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Economic Impact of Oklahoma Rural Electric Cooperatives

Dave Shideler¹, Phil Kenkel² and Gedian Wang
Oklahoma State University

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¹ Professor, Department of Agricultural Economics, Oklahoma State University, contact author
dave.shideler@okstate.edu

² Regents Professor and Bill Fizwater Cooperative Chair, Department of Agricultural Economics, Oklahoma State University, phil.kenkel@okstate.edu

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Executive Summary

Rural electric and electric generation cooperatives (RECs) in Oklahoma produce significant economic activity in the state's economy, and it extends beyond the production and distribution of electricity to more than 648,000 customer meters. In addition to employing 2,723 persons and \$118 million in salaries and wages, these organizations purchase over \$1.5 billion of inputs and \$1.1M in fuel from suppliers within the state. RECs pay over \$68 million in state and federal taxes including \$46M in Gross Receipt Taxes. These are what economists would call **direct impacts**, the expenses incurred by the industry in question. The Gross Receipt Tax creates an additional 760 jobs and \$38.5M in salaries and labor within the state and local government and schools.

In addition to the direct impacts listed above, electric cooperatives stimulate additional economic activity. For example, fuel purchased in Oklahoma by the cooperatives causes the coal, natural gas and wind generation utilities to incur expenses to produce and deliver the fuel. These additional expenditures in the economy by the firms supplying the electric cooperatives are called **indirect impacts**. Since 85% of cooperatives inputs and 40% of the fuel are purchased in Oklahoma, these indirect impacts are significant and are even larger than the direct impacts.

In addition to the **direct** and **indirect** impacts, labor employed by both the cooperatives and their suppliers purchase products to support their households. RECs also return profits to the members of the cooperative through the redemption of revolving equity. Those profits also create new revenues for households and lead to expenditures. The household expenditures created from wages and distributed profits are known as the **induced impacts** associated with the RECs. Table 1 provides the data used to estimate the economic impact of Oklahoma's RECs.

The total impact of rural electric and electric generation cooperatives is the sum of the direct, tax effect, indirect and induced impacts, and is presented in Table 2. In total, cooperatives support **9,775 jobs**, which pay **\$605 million in payroll**, and contribute over **\$1.5 billion in economic activity** (also known as value added) to the Oklahoma economy. **\$5.8 billion in total output** is associated with Oklahoma's Rural Electric Cooperatives. Another way of expressing this impact is to say that for every \$1 of expenditure by a REC, another \$0.63 of output is generated in the broader economy.

Table 1: Direct Impact Data for Oklahoma Rural Electric Cooperatives

Employees	2,723	
Total payroll	\$118,606,371	
Operating expenses except fuel	\$1,868,003,581	
In state operating expense except fuel	\$1,587,803,044	(85%)
Fuel	\$1,198,463	
In state fuel purchase	\$479,385	(40%)
Selected Other Expenses:		
State taxes	\$4,400,828	
Gross Receipt Tax	\$46,412,354	
Federal taxes	\$17,603,313	
Total Taxes	\$68,416,495	
Capital Improvements	\$382,261,679	
Total Output	\$3,620,825,350	
Revolving equity redeemed in cash in 2018	\$37,500,682	

Table 2: Impact Results

	Employment	Labor Income	Value Added	Output
Direct Effect	2,723	\$118,606,371	\$446,995,567	\$3,574,412,996
Tax Effect	760	\$38,520,584	\$46,412,365	\$46,412,354
Indirect Effect	3,982	\$333,379,902	\$845,720,083	\$1,907,219,170
Induced Effect	2,497	\$105,572,312	\$187,913,221	\$342,163,992
Total Effect	9,775	\$604,924,692	\$1,542,804,531	\$5,898,901,988
Multiplier	3.17	3.82	3.13	1.63

Background

The Cooperative Business Model

A cooperative is a business owned and democratically controlled by the people who use its services and whose benefits are derived and distributed equitably on the basis of use. The user-owners are called members. In many ways, cooperatives resemble other businesses.. Cooperative businesses differ in their ownership, control, and profit distribution structure. Cooperatives, like other businesses, strive to achieve a profit for their owners. Unlike other businesses, profits are returned to owners/members based on how much they use the cooperative, and not on their share of ownership. Cooperative profits are distributed to members, most of whom reside in the local rural community. This unique profit sharing structure also favorably impacts rural communities.

America's Rural Electric Cooperative Industry

Member owned electrical cooperatives are a unique part of the U.S. electrical industry. More than 900 rural electric cooperatives operate in 47 states providing more than \$45B of electricity. Because these cooperatives serve some of the most remote and isolated areas of the U.S., their infrastructure investment per customer is higher than that of investor-owned utilities. RECs service 13% of the nation's electrical customers while maintaining 42% of U.S. distribution lines. As cooperatives, RECs have a unique financial structure. When a REC's revenue exceeds the costs of providing electrical service, the residual is credited to members in the form of capital certificates. The capital credits represent the member's equity investment in the cooperative. In the short run, the funds represented by the capital credits are invested in poles, wires, transformers and other equipment used to delivery electrical service. In the long run, the capital credits are returned to the member in cash. Each REC board of directors makes

decisions on the retirement of past capital credits based on the financial condition of the cooperative. In 2017, U.S. RECs returned more than \$1B to their customer members through retired capital credits. The flow of those profits into rural communities is part of the positive economic impact of rural electric cooperatives.

Oklahoma's Rural Electric Distribution Cooperatives

Twenty-seven distribution cooperatives and two electrical power generation and transmission cooperatives operate in Oklahoma. Distribution cooperatives deliver electricity over 116,000 miles of line to reach more than 648,000 customer meters. Oklahoma's electric distribution cooperatives employ 2,134 individuals on a full-time basis with payroll expense of almost \$102M. In 2018, Oklahoma's distribution cooperatives returned over \$30M in cash to their members, and since their establishment, Oklahoma distribution RECs have paid almost \$430M in retired capital credits. Those distributions highlight the distinguishing feature of the cooperative business model.

Oklahoma Generation and Transmission Cooperatives

Oklahoma's generation and transmission cooperatives, Western Farmers Electric Cooperative (WFEC) and KAMO Power supply the majority of the electricity supplied by Oklahoma rural electric cooperatives. Western Farmers Electric supplies 21 member-owner cooperatives in Oklahoma and New Mexico, Altus Air Force Base, and other power users, ultimately serves over 325,000 consumers. WFEC owns and operates three generating plants located at Mooreland, Anadarko, and Hugo, Oklahoma. WFEC has generating capacity of 1,370 megawatts along with 968 MW of purchased power and 705 MW of solar and purchased wind generation. WFEC owns and operates more than 3,700 miles of energized transmission line, and 330 substation and switch station locations. WFEC also operates a control area transmission

center, an energy operations center, a telecommunications system, and a supervisory control and data acquisition system.

KAMO power, headquartered in Vinita, Oklahoma is a generation and transmission cooperative that provides wholesale electric service to 17 distribution cooperatives located in Oklahoma and Missouri. KAMO operates and maintains 2,897 miles of energized transmission line, and ultimately serves 380,000 meters. KAMO operates 300 substations, and an extensive fiber optic system with 4,000 miles of line. KAMO is one of the six generation and transmission utilities that own and govern Associated Electric Cooperative in Springfield, MO. Oklahoma's two electric generation and transmission cooperatives have 589 full time employees with a payroll of over \$57.5M

Estimating Economic Impact

An economic impact study estimates the change in economic activity within a specific region that is associated with a business or industry. Economic impact studies often estimate multiple types of impacts. Employment impacts measure the increase in the total number of employees in the region due to the highlighted industry. The amount of salaries and wages may also be estimated. Another measure is the "value added impact" which includes the wages, profits and taxes that flow into the study region. The value added impact is basically the increase in the "gross regional product". Gross regional product (GRP) is very similar to the national concept of gross domestic product (GDP) and represents the total size of the local economy. The broadest measure of impact is the "output impact" which measures the total increase in sales or revenues in the region. The output impact does not distinguish between high value added activities (generating substantial local profit and income) from low value added activities (generating low local profit or income) from the same level of sales.

Economic impact is typically estimated with an input-output model. One of the most widely used models is IMPLAN which was created by the USDA Forest Service in the mid-70's. IMPLAN uses intra-industry data to determine how changes in one industry will affect other sectors. The model also estimates the share of each industry's purchases that are made outside the study region. Economic impact models measure or estimate three types of impacts. The first effect is the "Direct Impacts". The direct impacts are the dollars spent by the industry in the study region. Direct effects include money spent for salaries, supplies, raw materials and operating expenses. A good portion of the direct effects represents purchases from other businesses in the study region. Those purchases create "Indirect impacts". The indirect effect is a measure of the business-to-business activity (above and beyond the initial spending measured by the direct effect) that occurred in the study region. The last set of effects are the "induced impacts". The induced effects come from the household spending associated with the direct and indirect effects. The businesses creating the direct and indirect effect paid salaries and distributed profits within the study region. The households receiving those funds spent part of their wages at businesses within the region. The household to business activity creates the induced effects.

Concept of an Economic Multiplier

An economic multiplier is a measure of how much additional economic activity is created by injecting a dollar into a study region. The concept is often misused by suggesting that there is a standard multiplier for all industries and regions. The concept of the multiplier can be understood by thinking of rounds of spending. In round one, the industry spends a specific amount. In round two of spending, part of those funds from round one are spent in the study region and part is spent outside. There is a similar situation in round three and we can see that

the amount spent within the region becomes smaller in each round and eventually dwindles to near zero. Adding up all of the rounds of spending results in the total impact. For example if 40% of revenue is spent within the region, the second round effect is \$.40, the third round effect is \$.16, the fourth round effect is \$.06 and we get an eventual total effect of \$1.66. That results in a multiplier of 1.66 and means that for every dollar expended by the industry, another \$.66 is generated within the regional economy.

Conclusions

Rural Electric Cooperatives are an important component of the Oklahoma economy making significant contributions in terms of employment, business activity and taxes. Oklahoma's RECs provide electrical and communication infrastructure that makes it possible for citizens to live and work in rural Oklahoma. The employment created both directly and indirectly by Oklahoma RECs is important for rural communities. Profits from REC operations are returned to members in the form of redeemed capital credits. All of these factors underscore the fact that Oklahoma's RECs provide a vital contribution to Oklahoma's rural communities.