaming Almanac. There are 97 casinos in Oklahoma, although not all are as large-scale and some don't offer table games, but rather slot machines.

This means economic development and self-sufficiency for the Potawatomi Nation, Capps says.

FireLake Grand Casino has about 1,200 staff on its payroll, which is half the Potawatomi Nation's total employment, though not all are

**“ Certain states in the region have seen growth in sectors that may have the potential to become defining industries. ”**

as well as events, such as cage fighting. The Potawatomi Nation plans to start construction on a nearby hotel this year and hopes to add a golf course in the future.

The idea is for FireLake Grand Casino to be a destination point, says Linda Capps, Potawatomi Nation vice chairman. The casino alone already has been an economic benefit to the tribe, she says, as well as a boost to the nearby towns' commerce and quality of life by offering locals entertainment and dining options they would otherwise drive 40-plus miles to Oklahoma City for. The majority of FireLake's patrons, though, are

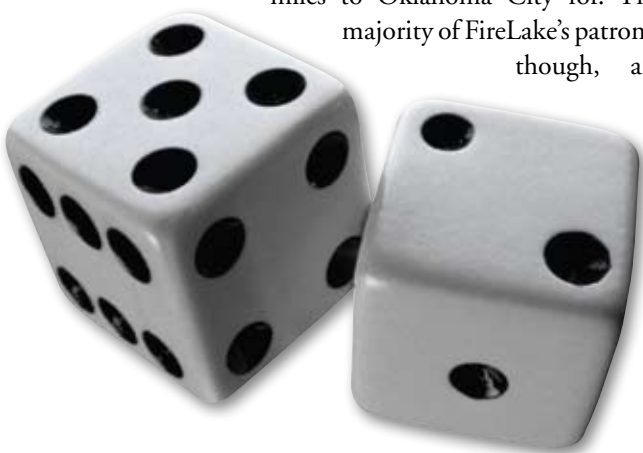
tribe members. The tribe doesn't rely on this industry exclusively, but casino revenue pays for services, such as the health clinic or housing assistance for some members.

"It is an industry where you can make money relatively fast," Capps says. "We wouldn't be able to do a lot of things for our (tribe) members if it wasn't for profits from gaming."

### **Future growth**

At NetDevil, Brian Booker sees "huge potential" in the computer games industry. He attributes the growth and strong outlook to several factors, including consumers' increased time and comfort level online; overall increased access to computers and the Internet; and, perhaps most important, the rising popularity of this type of entertainment.

In the District, states with both the largest overall growth rate and highest growth in defining industries recently were Colorado, New Mexico and Wyoming, Wilkerson says.



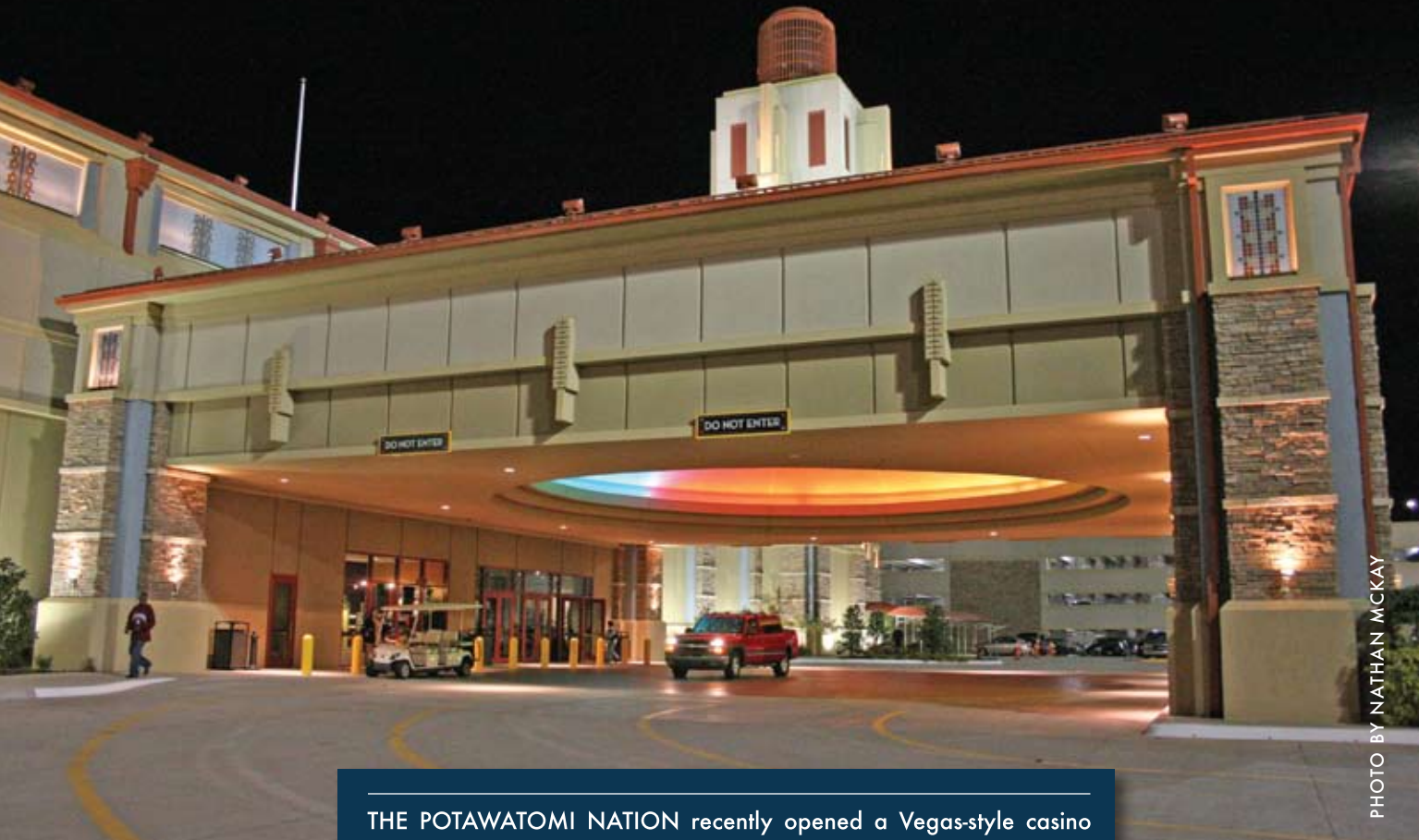


PHOTO BY NATHAN MCKAY

THE POTAWATOMI NATION recently opened a Vegas-style casino in rural Oklahoma. New legislation has significantly expanded the gaming industry.

In Kansas and New Mexico, the biosciences industry has been rapidly growing, especially in areas where a university and research campus are located. Similar to health-care-related industries, this sector is projected to be among the 10 fastest-growing in terms of wages and employment.

As the oil and gas industries in Wyoming see high growth, the machinery and equipment rentals industry is increasingly important there. This provides new opportunities in a sector that has relatively high pay.

“Certain states in the region have seen growth in sectors that may have the potential to become defining industries,” Williams says.

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BY BRYE STEEVES, SENIOR WRITER

## FURTHER RESOURCES

### THE TENTH DISTRICT'S DEFINING INDUSTRIES: HOW ARE THEY CHANGING?

By Chad R. Wilkerson and Megan D. Williams

### THE TENTH DISTRICT'S DEFINING INDUSTRIES: CHANGES AND OPPORTUNITIES FOR RURAL COMMUNITIES

By Megan D. Williams

[www.KansasCityFed.org/TEN](http://www.KansasCityFed.org/TEN)

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Back in the early '90s, John Miller had a hunch.

He had returned to Murdock, Neb., to work the hayfields that had been in his family for more than a century.

“When I was farming, there was a lot of time to ponder,” Miller says. “I just started thinking how can I add value to the product I was raising.”

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**M**iller was supplying hay to commercial buyers, but saw a void in the pet food industry for small herbivores, such as rabbits, guinea pigs and chinchillas. He wanted to develop a fresh hay-based product line that could be produced, packaged and distributed right there in rural eastern Nebraska. And Miller thought maybe, just maybe, a budding technology called the Internet might be the way to make his business venture a success.

He was right. The advances in computer technology allowed Miller to research pet nutrition, partner with veterinarians and reach potential customers, all via the World Wide Web. What he didn't realize was it would help Oxbow Pet Products eventually go global.

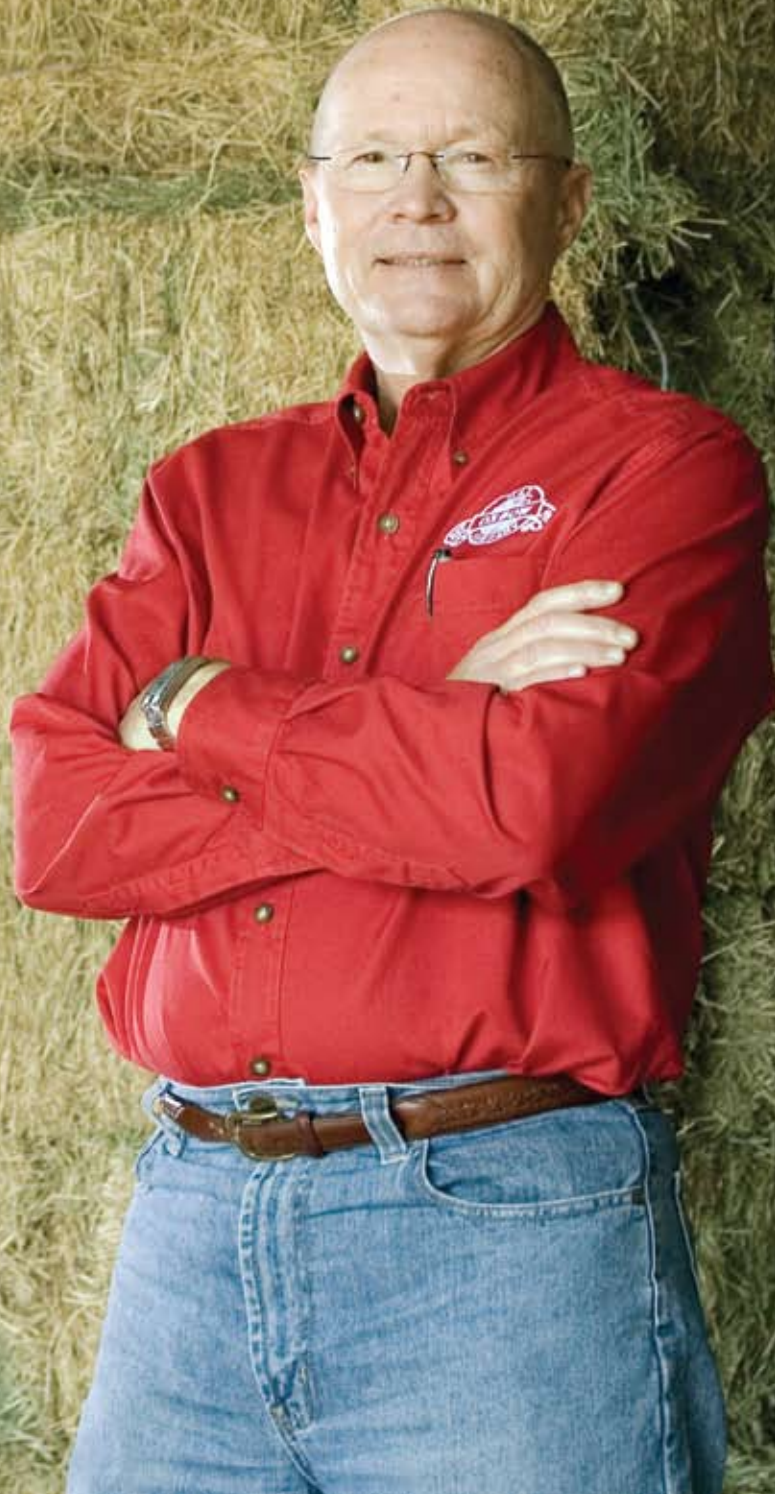
“It's almost a miracle this thing got started,” Miller says with a laugh.





# Global Farm to Market

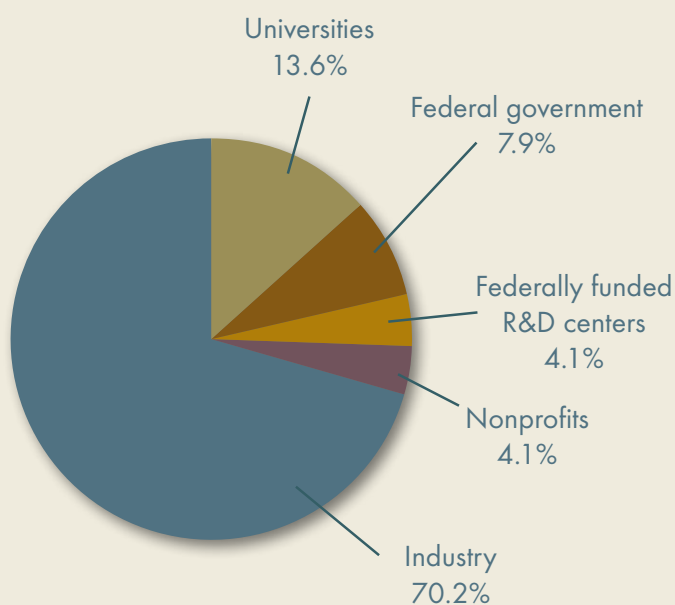
Technology spurs innovation in rural areas



# United States research and development expenditures

In the United States, private industries spend billions each year to discover the next great invention.

In 2004, this sector spent about \$300 billion, which equates to about 70 percent of the total expenditures, on research and development while universities, nonprofit organizations, and the government and other federally funded organizations spent just a fraction of this amount.



Numbers are approximate.  
Source: National Science Foundation

With the help of his then-12-year-old son, Miller created and printed thousands of product labels from their personal computer. The family set up an assembly line in the garage to individually glue labels on plastic bags and stuff them with pet food using a homemade contraption—another one of Miller’s ideas.

He was instrumental in getting his town of less than 300 residents Internet access, but had to make do with dial-up, “which drove you crazy, but it was better than nothing.”

Word started to spread online, and in 1997, Oxbow Pet Products received its first international order. His products are now exported to more than 20 countries.

“They found us through the Internet,” Miller says.

Although at one time access was an issue, these days the advantages of technology aren’t out of reach for rural America, says Jason Henderson, assistant vice president and executive of the Omaha Branch of the Federal Reserve Bank of Kansas City. Henderson recently researched how innovation can open doors and boost rural prosperity.

“Size and distance may limit a rural entrepreneur’s ability to produce radical new innovations,” Henderson says, “but adopting technologies helps invigorate rural economies.”

Technological innovation often spurs economic growth by creating new products, improving efficiency and connecting to new markets—opportunities many small or remote communities believe to be out of reach to them. The Internet, for example, allows some rural areas to provide business services and enables high-skilled services in remote communities.

The fastest-growing firms in rural America are providers of professional and business services, where operating costs are lower than in major metro markets and closer to home than overseas-based services.

While Miller says his location was a challenge at first, it ultimately was not a



PHOTO BY BOB GREENSPAN

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JOHN MILLER, RIGHT, STARTED OXBOW PET PRODUCTS on his family farm in the '90s, using, what was then, budding technology, including dial-up Internet for product research and development. The pet food now is exported to more than 20 countries.

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hindrance. Technology is more powerful.

“The whole world is your market,” Miller says, and with the Internet “you can reach the whole world.”

### **Importance of innovation**

Innovation is the fuel entrepreneurs use to power economic regions. It can boost rural prosperity in three ways: by creating new products, improving production processes and opening doors to new markets, Henderson says.

Private industries shell out billions annually—outspending universities, nonprofit

organizations, and government and other federally funded organizations—on research and development to discover the next big thing. While inventions are critical, Henderson cautions they alone don’t transform economies. Innovation—the ingenuity behind the invention—does.

“Innovations are commercialized inventions that generate new economic value in the marketplace,” Henderson says. “The key players in this crucial game of innovation are rural entrepreneurs—inventions often are the product of homegrown businesses.”

During the past 50 years or so, more than

two-thirds of all innovations have been adopted, improved or developed by small entrepreneurial firms, leading to dramatic transformations in the economy.

Innovation improves production processes, and in turn boosts productivity. Henderson points to agriculture as an example, citing technologies such as tractors, hybrid seed corn and pesticides, all of which led to a surge in productivity growth.

“The number of labor hours to produce 100 bushels of corn dropped from 80 in 1850 to less than two today,” he says.

Innovation also affects manufacturing and retail industries in ways ranging from Henry Ford’s assembly line car production to Wal-Mart’s efficient distribution to the Internet’s quickened communication. From 1999 to 2004, manufactured shipments sold via e-commerce increased 30 percent while overall manufacturing shipments increased by

## Financial gains

Rural places are typically not viewed as a seedbed for invention and innovation, typically producing less than one patent for every 10,000 people compared to the more than 2.5 patents produced in metro areas, Henderson says.

Many rural businesses that do adopt technology often see higher economic returns than those that don’t. Entrepreneurs with high-tech manufacturing firms earned about 50 percent more than low-tech factory owners, according to Census Bureau data from 2006.

With new technology comes new competitive pressure; businesses unable to keep up don’t survive. Adopting maturing technologies often depends on rural communities’ ability to disseminate knowledge.

Factors such as size and remoteness can raise the cost of transmitting knowledge and information even though the Internet and other communication technologies have improved

## “ It takes a while to fully integrate technology into a business and then reap its full benefits. ”

just 1 percent. Now, about 25 percent of all manufactured shipments are e-commerce.

E-commerce technology allows rural firms to market their products to customers in places previously unreachable. Since 2003, e-commerce sales in the retail sector have grown 25 percent annually while overall retail sales have grown just 6.8 percent.

For example, Internet visits to the outdoor superstore Cabela’s, which is headquartered in rural Sydney, Neb., increased 36 percent in 2005.

Sales in the agriculture business also have benefited from Internet access. By 2004, the number of farmers using the Internet had grown to more than 50 percent. Although farmers tend to go online for price tracking, information gathering and communication purposes, buying farm products via the Internet is growing more popular.

connections. These high costs often decrease in time.

“It takes a while to fully integrate technology into a business and then reap its full benefits,” Henderson says. “Entrepreneurs often face steep learning curves before they can decide how their existing business practices need to change.”

For Paul Eurek, there were several advantages to opening a third office for his international software development services company in rural central Nebraska. Xpanxion is headquartered in Atlanta, with its largest office in Pune, India, and its newest office in Kearney, Neb.

While it may seem an odd mix of locations or an unusual place to operate a highly technical business, company chairman Eurek says technology “makes it look like we’re all in the same office. ... There really are no physical boundaries.”



PHOTO BY BOB GRENSPAN

Access to a high-quality workforce, lower operating costs and less employee turnover prompted Eurek to look to rural areas to expand. Because he wasn't limited geographically, Eurek decided to move back to his native area and open a 15-person office there about a year ago.

"I think it (locating in remote areas) is the future," Eurek says. "Part of the reason I wanted to do this in Nebraska was to show it could be done."

## **Public policy: Connecting to rural America**

Many university and college systems nationwide were designed as institutions of technology transfer to rural places—an important role for public policy. From their beginning, land grant universities were charged with discovering new technological innovations and transferring them to rural regions. A goal of a land grant university's research and extension missions is to enhance communities' economic

viability and quality of life through this transfer of technology. This technology transfer process takes many forms across the nation's land grant campuses.

For example, the Food Science Institute and Meat Science Facility at Kansas State University provide research, teaching and technical assistance for new and existing products for related industries. Similarly, the University of Wyoming in Laramie recently added a third off-campus research center as part of its overall mission to tie the university to area agriculture.

rural communities around the state, according to the university.

Smaller, non-land grant universities are also shifting their research and curriculum to reflect the evolving technological impacts on agriculture.

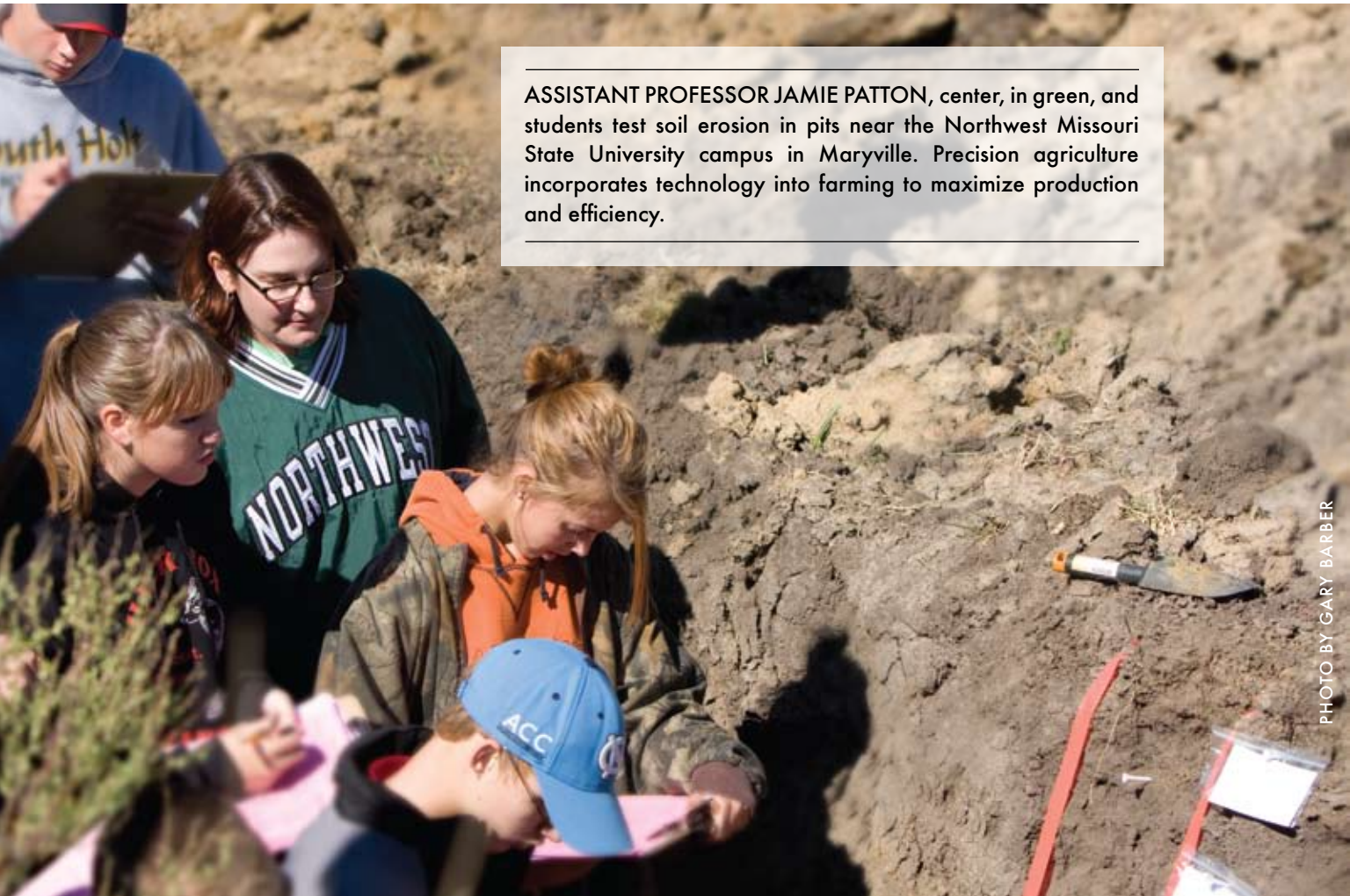
Northwest Missouri State University, with its student body of just more than 6,000, recently began offering a minor in precision agriculture—a concept that incorporates technology with farming and geography studies. Goals of precision agriculture include improved crop yield, more efficient fertilizer

**“ Most of the students, they're going back to the farm. So, we're helping to train a new wave of farmers. ”**

Located in the towns of Lingle, Powell and Sheridan, the centers are made up of acres of cropland, feedlots and livestock labs. The goal of this integrated research is to get results to

application, reduced erosion and pollution, better management decisions, more accurate record keeping, and increased profit.

“The old, traditional ways (of farm



ASSISTANT PROFESSOR JAMIE PATTON, center, in green, and students test soil erosion in pits near the Northwest Missouri State University campus in Maryville. Precision agriculture incorporates technology into farming to maximize production and efficiency.

businesses) are just falling by the wayside,” says Jamie Patton, assistant professor of soil sciences. “Anywhere you look, technology is being incorporated.”

It’s important to teach this in the classroom, Patton says, because “most of the students, they’re going back to the farm. So, we’re helping to train a new wave of farmers.”

Universities are a vital part of knowledge transfer, which means conducting research and disseminating information. It can improve rural America, Patton says.

Other public policy efforts that emphasize the importance of technological adoption to rural prosperity include the National Institute of Science and Technology programs that provide technical and business assistance to small manufacturers.

Another policy example is the Agriculture Innovation Center established by the 2002 Farm Bill to fund technical and business development assistance for agricultural producers. The organization helps them write business plans, conduct research and provide counselors to help new venture creation in the agricultural sector.

Additionally, Henderson says, rural communities need to find ways to tap technology in the private sector, where the majority of research and development expenditures come from. This private money often is geared toward developing products, as opposed to public programs, which focus on advancing basic research.

For many rural businesses, adopting technological innovations to enhance production and create products will boost both productivity and prosperity, Henderson says.

That certainly was the case for John Miller’s Oxbow Pet Products.

Today, Miller continues to operate from the family farm in Murdock. But now the old barn is transformed into modern office space. There are three new buildings and four loading



docks. The company employs 50, including an IT staff member.

“First you have one computer, then you have two and three. ... There’s just been this gradual, continual evolution,” Miller says. “This idea would not have become a reality without computer technology.”

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BY BRYE STEEVES, SENIOR WRITER

## FURTHER RESOURCES

### THE POWER OF TECHNOLOGICAL INNOVATION IN RURAL AMERICA

By Jason Henderson

[www.KansasCityFed.org/TEN](http://www.KansasCityFed.org/TEN)

**COMMENTS/QUESTIONS** are welcome and should be sent to [teneditors@kc.frb.org](mailto:teneditors@kc.frb.org).



## Discussion is part of Kansas City Fed's ongoing efforts

**I**n the midst of the ongoing foreclosure surge, consumer education is the key to prevention, but help is available to those facing default, experts say.

The Federal Reserve Bank of Kansas City has hosted a number of events focusing on housing issues, including two forums at its Kansas City office, one at its Denver Branch and other events at the Oklahoma City and Omaha Branches.

On Nov. 6, the Kansas City Fed partnered with the social services nonprofit Mid America Assistance Coalition to sponsor a forum on home mortgage foreclosure issues. This event

was held at the Ewing Marion Kauffman Foundation.

These ongoing efforts are in line with part of the Fed's mission of spurring economic growth through community development, which includes financial education, asset building and entrepreneurship.

Attendees included educators, real estate agents, regulators, lenders and representatives from nonprofits and government agencies. The forum and its question-and-answer session were an opportunity for these organizations to learn about foreclosure issues from each other as well as Kansas City Fed staff.

Kelly Edmiston, senior economist at the



Kansas City Fed, presented his research on the causes of increased foreclosures both nationally and regionally. Additionally, Edmiston and research associate Roger Zalneraitis authored the paper, "Rising foreclosures in the United States: A perfect storm," which will be featured in an upcoming issue of *TEN* and was published in the Kansas City Fed's fourth quarter 2007 *Economic Review*.

Also at the forum, a panel of experts discussed the roles their organizations play in foreclosure prevention and intervention. They were: Marjorie Major of Neighborhood Housing Services of Kansas City, Inc.; Gregg Lombardi of Legal Aid of Western Missouri; and Pam Hilder Johnson of Greater Kansas City Housing Information. Also on the panel was Ariel Cisneros, senior community affairs advisor for the Kansas City Fed's Denver Branch, who discussed the foreclosure task force formed in Colorado in late 2005.

The Kansas City Fed dedicates its resources to foreclosure prevention and consumer assistance through economic research and community involvement throughout its District. This includes western Missouri, Nebraska, Kansas, Oklahoma, Wyoming, Colorado and northern New Mexico.

Its message for consumers: Help is available.

At the recent forum, Edmiston first explained the extent of the foreclosures in the Kansas City metro area, which spans parts of both Missouri and Kansas, and then the causes and potential effects in the future.

"I think the foreclosure problem is going to get a little worse before it gets better," Edmiston said. "But consumers are not without options."

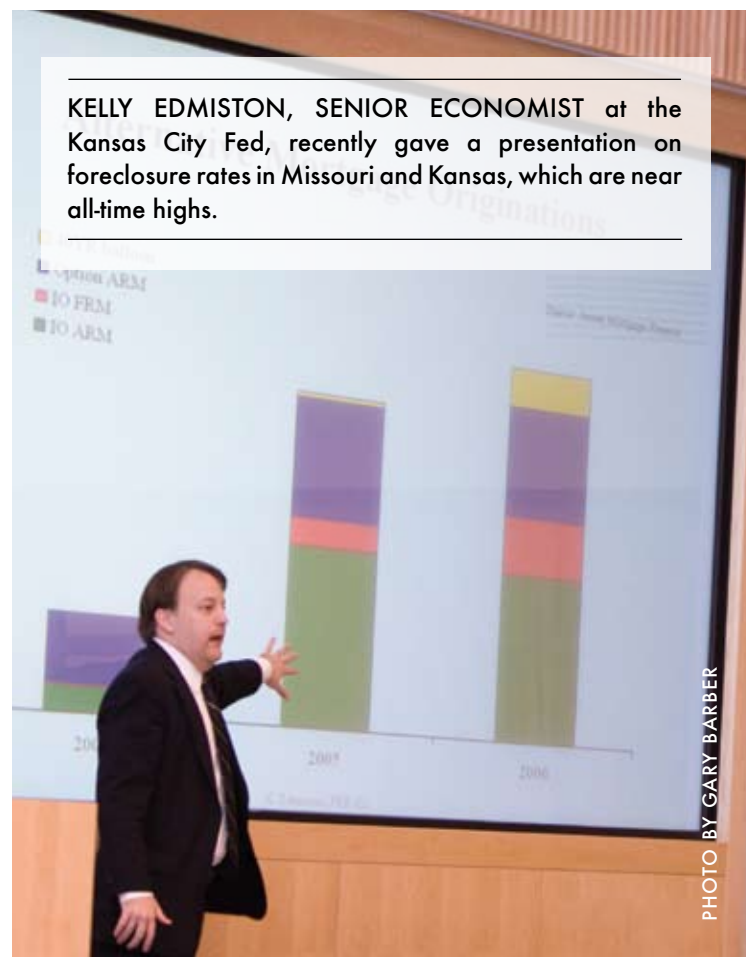
## Foreclosure surge

The onslaught of subprime mortgage foreclosures has been ongoing since mid-2006. During the years prior, would-be borrowers who were unable to qualify for traditional mortgages, usually because of weak credit histories, obtained subprime loans. These

borrowers paid a higher interest rate than someone with good credit would have been charged. Their adjustable-rate mortgages often started out with good "teaser" rates, but became unaffordable for some borrowers as teaser rates expired and market interest rates rose.

During this period, the U.S. homeownership rate was at an all-time high; many of the new homeowners were lower-income households. Some have been able to pay their mortgages; others have defaulted. Many borrowers said they didn't understand fully the terms of their loans, or the extent to which their payments could increase.

The resulting sharp rise in foreclosures also has caused several major lenders to fold or file for bankruptcy. The impact has been felt worldwide with falling stock prices, especially in mortgage companies, and cast a dark cloud



over the already-slumping U.S. housing market.

With a foreclosure rate of 1.12 percent, Missouri falls below the country's foreclosure rate of 1.4 percent, Edmiston said at the forum. In some areas of the state, however, the foreclosure rate is greater than 5 percent—much higher than any overall state rate. Foreclosures in Kansas also are near all-time highs for the state.

“Foreclosures are concentrated in urban areas, specifically in low- and moderate-income areas,” Edmiston said, “while foreclosure rates in rural areas of both states generally are low.”

### **'Perfect storm'**

There is always an ebb and flow of foreclosures, Edmiston said, but three conditions recently merged to create what he calls the “perfect storm”:

- The rise in popularity of subprime mortgages;
- The inability to pay these nontraditional

mortgages and other adjustable-rate mortgages when payments reset;

- The stabilization or decline in the appreciation of home prices, coupled with low equity in many cases.

This means borrowers who obtained a subprime mortgage and couldn't make the payments when the initial rate increased, in many cases, couldn't sell their home at a price that exceeded what they owed.

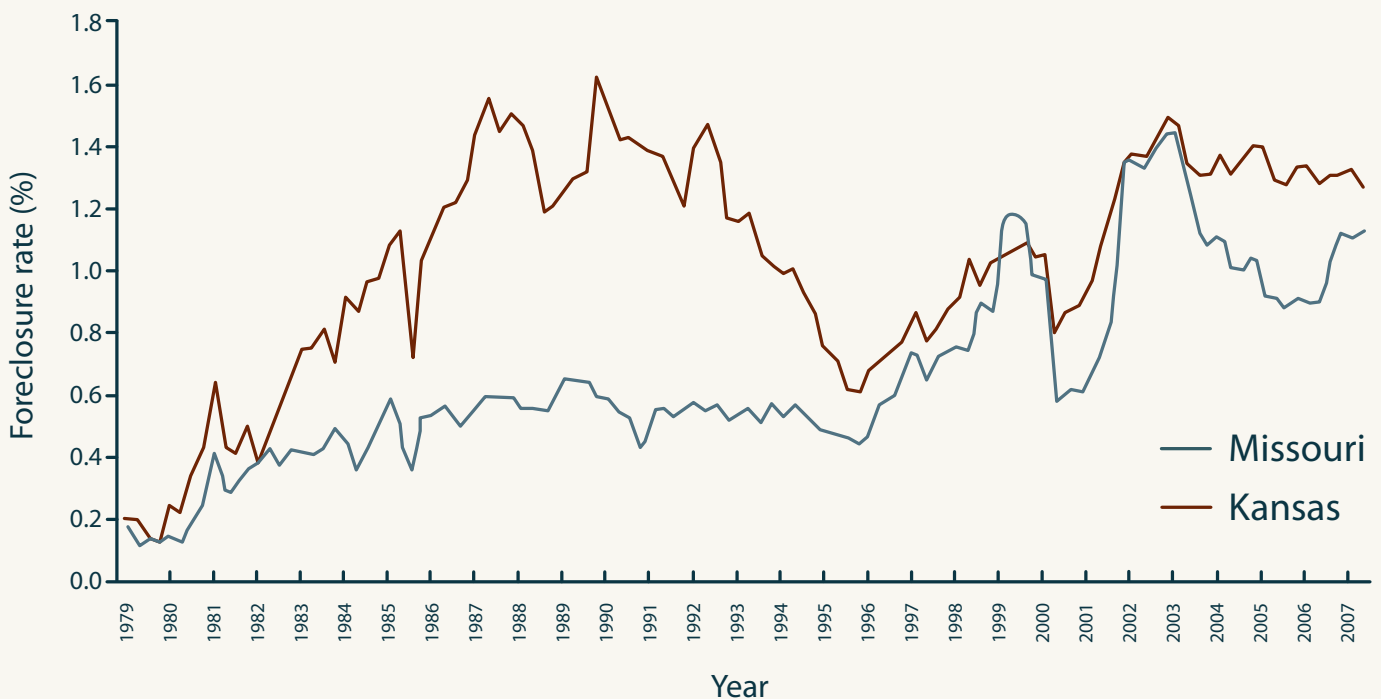
Edmiston predicts foreclosure rates will continue to grow through 2009.

Not only can this be detrimental for the homeowner and family, the neighborhood and community can be affected if homes become abandoned and deteriorate—crime can increase, property values may fall, tax revenues can decrease and lenders might shy away from urban lending.

There are solutions for the homeowner, such as refinancing or prepaying (although sufficient equity is needed). Sometimes a lender will work with the homeowner to circumvent foreclosure, but often the homeowner avoids

## Kansas and Missouri foreclosure rates

First Quarter 1979 to Second Quarter 2007



contact out of fear. However, it can be difficult for a troubled borrower to work with his or her lender—because mortgages are packaged together and sold to investors, the loans aren't held in the loan originators' portfolios, which can create a disconnect between the borrower and lender.

There is a nationwide hotline (888-995-HOPE) through the NeighborWorks organization that can put homeowners in touch with local resources. Currently, though, only about 5 percent of callers from Missouri are from the Kansas City area, although this metro area represents a much more substantial share of all Missouri foreclosures.

"One thing we can take away from this meeting is more needs to be done," Edmiston said. "We've got a problem getting this message out there."

## Taking action

Whether organizations offer preventative foreclosure counseling or mail information to at-risk homeowners, efforts focus on educating the consumer with the hopes of preventing foreclosure or mitigating its impacts.

The Denver Branch hosted a similar foreclosure forum in August, Cisneros said during the panel discussion. He shared insight from the Colorado task force and statewide hotline, which was formed about a year ago by 25 counseling agencies to work with individual homeowners and resolve foreclosure issues. The hotline has received more than 20,000 calls, mostly from those who are already delinquent on their mortgage. Other data show 60 percent don't contact or respond to their lender when facing default; a quarter of the callers aren't even sure what type of loan they have.

"The hotline is looking for the best resolution," Cisneros said. "What is the right product for this individual and how can the hotline help?"

All the panelists emphasized the importance of seeking assistance early, when more options are available and problems may be resolved with less difficulty. Lombardi, of



PHOTO BY GARY BARBER

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**ARIEL CISNEROS, SENIOR COMMUNITY AFFAIRS ADVISOR at the Kansas City Fed's Denver Branch, was a panel member at the Kansas City forum. He spoke about a recently implemented task force in Colorado.**

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Legal Aid, noted that initial counseling with a troubled borrower may take just a few hours, whereas working on a home foreclosure case can take hundreds of hours.

Panelists also spoke of the importance of working together for this common goal.

"Everybody has to have somewhere to live," said Johnson, of Greater Kansas City Housing Information.

The Kansas City Fed continues to host roundtables throughout the District to do its part to aid homebuyers.

"The best thing I think you can do," Edmiston said, "is educate the consumer."

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**BY BRYE STEEVES, SENIOR WRITER**

## FURTHER RESOURCES

For related information, please see the Federal Reserve Bank of Kansas City's materials from its 2007 Jackson Hole Symposium, "Housing, housing finance & monetary policy," at [www.KansasCityFed.org/TEN](http://www.KansasCityFed.org/TEN).

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## Branch executive learns of similar structure during visit to Canada

Chad Wilkerson, assistant vice president, economist and Oklahoma City Branch executive at the Kansas City Fed, recently accepted an invite to visit the central Bank of Canada's main office in Ottawa.

The purpose of the visit was to discuss the restructuring of branch offices at the two organizations and how regional economic research and analysis is conducted.

Canada restructured its regional offices (Calgary, Halifax, Montreal, Toronto and Vancouver) about 10 years ago. The restructuring of the Kansas City Fed's Branch offices in Denver, Oklahoma City and Omaha has evolved these past few years in a similar fashion.

Each Kansas City Fed Branch office now has a regional economist to serve as the lead officer and Branch executive. Their jobs include conducting regional economic research; giving external and internal presentations about the regional economy; working with the Branch's board of directors; and expanding relationships with area banking, business and community leaders.

The Bank of Canada has senior economics representatives at each of its regional offices with similar roles and backgrounds as the Kansas City Fed's Branch executives. Wilkerson met with them and other staff during his two-day visit.

Canada's economy is about one-tenth the size of the U.S. economy, making it roughly the size of one of the 12 Federal Reserve Districts.

"As the financial system changes, and the Fed changes, we hope to continue to learn important lessons from our colleagues in central banking," Wilkerson says.



## National consumer resource launched

The Federal Reserve recently launched a national resource to help better inform consumers who have concerns about their banks.

Federal Reserve Consumer Help, administered by the Kansas City and Minneapolis Reserve Banks, streamlines consumers' inquiries to the appropriate organization without the consumer struggling to do so on his or her own.

Now inquiries or complaints can be submitted via phone, fax, mail or online to one location. Additionally, the website provides answers to consumers' frequently asked questions about banking issues.

These efforts are in line with part of the Fed's mission to educate consumers, who provide the basis for a more stable economy by making informed financial decisions.

For more information, visit [www.FederalReserveConsumerHelp.gov](http://www.FederalReserveConsumerHelp.gov).



## 2008 Survey of Community Banks

To better understand challenges confronting bank managers, the Federal Reserve Bank of Kansas City is conducting the 2008 Survey of Community Banks.

The Fed is asking all banks with less than \$1 billion in assets in the Tenth Federal Reserve District (western Missouri, Nebraska, Kansas, Oklahoma, Wyoming, Colorado and northern New Mexico) to complete the survey no later than March 15. Both a survey and its instructions, as well instructions for completing the survey online, will be mailed in February.

The community bank survey, which can be completed anonymously, is a valuable tool that allows the Federal Reserve to understand bankers' views on the operational and regulatory issues banks face. It also provides insights on bankers' plans and expectations for the future.

The Kansas City Fed will post survey results on [www.KansasCityFed.org](http://www.KansasCityFed.org), as well as share the information through articles in *Financial Industry Perspectives* and *TEN* magazine. Staff conducted a similar survey in 2004.

Call Forest Myers or Eric Robbins at 800-333-1010 with questions.

# Bank Anniversaries

The following banks in the Tenth District are celebrating one, five, 10 or 20 or more years as Federal Reserve members in January, February or March.

Colorado B&TC of La Junta	La Junta	Colo.	84
Lusk State Bank	Lusk	Wyo.	74
St. Marys State Bank	St. Marys	Kan.	72
First Community Bank	Taos	N.M.	70
Community B&TC	Neosho	Mo.	66
Bank of Holden	Holden	Mo.	63
Colorado Mountain Bank	Westcliffe	Colo.	29
Bank At Broadmoor	Colorado Springs	Colo.	28
First State Bank	Wheatland	Wyo.	27
Bank of Wyandotte	Wyandotte	Okla.	10
Canadian State Bank	Yukon	Okla.	10
Emerald Bank	Burden	Kan.	10
Exchange B&TC	Perry	Okla.	10
First State Bank	Picher	Okla.	10
Auburn State Bank	Auburn	Neb.	5
First B&TC	Minden	Neb.	1



Compiled By TEN staff

COMMENTS/QUESTIONS are welcome and should be sent to [teneditors@kc.frb.org](mailto:teneditors@kc.frb.org).



THE FEDERAL RESERVE BANK OF KANSAS CITY hosted a dozen economic advisors from European embassies in Washington D.C., during a two-day visit in October. Participating embassies were Belgium, Estonia, Finland, France, Greece, Italy, Lithuania, Slovak Republic, Portugal, Spain, Sweden and the United Kingdom as well as the European Commission. Kansas City Fed senior officers discussed economic, banking and policy issues with the guests.

# Bank Secrecy Act *and* Anti-Money Laundering

**A** western Missouri-based terrorist organization was indicted last spring for funneling more than \$1.4 million to Iraq by disguising itself as a charity to avoid detection—and solicit donations.

During a 12-year period, the Islamic American Relief Organization illegally transferred money from its bank accounts in Missouri to accounts in Jordan, and ultimately to Iraq. One of the organization's employees had also worked for Osama bin Laden, helping to obtain satellite phones to coordinate al-Qaida attacks on U.S. embassies in Africa.

More and more in the post-Sept. 11 world, these instances of money laundering challenge the country's financial institutions, which are the front line of defense in combating illicit

financial activity, says Susan Zubradt, vice president of examinations and inspections at the Federal Reserve Bank of Kansas City.

Compliance is tough and penalties are severe, but banks overall have embraced their important role in the fight against terrorism, Zubradt says.

The backbone of anti-money laundering compliance is the Bank Secrecy Act, which requires banks to have policies and procedures to guard against money laundering. This includes employee training, testing of the compliance program, and a system of internal controls to ensure compliance, including reporting suspicious financial transactions.

The Kansas City Fed has an active role in this effort, ensuring compliance as part of its examination process of member banks in the

Tenth Federal Reserve District. The District includes western Missouri, Nebraska, Kansas, Oklahoma, Colorado, Wyoming and northern New Mexico.

“The partnership among banks, bank supervisors and law enforcement has been integral in detecting and deterring money laundering,” Zubradt says.

These efforts are producing positive results, and illicit activity is being thwarted.

“These laws aren’t just about complying with regulations,” Zubradt says. “The ultimate goal is to safeguard our financial system from the abuses of financial crime.”

### **Banks’ role: Then and now**

Several laws aimed at fighting financial crimes through the years have led to the complexity of today’s Bank Secrecy Act, dating back to its own inception in 1970 when the focus was stopping large amounts of drug trafficking cash from entering the banking system, says

efforts,” Thompson says, “the events leading to the passage of the PATRIOT Act pointed out just how complicated the world had become. Sept. 11 added more requirements and raised expectations in terms of the importance of this part of our examination process.”

As a result of increased globalization, technology and the complexity of transactions, moving money had become easier for criminals while financial institutions’ ability to detect and monitor illicit activity had become more difficult.

Traditional money laundering involves illicit cash transactions such as deposits made in amounts less than \$10,000 (to avoid the institution filing a report), multiple times. Or, cash amounts of less than \$3,000 used to purchase money orders, cashier’s checks or traveler’s checks, also to avoid reporting requirements.

New methods of money laundering include the use of stored-value cards. Some of

## **“ The partnership among banks, bank supervisors and law enforcement has been integral in detecting and deterring money laundering. ”**

Andrew Thompson, a Bank Secrecy Act expert based at the Fed’s Denver Branch.

Banks were asked to report cash transactions of more than \$10,000. As a way around this, criminals moved money via check cashing organizations, money services businesses, the postal system and casinos, which eventually became subject to the Act as well.

By 1986, money laundering and related activities became a federal crime. Because of further prompting from Congress, in 1992 banks and others were required to file reports on suspicious activity their institution identified.

Congress strengthened this law following the Sept. 11 terrorist attacks with the USA PATRIOT (Uniting and Strengthening America by Providing the Appropriate Tools Required to Intercept and Obstruct Terrorism) Act.

“Although we had more than 30 years of experience with anti-money laundering

these “pre-paid” cards can access cash at ATMs internationally—funds can be loaded, and often reloaded, onto a card in one country, and accessed at an ATM in another country.

Evolved money laundering techniques require enhanced monitoring and detection procedures, Thompson says.

### **Key players**

There are a number of important players involved in regulating and enforcing the Bank Secrecy Act:

- Banks: Must have a formal, written compliance program, including regular training and demonstrated systems to ensure anti-money laundering compliance;
- Financial institution regulators: Review entities for compliance during examinations and ensure correction of deficiencies;
- Financial Crimes Enforcement Network (FinCEN): Compiles and coordinates the

distribution of the reports submitted by financial institutions, and issues both the compliance guidance to the industry as well as the fines (along with the regulators) for serious compliance deficiencies;

- Law enforcement: Reviews and investigates reports of suspicious activity filed by banks and other entities and prosecutes offenders.

In general, banks' most common and significant Bank Secrecy Act deficiency is the failure to report suspicious activity, Zubradt says.

To ensure compliance across the banking industry, several agencies are responsible. The Fed examines its member banks to assess their financial condition and check for compliance

In Kansas City, participants in monthly meetings include the IRS, FBI, Department of Homeland Security, regional U.S. Attorneys' Offices and local police. Staff from the Kansas City Fed and other regulators attend to offer technical assistance with banking laws and regulations, Zubradt says.

These reports and involvement from all parties have played a key role in the prosecution of criminal activity, including illegal transfer of funds to the Middle East, international drug trafficking, and insider embezzlement and fraud.

While the reports have been useful to investigations, bank resources dedicated to compliance can be significant. Recently the Treasury Department announced a four-prong

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with banking laws and regulations. State-chartered banks that are not members of the Fed are examined by the FDIC; the Office of the Comptroller of Currency examines nationally chartered banks.

## **Suspicious Activity Reports**

The Bank Secrecy Act requires institutions to file Suspicious Activity Reports, which cover 21 categories of activity, including terrorist financing.

While there has been a significant increase in reports citing mortgage loan fraud and consumer loan fraud recently, about half of the reports filed are related to money laundering. More than 4 million reports have been filed nationwide since 1996, and nearly 1,000 are filed each year by state member banks in the District.

After a bank files a Suspicious Activity Report, it is reviewed by an examiner and reports of “insider abuse” are flagged. Law enforcement officials regularly review the reports and meet periodically as a group to follow up.

plan to ease the demands of complying with anti-money laundering laws and regulations:

- Develop a more risk-focused anti-money laundering compliance review for smaller and less complex institutions.

- Narrow the definition of money services business to better focus resources on those that present a significant risk of money laundering.

- Make anti-money laundering regulations easier to understand.

- Offer more feedback via FinCEN to participating agencies on the data they receive and analyze.

“The Federal Reserve Bank of Kansas City stands ready to assist with any new anti-money laundering laws as part of its mission to supervise financial institutions and ensure sound banking practices,” Zubradt says.



**BY BRYE STEEVES, SENIOR WRITER**