



THE RURAL-URBAN DIVIDE

Metro vs. non-metro performance indicators

THE RURAL-URBAN DIVIDE

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INTRODUCTION



FOR THOSE OF US WHO CARE about and focus on rural America, one of the most notable trends in recent years has been the pronounced disconnect between the nation's rural economy and the U.S. economy as a whole.

The 2008-2009 financial crisis sent the national economy into a downward spiral and precipitated the worst recession in 80 years. In contrast, the rural economy remained relatively strong throughout the recession and its aftermath, aided by robust

agricultural commodity prices and the oil shale boom, which drove investment and job growth in many rural areas.

More recently, this dynamic has been reversed. The U.S. economy is now in its eighth year of recovery and has reached near-full employment, while the rural economy is struggling due to sharply lower commodity prices, the collapse of the shale industry, and a strong dollar that makes U.S. ag exports less competitive globally. Rural America now lags urban America across most key economic indicators.

The urban-rural divide is plainly evident in other areas as well. Whether it's broadband penetration, investment in infrastructure, demographic trends or access to health care, rural communities face greater obstacles than their urban and suburban counterparts do. Arguably this has always been the case,

but the challenges confronting rural America now seem more daunting than at any time in recent memory.

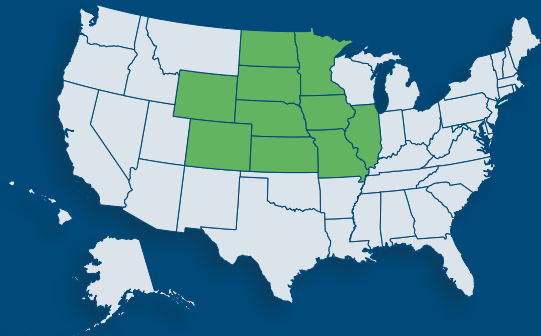
The pages that follow contain a number of charts that illustrate this sobering picture. While they don't necessarily capture the entire story, it's clear that rural America is at risk of falling even further behind. Leaders of rural industries must continue to work together to ensure that our political leaders don't leave rural America off their list of budget, legislative and policy priorities.

I will be discussing this issue in depth at CoBank industry conferences throughout the rest of 2017. As always, I look forward to hearing feedback from our customers, who have uniquely valuable perspective on the challenges and opportunities facing rural America today.

A handwritten signature in black ink that reads 'Tom Halverson' in a cursive, slightly stylized script.

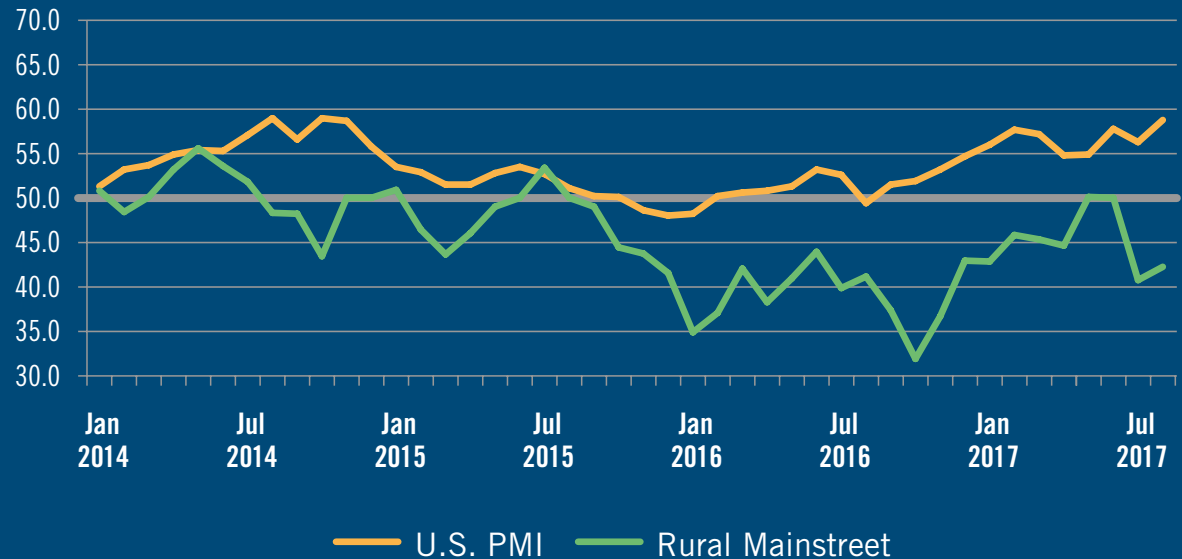
Tom Halverson
President & Chief Executive Officer
CoBank

THE RURAL-URBAN DIVIDE



The **Creighton University Rural Mainstreet Index** uses a blend of quantitative and qualitative data to monitor conditions in 10 Midwestern states. Key inputs into the index include farmland values, farm equipment sales, home sales, hiring, borrowing from community banks, and retail sales.

U.S. Purchasing Managers Index vs. the Creighton Rural Mainstreet Index



Source: Creighton University Heider College of Business

GETTING A CURRENT, accurate picture of rural economic growth in the United States is a notoriously difficult challenge. While the U.S. Department of Agriculture does a very good job measuring trends in the nation's ag sector, capturing the performance of the entire rural economy is far more complex.

One difficulty is that the agriculture is only one piece of the puzzle: The health of the rural economy hinges on a wide range of different industries and sectors in addition to farming and ranching. The continental scale of the United States, significant regional differences and other factors also make it very hard to isolate and quantify rural growth trends.

Among the best available proxies for rural economic growth in the U.S.

is the Creighton University Rural Mainstreet Index, which uses a blend of quantitative and qualitative data to monitor conditions in 10 Midwestern states. Key inputs into the index include farmland values, farm equipment sales, home sales, hiring, borrowing from community banks, and retail sales.

As indicated at left, the Creighton index has measured below the 50 mark almost continually since the beginning of 2014, signifying economic contraction across the region it monitors. The U.S. Purchasing Managers Index, one of the best gauges of economic momentum in the manufacturing sector, has been above the 50 mark for most of that same time period.

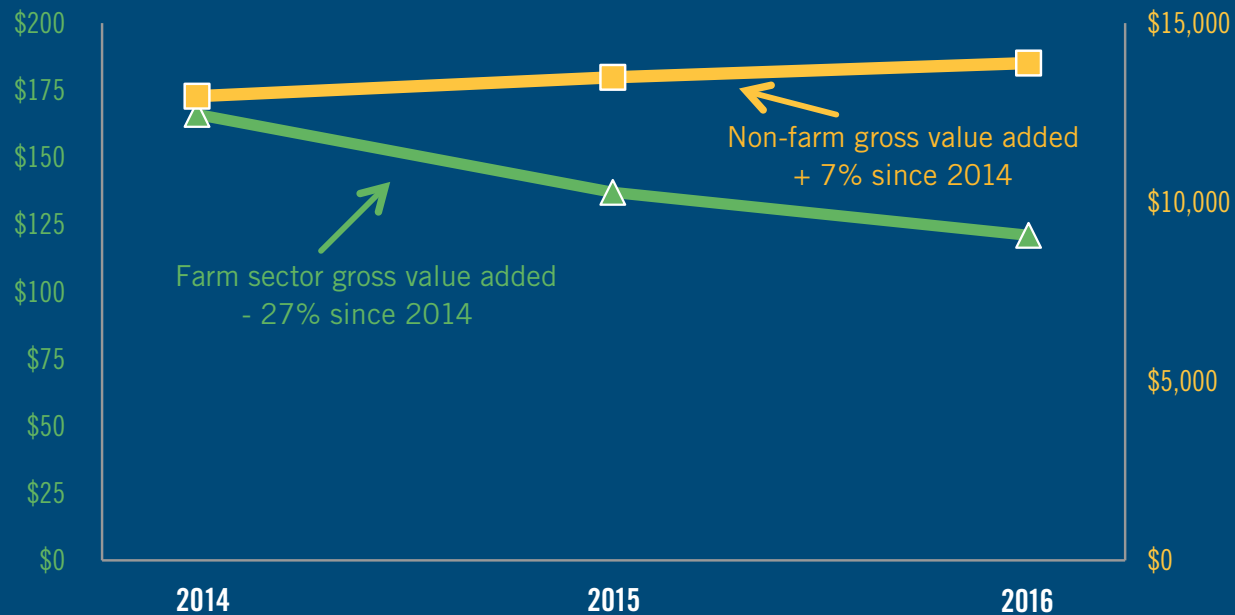
A vertical infographic element with a light blue background. At the top, the number '25' is displayed in a large, white, sans-serif font inside a dark blue circle. Below the circle, the text 'Number of consecutive months the Creighton Rural Mainstreet Index has lagged the U.S. Purchasing Managers Index' is written in a green, sans-serif font, arranged in six lines.

25

Number of
consecutive
months the
Creighton Rural
Mainstreet Index
has lagged the
U.S. Purchasing
Managers Index

THE RURAL-URBAN DIVIDE

Gross Value Added, Farm vs. Non-Farm Sector (\$ in billions)



Source: U.S. Bureau of Economic Analysis

AS WITH ECONOMIC GROWTH, accurately capturing income trends in rural vs. urban areas is challenging due to limitations on data availability and quality. One defensible proxy for income in various industries, however, is the amount of value they add to the economy. Value added equals the difference between the value of an industry's gross output (consisting of sales or receipts and other operating income, commodity taxes, and inventory change) and the cost of its intermediate inputs (including energy, raw materials, semi-finished goods, and services that are purchased from all sources).

Gross value added for the farm sector has declined by almost 30 percent over the past three years due to the drop in agricultural commodity prices and other factors. Non-farming industries, by contrast, have seen gross value added climb by 7 percent over the same period.

The decline in farm income could be exacerbated if proposed cuts to federal crop insurance programs and other programs that support the farm sector are implemented.

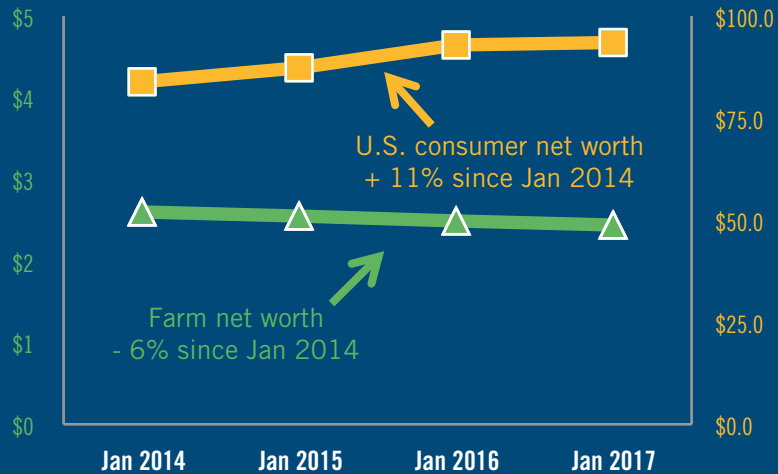


-27%

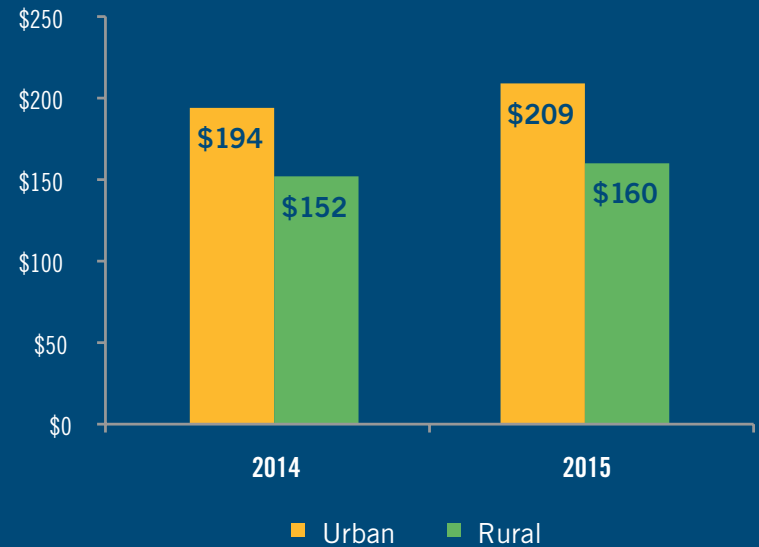
**Decline in gross
value added by
U.S. farm sector
over the past
three years**

THE RURAL-URBAN DIVIDE

U.S. Consumer Net Worth vs. Farm Net Worth (\$ in trillions)



Urban vs. Rural Median Home Values (\$ in thousands)



Sources: U.S. Department of Agriculture, U.S. Census Bureau

NET WORTH & HOUSING VALUES

IN ADDITION TO THE INCOME GAP shown in the previous section, the rural-urban divide also shows up on personal balance sheets. Since the beginning of 2014, consumer net worth in the U.S. has appreciated by approximately 11 percent, driven by robust equity markets and strong home value appreciation in the largest U.S. cities. In contrast, farm net worth has declined by about 6 percent over the same period due to negative impact of low commodity prices on farmland values.

It's much more difficult to get current net worth statistics for the many people in rural communities who don't farm for a living. But U.S. Census data on home values suggests that rural areas have not enjoyed the same level of home appreciation that urban communities have seen in recent years. Urban median home values rose almost 8 percent between 2014 and 2015 (the latest year for which data is available). Meanwhile, rural median home values increased by just 5 percent.

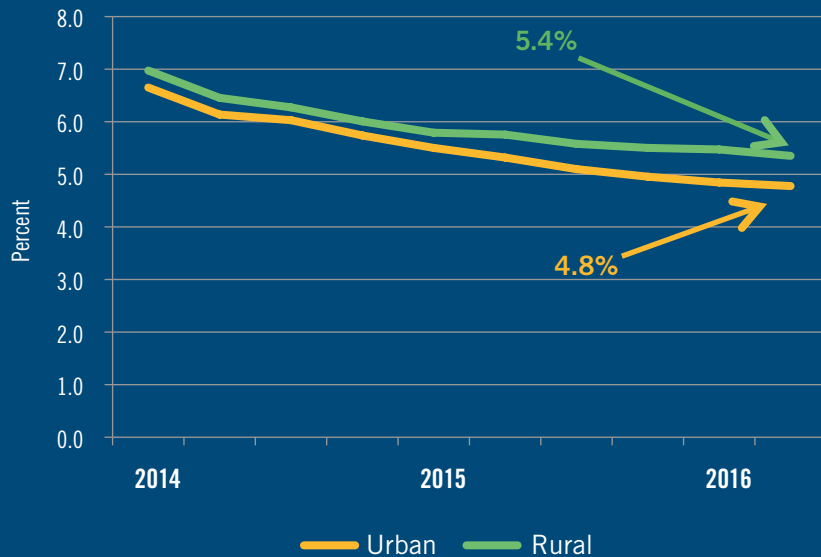


-6%

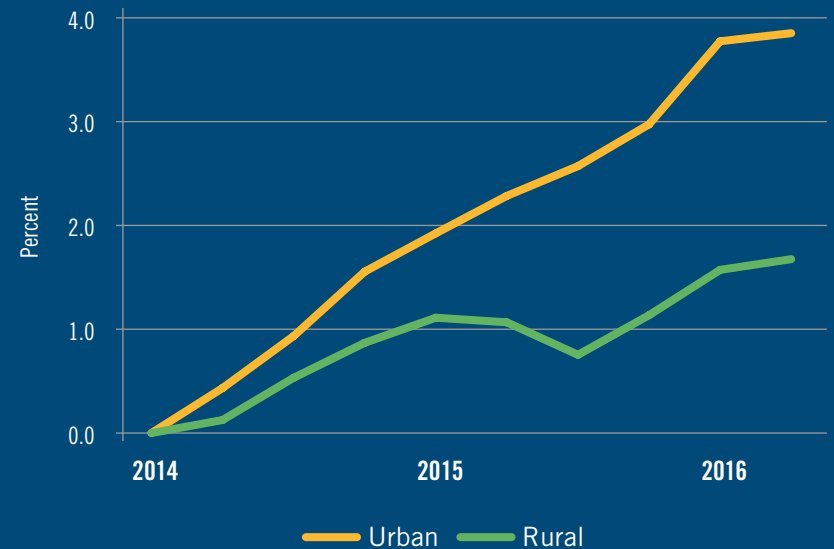
**Decline in
farm net worth
since the
beginning of 2014**

THE RURAL-URBAN DIVIDE

Urban vs. Rural Unemployment



Urban vs. Rural Job Growth (indexed)



Source: U.S. Department of Agriculture

EMPLOYMENT

AS WITH GROWTH STATISTICS, it is difficult to get a real-time read on the job market in rural America only because the monthly employment data issued by the government does not separate urban areas from rural areas. It's clear, however, that the employment situation in rural communities is, on average, tougher than it is in cities.

A recent study by the U.S. Department of Agriculture showed that rural unemployment across the U.S. has been measurably higher than metro unemployment consistently for the past 10 years. In the second quarter of 2016 (the last period for which

data was available), the nation's rural unemployment rate was 5.4 percent vs. 4.8 percent in urban areas. Other key employment measures, including labor force participation, show an urban-rural divide as well.

One likely reason for the difference is that jobs are growing faster in urban areas than in rural communities.

Indexed from the beginning of 2014, the number of employed people has risen almost 4 percent in metro areas, compared to less than 2 percent in rural communities.

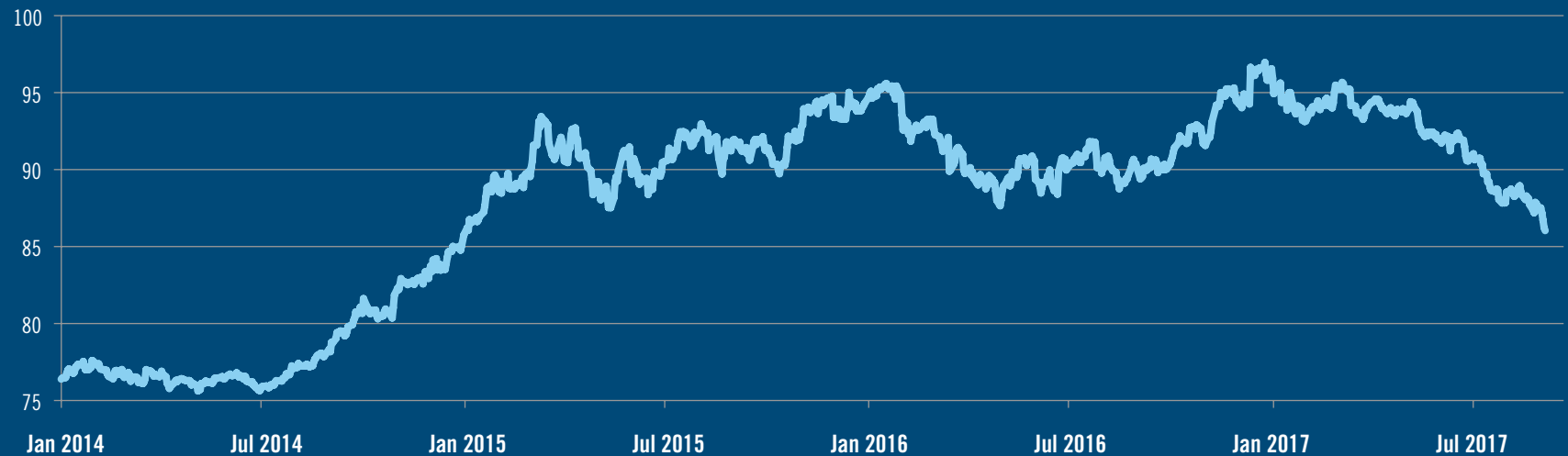
+0.6%

**Difference in
unemployment
rate between
rural and urban
areas in the U.S.**

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Trade-Weighted U.S. Dollar Index vs. Major Currencies

(grouping includes the Euro Area, Canada, Japan, the United Kingdom, Switzerland, Australia, and Sweden)



Source: Federal Reserve Bank of St. Louis

CURRENCY VALUES

ONE OF THE BIG HEADWINDS facing the rural economy over the last few years has been the strength of the U.S. dollar.

The chart at left shows the changing value of the dollar against a basket of major currencies that includes the Euro Area, Canada, Japan, the United Kingdom, Switzerland, Australia, and Sweden. As indicated, the dollar appreciated by approximately 25 percent between January 2014 and January 2017, driven by the relative strength of the U.S. economy compared to those of other developed nations as well as divergent monetary policy from the world's central banks.

In recent months, the dollar has weakened somewhat due to improving indicators in Europe and elsewhere

and increased potential that central banks outside the U.S. will throttle back monetary stimulus programs. Still, it remains over 10 percent higher than it was in January 2014.

A strong dollar is both a blessing and a curse for the U.S. economy. It's a boon for U.S. companies importing goods and services as well as American tourists traveling overseas. For export-dependent industries like agriculture, however, it is a major challenge because it makes U.S.-produced goods more expensive to foreign buyers and therefore less competitive in the global marketplace.

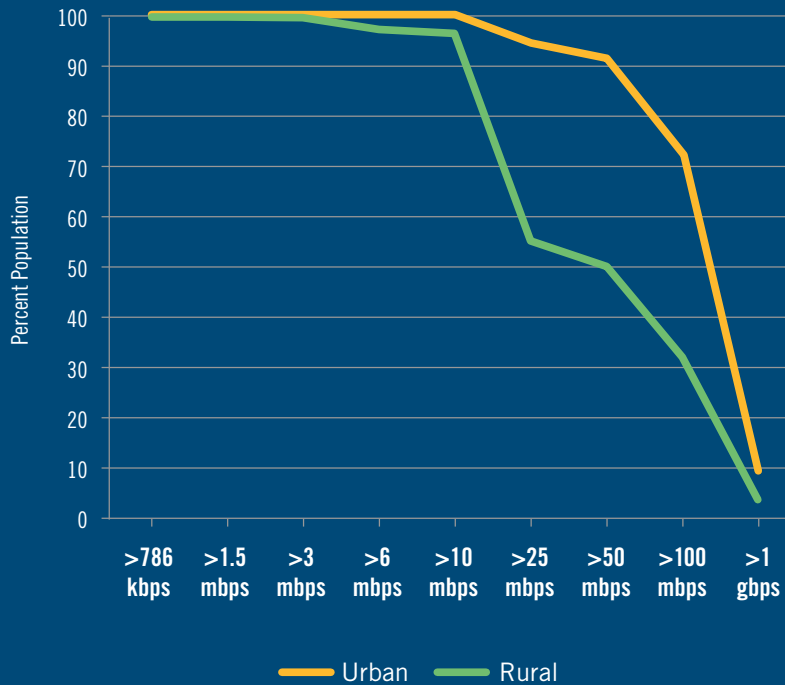


+10%

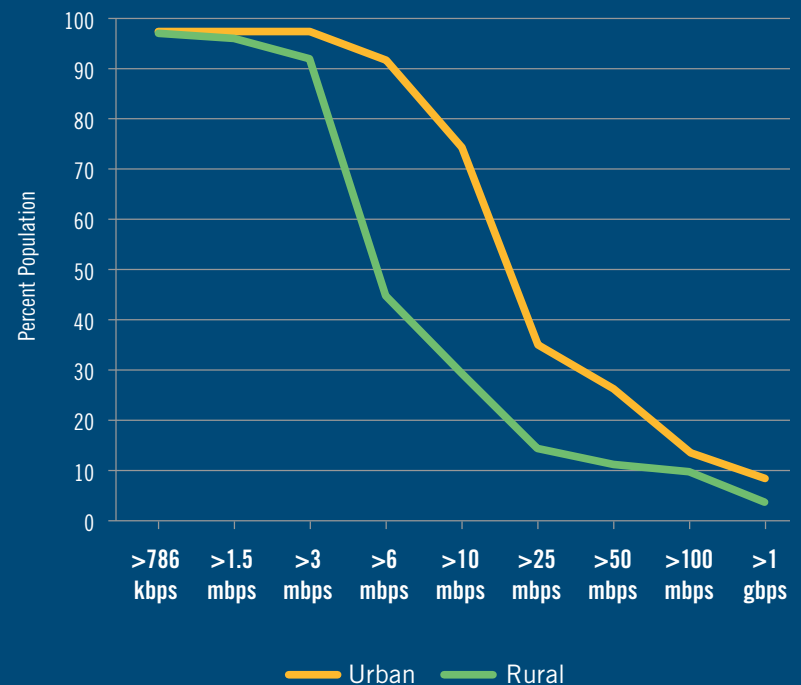
Appreciation of
the U.S. dollar
against other
major currencies
since January 2014.

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Download Speed Availability



Upload Speed Availability



Source: Federal Communications Commission

BROADBAND PENETRATION

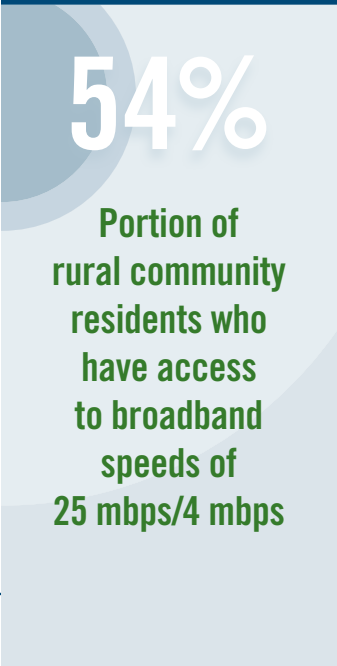
AN IMPORTANT NON-ECONOMIC indicator regarding the health of the U.S. rural economy is the access rural communities have to high-speed broadband.

Broadband Internet enables farms and other rural businesses to access data networks and connect to the global marketplace. It is also increasingly essential to quality of life and the ability of rural communities to attract and retain new generations of residents and families. Yet the rate of broadband deployment in urban areas continues to outpace deployment in rural areas.

The Federal Communications Commission currently defines “broadband” as a minimum download speed of 25 megabits per second (Mbps) and an upload speed of 3 megabits per second. Prior to 2015, the official broadband standard was 4 Mbps download/1 Mbps upload. As shown in the charts at

left, close to 100 percent of urban residents have access to broadband services at these speeds, while only about 50 percent of rural residents do.

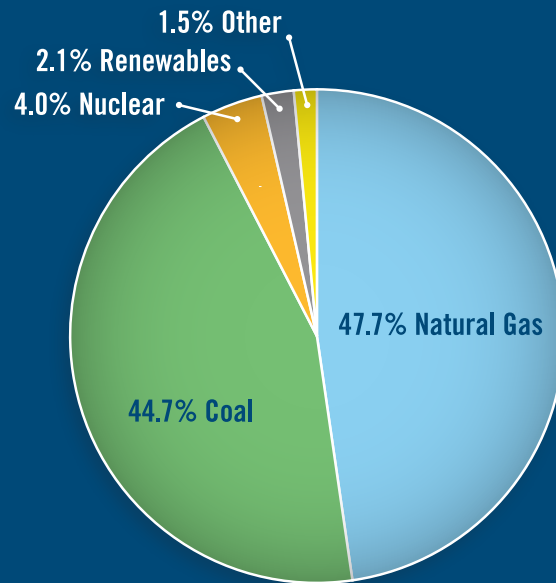
The gap is even more pronounced at higher bandwidth levels.



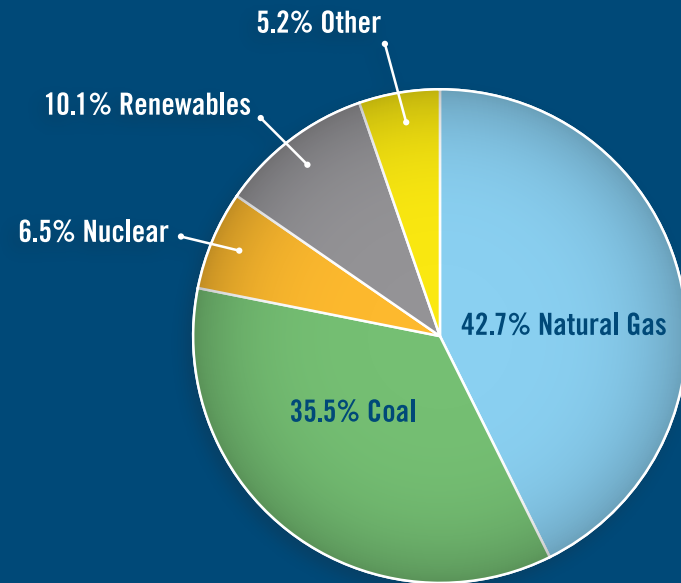
54%
**Portion of
rural community
residents who
have access
to broadband
speeds of
25 mbps/4 mbps**

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Power Generation Portfolio Mix (Owned)



G&T Cooperatives



Investor-Owned Utilities

Source: CoBank Knowledge Exchange Division

THANKS TO RURAL ELECTRIFICATION,

America's rural communities generally enjoy strong access to reliable, affordable power through more than 900 member-owned electric cooperatives. Together, RECs serve 42 million people in 47 states, and the power they deliver is generated, transmitted and distributed at a cost per kilowatt hour that is similar to what urban residents pay to investor-owned utilities (IOUs).

Nonetheless, there are important differences in the electric systems

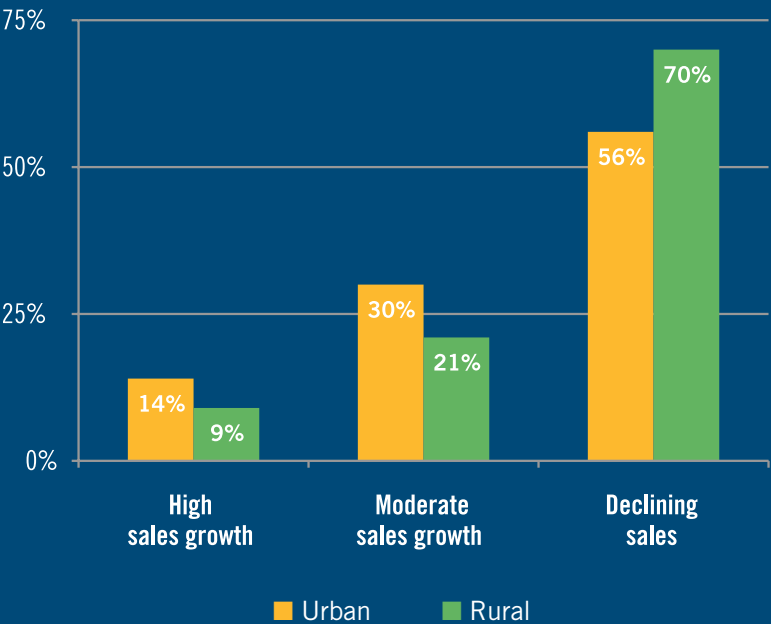
that serve urban vs. rural communities. As shown in the charts at left, rural electric cooperatives are significantly more reliant on coal-fired plants than IOUs are. That has long-term implications for G&T cooperatives and their member distribution systems, as the nation continues to migrate away from coal-based generation in response to environmental regulation and market forces that increasingly favor natural gas.

44.7%

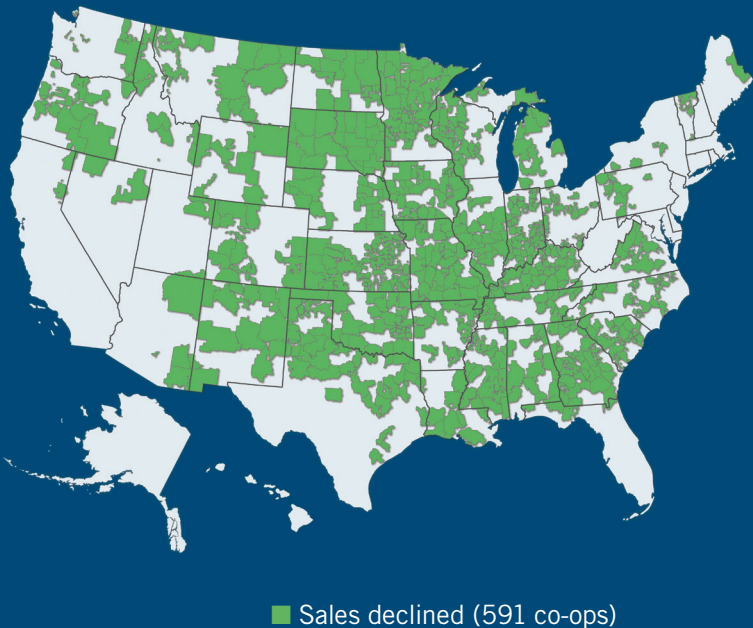
The percentage
of rural electric
cooperative
owned power
generation
attributable
to coal

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Urban vs. Rural Power Sales (2015)



Co-ops with Declining Sales (2015)




Source: National Rural Electric Cooperative Association; CoBank Knowledge Exchange Division

IN BOTH URBAN AND RURAL MARKETS, electricity demand is driven by a number of factors, including weather, population growth and local economic conditions. In recent years, demand has been challenged by slow growth in the economy as well as continuing improvements in energy efficiency.

In 2015 (the last year for which comprehensive data is available), nationwide electricity demand declined by approximately 1 percent from the prior year. But the decrease was felt

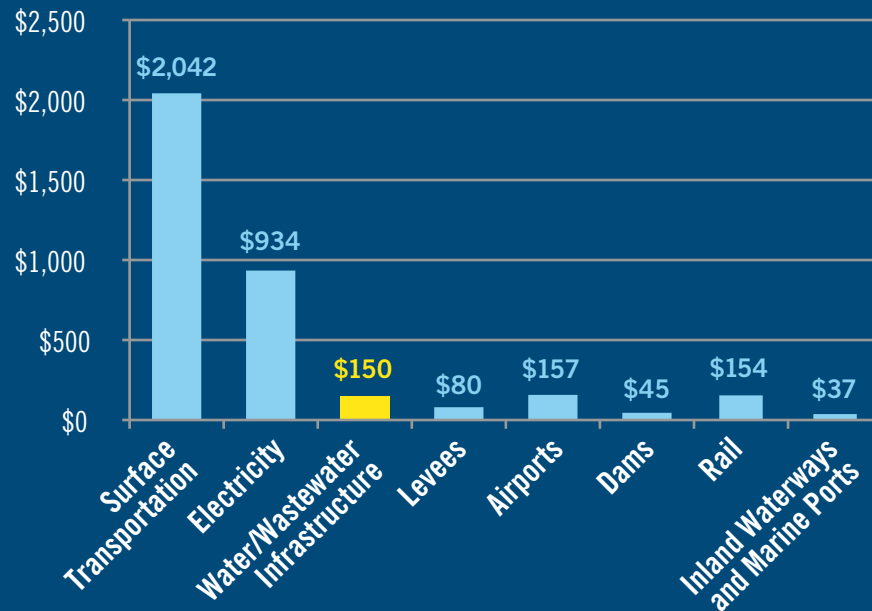
more prominently by rural electric cooperatives (RECs) than investor-owned utilities (IOUs). Approximately 70 percent of RECs experienced declining sales, as opposed to just 56 percent of IOUs. Significantly smaller percentages of electric co-ops enjoyed moderate or high sales growth.



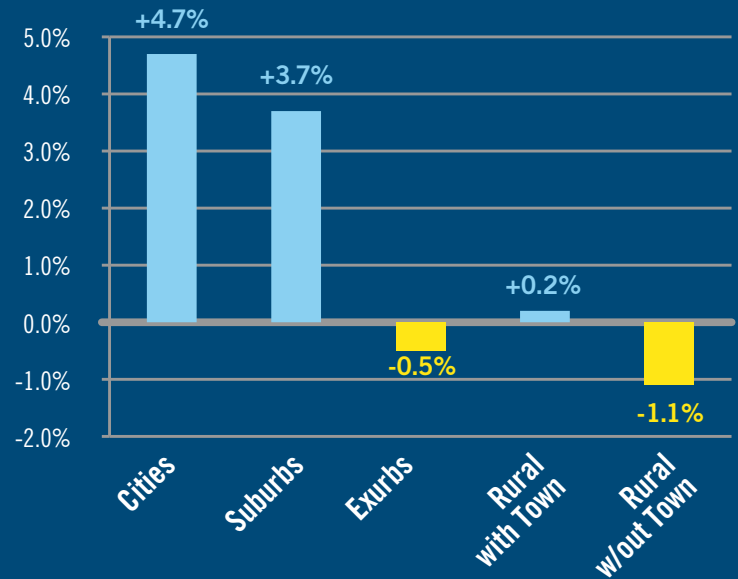
70%
**Portion of
rural electric
cooperatives
that experienced
declining sales
in 2015**

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Infrastructure Investment Needs, through 2025 (\$ in billions)



Rural vs. Urban Population Growth: 2010-2015



Source: American Society of Civil Engineers; CoBank Knowledge Exchange Division

IT'S COMMON KNOWLEDGE that the U.S. continues to under-invest in all forms of public infrastructure, from roads, bridges and seaports to water systems, dams and the nation's electric grid. Every four years, the American Society of Civil Engineers issues a report card on the state of American infrastructure; the 2017 report gave the country a “cumulative GPA” of D+ and estimated that more than \$4.5 trillion in investment was needed by 2025 across 16 different infrastructure categories.

Not surprisingly, the biggest need for investment is in the area of roads and bridges, which will require over \$2 trillion in funding over the next

eight years. But water systems, including the tens of thousands of rural water and wastewater service providers, are another critical area. According to ASCE, approximately \$150 billion is needed to maintain aging systems and ensure compliance with evolving environmental standards. Funding such

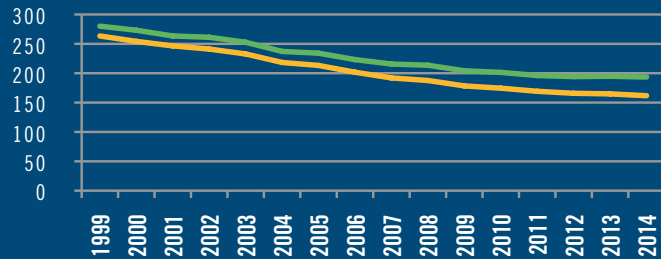
upgrades is a big challenge for many rural communities because they are experiencing population decline, meaning that the cost of capital expenditures is shared by fewer and fewer people.

**\$150
BILLION**

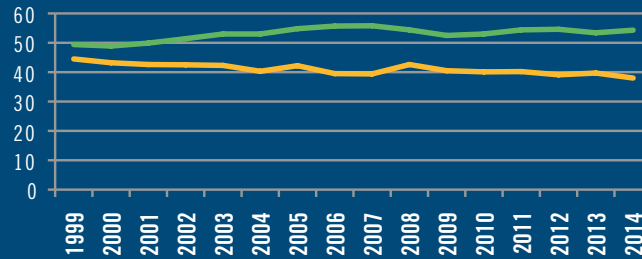
**Amount of
investment
needed for
U.S. water
infrastructure
through 2025**

THE RURAL-URBAN DIVIDE

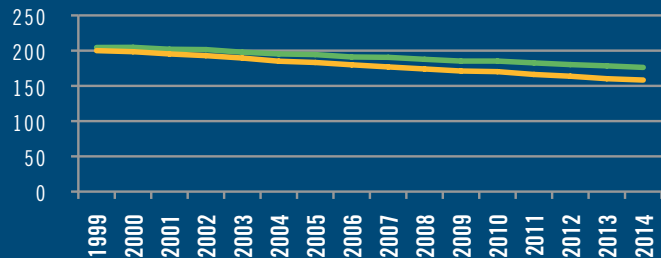
Rural vs. Urban Death Rates, By Leading Cause *(per 100,000 people)*



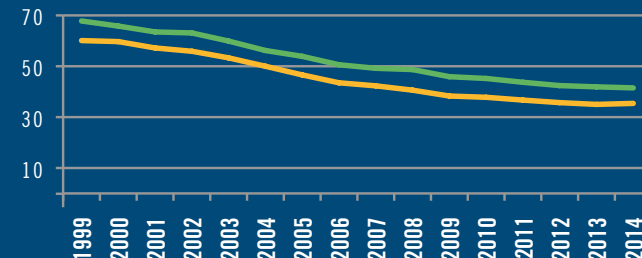
Heart Disease



Respiratory Disease



Cancer



Stroke

Urban
Rural

Source: Center for Disease Control and Prevention

HEALTH CARE

YET ANOTHER AREA where the gap between rural and urban America is worsening is health and health care. A special report issued earlier this year by the Centers for Disease Control and Prevention analyzed statistics for leading causes of death (cancer, heart disease, stroke, respiratory disease) and compared metropolitan vs. nonmetropolitan populations. The report covered the period from 1999 to 2014. As shown in the charts at left, death rates in rural areas were higher in every category. For instance, the death rate for heart

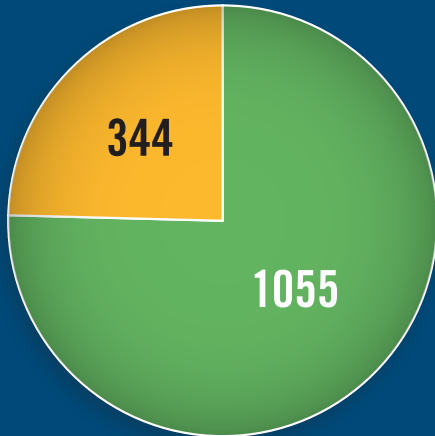
disease was 194 per hundred thousand people in rural communities compared to only 162 per hundred thousand in the cities and suburbs. Likely causes cited in the report included higher rates of smoking, obesity and poverty in rural communities and lower access to high quality health care.

+16%

**Difference in
the death rate
for respiratory
disease between
rural and urban
areas in the U.S.**

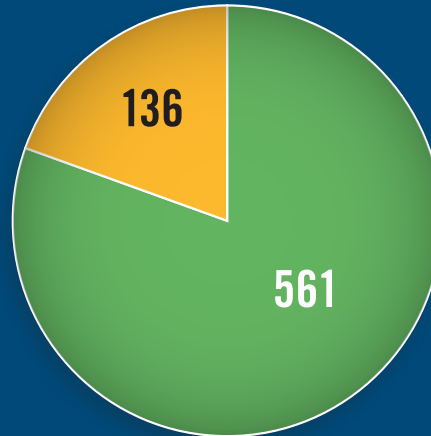
THE RURAL-URBAN DIVIDE

Areas in the U.S. with shortages of primary care health professionals



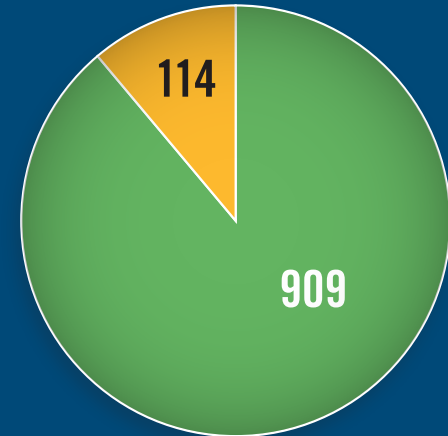
■ Rural ■ Urban

Areas in the U.S. with shortages of dental care health professionals



■ Rural ■ Urban

Areas in the U.S. with shortages of mental care health professionals



■ Rural ■ Urban

Source: Federal Office of Rural Health Policy

HEALTH CARE

ACCESS TO HEALTH CARE is a longstanding problem in rural America dating back over a century. From the early 1900s onward, doctors, nurses and other health care providers concentrated themselves in cities and suburbs where the greatest demand for care was. So did hospitals and other medical facilities necessary for the delivery of quality care.

The problem persists today – as any resident of a rural community can attest – and is being exacerbated by the changing nature of both health care and health care insurance systems. Rural physicians and hospitals lack the resources to invest in health care information technology to support electronic medical records

and other requirements of modern care. Revenue streams for many hospitals are overly dependent on Medicaid vs. private insurance. Meanwhile, U.S. medical schools turn out nine times as many specialists as primary care doctors, contributing to a dire shortage of primary physicians available to serve in rural communities.

75%

Percentage of communities in the U.S. with a shortage of primary care doctors that are located in rural areas

The federal government tracks areas of the country where there are shortages of primary care professionals. According to the latest statistics, over three quarters of the “shortage areas” for primary care doctors are in rural or partially rural communities. The problem is even worse when it comes to dental and mental health care, as indicated in the charts at left.

About CoBank

CoBank is a cooperative bank with over \$126 billion in assets serving vital industries across rural America. The bank provides loans, leases, export financing and other financial services to agribusinesses and rural power, water and communications providers in all 50 states. The bank also provides wholesale loans and other financial services to affiliated Farm Credit associations serving farmers, ranchers and other rural borrowers in 23 states around the country.

CoBank is a member of the Farm Credit System, a nationwide network of banks and retail lending associations chartered to support the borrowing needs of U.S. agriculture and the nation's rural economy. Headquartered outside Denver, Colorado, CoBank serves customers from regional banking centers across the U.S. and also maintains an international representative office in Singapore.

For more information about CoBank, visit the bank's web site at www.cobank.com.



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