



# The Economic Contribution of Montana's Cooperatives

March 2023

*Prepared for:*  
The Montana Cooperative Development Center  
Great Falls, Montana

*Prepared by:*  
Bureau of Business and Economic Research  
University of Montana  
Missoula, MT 59812



## Acknowledgements

This report was made possible with the cooperation of the hundreds of cooperatives who operate throughout the state who took the time to provide us with the critical information incorporated into this report. We would like to also thank the Montana Cooperative Development Center (MCDC), and in particular MCDC Executive Director Tracy McIntyre, in providing leadership and a wealth of information and support. John Baldrige and Janet Stevens of the BBER were involved in the data collection and writeup of the descriptive analyses in this report. Derek Sheehan of BBER carried out the impact analysis. All errors and omissions in this report remain the responsibility of BBER.

# Table of Contents

1	Executive Summary .....	3
1.1	About this Study .....	3
1.2	How These Results Were Produced.....	4
1.3	What Montana Cooperatives Do.....	4
1.4	Detailed Findings: Employment and Earnings .....	6
1.5	Detailed Findings: Geography and Type of Business.....	8
1.6	Conclusion .....	9
2	Introduction.....	11
2.1	The Economic Contribution of Montana Cooperatives .....	12
3	Describing Montana’s Cooperatives .....	14
3.1	Types of Member Co-ops .....	14
3.2	Locations of Member Co-ops .....	15
3.3	Member Benefits.....	15
3.4	Employment, Compensation and Revenue .....	16
4	Policy Analysis with the REMI Model .....	17
5	The Economic Contribution of Montana Cooperatives .....	20
5.1	Results Summary .....	20
5.2	Employment Impacts .....	21
5.3	Personal Income Impacts .....	21
5.4	Output Impacts.....	23
5.5	Population Impacts.....	24
5.6	Summary of Economic Contributions.....	25
	Appendix A: The Economic Contribution of Montana’s Credit Unions .....	27
	Appendix B: The Economic Contributions of Montana’s Telecommunications Cooperatives.....	31
	Appendix C: The Economic Contributions of Montana’s Electric Cooperatives .....	35

# The Economic Contribution of Montana’s Cooperatives

## 1 Executive Summary

Cooperatives in Montana are so ubiquitous that their unique importance to the economies of the communities where they are located can be overlooked. This study aims to address that situation. Using operating and financial data gathered from 126 separate cooperative businesses located in every corner of the state, we construct a measure of their ultimate economic contribution in terms of jobs, incomes, spending, population, and other measures. In carrying out this task, we also learn many details about what they do, who they serve, and how their activities underpin the prosperity of many parts of the state.

Our basic finding is that the presence of cooperative businesses in Montana ultimately leads to an economy with more jobs, more income, more sales and more people and families than would exist in their absence. Comparing the actual economy to the level of economic activity that an economy without cooperatives would produce we find that:

- 24,752 permanent, year-round jobs exist in the Montana economy, distributed across a wide swath of industries, because of the operations of cooperatives;
- Montana households receive more than \$1.6 billion in income annually that is because of the presence of cooperatives in the economy, of which more than \$1.4 billion is after-tax income, available for spending;
- Gross receipts, or output, of business and non-business organizations is almost \$7.1 billion higher annually because of cooperatives;
- 32,901 more people, consisting primarily of working-aged people and their families, call Montana home today because of the existence of cooperatives.

Table 1.1 The Economic Contributions of Montana Cooperatives: Summary

Category	Units	Impact
Total Employment.....	Jobs	24,752
Personal Income.....	\$ Millions	1,655.5
Disposable Personal Income.....	\$ Millions	1,410.0
Output.....	\$ Millions	7,080.3
Population .....	People	32,901

The jobs that exist in the Montana economy today because of the existence of cooperative businesses include a substantial number of jobs across the economy that are supported by the spending of those who receive wages, sales and revenue that cooperatives generate. The extensive connections between cooperatives and the economies of the communities they serve are captured with an economic model that has been constructed for this use.

### 1.1 About this Study

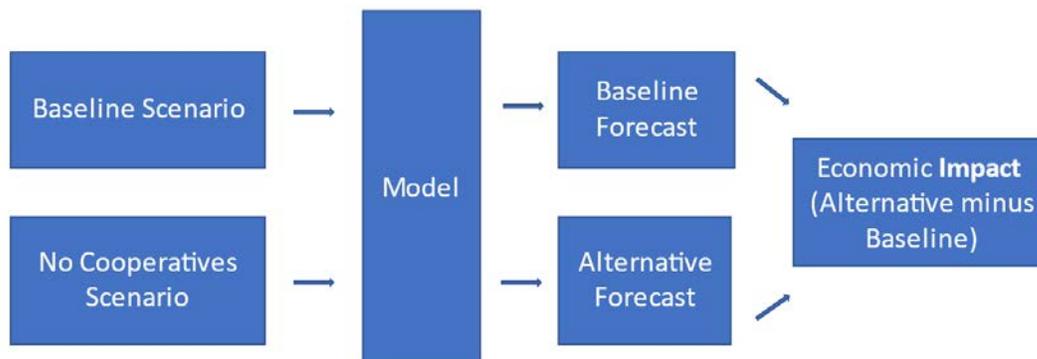
This examination of the economic contributions of cooperative businesses in Montana was performed by the University of Montana Bureau of Business and Economic Research (BBER). The principal author of this report is Patrick Barkey, director of the BBER. The report was sponsored by the Montana Cooperative Development Center, who also assisted in the gathering of operating data by BBER. All conclusions, omissions, or errors in this report are solely the responsibility of BBER.

The BBER is the preeminent business research center in Montana. Housed in the College of Business, for 46 years it has produced the Montana Economic Outlook Seminar, a half-day program devoted to the national, state and local economic outlook that now is held in 10 cities across Montana in February. More information on the BBER can be found at [www.bber.umt.edu](http://www.bber.umt.edu).

## 1.2 How These Results Were Produced

The results presented in this study address the research question: what would the Montana economy look like if cooperative businesses did not exist? This is a purely hypothetical question – no shutdowns or closures are contemplated or examined. Its use is to illustrate and quantify all of the connections between cooperative operations and the state economy. The spending of cooperatives received by workers, vendors, and governments is re-spent in part in communities and across the state when cooperatives operate, boosting jobs, demand, and income in sectors of the economy with no direct relationship with cooperatives. Thus, an economy without cooperatives is smaller by more than just the cooperatives themselves.

Figure 1.1 Policy Analysis With REMI



Since an economy with no cooperatives cannot be directly observed, we estimate its size and composition using an economic model leased for this study and constructed specifically for this purpose. The flow of the analysis, illustrated in Figure 1.1, involves using the economic model (REMI) to produce two different projections of the Montana economy. The first is the status quo scenario that includes cooperatives. The second, no-cooperatives, scenario is made by carefully removing the economic activity of cooperatives and making a second projection.

In order to create the counter-factual, no cooperatives, scenario we needed to collect operating information, including employment, compensation, revenue and vendor spending, from cooperative businesses across the state. With the assistance of the Montana Cooperative Development Center, the sponsor of this study, we obtained such data from 126 different cooperative businesses, which pertained to the 2021 calendar year. It is important to note that all data reflected actual, recorded spending. No projections or estimates were made.

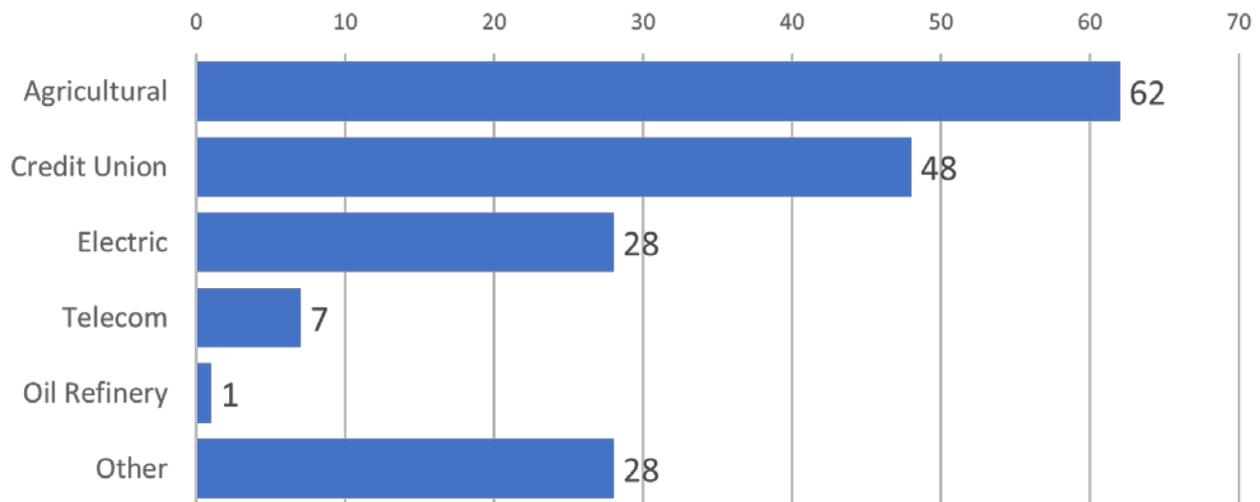
## 1.3 What Montana Cooperatives Do

One of the most important contributions of this study is the development of a better understanding of who cooperatives are, what they do, and how the operations of their businesses across Montana ultimately grow the economy to produce the impacts shown in Table 1.1.

Montana’s cooperative businesses are woven into the fabric of communities across the state, perhaps more so than any other economic institution. The very nature of their business model, with ownership shared by members in the communities where they operate, forges a connection between what they do and the people they serve that is unique. From their rich, historical roots as organizations providing agricultural-based products and services, coops in Montana, like elsewhere in the world, have broadened their footprint to include businesses in finance, housing, manufacturing, retail, utility and even technology industries.

The breadth of activities and functions that Montana cooperative businesses provide makes a succinct description challenging. They share in common a business model with ownership shared by members in the communities they serve. The largest number of cooperatives serve the agriculture industry, involved in wholesaling, supply, processing and services. More prominent in the urbanized areas of the state, are the 48 credit unions included in this analysis, some of which serve members in other states as well as Montana. The state’s 28 electric cooperatives and its 7 telecommunications cooperatives form fairly homogeneous groups of businesses whose prominence rises as one moves away from larger cities.

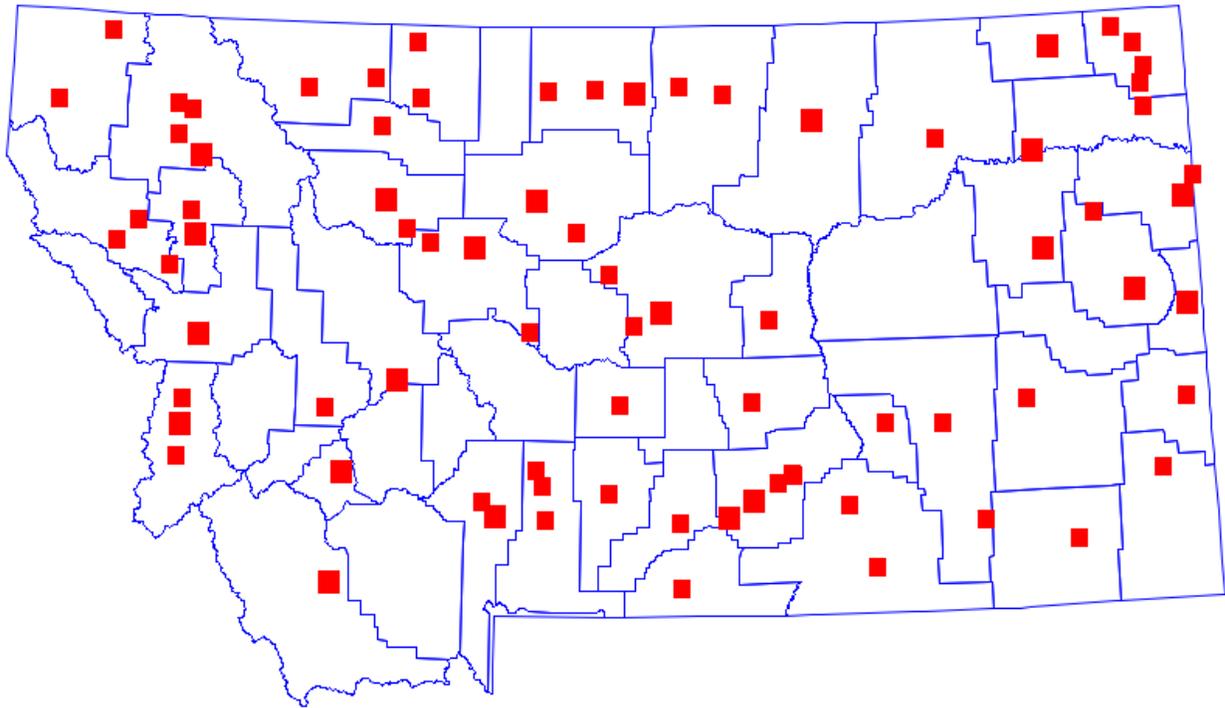
Figure 1.2 Montana Cooperatives by Industry



Montana is also home to cooperatively owned businesses outside those broad categories, including businesses in grocery, wholesaling, hospitality, restaurant, investment, and marketing activities. One of the state’s four oil refineries, the CHS refinery in Laurel, is a cooperative.

Another striking fact about Montana cooperative businesses is their geographic dispersion across the state. Montana cooperatives are present in the state’s largest cities, but they also are established in small communities across the state. In many of these places, they represent one of the most important sources of economic stability and prosperity. While the overall population of the state is more concentrated in the western and south-central counties, one can see from Figure 3 that the distribution of cooperative businesses in Montana is much more uniform, with less populous eastern and north central counties home to a significant number of coops.

Figure 1.3 Montana Cooperatives by City



This study does not take into account the significant benefits of the products and services cooperatives provide Montana households and businesses, including farms and ranches. In many rural communities the cooperative is the only viable provider of agricultural services and supplies. The value that Montanans receive from cooperatives doubtless far exceeds the value paid for what they produce.

What is considered in this study is how the livelihoods of the workers, families, businesses and even local governments are impacted by the economic activities of cooperative businesses. Taken as a whole, the 126 businesses that provided information to this study employed 4,480 people, paid wages and benefits of \$288.3 million and realized revenue of \$1.78 billion in 2021. Their ultimate impact on the economy, as detailed in this report, is significantly larger.

#### 1.4 Detailed Findings: Employment and Earnings

The impacts of cooperatives on employment in the state are spread across all of the major industries, for at least two reasons. The first is the diversity of the activities of the cooperatives themselves. Coop jobs are variously classified as manufacturing, utilities, information, construction and financial services. Thus, their presence in the economy directly adds to employment in those categories. More importantly, the significant spending of cooperative businesses and their employees is spread across the entire economy, growing the businesses – and jobs -- that receive that spending.

Table 1.2 Employment Impacts

Industry	Impact
Construction.....	4,241
Telecommunications.....	812
Finance and Real Estate.....	2,707
Retail Trade.....	2,297
Transportation and Warehousing.....	606
Professional and Technical Services.....	1,611
Administrative and Waste Services.....	1,079
Health Care and Social Assistance.....	1,287
Utilities.....	791
Accommodation and Food Services.....	1,860
Other Services, except Public Administration.....	966
Other Private.....	3,015
Government.....	3,480
<b>TOTAL.....</b>	<b>24,752</b>

It is clear from Table 1.2 that the larger economy that comes about because of the operations of cooperative businesses has sizable benefits even for unrelated industries. Health care, construction, and government have a significant number of additional jobs that are ultimately due to cooperatives because of the demand for their output induced by the larger economy overall. In the case of government, the bulk of the job impacts come from demands for local government services that stem from the larger population of the state, including schools.

The jobs that exist in the Montana economy today pay wages in excess of the state average. Collectively, the 24,752 jobs supported by cooperatives pay more than \$1.1 billion in wages, as shown in Table 1.3. Adding the value of benefits yields a compensation impact of \$1.4 billion. Finally, when the income of business proprietors is added, we arrive at a total earnings impact of cooperatives of more than \$1.5 billion annually.

Table 1.3 Earnings Impacts

Category	Units	Impact
Wages and Salaries.....	\$ Millions	1,108.4
Compensation.....	\$ Millions	1,416.0
Earnings.....	\$ Millions	1,516.0
Earnings per Job, New Jobs.....	\$ Dollars	\$61,250

This works out to average earnings of \$61,150 for each of the 24,752 additional jobs that cooperatives support in the state economy. By comparison, the average earnings for jobs overall in Montana in 2022 was \$52,222.

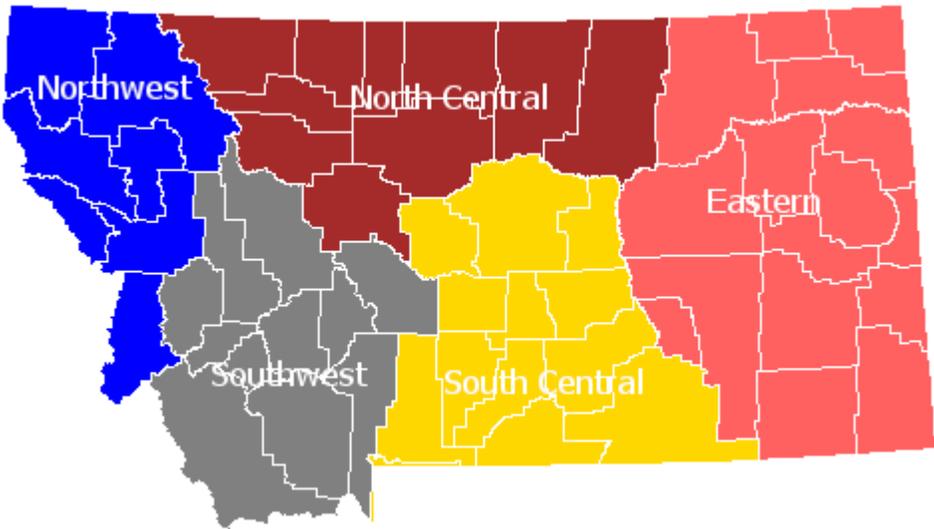
1.5 Detailed Findings: Geography and Type of Business

One of the most unique aspects of Montana cooperative businesses is their significant presence in the less populous parts of the state. Their economic contributions are arguably more powerful for this reason, as a foundation for the continued viability and stability of the rural parts of Montana that have faced growth challenges.

Table 1.4 Economic Contributions Summary by Region

Category	Units	Northwest	Southwest	North Central	Eastern	South Central
Total Employment.....	Jobs	5,968	3,568	3,507	2,141	9,566
Personal Income.....	\$ Millions	357.3	268.2	240.9	132.3	721.1
Disposable Personal Income.....	\$ Millions	301.3	231.4	205.8	109.5	616.8
Output.....	\$ Millions	1,417.9	681.8	804.5	479.0	3,961.8
Population .....	People	6,852	5,558	4,816	2,799	12,876

Figure 1.4 REMI Economic Regions



The geographic detail on the overall contributions of cooperatives reveals the important presence of those businesses in all five regions of the state. In particular, the eastern region of the state, which represents just 7 percent of total jobs statewide, accounts for roughly 9 percent of jobs supported by cooperatives.

The regional pattern of impacts also reflects the size, type, and specific location of individual cooperatives in the state. That is particularly so for the south-central region of the state, which is where the CHS petroleum refinery is located. The refinery is distinctly different from most other cooperative businesses, operating a capital-intensive, high value-added, manufacturing business, and its impacts reflect the nature and the size of its business.

Further insight on the nature of the economic contributions of cooperatives can be seen from the detail on impacts by type of business. While the number, size, and nature of the different categories of cooperative businesses shown in the columns of Table 1.5, it is nonetheless notable that each separately accounts for a significant portion of the aggregate economic contribution.

Table 1.5 Economic Contribution Summary by Business Type

Category	Units	Credit Unions	Electric Coops	Telecomm	Ag Coops & Other	CHS Refinery
Total Employment.....	Jobs	4,735	6,434	2,722	2,884	7,926
Personal Income.....	\$ Millions	296.2	416.4	170.8	193.6	573.0
Disposable Personal Income.....	\$ Millions	251.8	353.5	145.1	164.9	490.1
Output.....	\$ Millions	1,500.2	1,241.3	388.6	601.4	3,341.9
Population .....	People	5,936	8,545	3,656	3,800	10,890

The summary results by business type once again reveal the uniqueness of the CHS refinery’s outsized impact. This is especially so for the economic output measure, owing to the high value of the facility’s output of refined petroleum products. The slightly lower impact of telecommunications cooperatives is easily explained by the relatively small number of businesses in that category.

## 1.6 Conclusion

This study has examined the economic contributions of Montana cooperatives, using data provided by cooperative businesses in finance, telecommunications, agriculture, electric utilities and other lines of business. Taken together, we find that the operations of these cooperative businesses are a pillar of economic strength in communities across the state. Compared to a hypothetical economy where cooperative are not present, we find that the state economy is larger by:

- 24,752 year-round, permanent jobs across a wide spectrum of industries;
- More than \$1.6 billion in annual income receive by Montana households, of which \$1.4 billion is after-tax income available for spending in the local economy;
- \$7 billion in additional economic output every year, defined as gross receipts to business and non-business organizations;
- Nearly 33,000 more people who call Montana home, attracted and retained by the economic opportunity that an economy with cooperatives presents.

The economic contributions are especially prominent in less populated parts of the state, including areas that have faced significant challenges retaining jobs and families.



# The Economic Contribution of Montana's Cooperatives

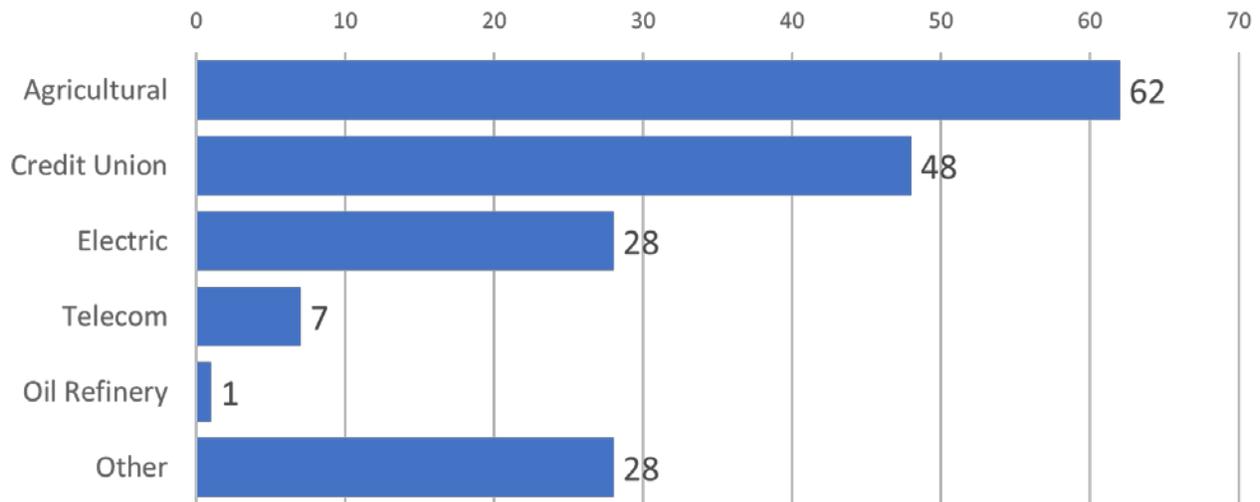
## 2 Introduction

Cooperatives are user-owned or user-controlled businesses that are formed and operated to create benefits for their members. From their origins in crafts and skilled trades in Europe in the 19<sup>th</sup> century, cooperatives have expanded both geographically and across a wide spectrum of economic activity. Their growth in the United States was especially fast in the last half of the 1800's, partly as a reaction to the growth of monopolies and greater industrial concentration that occurred in that era.

Montana's cooperative businesses are woven into the fabric of communities across the state, perhaps more so than any other economic institution. The very nature of their business model, with ownership shared by members in the communities where they operate, forges a connection between what they do and the people they serve that is unique. From their rich, historical roots as organizations providing agricultural-based products and services, coops in Montana, like elsewhere in the world, have broadened their footprint to include businesses in finance, housing, manufacturing, retail, utility and even technology industries.

Cooperatives in Montana are so ubiquitous that their unique importance to the economies of the communities where they are located can be overlooked. This study aims to address that situation. Using operating and financial data from 174 separate cooperative businesses located in every corner of the state, we construct a measure of their ultimate economic contribution in terms of jobs, incomes, spending, population, and other measures. In carrying out this task, we also learn many details about what they do, who they serve, and how their activities underpin the prosperity of many parts of the state.

Figure 2.1 Montana Cooperatives by Industry

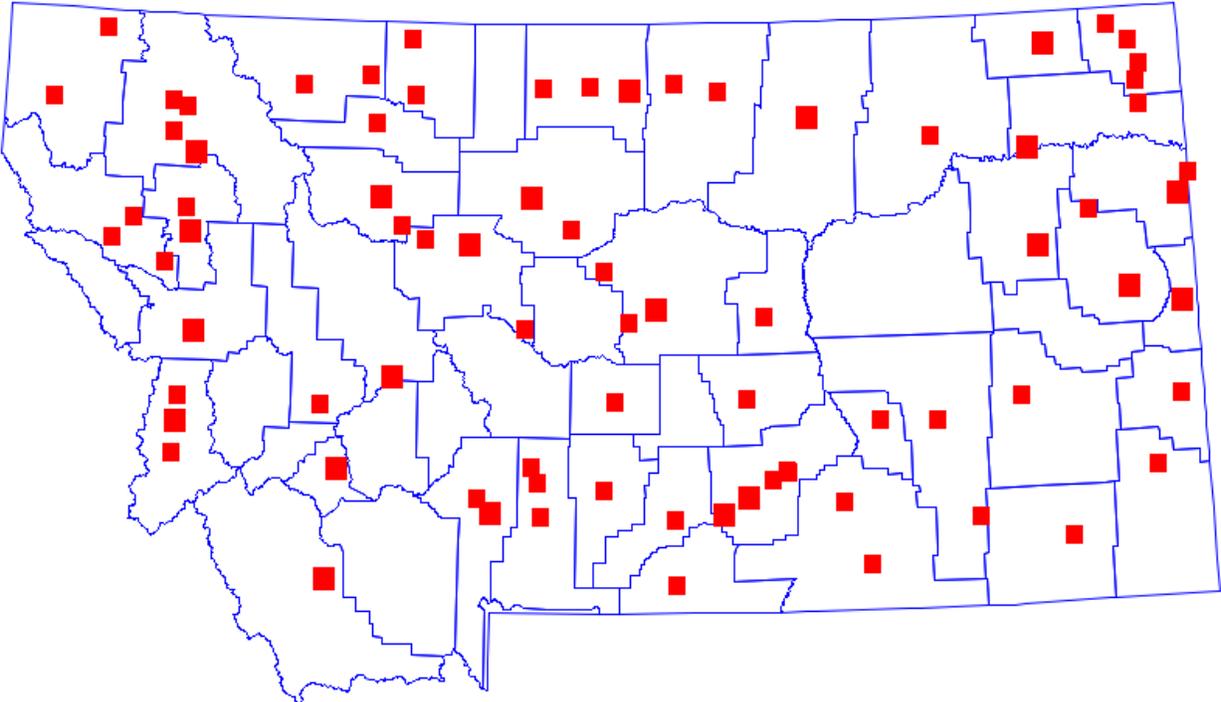


The breadth of activities and functions that Montana cooperative businesses provide makes a succinct description challenging. But some cooperatives can be grouped more easily. The most familiar cooperative businesses, particularly in the urbanized areas of the state, are perhaps the 48 credit unions included in this analysis, some of which serve members in other states as well as Montana. Likewise, the state's 28 electric cooperatives and its 7 telecommunications cooperatives form fairly homogeneous groups of businesses whose prominence rises as one moves away from larger cities.

But Montana is also home to cooperatively owned businesses outside those broad categories, including businesses in grocery, wholesaling, hospitality, restaurant, investment, and marketing activities. One of the state’s four oil refineries, the CHS refinery in Laurel, is a cooperative.

Another striking fact about Montana cooperative businesses is their geographic dispersion across the state, as can be seen from Figure 2.2. Montana cooperatives are present in the state’s largest cities, but they also are established in small communities across the state. In many of these places, they represent one of the most important sources of economic stability and prosperity.

Figure 2.2 Montana Cooperatives by City



### 2.1 The Economic Contribution of Montana Cooperatives

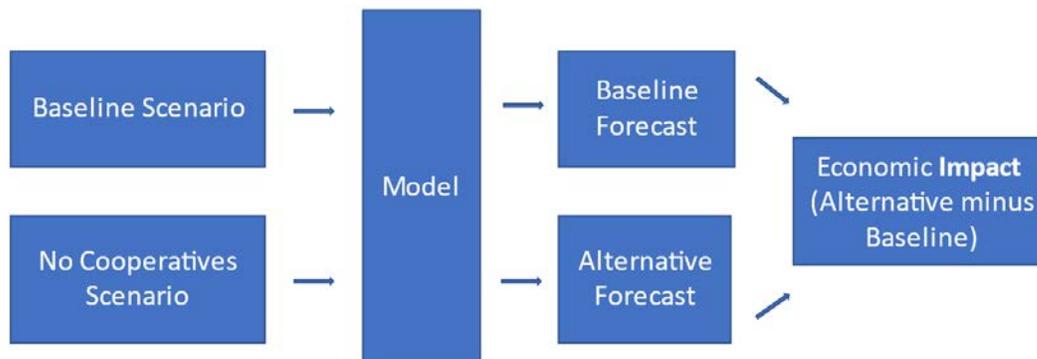
Montana cooperatives are businesses that employ people, serve customers, and purchase goods and services from elsewhere in the economy. As such, they make the economy larger, both by the economic activity they themselves directly represent, and through the subsequent spending that occurs as those who receive wages and revenues re-spend a portion in the local economy. One way of evaluating that contribution is to pose a hypothetical question: what would the Montana economy look like if cooperatives did not exist?

The question can be addressed by (i) tallying the direct economic contribution of cooperatives by aggregating their employment, wages, vendor spending and other economic flows, and (ii) using an economic model to estimate how the removal of cooperatives affects the rest of the economy and

ultimately brings the economy to a new, lower, resting point. The difference between the actual level of economic activity and this “no cooperatives” scenario can be interpreted as the total economic contribution of Montana cooperatives.

The model used in this study to perform this analysis – the REMI model – is one that has been specifically constructed and calibrated for this purpose. It is used to faithfully represent the connections between the activities of Montana’s cooperatives and the rest of the state economy, providing a means to assess how the economy as a whole would perform if cooperatives were not present.

Figure 2.3 Policy Analysis with the REMI Model



As depicted in Figure 2.3, the model is used to develop a projection of the hypothetical economy that removes the economic activity of cooperatives. This alternative forecast can be compared to the status quo, or baseline, projection to arrive at an assessment of the economic impact of cooperatives.

The diagram above also describes the organization of this report. We begin in the next section by describing the economic activities of Montana cooperatives in more detail. We also report on the broader findings of the survey of cooperatives that was conducted in conjunction with this analysis. After next describing the REMI model, we move on to present the finding of the overall study.

### 3 Describing Montana’s Cooperatives

The paragraphs that follow present a brief descriptive analysis of the responses to the 2022 Survey of Montana Cooperatives. The responses of the 115 cooperatives that participated in the survey and information from 11 additional cooperatives, which was collected separately, are reported in the order the questions were asked.

#### 3.1 Types of Member Co-ops

Almost four in every ten co-ops that provided information (38%) were credit unions (see Table 3.1). Almost two in every ten (18%) were electrical utilities. One in every ten (10%) were agricultural supply cooperatives. The remaining responses were from a wide variety of business types.

Table 3.1: Co-op types

<b>What is your main business type?</b>		
	<b>Frequency</b>	<b>Percent</b>
Agricultural marketing or processing	8	6.3
Agricultural services	5	4.0
Agricultural supply	12	9.5
Credit union	48	38.1
Hospitality or food and lodging	2	1.6
Grocery	6	4.8
Housing	3	2.4
Mutual insurance	1	0.8
Telecommunications or broadband	3	2.4
Utility distribution	22	17.5
Utility generation	1	0.8
Wholesale or retail	2	1.6
Other	2	1.6
Total survey responses	115	91.3
Missing	11	8.7
Total co-ops providing some data	126	100.0

### 3.2 Locations of Member Co-ops

Table 3.2 below presents the locations of the responding co-ops by the REMI regions defined in the map presented earlier in this report. Responding co-ops were relatively evenly distributed throughout the five Montana regions analyzed. Eastern Montana held the most 2022 co-operatives that provided information (38) while Southwest Montana housed the fewest (18).

Table 3.2: Co-op locations

	Northwest	Southwest	North central	Eastern	South central	Total
Agricultural	5	2	6	12	5	30
Credit union or insurance	11	10	8	11	9	49
Electrical utility	5	3	6	9	5	28
Telecommunications	1	0	1	2	0	4
Other	4	3	1	4	3	15
Total	26	18	22	38	22	126

### 3.3 Member Benefits

The large majority of co-ops reported either that they sell goods and services to members (50 co-ops) or that they provide financial services to members (51 co-ops). Table 3.3 below describes distribution of benefits provided by co-ops. Nineteen co-ops reported that they market and sell goods or services on behalf of members.

Table 3.3: Member benefits

	Sell goods and services to members	Provide financial services to members	Market and sell goods or services on behalf of members	Provide housing to members	Process or manufacture for members	Other (please specify)
Agricultural	18	2	11	0	2	0
Credit union or insurance	1	48	0	0	0	0
Electrical utility	22	0	1	0	0	0
Telecommunications	3	0	0	0	0	0
Other	6	1	7	2	2	3
Total	50	51	19	2	4	3

### 3.4 Employment, Compensation and Revenue

Responding co-ops reported total 2021 employment of 4,480 (see Table 3.4). The average responding co-op employed 236 people in 2021. The participating co-ops paid their employees about \$288,340,000 or about \$3,004,000 per co-op in 2021. The total annual revenue reported was about \$1,784,000,000 which yielded an average revenue of about \$154,421,000 per co-op.

Table 3.4 Employment, Compensation and Revenue

Business type	Employment			Compensation			Revenue		
	N	Sum	Mean	N	Sum	Mean	N	Sum	Mean
All	116	4,480	236	96	\$288,340,421	\$3,003,546	100	\$1,784,025,276	\$154,420,905
Agricultural	29	1,227	42	19	\$54,485,486	\$2,867,657	19	\$735,079,491	\$38,688,394
Credit union or insurance	49	1,466	30	49	\$108,263,179	\$2,209,453	49	\$345,195,252	\$7,044,801
Electricity utility	28	682	24	21	\$76,043,966	\$3,621,141	22	\$420,289,188	\$19,104,054
Telecommunications	4	465	116	3	\$49,055,979	\$16,351,993	3	\$257,718,181	\$85,906,060
Other	6	640	23	4	\$491,811	\$122,953	7	\$25,743,164	\$3,677,595

This aggregate economic description of cooperatives, of course, does not fully capture their importance in the communities that they serve. The value of the products and services they produce, the stability and support they provide through their presence to vital institutions like schools, churches and volunteer organizations, and their donations and charitable contributions are important ways in which their presence enriches their communities. But the jobs, income, and revenue flows described above are the primary measures of their economic activity that are the foundation of this analysis.

## 4 Policy Analysis with the REMI Model

Economic impacts occur because of events or activities that create new expenditures. Spending which is new – which is over and above existing expenditures and does not simply displace spending elsewhere in the region – not only adds to economic activity in its own right, but it also induces further spending as the recipients of wages, sales, and tax revenues spend a portion of their income in the local economy. Changes in the path of investment, migration, and prices and wages are possible as well.

The basic tool used in this study to assess the economic contributions of Montana cooperatives is an economic model, calibrated to represent the interactions in the Montana economy, leased from Regional Economic Models, Inc. The REMI model is one of the best known and most respected analytical tools in the policy analysis arena and has been used in more than 100 previous studies as well as dozens of peer-reviewed articles in scholarly journals. It is a state-of-the-art econometric forecasting model that incorporates dynamic feedbacks between economic and demographic variables. The REMI model forecasts employment, income, expenditures, and populations for counties and regions based on a model containing over 100 stochastic and dynamic relationships as well as a number of identities. A full explanation of the design and operation of the model can be found in Treyz (Treyz, 1993).

The model used in this study disaggregated the state economy into five regions: Northwest, Southwest, North Central, South Central, and Eastern. It explicitly recognizes trade flows that exist between these regions, as well as between the regions and the rest of the world. Statewide impacts reported here represent the totals for the five regions. The definition of the regions is shown in Figure 4.1 below.

Figure 4.1 REMI Economic Regions

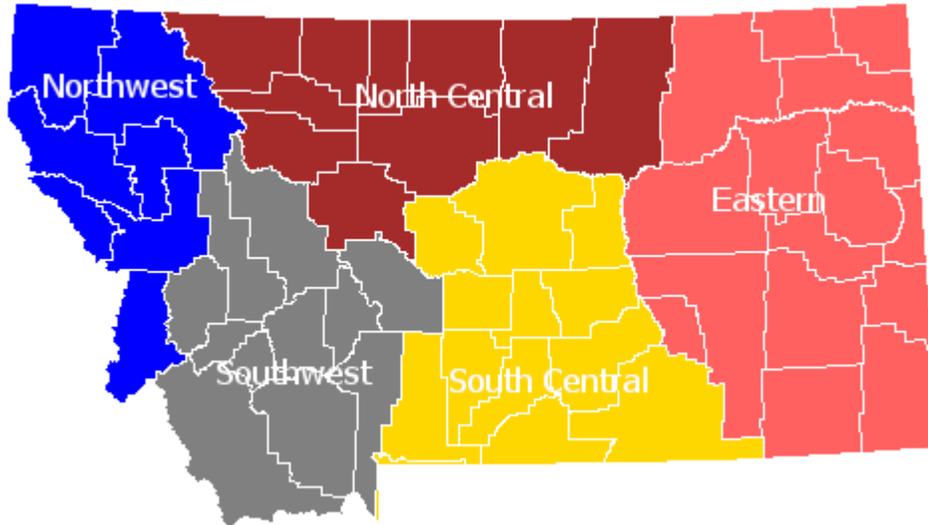
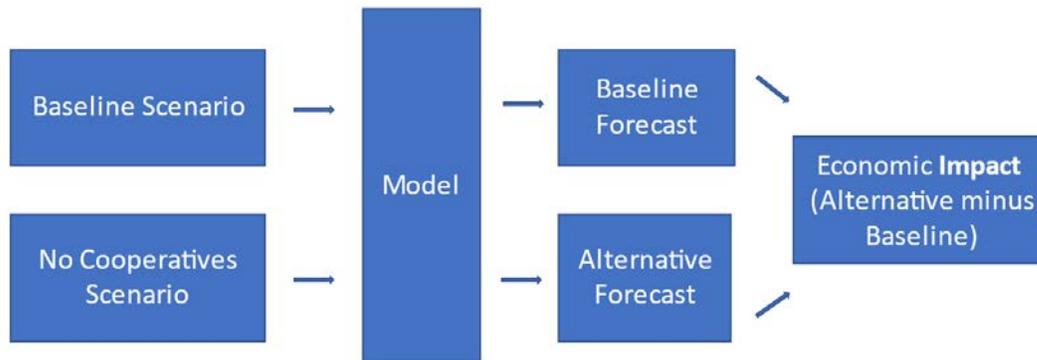


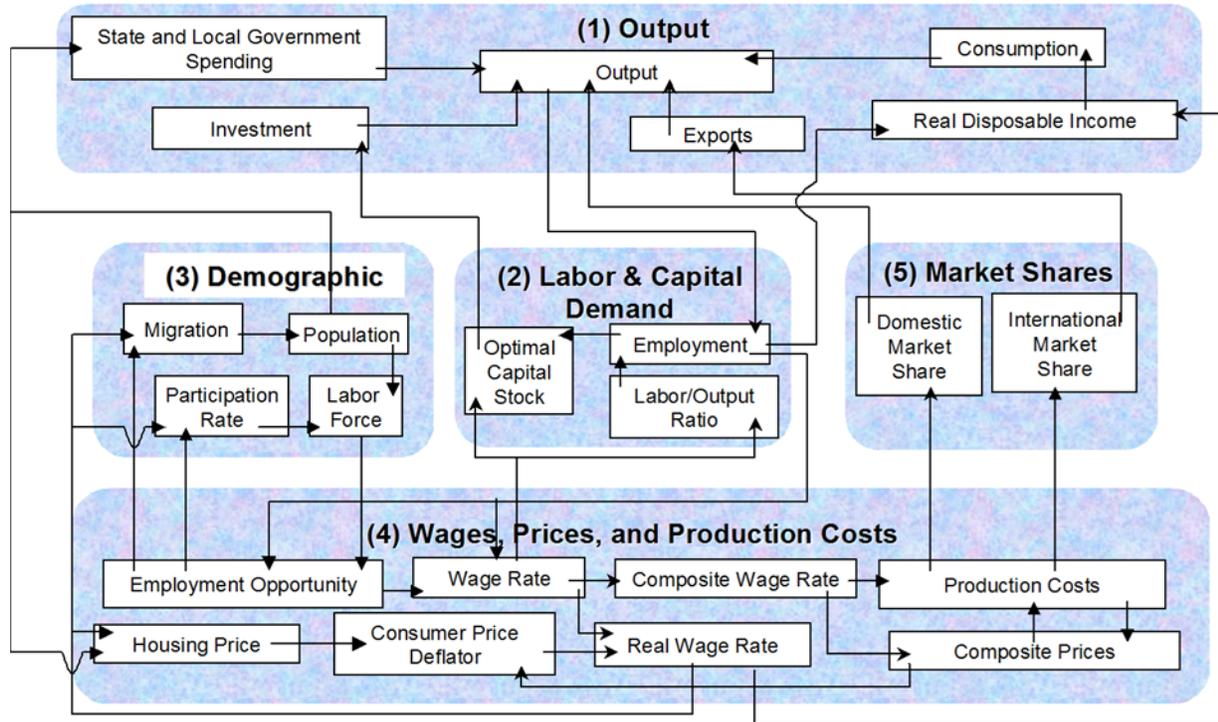
Figure 4.2 Policy Analysis with the REMI Model



The use of the model to derive the results of this study is illustrated graphically in Figure 4.2. First, a baseline projection for the economy is made using status quo assumptions that includes Montana cooperatives. The model is then used a second time, with identical inputs – except that in this alternative scenario, the spending associated with cooperatives in the economy is removed. These changes in the economy ultimately bring the economy to a new, lower level of activity, reflecting not only the direct impacts of cooperatives spending, but how the rest of the economy reacts when receiving this spending as income. The difference between the baseline and alternative scenarios of the economy represents the economic contribution of cooperatives in Montana.

The model utilizes historical data on production, prices, trade flows, migration, and technological change to calibrate the relationship between five basic blocks of the regional economy as depicted in Figure 4.3: output, labor and capital demand, population and labor force, wages and prices, and market shares. The changes in production, labor demand and intermediate demand caused by the jobs, wages, vendor spending, and production of cooperatives cause these blocks of the economy to react and adjust to a new equilibrium. As described above, the difference between the baseline and the alternate scenario is the total impact of Montana’s cooperatives.

Figure 4.3 REMI Model Linkages



The essential philosophy of the model is that regions throughout the country compete for investment, jobs, and people. When events occur in a region they set off a chain reaction of actions causing dollar flows toward better investment and production opportunities, followed over time by a flow of workers and households toward employment opportunities and higher wages. The model embodies a 70-sector input-output matrix that describes the technological interdependence of production sectors of the economy, as well as extensive trade and capital flow data to determine the share of each sector's demand that can be met by local production.

As powerful and flexible as this tool is, the answers it provides are only as good as the questions posed to it. The majority of work in this study is carefully crafting the inputs used to construct a scenario of the economy that faithfully represents all of the events, income flows, and other direct and indirect impacts that result from the activities of cooperatives.

## 5 The Economic Contribution of Montana Cooperatives

The assessment of the economic contribution of Montana cooperatives detailed in this report represents the difference between a Montana economy that includes cooperatives, and a second, hypothetical economy that removes them. The latter does not pretend to be a realistic scenario, where businesses are sold, assets are liquidated, or new businesses might start to address unmet needs in the economy. It is intended to be used as a way of understanding how the activities of cooperatives ultimately support jobs and income beyond the cooperatives themselves.

All of the data and information presented in this section of the report are measurements of this total economic contribution, for the state of Montana as a whole. It contains both the jobs and income of the cooperatives themselves, as well as the jobs, income and other measures of economic activity that come about because of the additional spending that occurs as the spending flows recirculate in the economy.

The analysis was limited to the Montana cooperatives that provided BBER with the needed information on their own jobs and spending. Out of 176 cooperative businesses statewide, sufficient data were obtained from 116. Complete data were obtained from Montana credit unions and electric cooperatives.

### 5.1 Results Summary

Our principal finding is that the presence of cooperatives in the Montana economy today makes the economy larger, more prosperous, and more populous. Because of cooperatives, there are 24,752 permanent, year-round jobs in the economy, as shown in Table 5.1. There is more than \$1.6 billion in income received by Montana households each year in an economy that includes cooperatives, with \$1.4 billion of that amount after-tax income available for spending.

Table 5.1 Impacts Summary

Category	Units	Impact
Total Employment.....	Jobs	24,752
Personal Income.....	\$ Millions	1,655.5
Disposable Personal Income.....	\$ Millions	1,410.0
Output.....	\$ Millions	7,080.3
Population .....	People	32,901

There is more than \$7 billion in economic output, as measured by gross receipts received by Montana businesses and non-business organizations, because of cooperatives. Finally, there are almost 33,000 people who live in Montana today because of the economic activity that is due to the presence of cooperatives.

All of these contributions are well in excess of the jobs and spending of the cooperative businesses themselves, reflecting the connection in the economic livelihoods of Montanans elsewhere in the economy to the presence of the cooperative businesses in and around their communities. A closer examination of the different dimensions of economic activity that are affected by the spending and operations of cooperatives gives more insight on these connections.

## 5.2 Employment Impacts

The impacts of cooperatives on employment in the state are spread across all of the major industries, for at least two reasons. The first is the diversity of the activities of the cooperatives themselves. Co-op jobs are variously classified as manufacturing, utilities, information, construction and financial services. Thus, their presence in the economy directly adds to employment in those categories. More importantly, the significant spending of cooperative businesses and their employees is spread across the entire economy, growing the businesses – and jobs -- that receive that spending.

Table 5.2 Employment Impacts by Industry

Industry	Impact
Construction.....	4,241
Telecommunications.....	812
Finance and Real Estate.....	2,707
Retail Trade.....	2,297
Transportation and Warehousing.....	606
Professional and Technical Services.....	1,611
Administrative and Waste Services.....	1,079
Health Care and Social Assistance.....	1,287
Utilities.....	791
Accommodation and Food Services.....	1,860
Other Services, except Public Administration.....	966
Other Private.....	3,015
Government.....	3,480
TOTAL.....	24,752

It is clear from Table 5.2 that the larger economy that comes about because of the operations of cooperative businesses has sizable benefits even for unrelated industries. Health care, construction, and government have a significant number of jobs that are ultimately due to cooperatives because of the demand for their output induced by the larger economy overall. In the case of government, the bulk of the job impacts come from the increased demand for local government services, including schools.

## 5.3 Personal Income Impacts

Another dimension of economic activity that is significantly expanded because of cooperatives is the income received by Montana households, or personal income. Much of the increase in personal income that is supported by cooperatives is because of the gains in earnings associated with employment, as shown in Table 5.3.

Net earnings, which adjusts for social security contributions and the flows of earnings to and from other states, is \$1.28 billion higher annually in an economy with cooperatives, which accounts for the bulk of the \$1.6 billion in personal income impacts. But the table also makes clear that the growth in income comes from source unrelated to employment as well. Property income, which includes dividends, interest and rental income, is larger in a Montana economy that includes cooperatives, as are government transfers. The latter reflect the boost in population that increases the number of recipients of health and retirement programs.

Table 5.3 Personal Income Impacts

Category	Impact
Total Earnings by Place of Work	1,516.0
Total Wage and Salary Disbursements	1,108.4
Supplements to Wages and Salaries	307.6
Employer contributions for employee pension and insurance funds	192.8
Employer contributions for government social insurance	114.8
Proprietors' income with inventory valuation and capital consumption adjustments	100.0
Less: Contributions for government social insurance	225.6
Employee and self-employed contributions for government social insurance	110.8
Employer contributions for government social insurance	114.8
Plus: Adjustment for residence	(5.6)
Gross In	24.7
Gross Out	30.3
Equals: Net earnings by place of residence	1,284.8
Plus: Property Income	207.3
Dividends	65.5
Interest	104.3
Rent	37.5
Plus: Personal Current Transfer Receipts	163.3
Equals: Personal Income	1,655.5
Less: Personal Current Taxes	245.5
Equals: Disposable Personal Income	1,410.0

All of the gains in income that occur because of the operations of cooperatives ultimately add to the spending power of Montana households. The magnitude of the \$1.4 billion gain in disposable, or after-tax income, helps explain how the impacts of cooperatives propagates across the broader economy.

All of the personal income impacts represent streams of income that recur each year. For the categories of income that stem from employment, they occur because of the additional jobs, as well as from the increases in wage rates that can occur as spending and demand in the economy increases. It is useful to examine the components of earnings, defined as income originating from employment, into the three categories show in Table 5.4.

Wages and salaries, the first line in the table, represents the dollars paid to workers who receive paychecks, which is \$1.1 billion higher in an economy including cooperatives. When we add to wages and salaries the cash value of worker benefits to arrive at worker compensation, the impact grows to \$1.4 billion. Finally, when the income of business owners – proprietor income – is added we have earnings. The annual earnings impact of cooperatives is \$1.5 billion.

Table 5.4 Wage, Compensation and Earnings Impacts

Category	Units	Impact
Wages and Salaries.....	\$ Millions	1,108.4
Compensation.....	\$ Millions	1,416.0
Earnings.....	\$ Millions	1,516.0
Earnings per Job, New Jobs.....	\$ Dollars	\$61,250

Dividing these additional earnings by the 24,752 jobs that are added to the economy through the operations of Montana’s cooperatives reveals that the average annual earnings of the new jobs is \$61,250. This average is considerably higher than the state average annual earnings per job of \$41,176 in 2022. Thus, the operations of cooperatives in the state can be said to boost average earnings across the state.

#### 5.4 Output Impacts

Another perspective on how cooperatives add to the economy comes from an examination of how the gross receipts of businesses and non-business organizations in the state economy are affected by their presence. The definition of economic output that is used in the REMI model is gross receipts, with the exception of two industries – retail trade and wholesale trade – where markup is used instead. The vendor spending of Montana cooperatives directed at other Montana businesses directly contributes to economic output, but so does the spending of others, including workers and other businesses, who receive co-op spending as income and re-spend a portion of what they receive in the state economy.

The more than \$7 billion received by businesses and non-business organizations in gross receipts each year because of the presence of cooperatives in the economy is spread widely across the state economy, as shown in Table 5.5. Almost \$2.9 billion of output is in the “other private sector industries” category – this is dominated by the revenue received by the CHS refinery in Laurel.

The revenue of the cooperatives themselves shows up in several of the lines of the table. Electric cooperatives are included with utilities, credit unions are part of finance and real estate, and telecommunications cooperative are part of the telecommunications industry impacts shown above. But gross receipts in unrelated industries, such as accommodations and food, construction, and health care are larger because of the increased spending by businesses, governments and consumers that comes about due to the presence of cooperatives in the economy.

Table 5.5 Output Impacts, Millions of Dollars

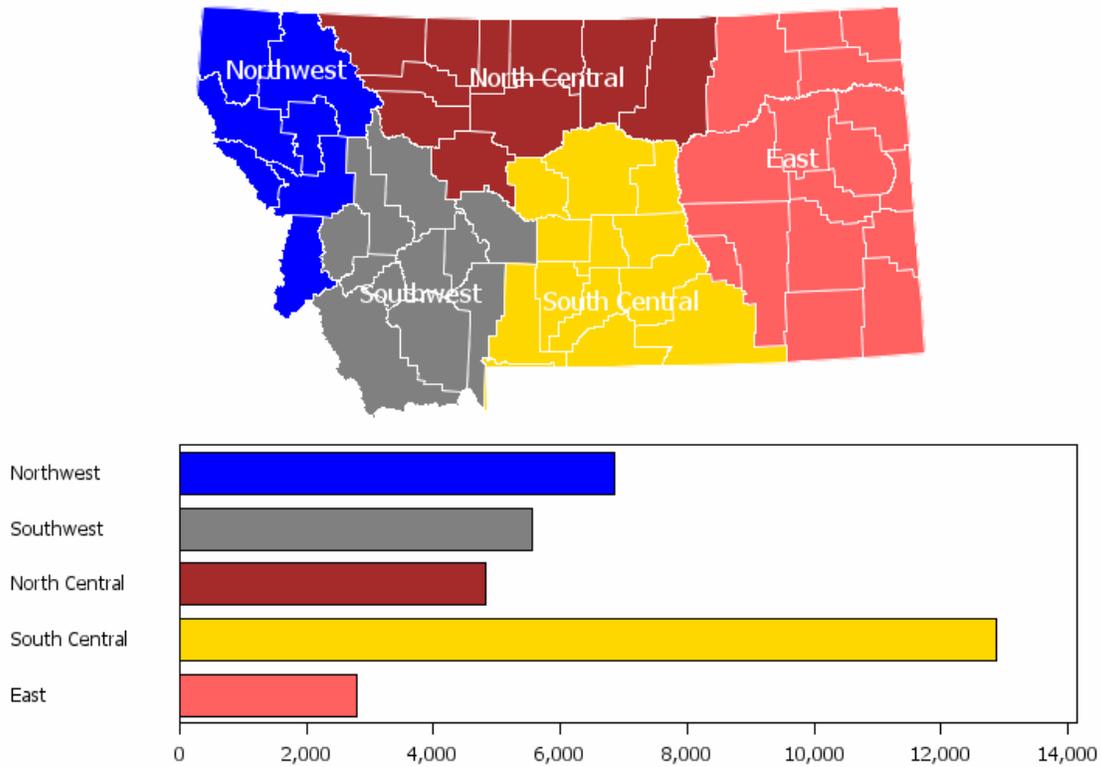
<b>Industry</b>	<b>Impact</b>
Construction.....	565.2
Telecommunications.....	140.2
Finance and Real Estate.....	1,478.1
Retail Trade.....	254.2
Transportation and Warehousing.....	100.9
Professional and Technical Services.....	230.9
Administrative and Waste Services.....	101.9
Health Care and Social Assistance.....	185.7
Utilities.....	517.8
Accommodation and Food Services.....	134.9
Other Services, except Public Administration.....	68.1
Other Private.....	2,887.3
Government.....	415.1
<b>TOTAL.....</b>	<b>7,080.3</b>

## 5.5 Population Impacts

A larger economy has more people. Not only does the economic opportunity of the new jobs that exist in the state economy because cooperatives are present help those in Montana to improve their own economic security and well-being. It also attracts workers and their families from other states, as well as helping to retain Montanans who may have otherwise moved away to pursue economic opportunities.

The additional population that is ultimately supported by the presence of cooperatives supports the demand for both private and public goods and services. Given the important presence of cooperatives in the non-urban areas of the state that have been challenged to retain people, this is especially important. The 32,901 additional people who live in Montana because of the presence of cooperatives can be found in all regions of the state. The population impacts are largest in the south-central region, as shown in Figure 5.1. But in percentage terms, the 4 percent population gain that occurs in Montana’s sparsely populated eastern region because of cooperatives ranks second only to Billings in size.

Figure 5.1 Population Impacts, by Region



The population gains that occur in Montana because of the presence of cooperatives are largest for working aged people and their school-aged children, as shown in Table 5.6. Importantly for public schools, there are almost 7,000 additional school-aged children, aged 5-18, in Montana because of the operations of cooperatives.

Table 5.6 Population Impacts, by Age

Age Cohort	Impact
Ages 0-14.....	8,550
Ages 15-24.....	3,882
Ages 25-64.....	19,681
Ages 65+.....	789
Total.....	32,901

## 5.6 Summary of Economic Contributions

The approach taken by this study to assess the economic contributions of Montana cooperatives is comprised of three steps:

- gather data and information on the economic activity of cooperatives, as measured by employment, wages, revenues, vendor spending and other economic flows,
- construct a “no cooperatives” scenario that removes those economic flows, and
- use an economic model designed and calibrated for that purpose to trace and measure the connections between cooperative economic activity and the broader economy to estimate how economic outcomes would change if cooperatives were not present.

The fundamental finding of this analysis is that the operations of Montana cooperatives combine to make the state economy larger, more prosperous and more populous than would exist in their absence.

Compared to a hypothetical, “no cooperatives” economy, the Montana economy of today is larger by:

- 24,752 permanent, year-round jobs across every major industry and region in the state
- \$1.65 billion in income received each year by Montana households, of which \$1.4 billion is after-tax income available for spending;
- \$7 billion in additional economic output, or gross receipts, received by Montana business and non-business organizations each year;
- Almost 33,000 additional people who call Montana their home, of which 7,000 are school-aged children.

The fact that these kinds of significant, sustained, economic contributions occur in many instances in Montana’s non-urban communities makes these findings of special significance. The agricultural cooperatives, the credit unions, the telecommunications co-ops and the electric cooperatives have important roles in serving their customers’ needs. In doing so, as this report demonstrates, they also contribute significantly to the economic pie.

## Appendix A: The Economic Contribution of Montana’s Credit Unions

The 49 credit unions that operate in communities across Montana employed a total of 1,466 in 2021, the highest job total of any of the categories of cooperatives included in this study. Credit unions are non-profit financial cooperatives that provide services to their members similar to retail banks, including accepting deposits, providing credit and other financial services. There is considerable variability in the size and geographic footprint of Montana credit unions, with some institutions operating across state lines (only the Montana operations are considered in this report). The largest credit unions are in the state’s larger urban areas.

With the use of an economic model specifically designed and calibrated for this purpose, we compared a hypothetical “no credit union” economy with the actual economy to obtain a measure of how the presence of credit unions supports jobs, income, production and spending across the entire economy. The impacts described in this appendix represent measures of economic activity in the state as a whole that are due to the operations of Montana’s credit unions.

Table A.1 Impacts Summary, Credit Unions

Category	Units	Impact
Total Employment.....	Jobs	4,735
Personal Income.....	\$ Millions	296.2
Disposable Personal Income.....	\$ Millions	251.8
Output.....	\$ Millions	1,500.2
Population .....	People	5,936

The operations of credit unions in Montana ultimately support 4,735 permanent, year-round jobs across the state, as shown in Table A.1. These jobs include those within credit unions themselves, as well as job elsewhere in the economy that are supported by credit union activity.

The table summarizes how other broad measures of economic activity are supported, on an ongoing basis, by the operations of Montana’s credit unions. The income received by Montana households is higher by \$296.2 million each year, of which \$251.8 million is after-tax income. Gross receipts of Montana business and non-business organizations, defined in this report as economic output, is \$1.5 billion higher because of credit unions. And the population of the state is nearly 6,000 higher as a result of their activities as well.

To attain a better understanding of how these results came about, it is useful to examine the impacts in greater detail.

The employment gains in the Montana economy that come about because of the existence and operations of credit unions are largest in the Finance and Retail Trade industry category that contains credit unions own employment of 1,466 jobs, as shown in Table A.2 . But it is clear from the table that job impacts are found in a broad spectrum of other industries as well. These gains occur as the vendor spending of credit unions, in addition to the spending of employees, shows up as income to Montana-based businesses and governments.

Table A.2 Employment Impacts, Credit Unions

Industry	Impact
Construction.....	410
Manufacturing.....	37
Finance and Real Estate.....	1,727
Retail Trade.....	331
Transportation and Warehousing.....	57
Professional and Technical Services.....	305
Administrative and Waste Services.....	233
Health Care and Social Assistance.....	229
Arts, Entertainment, and Recreation.....	67
Accommodation and Food Services.....	383
Other Services, except Public Administration.....	178
Other Private.....	76
Government.....	701
<b>TOTAL.....</b>	<b>4,735</b>

Another perspective on the economic contribution of Montana’s credit unions comes from an examination of how their presence in the economy affects income received by households, or personal income. Personal income is higher by \$296.2 million every year because of credit unions, as shown in Table A.3 . The higher income is dominated by income from employment – the net earnings impact is \$233.1 million, over 90 percent of the overall income impact. Yet the fact that property income is also made larger by the presence of credit unions reflects the fact that an economy that includes credit unions has more people and more capital, with corresponding increases in income from sources other than employment.

Table A.3 Personal Income Impacts, Credit Unions, Millions of Dollars

Category	Impact
Total Earnings by Place of Work	274.1
Total Wage and Salary Disbursements	211.1
Supplements to Wages and Salaries	49.0
Employer contributions for employee pension and insurance funds	30.5
Employer contributions for government social insurance	18.4
Proprietors' income with inventory valuation and capital consumption adjustments	14.1
Less:	
Contributions for government social insurance	40.0
Employee and self-employed contributions for government social insurance	21.6
Employer contributions for government social insurance	18.4
Plus:	
Adjustment for residence	(1.0)
Gross In	4.7
Gross Out	5.7
Equals:	
Net earnings by place of residence	233.1
Plus:	
Property Income	38.1
Dividends	12.1
Interest	19.2
Rent	6.9
Plus:	
Personal Current Transfer Receipts	25.0
Equals:	
Personal Income	296.2
Less:	
Personal Current Taxes	44.4
Equals:	
Disposable Personal Income	251.8

Focusing on the earnings component of income, we see from the detail in that wage and salary gains because of credit unions are \$211.1 million. When the cash value of benefits is added to obtain compensation, the gains rise to \$260.1 million. Finally, when business proprietor income is added to obtain earnings, the impact is \$274.1 million. The gain amounts to average annual earnings of almost \$58,000 for each new job supported by the existence of credit unions.

Table A.4 Earnings Impacts, Credit Unions

Category	Units	Impact
Wages and Salaries.....	\$ Millions	211.1
Compensation.....	\$ Millions	260.1
Earnings.....	\$ Millions	274.1
<b>Earnings per Job, New Jobs.....</b>		
	\$ Dollars	\$57,895

Finally, we note that an economy with credit unions has more people, consisting primarily of working aged people and their children, as shown in Table A.5. Of the 5,926 additional people who live in Montana in an economy that contains credit unions, 60 percent are aged 25-64 years. The population gains reflect the additional economic opportunity that exists in Montana because of the presence of credit unions in the economy.

Table A.5 Population Impacts, Credit Unions

Age Cohort	Impact
Ages 0-14.....	1,512
Ages 15-24.....	707
Ages 25-64.....	3,573
Ages 65+.....	145
<b>Total.....</b>	<b>5,936</b>

These findings make it clear that Montana’s credit unions make a considerable contribution to jobs, income, revenues and populations across the entire economy.

## Appendix B: The Economic Contribution of Montana’s Telecommunications Cooperatives

Montana’s telecommunications cooperatives are a vital piece of rural economies, linking households, businesses and governments with voice, data and other communications services. They have a long history of providing last mile connections to wide and often challenging geographies across the state. They also make a considerable contribution to the economies in the areas that they serve.

Taken together, the telecommunications cooperatives analyzed in this report employed a total of 801 people, primarily in the east, north central and northwestern portions of the state. What would the state economy look like if those jobs and those businesses did not exist? We addressed that question with the use of an economic tool designed and calibrated for this specific use. By comparing a “no telecommunications co-ops” economy to the actual economy, we estimated the size and scope of their economic contributions.

The analysis reveals the how the connections between what telecommunications co-ops do and the rest of the economy combine to increase the size of the economic pie. The presence of telecommunications cooperatives in the state economy ultimately supports:

- 2,722 permanent, year-round jobs across a broad spectrum of industries in the state economy;
- \$170.8 million per year in income received by Montana households, of which \$145.1 million is after-tax income, available for spending in the local economy;
- \$388.6 million in economic output, defined as gross receipts to Montana business and non-business organizations, and
- a population that is larger by 3,656 people, dominated by working-aged people and their children.

Table B.1 Impacts Summary, Telecommunications Cooperatives

Category	Units	Impact
Total Employment.....	Jobs	2,722
Personal Income.....	\$ Millions	170.8
Disposable Personal Income.....	\$ Millions	145.1
Output.....	\$ Millions	388.6
Population .....	People	3,656

The increased size of an economy that contains the telecommunications cooperatives reflects not only the employment, spending and production of those businesses themselves, but also the knock-on effects of those economic flows as they are received and re-spent in local communities across the state. A closer examination of the impacts reveals how these results came about.

The 2,722 jobs that exist in the Montana economy because of the presence of telecommunications co-ops significantly exceeds the 801 jobs in the industry itself. The difference between the total jobs impact and the telecommunications jobs is explained by Table B.2, which details the additional jobs that exist in the Montana economy outside of the industry itself because of the presence of telecommunications cooperatives.

Table B.2 Employment Impacts, Telecommunications Cooperatives

Industry	Impact
Construction.....	440
Telecommunications.....	801
Finance and Real Estate.....	106
Retail Trade.....	220
Transportation and Warehousing.....	26
Professional and Technical Services.....	151
Administrative and Waste Services.....	93
Health Care and Social Assistance.....	128
Arts, Entertainment, and Recreation.....	49
Accommodation and Food Services.....	183
Other Services, except Public Administration.....	88
Other Private.....	93
Government.....	345
<b>TOTAL</b>	<b>2,722</b>

The table shows how employment in unrelated industries, including construction, retail trade and even government, is larger in an economy that includes telecommunications cooperative than in an economy that does not. These employment gains come about because of the connections between telecommunications cooperatives and the rest of the economy. Specifically, the spending of the cooperatives is received by vendors of goods and services as income, which in turn supports employment and subsequent spending. The same is true for the spending of the employees of the cooperatives. This is the process through which the economy grows by a multiple of cooperative employment and income when compared to a hypothetical economy in which they do not exist.

Another way to measure how the overall economy benefits from the presence of telecommunications cooperatives can be obtained by examining the impacts on income received by Montana households, or personal income. The substantial increase in employment that occurs when cooperatives are “added” to the economy can be expected to show up in increased earnings, and Table B.3 confirms that expectation. Of the \$170.8 million in personal income that is received each year because of the presence of telecommunications cooperatives in the economy, about 86 percent of that total consists of increased earnings from employment. But the table also makes clear that in the larger economy that comes about because of cooperatives, wealth and capital is higher as well, resulting in a smaller, but still significant, increase in property income of all kinds.

Table B.3 Personal Income Impacts, Telecommunications Cooperatives

Category	Impact
Total Earnings by Place of Work	147.7
Total Wage and Salary Disbursements	103.8
Supplements to Wages and Salaries	26.1
Employer contributions for employee pension and insurance funds	16.7
Employer contributions for government social insurance	9.4
Proprietors' income with inventory valuation and capital consumption adjustments	17.8
Less:	
Contributions for government social insurance	19.8
Employee and self-employed contributions for government social insurance	10.4
Employer contributions for government social insurance	9.4
Plus:	
Adjustment for residence	0.5
Gross In	4.9
Gross Out	4.4
Equals:	
Net earnings by place of residence	128.4
Plus:	
Property Income	23.0
Dividends	7.3
Interest	11.6
Rent	4.1
Plus:	
Personal Current Transfer Receipts	19.5
Equals:	
Personal Income	170.8
Less:	
Personal Current Taxes	25.7
Equals:	
Disposable Personal Income	145.1

The nature of the higher amounts of income received by Montana households because of cooperatives can be further appreciated by a closer look at the impacts on earnings. Wages and salaries received by Montanans is \$103.8 million higher each year in an economy that includes telecommunications cooperatives, compared to a hypothetical economy where they do not exist, as shown in Table B.4. When the cash value of benefits is added to this total to obtain compensation, the impacts rise to \$129.9 million. Finally, when business owner income is added, we see that the earnings impact of cooperatives is \$147.7 million each year. Looking at this increase in relation to the 2,722 jobs added to the economy because of cooperatives, this represents average earnings for each new job of \$54,256.

Table B.4 Earnings Impacts, Telecommunications Cooperatives

Category	Units	Impact
Wages and Salaries.....	\$ Millions	103.8
Compensation.....	\$ Millions	129.9
Earnings.....	\$ Millions	147.7
Earnings per Job, New Jobs.....	\$ Dollars	\$54,256

Finally, we should note that the larger economy that comes about because of the presence of telecommunications cooperatives also contains more people. This is because of the increased economic opportunities that the larger economy presents, both to residents of other states as well as to Montana residents who might have otherwise moved away to find jobs and economic security.

Ultimately, telecommunications cooperatives result in 3,656 more people in Montana than would occur in the hypothetical “no cooperatives” scenario. As can be seen from Table B.5, the bulk of the new residents in this total come from working-aged people and their children.

Table B.5 Population Impacts, Telecommunications Cooperatives

Age Cohort	Impact
Ages 0-14.....	974
Ages 15-24.....	434
Ages 25-64.....	2,163
Ages 65+.....	84
Total.....	3,656

It is clear from these findings that the jobs, income, spending and production of Montana’s telecommunications cooperatives act to make the economy of the state significantly larger and more prosperous.

## Appendix C: The Economic Contribution of Montana’s Electric Cooperatives

Montana’s electric cooperatives have a long and proud history in extending the transformative benefits of electricity to Montana’s widespread rural communities. The 28 cooperatives spread across the state are capital-intensive businesses that annually invest millions of dollars in extending and maintaining the service to homes and businesses in their service territories, collectively employing 682 workers and realizing gross revenues of \$420.2 million annually. Their presence is especially important away from Montana’s urban areas, where most of the cooperatives are found.

We can assess the economic contributions of Montana’s electric cooperatives by carefully constructing how the economy of the state would appear if they did not exist. This “no electric cooperatives” scenario for the state economy is not a shutdown scenario or a realistic portrayal of what kinds of companies might enter the marketplace to take their place. It is a means of assessing how electric cooperatives ultimately act to make the state economy larger, by comparing the actual economy to one where they did not exist.

Table C.1 Impacts Summary, Electric Cooperatives

Category	Units	Impact
Total Employment.....	Jobs	6,434
Personal Income.....	\$ Millions	416.4
Disposable Personal Income.....	\$ Millions	353.5
Output.....	\$ Millions	1,241.3
Population .....	People	8,545

Taken as a whole, Montana’s electric cooperatives jointly support a significant amount of economic activity throughout the state. The high value-added nature of the electric cooperative business contributes to their outsized economic footprint – 6,434 jobs in the state economy are ultimately supported by the spending, employment, and production of cooperatives. The larger economy that cooperatives create results in \$416.4 million in income received by Montana households annually, of which \$353.5 million is after-tax income available for spending. The revenues of Montana businesses and non-business organizations, defined as economic output, are more than \$1.2 billion higher each year in an economy that contains electric cooperatives, compared to the “no electric cooperatives” economy where their contributions are absent. Finally, the larger economy that comes about because of Montana’s electricity cooperatives is home to more than 8,500 more people than would be here otherwise.

The impacts of electric cooperatives on the state economy clearly exceeds the jobs, income, and revenues of the cooperatives themselves. How this comes about is best seen from a more detailed examination of the impacts summarized in Table C.1.

The connections between the spending, employment and production of electric cooperatives and the rest of the economy is evident from the detail on employment impacts by industry shown in Table C.2. The connection is particularly strong with the construction activity, whose 1,676 job gain because of cooperatives is two and a half times as large as the employment of electric cooperative themselves. The gains in that industry reflect several factors, including the significant levels of capital spending by cooperatives, as well as the impact of the relatively high rates of compensation of the employees.

Table C.2 Employment Impacts, Electric Cooperatives

<b>Industry</b>	<b>Impact</b>
Construction.....	1,676
Utilities.....	696
Finance and Real Estate.....	302
Retail Trade.....	640
Transportation and Warehousing.....	112
Professional and Technical Services.....	514
Administrative and Waste Services.....	226
Health Care and Social Assistance.....	323
Arts, Entertainment, and Recreation.....	88
Accommodation and Food Services.....	435
Other Services, except Public Administration.....	218
Other Private.....	332
Government.....	870
<b>TOTAL</b>	<b>6,434</b>

The magnitude in the gains in employment across industries such as retail trade, accommodations and food, professional and technical services, and health care reflect the direct and induced spending of the co-ops themselves as well as the spending of cooperative employees. The latter is sizable, given that the average compensation of cooperative jobs is \$111,500 per year.

The operations of Montana electric cooperatives produce impacts on the income received by Montana households – personal income – as well. Compared to a hypothetical economy where the cooperatives did not exist, the income of Montana households is larger by \$416.4 million annually, as shown in Table C.3. This additional income results from more job and more income from jobs, or earnings, but this is not the only factor in increasing household income. While net earnings is more than three quarters of personal income, the larger economy that comes about because of electric cooperatives also produces gains in property income of \$54.7 million as well.

Table C.3 Personal Income Impacts, Electric Cooperatives

Category	Impact
Total Earnings by Place of Work	378.3
Total Wage and Salary Disbursements	270.9
Supplements to Wages and Salaries	80.3
Employer contributions for employee pension and insurance funds	50.5
Employer contributions for government social insurance	29.8
Proprietors' income with inventory valuation and capital consumption adjustments	27.1
Less:	
Contributions for government social insurance	57.5
Employee and self-employed contributions for government social insurance	27.7
Employer contributions for government social insurance	29.8
Plus:	
Adjustment for residence	(0.6)
Gross In	6.7
Gross Out	7.3
Equals:	
Net earnings by place of residence	320.2
Plus:	
Property Income	54.7
Dividends	17.3
Interest	27.5
Rent	9.9
Plus:	
Personal Current Transfer Receipts	41.5
Equals:	
Personal Income	416.4
Less:	
Personal Current Taxes	62.9
Equals:	
Disposable Personal Income	353.5

A closer look at the earnings component of the income impacts reveals that the impacts on wages and salaries paid to payroll workers, which amount to \$270.8 million, comprise 72 percent of the increase in annual earnings, as shown in . The other two components of the earnings impact are the cash value of benefits, and the income received by business owners, or proprietors. These two sources are higher by \$80.3 million, and \$27.1 million, respectively. The annual earnings impact of \$378.3 million translates into a gain of \$58,800 for each job that is ultimately supported by the operations of Montana electric cooperatives.

Table C.4 Earnings Impacts, Electric Cooperatives

Category	Units	Impact
Wages and Salaries.....	\$ Millions	270.9
Compensation.....	\$ Millions	351.2
Earnings.....	\$ Millions	378.3
Earnings per Job, New Jobs.....	\$ Dollars	\$58,800

With the increased size of the Montana economy that comes about because of the presence of Montana cooperatives, there is an increase in population as well. This comes about as the increased economic opportunity from labor demand induces some to move to Montana from other states, as well as helping to retain a higher fraction of Montana residents who may have otherwise moved elsewhere.

The overall impact on population is 8,545 people, as shown in Table C.5. As can be seen from the table, this increase is dominated by working-aged people and their children. Increased population is part of the mechanism for growth in the economy as well, as their demand for publicly and privately produced goods and services is felt by businesses and governments throughout the state.

Table C.5 Population Impacts, Electric Cooperatives

Age Cohort	Impact
Ages 0-14.....	2,207
Ages 15-24.....	1,027
Ages 25-64.....	5,112
Ages 65+.....	198
Total.....	8,545

As these findings indicate, the operations of Montana’s electric cooperatives clearly produce a sizable impact on the economic prosperity of communities across the state that is felt across a broad spectrum of businesses and households.