

# Research on the Economic Impact of Cooperatives

Project Principal Investigators

**Steven Deller • Ann Hoyt • Brent Hueth  
Reka Sundaram-Stukel**

University of Wisconsin Center for Cooperatives  
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# Executive Summary

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## Project Purpose

The cooperative ownership model is used in a wide variety of contexts in the United States, ranging from the production and distribution of energy to delivery of home health care services for the elderly. Although cooperative businesses have been responsible for many market innovations and corrections of market imperfections, little is known about their impact as an economic sector. Until this project, no comprehensive set of national-level statistics had been compiled about U.S. cooperative businesses, their importance to the U.S. economy, or their impact on the lives and businesses of American citizens.

This report describes and quantifies the magnitude of economic activity accounted for by U.S. cooperative businesses. It describes the legal and economic characteristics that were used to define cooperative firms; methods used to measure cooperative activity across all sectors of the US economy; and approaches developed to collect appropriate data. Finally, it provides a census of cooperatives, summarizes the extent of their activity by economic sector, and measures their impact on aggregate income and employment.

## Project Partners

The project was funded by the U.S. Department of Agriculture (USDA) with matching support from the National Cooperative Business Association and its members, and the State of Wisconsin's Department of Agriculture, Trade, and Consumer Protection. In-kind support was provided by the University of Wisconsin Center for Cooperatives (UWCC) and the Departments of Agricultural and Applied Economics and Consumer Science at the University of Wisconsin–Madison.

## Data Collection

To estimate the impact of cooperatives, conducting a census of U.S. cooperatives was necessary. Cooperatives were located through lists maintained by trade associations, the USDA, and academic colleagues; through web searches; and through Guidestar, a searchable database of nonprofit organizations. In all, our search identified 29,284 cooperatives in the U.S. economy. Surveys using standardized survey instruments and a uniform sampling methodology were then conducted to collect key business indicators from individual cooperatives. The surveys targeted firms in commercial sales and marketing, social and public services, financial services, and utilities. We surveyed 16,151 cooperatives.

## Methodology

When businesses use capital, labor, and other inputs to create and sell a product or service, they create economic activity. The direct impact of this activity for the cooperatives in this study is measured by examining the revenue generated by selling output; income paid to owners and workers (wages, benefits, patronage refunds, and dividends); and number of jobs.

The study uses input-output analysis to examine how these direct economic impacts ripple through the economy to generate additional indirect and induced impacts. Conceptually, *indirect impacts* measure the ripple effect that results from connections with other businesses; *induced impacts* measure spending by the cooperative's labor force and its owners with the wages and

dividends (or “patronage refunds”) they earn. The study uses IMPLAN, an input-output modeling system, to measure these secondary impacts.

We conservatively estimate economic impacts in our analysis. At every turn, we have taken steps to ensure that we *underestimate* the aggregate wage, employment, revenue, and income impacts of cooperative business. For example, we used wages and benefit as a proxy for input expenditure, rather than revenue. This is apparent in our impact estimates where induced impacts are always larger than indirect impacts. We have applied this rule uniformly across each of the 17 economic sectors in our study, fully recognizing that we may sometimes underestimate indirect economic impacts. This approach is particularly likely to underestimate the full economic impact of lenders in our Financial Services sector. Banks lend to consumers and businesses that in turn invest in various projects ranging from home repair to the launch of an entirely new business. In principle, some portion of the value of these projects could be attributed to banks in assessing their economic impact. We do not attempt to do this, as that method would require significant additional data collection and a methodological approach for separating the impact of banks per se from the projects they fund.

## **Results**

Nearly 30,000 U.S. cooperatives operate at 73,000 places of business throughout the U.S. These cooperatives own >\$3T in assets, and generate >\$500B in revenue and >\$25B in wages. Extrapolating from the sample to the entire population, the study estimates that cooperatives account for nearly \$654B in revenue, >2M jobs, \$75B in wages and benefits paid, and a total of \$133.5B in value-added income.

Americans hold 350M memberships in cooperatives, which generate nearly \$79B in total impact from patronage refunds and dividends. Nearly 340M of these memberships are in consumer cooperatives.

Cooperative firms are fundamentally different from other forms of business organizations. Assessment of economic impact solely in terms of the magnitude of business activity provides an incomplete perspective on the total impact of cooperatives. To initiate study on these more complex impacts, we prepared a series of eight discussion papers. They address methodological and empirical approaches for exploring deeper issues on the economic and social significance of cooperatives, and, in part, will form the basis for subsequent phases of this research project.

# 1. Introduction

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This report describes and quantifies the magnitude of economic activity accounted for by cooperative businesses in the United States. Unfortunately, none of the business reporting agencies of the U.S. government (e.g., the Census Bureau and the Bureau of Labor Statistics) specifically tracks the economic activity that is accounted for by cooperatives. Consequently, our job began with the conceptually simple, but arduous, task of conducting a census of cooperatives. We identified a lower bound estimate for the total number of firms in the United States that operate on a cooperative basis. The term “lower bound” includes both firms that operate as cooperatives but that our search did not detect, and large classes of organizations that arguably are “cooperatives” but that we excluded for the purpose of this study. We discuss these “boundary” issues in the next section of our report.

In addition to identifying most cooperatives in the United States, we also estimated four measures of their aggregate economic impact: Revenue; Employment; Wages; and Income (defined as wages and benefits to workers plus patronage refunds paid to owners). We estimated the “direct” impact across each of these measures, and the “indirect” and “induced” impacts that result from wages and refunds spent by cooperative owners and employees. Subsequent sections describe our methodology and offer descriptive background for four major aggregate economic sectors where cooperatives are active: Commercial Sales and Marketing; Social and Public Services; Financial Services; and Utilities. These aggregate sectors are composed of 17 individual subsectors.

## **2. Cooperatives in the U.S. Economy**

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### **2.1 Defining the Cooperative**

A cooperative can be defined in various ways; no single definition is sufficient for our study. We describe the multidimensional character of cooperative organizations and then identify firms and economic sectors that fit within one or more of these dimensions. Our study includes a set of firms largely determined by the economic sectors identified in the original request for proposals issued by the USDA [13]. To determine whether a given firm is a cooperative, we have identified five different, potential qualifying criteria: application of a statement of principles; self-identification; incorporation status; tax-filing status; and governance structure. In some cases, these criteria are in conflict. Nonetheless, our discussion of these criteria boundaries will aid future efforts to refine our census.

#### **2.1.1 Principles**

Traditionally, the defining characteristics of a cooperative business are that the interests of the capital investor are subordinate to those of the business user, or patron, and returns on capital are limited. Cooperative control is in the hands of its member-patrons, who democratically elect the board of directors. Member-patrons are the primary source of equity capital, and net earnings are allocated on the basis of patronage instead of investment.

The USDA summarized these characteristics in its definition of a cooperative as a “user-owned, user-controlled business that distributes benefits on the basis of use.” The International Co-operative Alliance (ICA) employs broader terms in its definition of a cooperative as “an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise.” The ICA has adopted the Rochdale Principles (based on a consumer cooperative in England dating to 1844), seven world-wide, generally acknowledged principles that guide the cooperative enterprise: voluntary and open membership; democratic member control; member economic participation; autonomy and independence; education, training, and information; cooperation among cooperatives; and concern for community. The ICA periodically revisits these principles.

The congruence between the above definitions or principles and any individual organization could be assessed through a close reading of its bylaws and articles of incorporation. While these criteria may be useful for evaluating the cooperative character of an individual organization, they are impractical as a screening mechanism to build a census.

#### **2.1.2 Self-identification**

Self-identification, or the use of the term “cooperative” or “co-op” in the organization name, would appear to be one method of identifying cooperatives. Organizations operating on a cooperative basis often include these terms in their names. However, there are no established standards for the term’s use. Thus, many organizations use the term “cooperative” descriptively to indicate a functional approach that includes collaboration or coordination, but they are neither owned nor controlled by patron members, nor do they distribute benefits based on use. Furthermore, some organizations operate as cooperatives but do not use the term “cooperative” in their name. Self-identification is therefore not a reliable indicator of the cooperative nature of an organization.

### **2.1.3 Incorporation status**

Like other businesses, cooperatives typically incorporate as a legal entity under statutes that provide parameters for governance and operation. This incorporation process occurs at the state level, and specific state statutes define and describe the legal requirements for different types of entities, including cooperatives. Because the incorporation status of an organization provides some indication of its structure and operation, it is a potential indicator of whether an organization is a cooperative.

However, state statutes are not uniform. While all states have at least one statute relating to cooperatives, those statutes develop within state-specific cultural and economic conditions, and the statutory classifications and requirements for cooperatives vary. For example, many state cooperative statutes are restricted to agricultural producer enterprises. Cooperative statutes specific to sectors ranging from health to utilities, from housing to credit unions, may also be part of an individual state's business law code.

Furthermore, under some state statutes, cooperatives are considered a type of nonprofit corporation, since a cooperative's primary orientation is to benefit members, providing goods or services at cost. Thus an organization incorporated under a cooperative statute may be considered a cooperative business corporation in one state, but may be considered a nonprofit corporation in another. Cooperative entities may also be incorporated under other statutes not specific to cooperatives, such as corporation, limited liability company (LLCs), or nonprofit laws. Use of incorporation status as the indicator of cooperative character does not provide a comprehensive cooperative census.

### **2.1.4 Tax-filing status**

Federal tax code requirements are consistent across all states and reflect how a particular entity operates, and thus provide another possible indication of an entity's cooperative character. The tax code provides its own set of criteria for tax filings by organizations, which may or may not include an entity's state incorporation status.

Federal tax law recognizes that cooperatives provide patron benefits instead of profits to investors, and that their residual earnings are passed through to patrons. These earnings typically are taxed once, at the patron level. The cooperative files its tax returns using a cooperative version of the corporate income tax return to qualify for the single taxation treatment. In these cases, the type of tax form submitted clearly identifies the organization as a cooperative.

Federal tax code also grants tax exemptions to certain cooperatives operating in specific sectors, treating them as not-for-profit entities. Mutual utilities, credit unions, mutual insurance companies, farm credit organizations, and some farmer cooperatives are examples of cooperative sectors that receive Federal tax-exempt designations. These cooperatives file for tax exemptions on earnings using the same standard nonprofit tax form as other nonprofit and non-cooperative organizations. It is this tax-exempt status that identifies these organizations as cooperatives.

However, the use of tax filing forms and tax-exempt status do not provide a comprehensive cooperative census. A cooperative, or a business run on a cooperative basis, might file a standard corporate income tax return in some instances, and so could not be identified by its tax form. This situation can occur if the business does too much non-member business, or received

too much non-member equity capital, to qualify for Federal tax treatment as a cooperative. Other cooperatives have Federal tax-exempt status in sectors where noncooperative, nonprofit organizations also operate. In these cases, the tax-exempt status does not provide a filter for identifying cooperatives.

### **2.1.5 Incorporation and tax-filing status combined**

Despite these ambiguities, cooperatives that generate the majority of cooperative business activity in the United States can be identified by the combination of the organization's incorporation status and its tax filing or tax-exempt status. Upwards of 85% of U.S. cooperative revenue is generated within seven sectors: agriculture; the farm credit system; Federal home loan banks; rural electric service; mutual insurers; and credit unions. Historically, the cooperative model was adopted to meet the economic challenges presented by these sectors, and incorporation statutes and Federal tax provisions were developed to support these cooperatives. As a result, incorporation status and tax filing data can be used to clearly identify cooperatives in these sectors, and is available from government or trade associations.

Agricultural cooperatives typically incorporate under cooperative statutes which exist in every state. They file tax returns specific to cooperative businesses, and are also identified by the USDA [Bureau of] Rural Development's periodic survey of agricultural cooperatives. Rural electric cooperatives and credit unions are chartered under specific state or Federal statutes; Federal tax exemptions were created to support these entities. Strong, active national trade associations represent both types of cooperatives and identify and collect data on cooperatives in these sectors. Congress established the Farm Credit System (FCS) to meet the credit needs of agriculture. Tax exemptions were created to support the system, and its nationwide network of cooperative financial institutions is well documented.

However, in some sectors cooperatives do not use a single model for tax filing and incorporation. These include biofuels (it is not uncommon for biofuel cooperatives to incorporate as LLCs, for example), consumer goods, arts and crafts, and social and public services (except housing). To gain further insight into the organizational structure of cooperatives in these sectors, we conducted a survey of >1,200 firms randomly sampled from the relevant population. **Table 2-1** reports variations in incorporation and tax filing status from this survey. According to **Table 2-1**, 80% of our sampled firms that incorporate as cooperatives choose to operate and file as either a cooperative or a non-for-profit organization. In contrast, only 26% of the sampled firms that incorporate as C-corp firms file as cooperatives or not-for-profit organizations. Form 1065 is used mostly by LLCs that choose to be taxed on a "pass through" basis by electing to be taxed as partnerships. **Table 2-1** also shows that a significant fraction (15%) of sampled cooperative firms choose to file a standard business 1120 form, thus forgoing the right to be taxed as a cooperative. Overall, **Table 2-1** clearly demonstrates potential ambiguities in identifying cooperatives in the U.S. economy solely from either incorporation or tax filing status.

**Table 2-1:** Incorporation by Tax Status (Row Percentages %, N=1,244) 1

Incorporation Status	Sampled Firms	990 (%)	990c/1120c (%)	1120 (%)	Gov. (%)	1065 (%)
Cooperative	806	7	73	15	5	1
C-corp	16	13	13	67	0	7
LLC <sup>2</sup>	51	5	5	36	0	54
Nonprofit	527	95	0	4	1	0
Other	50	11	14	54	11	11
All Cooperatives		37	43	13	3	3

<sup>1</sup> Row percents add to 100.

<sup>2</sup> Formally, a limited liability company does not “incorporate,” but instead organizes under the relevant state statute.

### 2.1.6 Ownership considerations

Both incorporation and taxation reflect how an entity operates, and both recognize cooperatives as one of an array of organizational entities. As noted above, however, in many situations the cooperative organization does not fully fit into the existing cooperative categories in incorporation and tax filing. In these cases, to determine if an organization can be classified as a cooperative requires other criteria.

Patron ownership is a defining characteristic of a cooperative, and data indicating ownership can identify an additional universe of cooperatives. Ownership is characterized by control rights and rights to residual returns, and, in the case of cooperatives, the patron members exercise control rights by electing a board of directors, usually through a one-member/one-vote system at an annual meeting. The right to residual returns also belongs with patron members, who receive benefits based on use, including patronage refunds.

Survey questions about membership criteria, member voting rights for board elections, patronage refund allocation, and non-participation on the board by management can provide additional data on ownership for identifying cooperatives.

### 2.1.7 Boundary issues

Organizations that are owned and controlled by patron members who receive benefits proportional to use can be identified as cooperatives through incorporation, tax filing, and member activity information. As with any taxonomy, however, questions arise when organizations meet some, but not all, of the criteria for classification of a cooperative. These variations can blur the definition of a cooperative, and pose questions about the boundaries of cooperative activity.

### ***Nonprofit Entities***

Many cooperatives are incorporated as nonprofits. This designation encompasses two different subsets. Incorporation statutes that are specific to cooperatives, but that classify them as nonprofit entities, also make provisions for member ownership rights including member voting rights for board of directors, distributions, and rights to residual returns.

In contrast, cooperatives incorporated under general nonprofit statutes are not statutorily bound to follow organizational and operational criteria specific to cooperatives, making the cooperative character for such organizations more difficult to identify. This type of nonprofit cooperative

frequently appears in traditional nonprofit sectors such as education, arts and crafts, and childcare.

General nonprofit statutes permit member organizations, but may not guarantee the right of members to vote. Broader statutory parameters for board selection and governance allow membership organizations to be governed by a board that is not elected or is composed of both elected and appointed directors, as well as a board elected by a one-member/one-vote system. Membership organizations incorporated under a nonprofit statute may exhibit varying levels of democratic control by member patrons; whether such an organization is a cooperative is debatable.

General nonprofit statutes also prohibit distributing residual earnings to those who control the organization, including members. The distribution of benefits to patron members based on use is a central concept to the cooperative operation. This prohibition on distributions would seem to disqualify all nonprofit membership organizations as cooperatives.

However, this type of nonprofit cooperative typically operates in sectors commonly designated as not-for-profit and where residual earnings are uncommon. Member benefits in these cooperatives are the services provided; the member receives these benefits in proportion to how frequently the cooperative entity is used. Whether the statutory prohibition of distributions should exclude from a cooperative census a member-controlled organization providing services to its patrons poses another boundary question for this study.

Federal tax-exempt status designations present related boundary issues in identifying cooperatives. The Internal Revenue Code (IRC) provides Federal tax exemptions to cooperatives in various sectors. For example, IRC 501(c)(12) exempts benevolent life insurance associations of a purely local character, mutual ditch or irrigation companies, mutual or cooperative telephone companies, mutual or cooperative electric companies, and "like organizations". The IRC outlines specific organizational and operational cooperative principles that an organization must follow to be eligible for this Federal tax exemption. These principles center on democratic control, subordination of capital, and operation at cost, which includes distribution of any savings to members based on their patronage. Clearly a nonprofit organization with such a tax-exempt status can be categorized as a cooperative. Tax-exempt designations specific to cooperatives in other sectors exist as well.

In contrast, cooperatives organized under general nonprofit statutes that provide services may qualify for Federal tax-exempt status under IRC section 501(c)(3). This tax-exempt designation supports, among others, organizations established for educational and charitable purposes and, can be a major incentive for incorporating as a nonprofit. Such organizations are eligible to receive grants and tax-deductible contributions. Cooperatives organized to provide public sector-type services, such as education or childcare services, may have difficulty financing start-up or ongoing costs. For them, the ability to receive grants or contributions may be essential for survival.

However, tax-exempt status granted under section 501(c)(3) of the IRC requires that no part of the organization's net earnings benefit any private shareholder or individual. This mirrors the prohibition on distributions in general nonprofit incorporation statutes, and raises similar boundary issues for interpretation.

### ***Quasi-governmental Entities***

Cooperative activity within the public sector presents significant boundary issues. Governmental, quasi-public, nonprofit, and private entities may all provide public sector goods and services using public revenue. They may also share cooperative characteristics, such as a user-based representative governance system, and supply benefits that aggregate with use. Some entities are incorporated as stand-alone nonprofit agencies, may self-identify as cooperatives, or have member control characteristics that might allow them to be classified as cooperatives. However, most of these organizations spend public revenue, and they typically have some mandated control or reporting requirements that are external to board control.

One method for determining whether a cooperative organization is a government entity is to consider whether the organization is included in U.S. Census of Governments, Individual State Descriptions, and whether revenues and outlays are included in state government finance statistics.

In the Census definition, governmental character exists if the organization has a high degree of responsibility and accountability to the public, as evidenced by public reporting or open records requirements. This classification is independent of the tax or incorporation status.

The degree to which the cooperative board is autonomous and subject to public oversight and reporting, can differentiate these entities from cooperatives that may have publicly funded entities as members, and that may use public revenues to purchase goods or services. These characteristics may be indicated by incorporation status, tax filing status, or bylaw provisions.

Boundary questions can also develop because public accountability can characterize both governmental character and recordkeeping and reporting requirements for cooperatives in regulated industries, such as mutual or cooperative telephone or electric companies.

### ***Limited Cooperative Associations***

The limited cooperative association (LCA) is a newer type of business entity that has characteristics of both the traditional cooperative and the limited liability company (LLC). Although few in number, this hybrid form poses a unique set of cooperative boundary questions around issues of investor control.

In five states, new statutes address problems associated with cooperative capital formation. While variations exist among the statutes, all permit distribution of net earnings on the basis of investment contributions as well as on patronage, and do not set limits on investor returns. Investor voting rights and election to the board of directors are allowed. The statutes protect patron-member interests through mandated minimums for patronage-based earnings distributions, and special provisions for patron-member voting and majority representation on the board. However, by introducing investor ownership and control into the cooperative business model, the defining cooperative emphasis on patron benefits may be diluted by consideration of investor members' interests. The extent that this potential for conflicting ownership interests should exclude an organization from a cooperative census is debatable.

Besides limited liability for its members, the LCA may elect to be taxed as either a partnership or as a corporation. To be eligible for the single-tax treatment afforded to cooperative corporations, the LCA must meet the IRC-specified organizational and operational principles for operating on a cooperative basis. These principles include subordination of capital and distribution of savings based on patronage, which might not apply to an LCA making investment-based distributions.

Whether Federal tax status should disqualify an organization that also encompasses patron member ownership and control requirements is another cooperative boundary question.

### ***Partnerships, Associations and Clubs, and Employee Stock Ownership Plans***

From an ownership perspective, many patron-controlled organizations in the U.S. economy would be considered cooperatives under any other criteria mentioned above (application of principles or self identification, and tax or incorporation status). Partnerships, associations and clubs, and employee stock ownership plans (ESOPs) are good examples. Professional partnerships are “labor-managed firms,” much like worker cooperatives. They may use democratic governance procedures among controlling members, and it is the organization’s “workers” who exercise control of the firm. Unlike most worker cooperatives, however, control is offered only to a restricted set of workers.

Many associations and clubs operate according to democratic principles and are controlled by their patrons. Like nonprofits, there are no residual returns; therefore not providing members residual returns on a patronage basis is likely irrelevant. In contrast, ESOPs do provide residual returns to workers (typically on the basis of seniority in the organization, which can be considered a form of patronage), but only limited control rights through an intermediate trust when employees are minority owners (though there are a significant number of ESOPs with majority employee ownership).

### **2.1.8 Coverage for this study**

So where do these boundary issues leave us in our effort to conduct a census of the “cooperative” sector? Ultimately, any categorization, whether based on economic or organizational criteria, will have boundary issues. The central challenge is to define “hard” boundaries to maximize the usefulness of the data, and to periodically reevaluate these boundaries. We use the 15 sub-sectoral, and 4 aggregate sectoral, economic categories defined by the [13] to identify a potential universe of firms. To classify firms that did not fit within the subsectors provided by USDA categories, we created two new subsectoral categories: “Other” in the Commercial Sales and Marketing sector, and “Cooperative Finance” in the Financial Services sector. The resulting sectors and subsectors are:

1. Commercial sales and marketing: farm supply and marketing; biofuels; grocery and consumer goods retail; arts and crafts and entertainment;
2. Social and public services: housing; healthcare; daycare; transportation; education;
3. Financial services: credit unions; farm credit; mutual insurance; and
4. Utilities: electric; telephone; water.

Most cooperatives in the 4 sectors listed above can be considered either “producer” or “consumer” cooperatives. A producer cooperative transforms member inputs into a marketable output, while a consumer cooperative purchases wholesale goods to sell to its members. Additionally, there are “purchasing” (or business-to-business) and “worker” cooperatives that operate in a wide variety of economic sectors. Purchasing cooperatives are composed of businesses that collectively buy supplies that members use in their respective businesses. Often the businesses are retail stores that collectively purchase wholesale goods to try to establish better terms of trade. A worker cooperative is a type of producer cooperative where the input provided by members is labor.

Approximately 19% of purchasing cooperatives are found in the Commercial Sales and Marketing sector (13% grocers, and the remainder in “other”), 66% in Social and Public Services (21% healthcare, 44% education, and 3% transportation), 4% in the Financial Services sector (corporate credit unions), and 11% in the Utilities sector (generation and transmission cooperatives). In instances where firms did not fit within the subsectors listed above, we created new subsectoral categories. These include Other in the Commercial Sales and Marketing sector, and Cooperative Finance in the Financial Services sector. Approximately 80% of all worker cooperatives are found in the Commercial Sales and Marketing sector (36% consumer goods retail, 9% arts and crafts, and 33% entertainment), and the remainder are found in the Social and Public Services sector (5% healthcare, 8% transportation, and 5% education).

**Table 2-2** summarizes economic activity across all sectors by cooperative type. The vast majority of cooperatives are owned by consumers, with most producer cooperatives existing in the agricultural sector. Overall, nearly 30,000 cooperatives in the United States account for >\$3T in assets, >\$500B in total revenue, \$25B in wages and benefits, and nearly 1M jobs.

The total number of individuals in the U.S. who are members of at least one cooperative is difficult to estimate because many individuals are members of multiple cooperatives. Consequently, the number of memberships reported in **Table 2-2** represents the sum of *all* members of *all* the cooperatives in the U.S.

**Table 2-2:** U.S. Cooperatives by Type: Summary of Key Economic Indicators

Cooperative Type	Assets (\$M)	Revenue (\$M)	Wages (\$M)	Firms	% of Firms	Employees 1 (thousands)	Memberships 2 (thousands)
Worker <sup>3</sup>	128.02	219.24	55.41	223	1	2.38	55.14
Producer	23,632	65,426	2,970	1,494	5	72.93	714.65
Purchasing	1,126,848	157,892	2,902	724	2	130.35	6,133
Consumer	1,975,805	291,086	19,085	26,844	92	650.65	343,969
<b>Total</b>	<b>3,126,414</b>	<b>514,624</b>	<b>25,013</b>	<b>29,285</b>	<b>100</b>	<b>856.31</b>	<b>350,872</b>

<sup>1</sup> Employment is reported in terms of full-time employees. Two part-time workers are reported as one (full-time) employee.

<sup>2</sup> One member can belong to multiple cooperatives, so does not necessarily represent a unique individual.

<sup>3</sup> Membership numbers are higher than employment figures because a) member numbers include part-time workers, but employment figures represent the number of full-time positions and b) some cooperatives reported their membership but not their employment figures.

In the following Sections, we estimate the indirect and induced impacts that result from this economic activity, and report separately on the individual subsectors noted above. We also present maps that geographically locate cooperative businesses in the U.S. to provide further insight.

### 3. Methodology

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Starting a new business that uses fixed capital (plant and equipment), labor, and other variable inputs, to produce some output creates economic activity. The “impact” of this economic activity can be measured by examining the revenue generated by selling the output, the wages paid to workers, the jobs created, or the total money spent on other variable inputs. New tax revenue is also sometimes considered an impact.

Economists sometimes use “input-output analysis” to analyze how these direct economic impacts ripple through the economy to generate additional “indirect” and “induced” impacts. Conceptually, indirect impacts measure the extent of the ripple effect that results from linkages with other businesses, while induced impacts capture spending by the firm’s labor force and owners as well as the wages and dividends (or “patronage refunds”) they earn.

To accurately estimate *indirect* economic impact from a given business it is necessary to know the *input expenditure profile* (i.e., source and quantity of inputs) of the given firm. *Induced* impacts are estimated by applying wage and dividends generated by the firm to an average *household expenditure pattern* (i.e., destination and quantity of expenditure), and then by estimating the ways in which these expenditures produce further economic activity. For example, a law partnership, which uses principally a labor input, will generate a large induced effect, but almost no indirect effect. Alternatively, an ethanol plant, which uses significant capital and non-labor variable inputs, but very little labor input, will generate large indirect effects, but a small induced effect.

For a large-scale study of many firms, collecting detailed information on each firm’s input expenditure profile, or even on total input expenditures, is often prohibitively costly. Therefore researchers often use an “average” profile for a representative firm from the relevant industry. They then apply to this profile some measure of the scale of operations for the firm as a proxy for total expenditure on inputs. Total revenue is one such proxy, but if the firm is profitable, revenue is typically larger than total input expenditures. Wages are another potential proxy, but using wages will understate total input expenditures because wages do not include non-labor expenses (e.g., the annualized cost of fixed capital).

We conservatively estimate economic impacts in our analysis. At every turn, we have taken steps to ensure that, we *underestimate* the aggregate wage, employment, revenue, and income impacts of cooperative business. For example, we used wages and benefit as a proxy for input expenditure, rather than revenue. This is apparent in our impact estimates where induced impacts are always larger than indirect impacts. We have applied this rule uniformly across each of the 17 sectors, fully recognizing that we may sometimes underestimate indirect economic impacts. This approach is particularly likely to underestimate the full economic impact of lenders in our Financial Services sector. Banks lend to consumers and businesses that in turn invest in various projects ranging from home repair to the launch of an entirely new business. In principle, some portion of the value of these projects could be attributed to banks in assessing their economic impact. We do not attempt to do this, as that method would require significant additional data collection and a methodological approach for separating the impact of banks per se from the projects they fund.

We report results on four measures of impact defined below:

1. Revenue: Value of sales
2. Wages: Value of compensation (wages and benefits) paid to employees
3. Income: Value of payments to owners (dividends and patronage refunds) and employees (wages and benefits)
4. Employment. Number of jobs.

For each measure, we estimate direct, indirect, and induced economic impacts across each subsector in our analysis. Aggregate sector reports are compiled by summing impacts across the subsectors in a given aggregate sector.

In some sectors, our data covers all firms in the given sector. The Credit Union sector, for example, has a trade association and a national regulatory body that collect detailed data on all credit unions in the U.S. However, in some sectors we surveyed individual firms to request data for our analysis, because it was prohibitively costly to survey (and obtain responses) from all firms. In these cases, we imputed values for a representative firm in the relevant sector using the average value for each impact across the firms for which we had data. We then applied the impact from a representative firm to the entire sector by multiplying impacts by the number of firms in the sector. For example, if a given sector included 1,000 consumer cooperatives and we had data on 300, to measure the direct impact for the entire sector, we multiplied the average value from those 300 firms by 1,000. Our aggregate sector tables (see the Commercial Sales and Marketing section, for example) report data only for the cooperatives for which we have direct (not imputed) data, while “direct impacts” in the individual sectoral impact tables (see Agricultural and Marketing, for example) report total imputed values. The IMPLAN Methodology section in the Appendix provides further details.

## 4. Economic Impacts of Cooperatives

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**Figure 1** displays the 29,284 firms in our census by aggregate sectoral category, with each dot representing a firm's location. Within this universe, we have examined individual firms to verify that patrons have both control rights and the right to residual returns in the organization (i.e., full patron ownership). The Data Collection section in the Appendix provides a complete description of our data collection approach and the covered sectors.

**Table 4-1** summarizes economic impacts across the four aggregate economic sectors covered in our study. This table is constructed by summing total economic impacts across all subsectors that constitute a given aggregate sector. For example, the Commercial Sales and Marketing aggregate sector is composed of five subsectors: agriculture, consumer goods, arts and crafts, biofuels, and other. Total impacts for each individual subsector have been constructed in five steps.

1. Discovery of the universe of firms.
2. Base data collection on a sample of firms. Core economic data includes: contact information, wages (including benefits), assets, revenue, membership, patronage refunds, employment, and taxes.
3. Extrapolation of sample data to population level. When we did not have data for all firms, we used the average value for each economic indicator across all firms for which we *did* have data, multiplied by the total number of firms in the subsector. This yielded *direct* impacts.
4. Computation of *indirect* and *induced* impacts using the base data and input-output multipliers for each subsector. See the Methodology section in the Appendix for details.
5. Summation of direct, indirect, and induced impacts to yield total impacts.

Accurate data for the housing sector, part of the aggregate Social and Public Services sector, could not be collected for reporting impact analysis. See Housing.

Adding total revenue impacts across the five sectors that make up the aggregate Commercial Sales and Marketing sector yields a total aggregate revenue of \$201B and 425,505 jobs. This is produced by 3,463 firms that operate at 5,695 different places of business (establishments). Total income—a measure of value added akin to GDP for the aggregate economy—is close to \$38B and wage impact is nearly \$14B.

Financial Services is the largest aggregate sector across all measures of impact. This sector includes credit unions, the FCS, mutual insurers, and a small number of very large financial institutions that provide loan funds to cooperative businesses (or that operate on a cooperative basis with member businesses).

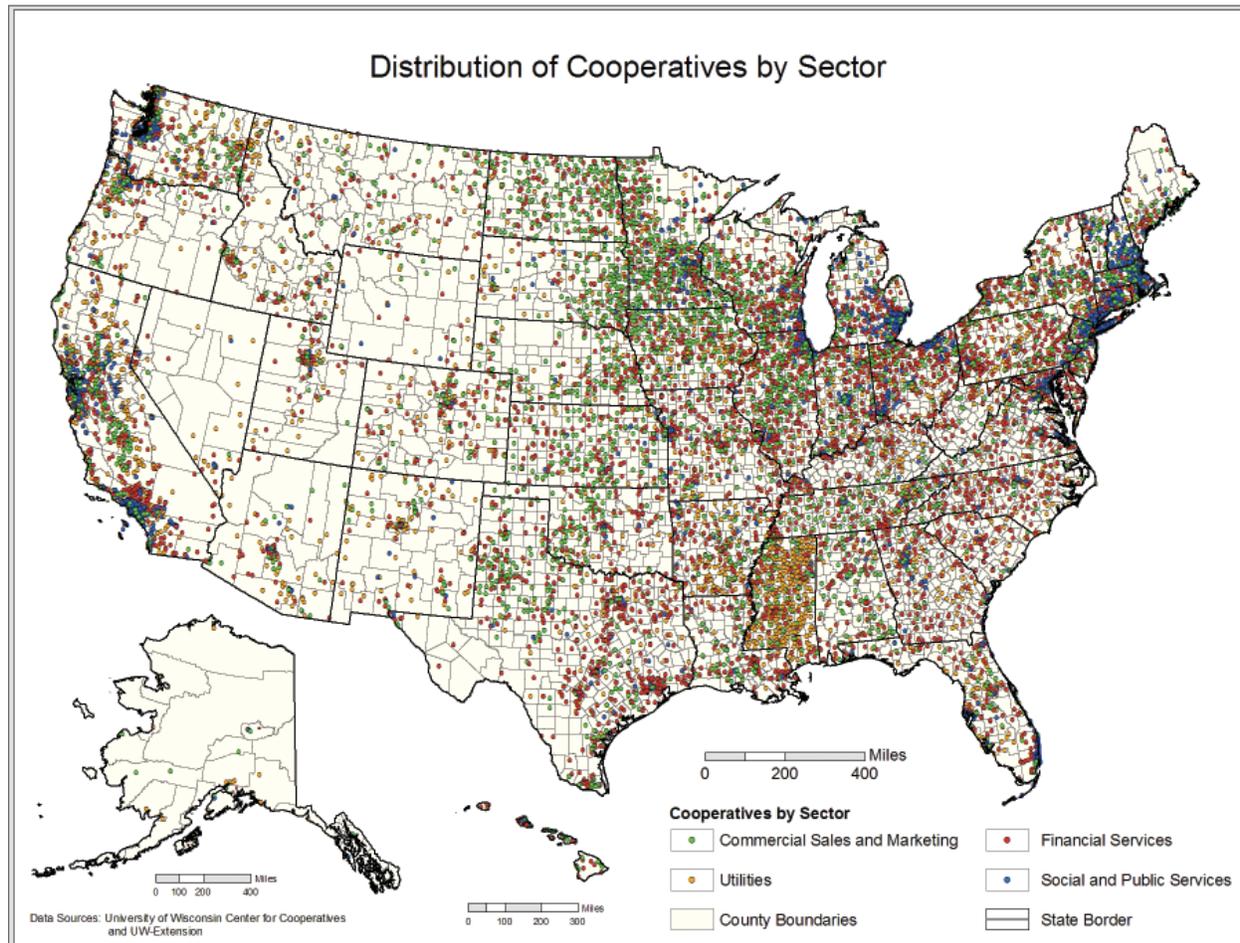
The sector with the largest number of firms—Social and Public Services—has the smallest overall impact across all measures. Overall, 29,284 cooperatives operate at 72,993 places of business (establishments), collectively accounting for nearly \$653B in revenue, \$154B in income, >\$74B in wages, and >2M jobs.

**Table 4-1:** Economic Impact of U.S. Cooperatives: Aggregate Impacts by Sector <sup>1</sup>

Sector	Revenue (\$M)	Income (\$M)	Wages (\$M)	Employment (No. of jobs)	Firms	Estab.
Commercial Sales and Marketing	201,207	37,737	13,810	422,505	3,463	5,695
Social and Public Services	7,525	2,213	1,690	424,505	11,311	11,311
Financial Services	394,363	100,661	51,176	1,133,353	9,964	50,330
Utilities	49,808	13,392	8,292	162,873	4,546	5,657
<b>Total</b>	<b>652,903</b>	<b>154,002</b>	<b>74,969</b>	<b>2,143,236</b>	<b>29,284</b>	<b>72,993</b>

<sup>1</sup> Analysis does not include housing cooperatives.

**Figure 1:** Distribution of U.S. Cooperatives



## 4.1 Commercial Sales and Marketing

Commercial Sales and Marketing cooperatives are composed of firms that provide marketing, processing, and supply services to farmers (including many recently formed biofuels refining companies), consumer cooperatives that buy wholesale on behalf of consumers, arts and crafts cooperatives that supply and sell the work of artist members, and other purchasing and worker cooperatives that operate across a wide variety of economic subsectors. As **Table 4-2** shows, there are 3,463 commercial sales and marketing cooperatives in the U.S.; 2,858 of these provided us with data. These “reporting” cooperatives have 6 million members that account for almost \$61B in assets, \$176B in revenue, >250,000 jobs and nearly \$7.5B in wages. Farmer

cooperatives account for by far the largest share of this sector across all measures of firm size. **Figure 1** displays the geographic distribution of firms within this aggregate sector.

We report only on firms for which we have collected economic data; some firms did not respond to our information requests. As a result, these numbers represent the lower bounds of the full economic footprint of cooperatives in this aggregate sector. As described in **Section 4**, we extrapolated to the full population to perform our impact analysis. Therefore, the sum of direct impacts in the following subsections will be larger than the corresponding aggregate variables reported here.

**Table 4-2:** Commercial Sales and Marketing: Summary of Key Economic Indicators

Economic Sector	No. of Firms		Estab.	Assets (\$M)	Revenue (\$M)	Wages (\$M)	Employees (thousands)	Memberships (thousands)
	Reporting	Total						
Farm Supply and Marketing	2,535	2,547	4,479	44,394	119,074	6,014	147.80	2,484
Bio-Fuels	17	39	39	2,750	4,231	44	1.75	20
Grocery Cooperatives	101	290	446	323	865	171	13.60	487
Arts and Crafts	80	305	305	34	32	5	0.83	16
Other (Retail and Service Cooperatives)	125	282	423	13,338	51,391	1,288	102	3,075
<b>Total</b>	<b>2,858</b>	<b>3,463</b>	<b>5,692</b>	<b>60,839</b>	<b>175,593</b>	<b>7,522</b>	<b>265.78</b>	<b>6,082</b>

#### 4.1.1 Farm supply and marketing

##### Overview

Cooperative firms account for a significant portion of economic activity in U.S. agricultural and food markets, both as providers of key inputs and as marketing and processing agents for farm output. According to USDA statistics, marketing and input supply cooperatives account for about a third of both total farm sector revenue and input purchases [55]. Cooperatives play a key role in agricultural markets not only because they account for a significant fraction of economic activity in this sector, but also because they are believed to generate a pro-competitive effect in imperfectly competitive markets. Cooperatives play other socially beneficial roles in the agricultural sector. They provide an opportunity for farmers to share risk and to control managerial decision-making for their direct benefit. Additionally, they offer a credence attribute—farmer ownership—which can be attached to farm commodities, thus providing additional value to some consumers.

Cooperatives perform a wide variety of functions in agricultural and food markets. Often these functions are grouped into the two broad categories, “marketing” and “supply.” Some marketing cooperatives are household names: Sunkist, Ocean Spray, Sun-maid, and Sunsweet, for example, have created national recognition with their branded products. These firms provide processing and marketing services to farmers, and also the necessary logistical support to aggregate farm supply. Other marketing cooperatives are much leaner organizations, providing only marketing services to assist farmers get product to market, to pool risk, or to negotiate sales as a group to a single buyer or a small number of buyers. Supply cooperatives provide service and inputs to farmers to help them produce their goods. Many farmers purchase

basic inputs such as seed, fertilizer, and farm chemicals from a cooperative. In other words, farmers collectively establish a firm to negotiate better terms of purchase for basic agricultural production inputs. Less common, but still widely observed, are cooperatives that provide information services (e.g., record keeping and performance evaluation) to farmers.

### ***History***

Formalization of group efforts among farmers into well defined and legally sanctioned cooperative business organizations occurred gradually during the mid- to late nineteenth century, in the U.S. Authors of early cooperative incorporation statutes modified standard stock corporation statutes to reflect Rochdale operating principles. Passage of the Sherman Antitrust Act in 1890 forced cooperative leaders to further formalize and distinguish the cooperative business model. The Sherman Antitrust Act was designed to prevent groups of corporations from combining by granting their stock to a trust. With control of all the corporations vested in the trust board, the trust would then work to eliminate competition, create a monopoly, and thus raise prices. As independent farm businesses working together to enhance prices, farmer marketing cooperatives were subject to prosecution under the anti-trust laws that were established as a result of the Sherman Antitrust Act. In a quest to establish a unique form of organization that would be exempt from anti-trust regulations, numerous states created new “non stock” cooperative statutes. In addition, the Clayton Act of 1914 exempted from the Sherman Act those organizations (“agricultural or horticultural organizations instituted for the purpose of mutual help and not having capital stock or conducted for profit”). The Clayton Act created some confusion, however, because at the time many farmer cooperatives were still incorporated under older stock-based cooperative statutes. The Capper-Volstead Act was passed in 1922 to resolve this confusion and applied broadly to associations of agricultural producers, both capital stock and non-stock associations. In addition to anti-trust exemptions, farmer cooperatives have benefited from educational and research support from the USDA and from the establishment of the FCS.

### ***Industry Niche***

Cooperatives in the agricultural sector provide basic marketing and supply services, and are more prevalent among farmers who cultivate crops than among those who raise animals (dairy being a notable exception where cooperative firms hold a dominant market share). Marketing and processing services are typically organized around a single commodity. Supply services are restricted to basic variable inputs—agricultural chemicals, fuel and fertilizer, seed, and crop consulting services—and operate much like “buying groups,” except in the production of feed for animals. That is, farmers tend not to own the physical assets that are used to produce these inputs, but rather negotiate their purchase collectively. Less common, but still widely observed, are cooperatives that provide services (e.g., information services for record keeping, and processing services such as cotton ginning and walnut shelling). Cooperatives rarely produce farm machinery and generally are not involved in basic research to develop new production technologies.

### ***Organizational Structure***

Farmer cooperatives are typically organized under state incorporation statutes, but sometimes they also organized as limited liability companies when a need arises for significant investment participation by individuals who do not use the firm’s services. More recently, some states

have established “hybrid” LLC/cooperative statutes that sanction cooperative organizations with greater outside participation than permitted in existing cooperative statutes (but that still maintain patron control). The National Conference of Commissioners for Uniform State Law (NCCUSL) recently issued the Limited Cooperative Association Act, which is intended to provide a uniform version of hybrid statutes for potential adoption across states that do not currently have one.

Farmer cooperatives typically require all members to be active farmers. Many cooperatives provide services to non-member farmers, though incorporation statutes typically place restrictions on the amount of non-member business. Some farmer cooperatives are “open” in the sense that anyone who does business with the firm may also choose to become a member. Other farmer cooperatives are “closed” in that membership is rationed according to the availability of processing or marketing capacity. Some farmer cooperatives elect boards of directors (and make major decisions such as mergers and acquisitions or dissolution on a one-member/one-vote basis, while others make voting rights proportional to the level of service use for each member. Many farmer cooperatives proportionally “allocate” all or most earnings to patrons, but then retain up to 80% of these allocations for working capital and re-investment. Firms that operate on such a basis pay patrons for the use of their funds in future periods with a formal “equity redemption” program. Most farmer cooperatives claim Subchapter T status for Federal tax purposes, which allows pass-through taxation. Only the patrons pay tax on earnings allocations, even if they are retained for use by the firm.

**Population Discovery and Data Sources**

The USDA’s Business and Cooperative Programs Unit within the Bureau of Rural Development conducts a periodic survey of cooperative business in the agricultural sector. Contact information is compiled through a network of industry and government contacts who make note of existing, new, and dissolved cooperatives. The most recent year for which data are available is 2006. We rely entirely on this USDA data to conduct our analysis of economic impact. All governance data (no random sample) comes from survey work undertaken by the UWCC. The survey response rate for agricultural marketing and supply cooperatives was 35%. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

**Economic Impacts**

As **Table 4-2** shows, we obtained data from 2,535 farmer cooperatives. Collectively, these firms account for >\$40B in assets, nearly \$120B in sales revenue, and pay >\$6B in wages. There are approximately 2.5M farmer memberships and 150,000 employees. From **Table 4-2.1**, by extrapolating to the entire population (2,547 firms) and adding indirect and induced impacts to this activity, agricultural cooperatives account for nearly \$130B in revenue, >200,000 jobs, \$8.9B in wages paid, and >\$10B in valued-added income.

**Table 4-2.1:** Economic Impacts for Farm Supply and Marketing

Economic Impact	Multiplier	Unit	Direct	Indirect	Induced	Total
Revenues	1.078	million \$	119,039	4,164	5,136	<b>128,340</b>
Income	1.764		6,405	2,091	2,803	<b>11,299</b>
Wages	1.479		6,011	1,297	1,584	<b>8,892</b>
Employment	1.425	jobs	147,708	25,261	37,579	<b>210,548</b>

### 4.1.2 Biofuels

Biofuels cooperatives are a form of agricultural marketing cooperatives that have recently developed in response to the emerging biofuels sector of the U.S. economy. According to the Renewable Fuels Association (RFA), farmer-owned cooperatives accounted for about 15% of total production capacity in 2007, down from as much as 70–80% of total capacity in earlier years. During the massive expansion that occurred between 2004 and 2007, much of the investment capital came from private investors, rather than farmers. The data we report below come from 2007, although the entire industry is changing rapidly.

**Table 4-2** shows that 39 biofuels cooperatives collectively have close to \$3B in assets, >\$4B in sales revenue, and pay >\$40M in wages. There are 20,000 farmer memberships and close to 2,000 employees. As shown in **Table 4-2.2**, by adding direct and indirect impacts to this activity, agricultural cooperatives account for >\$10B in revenue, close to 8,500 jobs, \$472M in wages paid, and >\$1B in valued-added income.

#### ***Population Discovery and Data Sources***

The sources for the business list of the 39 biofuel cooperatives are the RFA and primary research. All governance data was acquired in survey work undertaken by the UWCC. The survey response rate for biofuel cooperatives is 69.5% and all reporting cooperatives provided us with 2007 fiscal year-end data. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

#### ***Economic Impacts***

As **Table 4-2** shows, we have data on 17 biofuels cooperatives, and these firms collectively account for >\$2.8B in assets, \$4.2B in sales revenue, and pay \$6B in wages and benefits. There are approximately 2,000 employees and 20,000 memberships. As **Table 4-2.2** shows, by extrapolating to the entire population (39 firms) and adding indirect and induced impacts to this activity, biofuels cooperatives account for close to \$10B in sales revenue, >8,000 jobs, \$472M in wages paid, and >\$1B in valued-added income.

**Table 4-2.2:** Economic Impacts for Biofuels

Economic Impact	Multiplier	Unit	Direct	Indirect	Induced	Total
Revenues	1.095	million \$	9,405	395	502	<b>10,302</b>
Income	1.756		627	200	274	<b>1,101</b>
Wages	2.445		193	124	155	<b>472</b>
Employment	3.538	jobs	2,398	2,415	3,670	<b>8,483</b>

### 4.1.3 Grocery Overview

Over the past decade, estimates of retail consumer cooperatives have averaged between 300 and 350 stores. During those years, no one has attempted to identify the number of cooperative buying clubs in the country, although a major natural foods wholesaler reports that they serve these less formal organizations in 32 states. A loosely connected group of large buying club networks is estimated to serve nearly 150,000 households throughout the U.S.

## ***History***

Consumer-owned food stores have emerged, grown, and declined in waves since the 1850s. The most recent growth period occurred during the mid-1960s and early 1970s when there was a nationwide resurgence of cooperative food stores. By 1979, an estimated 3,000 food stores and buying clubs operated in the United States and Canada [20]. By the 1990s, however, the changing social and political climate resulted in a substantial decline in the number of cooperatives, accompanied by a period of consolidation and growth for the strong cooperatives. By the mid-2000s, food cooperatives once again experienced growth-driven, intense consumer interest in alternatives to a market system that might not serve their needs.

Consumers' interest and participation in retail food cooperatives tends to increase in periods of social, political, and economic turmoil. Although their secondary needs may vary considerably, cooperative members consistently want their cooperatives to provide price, quality, and selection advantages. Growth periods also occur when large numbers of consumers experience economic difficulties and develop an interest in ownership and control of their retail food sources, when they become concerned for food safety, and when they experience a strong desire for an ethical society [30]. Failure of cooperatives is consistently traced to decline in member participation, lack of management skills, inadequate capitalization, strong competition, increasing concentration in food retailing, and "loss of the cooperative spirit" [49].

## ***Industry Niche***

The retail grocery industry is highly competitive. Recently, the large market share gained by non-traditional outlets, which includes warehouse clubs and super centers, has increased competitive pressure on the traditional grocery retailer, already squeezed by the loss of the food consumers' dollar to the food-away-from-home-market, which captured 48.5% of total food expenditures in 2005. The industry has also seen a high level of merger and consolidation, both horizontal and vertical, with large wholesalers acquiring retail outlets [44].

Retail food cooperatives have introduced numerous consumer-oriented innovations, and have fought to retain retailing practices that provide the consumer competitive value and service. Since the 1930s, cooperatives have pioneered nutritional labeling, open dating, unit pricing, bulk sales, informative advertising, consumer education, and innovative institutional structures. They have also consistently been in the forefront of consumer protection through selective merchandising and boycotts, political lobbying, and ongoing consumer education.

The most extensive impact food cooperatives have recently had on the grocery industry has been their pioneering introduction of natural and organic foods, which began with the "new wave" of food cooperatives in the early 1970s. Cooperatives dominated this market until the 1990s, when several independently owned natural foods markets began large-scale expansion. In 1990, the total organic food and beverage market amounted to \$1B in sales, served primarily through cooperatives and other independent retailers. In 2008, that market was expected to reach \$23B, with the traditional mass market grocery stores and non-traditional food stores having gained projected shares of 38% and 16%, respectively [43].

## ***Organizational Structure***

Retail food cooperatives either operate retail stores or pre-order buying clubs. Cooperatives that operate retail stores are predominantly single-store operations, but some successful stores have expanded to operate two or more stores. The largest of these is the Puget Natural

Markets, which operates out of nine locations. Several retail food cooperatives have expanded into non-grocery businesses. Most are restaurants and delis, but a few others include natural home products and vertical integration into ownership of farms and orchards. The store-based food cooperatives are characterized by their strong support for natural and organic foods, community activities, local food systems, and environmental sustainability. Although many , current store-based food cooperatives originally encouraged members to work voluntarily in the store in return for a “member discount,” most , stores now hire professional management and operate the store with paid staff.

Buying clubs operate on a pre-order basis in which members either order a standard “market basket” of foods at a pre-determined price or combine individual family orders into full case lots. The second option is commonly facilitated through a computerized ordering system. In both methods, case lots of food are delivered to a central distribution point where the larger, single order is re-sorted into individual orders. Members pick up their orders at the distribution point. Food is ordered and delivered periodically, most often monthly or bi-weekly. Large buying clubs may hire an outside manager/coordinator, but most of the labor is provided by member volunteers. Savings in buying clubs can be significant, because most of the cost of retail distribution is eliminated by the labor contribution of cooperative members.

All food cooperatives that operate stores are incorporated under state statutes. Over the last decade, some food cooperatives that were originally incorporated as nonprofits have re-incorporated in those states that have cooperative statutes that accommodate the needs of consumer cooperatives. Few buying clubs are incorporated.

Most cooperatives require a relatively small investment in an initial membership share, and an additional financial contribution, which may be in the form of additional membership shares or in an annual membership fee. Investment in membership shares is considered a contribution to equity, while membership fees, if not refundable, are treated as income. Consumer cooperatives are not required to pay income taxes on member-based income if they return that income to members either as cash or as allocated patronage. However, they are required to pay income taxes on non-member income and unallocated member income.

Food cooperative members vote on a one-member/one-vote basis and elect a board of directors from among the membership.

### ***Population Discovery and Data Sources***

We obtained the list for consumer goods cooperatives from the Consumer Cooperative Management Association (CCMA) grocery cooperatives lists maintained by Ann Hoyt. All economic data was obtained from survey work undertaken by the UWCC. The survey response rate for grocery cooperatives was 41% and all reporting cooperatives provided us with 2007 fiscal year-end data. We supplemented revenue and employment data for purchasing cooperatives from Onesource. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

### ***Economic Impacts***

**Table 4-2** shows that we obtained data from 101 consumer grocery cooperatives, and these firms collectively account for >\$323M in assets, \$865M in sales revenue, and pay \$171M in wages and benefits. There are approximately 14,000 employees and 487,000 memberships.

From **Table 4-2.3**, by extrapolating to the entire population (290 firms) and adding indirect and induced impacts to this activity, consumer grocery cooperatives account for close to \$2.1B in sales revenue, >15,000 jobs, \$252M in wages and benefits paid, and \$316M in valued-added income.

**Table 4-2.3:** Economic Impacts for Grocery

<b>Economic Impact</b>	<b>Multiplier</b>	<b>Unit</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Revenues	1.013	million \$	2,098	12	14	<b>2,124</b>
Income	1.781		178	59	80	<b>316</b>
Wages	1.474		171	36	45	<b>252</b>
Employment	1.130	jobs	13,640	711	1,066	<b>15,417</b>

#### **4.1.4 Arts and crafts**

##### **Overview**

Arts and crafts cooperatives are used by artists and craftspeople to market their product to maximize sales income. Cooperatives also can be a cost-effective means to obtain studio space, gallery space, or other specialized supplies or services needed by artists and craftspeople to carry out their work. These cooperatives account for a very small portion of the economic activity generated by the arts and culture sector.

##### **Industry Niche**

Typically, visual artists and craftspeople use gallery owners, dealers, wholesalers, or other retailers to market, authenticate, and show their work on a commission basis. They may also direct market their work through such vehicles as their own studio, the internet, or art fairs.

Arts or crafts cooperatives provide artists with an alternative access to marketing their work, and provide them with greater control over how their work is presented. Cooperatives can also present a solution for inventory management, insurance, shipping logistics, and other risk management issues, ultimately returning a larger share of gross revenues to the artist.

Few markets can sustain arts and cultural activities on a for-profit basis alone, and nonprofit arts and cultural organizations play a large role in this sector. In recognition of the benefits, both social and economic, that arts and cultural activities bring to a community, public and private grants fund these organizations, and subsidize arts activities in various ways. Arts and crafts initiatives also have been developed to address rural economic development issues, and include use of the cooperative model. Nonprofit arts and culture organizations spend >\$63.1B annually [2], and direct expenditures accounted for 1.3 million jobs in 2005 [3].

##### **Organizational Structure**

Arts and crafts cooperatives are typically organized under the business statutes in the state where the cooperative is located. In many states, cooperative statutes are designed for agricultural purposes only, and many cooperatives use the limited liability corporation (LLC) statutes which provide organizational flexibility.

A significant segment of arts and crafts cooperatives are in some way affiliated with a nonprofit arts and cultural organization, or receive funding from a grant-making organization. In these cases, cooperatives may choose to incorporate as a nonprofit and apply for nonprofit tax status.

Typical arts and crafts cooperatives are small, with 25–30 members. While some are managed collectively, often at least one staff person is hired to manage a gallery space, and to bring a sales orientation to the organization. Most cooperatives work on a consignment basis; a typical arrangement would be for 70–80% of the selling price to be returned to the individual producer member and 20–30% retained by the cooperative organization. Often a jury system is used to evaluate new work before membership is offered to a new artist. Membership criteria may also include specialty product requirements, or be location-based.

### ***Population Discovery and Data Collection***

The business list of 284 Arts and Crafts cooperatives comes from the Cooperative Development Foundation (CDF), Ann Hoyt, and primary research. All economic data comes from survey work undertaken by the UWCC. The survey response rate for the Arts and Craft cooperatives was 36% and all reporting cooperatives provided us with 2007 fiscal year-end data. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

### ***Economic Impacts***

**Table 4-2** shows that we obtained data from 80 arts and crafts cooperatives, and these firms collectively account for >\$34M in assets, \$32M in sales revenue, and pay \$5M in wages and benefits. There are approximately 830 employees and 16,000 memberships. From **Table 4-2.4**, by extrapolating to the entire population (305 firms) and adding indirect and induced impacts to this activity, arts and crafts cooperatives account for \$237M in sales revenue, close to 4,000 jobs, \$53M in wages paid, and \$148M in valued-added income.

**Table 4-2.4:** Economic Impacts for Arts and Crafts

<b>Economic Impact</b>	<b>Multiplier</b>	<b>Unit</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Revenues	2.521	million \$	94	63	80	<b>237</b>
Income	1.761		84	27	37	<b>148</b>
Wages	3.312		16	16	21	<b>53</b>
Employment	1.261	jobs	3,012	312	474	<b>3,798</b>

#### **4.1.5 Other**

This section covers impacts of the “other” sector, which includes a mix of worker and purchasing cooperatives from multiple economic subsectors. Purchasing cooperatives covered in this sector include, True Value, Ace Hardware, The Bike Cooperative, Carpet One, and Unified Grocers. Worker cooperatives in this section include, in addition to many small bicycle and book stores, coffee shops, bakeries, and other small retail businesses, a fair-trade coffee roaster, a taxi company, an industrial engineering firm, and an adult theatre.

### ***Population Discovery and Data Sources***

The list for “other” cooperatives comes from two sources: purchasing cooperatives from National Cooperative Business Association (NCBA), worker cooperative lists from Melissa Hoover, U.S.

Federation of Worker Cooperatives (USFWC), and Prof. Christina Clamp. All economic data was acquired from survey work undertaken by the UWCC. The survey response rate was 48% for purchasing cooperatives and 32% for worker cooperatives, and all reporting cooperatives provided us with 2007 fiscal year-end data. Revenue and employment data for purchasing cooperatives was supplemented by data acquired from Onesource. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

**Economic Impacts**

**Table 4-2** shows that we have data for 125 cooperatives, and these firms collectively account for \$13.3B in assets, nearly \$52B in sales revenue, and pay >\$1.2B in wages and benefits. There are approximately 3 million memberships and >100,000 employees. Adding direct and indirect impacts to this activity, cooperative firms in the “other” category account for nearly \$60B in revenue, >185,000 jobs, \$4B in wages and benefits paid, and nearly \$25B in valued-added income. Note that we do not extrapolate to the total population of 282 firms in this category because each firm is very different and applying an average value to all firms results in too much prediction error.

**Table 4.2-5:** Economic Impacts for Other Commercial Sales and Marketing Goods

<b>Economic Impact</b>	<b>Units</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Revenues	million \$	59,981	100	124	<b>60,206</b>
Income		13,719	4,517	6,636	<b>24,871</b>
Wages		2,292	832	1,017	<b>4,140</b>
Employment	jobs	98,237	34,601	51,421	<b>184,259</b>

**4.2 Social and Public Services**

Social and public service cooperatives are composed of firms that provide a diverse array of healthcare, housing, transportation, and education services. **Table 4-3** shows that only 841 of the 11,311 social and public service cooperatives in the U.S., provided us with data. These “reporting” cooperatives have 1 million memberships that account for \$1.7B in assets, \$4.3B in revenue, nearly 100,000 jobs and >\$600M in wages. Housing cooperatives dominate this aggregate economic sector in terms of the number of entities, but healthcare dominates in terms of economic activity. There are >300 cooperative healthcare providers, of which 100 collectively account for >\$1B in assets and \$3.2B in revenues. The ealthcare subsector also accounts for the largest share of employees and members within this aggregate sector.

We report only on firms for which we have collected economic data (some firms did not respond to our requests for information), so that the data represents lower bounds regarding the full economic footprint of cooperatives in this aggregate sector. As described in the previous section, we extrapolated to the full population to conducting our impact analysis. Therefore, the sum of direct impacts in the following subsections will be larger than the corresponding aggregate variables reported here.

**Table 4-3:** Social and Public Services: Summary of Key Variables

Economic Sector	No. of Firms		Estab.	Assets (\$M)	Revenue (\$M)	Wages (\$M)	Employees (thousands)	Memberships (thousands)
	Reporting	Total						
Healthcare	192	305	305	1,109	3,290	283	73.18	961.22
Childcare	563	1,096	1,096	45	86	0.81	8.17	-
Housing <sup>1</sup>	-	9,471	9,471	-	-	-	-	-
Transportation	13	49	49	68	290	8.60	0.50	29.08
Education	121	390	390	428	692	313	9.75	14.80
<b>Total</b>	<b>841</b>	<b>11,311</b>	<b>11,311</b>	<b>1,650</b>	<b>4,358</b>	<b>605</b>	<b>91.60</b>	<b>1,005</b>

<sup>1</sup> Economic data is not available for the housing sector.

## 4.2.1 Healthcare

### Overview

Cooperatives have been part of the U.S. healthcare system since the early 1900s, when hospitals formed the earliest purchasing groups. Although joint purchasing by hospitals is still the most active subsector within healthcare, organizations and individuals cooperate to achieve a wide range of health-related goals. Hospitals and clinics save money by engaging in joint purchasing or service delivery; employer groups jointly negotiate better choices in health insurance rates for their employees; cooperatives/collectives offer controlled access to medical marijuana; worker-owned homecare cooperatives strive to improve service to clients through better working conditions for their workers; and provider networks cooperate to improve rural health care. The organizations may be organized as nonprofits or cooperatives, serving local, regional, and/or national markets.

### History

The first group purchasing organization in health care was formed in 1910 to purchase laundry services in New York. Currently, >600 group purchasing organizations exist, and most hospitals belong to at least one organization. These organizations negotiate with vendors for a wide range of hospital supplies and services.

In the 1970s and 1980s, rural areas in the U.S. were losing their doctors, hospitals, and clinics. Rural health care providers responded by forming health networks. Some early networks were organized as cooperatives, but most are nonprofits with boards that include a large percentage of network members. Networks may offer their members administrative services (such as legal advice, coding assistance, financial consulting, and computer/networking expertise), human resource-related services (such as worker recruitment and professional development), specialized medical services (such as speech or audiology), quality assurance expertise, and joint purchasing.

In the 1970s, in response to rising health insurance costs, employers began to form groups to purchase health insurance. Many purchasing groups were cooperatives. More than 25 states have statutes that promote state- or employer-sponsored purchasing cooperatives. Much of the legislation was in place by the early 1990s, although some legislative activity continues. Many policy makers and communities hoped that the cooperatives would achieve significant cost savings, but analysts recognized the difficulty of avoiding adverse selection without some type of mandated use. Although legislation that would have mandated state or employer-sponsored

purchasing cooperatives was discussed during the Clinton health care reform debates, it never passed. Furthermore, while the employer groups are consistently referred to as cooperatives, their business structure varies. For example, in California, an early purchasing cooperative, Health Insurance Plan of California, was originally operated by a state agency. It was later transferred to a nonprofit organization, the Pacific Business Group on Health. In Texas, legislation was passed in 1993, 2003, and 2005 that authorized groups of employers to form cooperatives to purchase health insurance. The cooperatives are required to form as nonprofits and then register as purchasing cooperatives with the Texas Department of Insurance.

After the passage of Proposition 215 in 1996, which legalized medical marijuana in California, dozens of cooperatives, collectives, and buying clubs were established to distribute the drug. Guidelines for the cooperatives/collectives were articulated in California SB420, which passed in 2004 and allowed consumers to grow small quantities of marijuana collectively. To operate legally in California, they must follow guidelines that include operating as nonprofit cooperatives or collectives, paying sales taxes, and allow purchase only by patients or care-givers.

Worker-owned home care cooperatives are emerging as a way to both address high staff turnover and to improve the quality of home care services provided to the elderly and disabled. The first worker-owned home care cooperative, Cooperative Home Care Associates (CCHA), was formed in New York City in 1985, as an alternative to nonprofit and private agencies. CCHA's goal was to reduce turnover and provide quality home care to clients by improving the workplace and compensation for home care paraprofessionals. Since 1985, a small number of additional worker-owned homecare cooperatives have been formed.

The smallest subsector is consumer-owned health maintenance organizations (HMOs). Few HMOs are genuine cooperatives. Most states require HMOs to incorporate under nonprofit or mutual insurance laws. Wisconsin is one of the few states to allow HMOs to incorporate as cooperatives, but to also have nonprofit and charitable status.

### ***Industry Niche***

Health care in the U.S. is provided by a combination of nonprofits, commercial enterprises, and the government. Most health care is paid for through insurance plans, which are funded by employers, privately purchased, or provided by the government. The marketplace for health providers and insurers is local, regional, and national, with significant competition in many communities, especially metropolitan areas.

The only subsector with significant market share is the group purchasing organizations (GPOs). Nine organizations represent 80% of volume purchased through GPOs. These organizations include cooperatives, nonprofit organizations, and for-profit companies. Remarkably, 72% of all hospital purchases are through GPOs, and almost all hospitals use at least one GPO contract, with the average hospital using two to four. Although hospitals formed the first GPOs, clinics and long-term care facilities represent a growing membership.

Employer health care coalitions are another influential subsector, although they have not achieved significant cost savings for their members. There are >90 employee health care coalitions. According to a 2002 study, they have successfully allowed members to provide health care coverage choices to their employees, but their market share is small and they have not achieved significant cost savings [62].

## **Organizational Structure**

Cooperative health care organizations are organized as cooperatives, nonprofits, and corporations. Regardless of legal structure, they operate for the benefit of their members. Some are organized under statutes that specifically authorize cooperatives to perform a function, such as purchasing health care for small employers, or controlling access to medical marijuana. These statutes vary considerably from state to state, and might not define governance or ownership rights and roles.

## **Boundary Issues, Data Sources, and Population Discovery**

For purposes of this analysis we include health care organizations that are organized to benefit a clearly defined group (employers, health care providers, workers, etc.) and are governed by boards that have significant representation from the membership. Although community health centers do exhibit some of these characteristics, they are not included in the sample.

The list for health care cooperatives come from purchasing healthcare cooperatives maintained by NCBA, worker healthcare cooperative lists maintained by Melissa Hoover, USFWC with Prof. Christina Clamp, and primary research. All economic data comes from survey work undertaken by the UWCC. The survey response rate was 58% for healthcare cooperatives, 48% for purchasing healthcare cooperatives, and 32% for worker healthcare cooperatives, and all reporting cooperatives provided 2007 fiscal year-end data. Revenue and employment data for purchasing cooperatives was supplemented from Onesource. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

## **Economic Impacts**

**Table 4-3** shows that we have data from 192 health-care cooperatives and collectively these firms account for >\$1B in assets, >\$3B in sales revenue, and pay \$283M in wages. There are approximately 961,000 memberships and 73,000 employees. As shown in **Table 4-3.1**, by extrapolating to the entire population (305 firms) and adding indirect and induced impacts to this activity, health care cooperatives account for >\$5B in revenue, close to 500,000 jobs, \$1B in wages paid, and >\$1B in valued-added income.

**Table 4-3.1:** Economic Impacts for Healthcare

<b>Economic Impact</b>	<b>Multiplier</b>	<b>Units</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Revenues	1.011	million \$	5,157	25	30	<b>5,211</b>
Total Income	1.717		727	222	299	<b>1,248</b>
Wages	1.816		561	206	252	<b>1,019</b>
Employment	1.535	jobs	262,844	56,577	84,165	<b>403,586</b>

## **4.2.2 Childcare**

### **Overview**

The demand for quality child care has grown significantly, as increasing numbers of women have joined the workforce over the past 25 years. By 2007, >57% of women in families with children under age 6 were employed [59]. Considerations of quality, availability, and cost all drive a family's child care decisions, and many families use multiple providers to meet their needs.

Demand for childcare may also exist independent of the need to support a family's work schedule. The growing recognition of the benefits of early childhood education, which can foster social, emotional, intellectual, and physical development, also drives the demand for quality child care programs.

Child care cooperatives are one alternative in the child care mix. Organized around structured activities and supervised play for toddlers through preschool-aged children, the cooperative typically depends on parent assistance in the classroom. Parental participation in the classroom experience can be a strong incentive for cooperative membership, since it provides parents a chance to more directly observe and contribute to the quality of their child's care and early learning experiences outside the home. It is also viewed as a learning opportunity for parents, either informally or through more structured training that may be available to parent members.

Membership in the cooperative is open to parents or guardians of children who attend the cooperative. Some level of volunteer activity to support the cooperative's operations is also expected of the parents, which reduces the cost of the programs. Some child care cooperatives offer full-time child care services, but others are organized to provide part-time programs. While organized groups of families trading child care hours are also called child care cooperatives, they are not included in this survey because of their more informal, impermanent, barter-type arrangements.

### ***Industry Niche***

Most families with preschool children and working mothers use child care services. Almost 25% of these families use an organized child care facility as the primary care arrangement; a greater percentage of families likely use child care centers to supplement other primary care arrangements, such as a family day care provider [53]. Approximately 80,000 center-based early education and child care programs were providing services in the U.S., according to the most recent comprehensive study that included licensed centers, early education programs, center-based programs exempt from state or local licensing (such as programs sponsored by religious organizations or schools), and licensed family day care. A more narrowly focused study a few years later reported >113,000 regulated child care centers [53].

Child care cooperatives are a subset of these center-based early education and child care programs. Many are overtly founded on the principle that the best educational experiences for young children results from a partnership between parents and teachers, and work to maintain a high adult-to-child ratio All recognize the contributions of parent volunteer activities to maintain the child care organization.

While parents value quality child care, they often face difficulties in evaluating the care a program provides. Child care cooperatives offer a greater degree of transparency for parents and caregivers, given a cooperative structure based on parental involvement.

### ***Organizational Structure***

Childcare cooperatives are typically incorporated as nonprofit organizations, since they provide educational services. As educational entities, they are eligible for a 501(c)(3) Federal tax-exempt designation, which also allows them to apply for public and private grants, and to accept tax-deductible donations.

Child care cooperatives differ from other nonprofit educational organizations by the control exercised by the parents who use the cooperative’s child care services. Parents democratically elect representatives to a board of directors that operates the cooperative. Frequently staff and teachers also may be represented on the board, but do not typically have voting rights. Depending on the size of the school, there may be a director who provides continuity in the overall management of the cooperative’s business.

In addition to tuition or fees for the child care services, volunteer involvement by parents in the affairs of the cooperative is highly encouraged, if not required. Some cooperatives require a commitment to a certain number of hours of volunteer time, or participation on a committee. Parental participation in the classroom supports the ability of the cooperative to provide a high adult-to-child ratio, and volunteer labor for housekeeping and administrative duties aids in reducing operating costs. Frequently parents are also expected to engage in some type of fundraising activity for the cooperative.

**Boundary Issues, Population Discovery and Data Sources**

Child care cooperatives are examples of 501(c)(3) nonprofit organizations that operate as cooperatives in terms of patron control, but are prohibited from making distributions to members. As with many nonprofit cooperatives, the child care services may be considered the benefits that accrue based on patronage. The degree of actual degree member control varies widely among these cooperatives. In some cases, parents may be required to volunteer in the classroom or perform other tasks to support the operation of the cooperative, but they are not expected to take an active role in the control and governance of the organization.

The data on childcare cooperatives comes from primary research conducted by the UWCC. All economic data comes from survey work undertaken by the UWCC and Guidestar. The survey response rate for childcare cooperatives is 43% and all reporting cooperatives provided us with 2005–2006 fiscal year-end data. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

**Economic Impacts**

As **Table 4-3** shows, we have data for 563 child-care cooperatives and collectively these firms account for >\$45M in assets, nearly \$86M in sales revenue, and pay nearly \$1M in wages. There are approximately 8,000 employees; we did not collect membership information for childcare cooperatives. As **Table 4-3.2** shows, by extrapolating to the entire population (1,096 firms) and adding indirect and induced impacts to this activity, child-care cooperatives account for >\$420M in revenue, nearly 6,000 jobs, \$141M in wages paid, and >\$200M in valued-added income.

**Table 4-3.2:** Economic Impacts for Childcare

Economic Impact	Multiplier	Units	Direct	Indirect	Induced	Total
Revenues	2.615	million \$	161	105	155	<b>421</b>
Total Income	2.356		101	52	85	<b>238</b>
Wages	2.238		63	30	48	<b>141</b>
Employment	1.435	Jobs	4,128	661	1,136	<b>5,925</b>

### **4.2.3 Housing**

#### **Overview**

A housing cooperative is a corporation that exists to provide housing to its owners, who are the people who live in the cooperative. These people own a share of stock in the cooperative corporation, which owns the land and buildings. The stock gives the owners an exclusive right to occupy a particular dwelling unit and participate in governance of the cooperative.

#### **History**

Housing cooperatives and condominiums are both examples of shared interest housing, providing opportunities for people to own units within multi-family buildings. Both models were developed in Europe as an alternative to the rental model. The first cooperative in the U.S. was built in New York City in 1876, 75 years before the first condominiums. Most of the early cooperatives were in luxury buildings, but there were also several affordable housing cooperatives built by labor unions during the period before World War II.

The history of housing is linked closely to Federal, state, and local policies. Although the earliest cooperatives were designed for people with high incomes, a cooperative housing model was developed that encouraged long-term affordability by restricting the appreciation of share value when membership shares are sold. Known as “limited equity cooperatives”, these cooperatives were usually built with some private or public subsidy and required a low initial membership fee. The first significant government program supporting housing cooperative development was the New York Limited Dividend Housing Companies Act of 1927. Thirteen cooperatives were built under this Act. A subsequent New York law, known as the Mitchell-Lama Act, was passed in 1955 and supported the development of 60,000 affordable units, mostly in the 1960s and 1970s. Labor unions and housing activists built 40,000 more units, for a total of 100,000 affordable housing cooperative units in New York state. On a Federal level, cooperatives were largely left out of the immediate post-WW II support for affordable housing, but they were included in several important subsidized mortgage programs passed by Congress in the 1960s. By 1995, an estimated 137,000 cooperatively owned affordable units had been built with Federal support in 29 states.

During this period, cooperatives continued to be built for the higher income market, and cooperative owners benefited from Federal tax policies that encouraged home ownership. By 1960, 1% of all multi-family dwellings were cooperatively owned. In 1976, this figure was 2.2%, but by this time every state had a condominium statute and condominiums had replaced cooperatives as the preferred owner-occupied model [46].

#### **Industry Niche**

Owner-occupied multi-family dwellings have become increasingly popular in the U.S., with a 227% increase from 1977–2007. Most of that new development has been in condominiums, which currently represent 5% of the nations’ total housing. Cooperatives are <1% [51].

Although condominiums have dominated the shared interest housing market, cooperative ownership has expanded in several regions and markets. In Minnesota, 74 senior housing cooperatives with 5,600 units have been built since the 1970s, with most of them <10 years old. Their financial structure has been designed to limit asset appreciation and to free up cash assets for the owners by requiring a share price that is <100% of the cost of the unit. As the cooperatives market to seniors, they emphasize strong social networks and self-reliance to

a group of people who are concerned about displacement and the loss of control that can accompany aging [47]. Cooperatives for seniors are important also in California, Michigan, and Florida. In Florida, naturally occurring retirement communities are often manufactured home parks. Florida has 88 parks with 5,000 units [19]. In New Hampshire, where the New Hampshire Community Loan Fund has provided loans for conversions from investor-owned to resident-owned parks, 158 parks are resident-owned, providing 41,278 units [41]. Conversions have also been significant in Washington, DC, where 2,270 units of affordable rental housing have converted to limited equity cooperatives [9].

### ***Organizational Structure***

The legal structures of condominiums and cooperatives differ significantly. Condominium owners own their unit as real estate, and own an undivided share in the common areas of the building or complex. Condominiums offer some perceived advantages over cooperatives. Because each unit in a condominium is owned separately, there is less risk of losing the building if one owner defaults. And condominium owners have fewer decisions to make collectively, because only the common areas are owned jointly. On the other hand, since most housing is stratified by price, owners of both cooperatives and condominiums tend to be relatively homogeneous. They usually have a long-term commitment to their housing. These two factors help to mitigate the costs of participating in governance of both cooperative corporations and condominium associations.

Housing cooperatives are governed democratically, with each unit receiving a vote, regardless of size. Most cooperatives elect a board of directors to establish budgets, hire staff, and enact policies. Bylaws and policies govern important issues like how membership shares are transferred and membership rules. Cooperatives may require that prospective buyers apply to the board of directors or a membership committee before the sale is completed. These rules and policies are consensual, since they are in the governing documents, rather than dictated by law.

Like all housing, cooperatives are financed through a combination of loans and equity. Cooperative owners will usually contribute some equity toward the purchase of their share, and may also obtain “share loans”, which function like a mortgage loan. In addition, the cooperative corporation may have a mortgage that covers the initial construction cost or remodeling. Cooperative owners pay a share of this mortgage as part of their monthly fee, and the interest is deductible under IRS rules.

### ***Population Discovery and Data Sources***

The goal for this sector was to identify every housing cooperative in the U.S. and gather relevant data to determine the economic impact of this sector. We consulted experts in housing cooperatives who advised that we should gather data on property assessments and property taxes paid, but that these values might not be consistent, since assessment and taxing practices vary by municipality.

We conducted two concurrent searches for information. We compiled a list of individual housing cooperatives and we searched for state data on the total number of cooperatives and units. Collecting survey data from housing cooperatives was difficult. From a random sample of 600 cooperatives, we located 300 valid phone numbers, which yielded 32 completed surveys. We sent email requests and advertised the survey on several websites, but had very poor response.

We collected estimates from housing cooperative experts on the distribution of cooperatives across the country. Housing cooperatives developed in regional clusters, with 90% of the cooperatives located in 10 states, plus Washington, DC. We focused on these states, contacting regional housing associations, local experts, and the NCB (formerly National Cooperative Bank) for more detail. Since tax and assessment data is held by local governments, we attempted to contact these organizations, but we were not able to search those listings by cooperative status.

### ***Economic Impacts***

Here we provide a brief overview of existing studies that report on the potential impacts of the housing sector. These studies often focus on the economic activity associated with new home construction and redevelopment. An annual Florida study uses a more complex analysis to value residential real estate in the Florida economy, using four impacts. The authors use IMPLAN to measure the impact of construction, plus real estate transactions. In addition, they report on property taxes paid, and the explicit and implicit investment returns for real estate property owners [63].

The most significant challenge in obtaining similar data for cooperatives is the lack of uniformity in reported property values. Jurisdictions vary in how they value cooperatives for property taxes, and the assessed, appraised, and market values may differ significantly. A Florida study used aggregated data at the county and state level, but cooperative housing valuations must be collected by building. This can be challenging. For example, survey respondents might not know if their jurisdiction discounts property tax assessments, or the value of that discount.

Most research on the impact of cooperative housing has focused on the value of the public investment in cooperative affordable housing. Susan Saegert investigated the impact of housing ownership form in >400 multi-family properties that were acquired by NYC for non-payment of taxes and then sold to tenant-owned cooperatives, nonprofits, and private landlords [45]. Her study found that cooperative ownership was positively associated with building quality, better safety and security, and more evidence of pro-social norms. Tenants with higher incomes and better education tended to stay in the cooperative and invest resources in improving their living conditions. Longevity of cooperative tenants was also noted in a Chicago study [8] and positively associated with community stability. A survey of middle income senior cooperative members had similar results. Members reported improved social contact, life satisfaction, sense of personal safety, and happiness after moving into the cooperative.

A small study in the 1990s used a different approach to analyze the impact of cooperative housing, by examining the effect of resident ownership on the variable aspects of housing costs. Researchers concluded that cooperative ownership significantly reduced operating costs (including marketing, administration, operating, and maintenance costs). Finally, another 1990s survey of members of senior housing cooperatives reported positive health impacts and greater happiness, life satisfaction, social contact, and personal safety from living in a cooperative [42].

#### **4.2.4 Transportation Overview**

While relatively few in number, cooperatives in the transportation sector encompass a broad range of functionality. Often members of cooperatives in this sector are other service organizations. The cooperatives may be organized to meet the demand for services in lower-density rural areas, or in areas that cross geographic jurisdictional boundaries. The cooperative

may be created to meet specialized transport requirements of school districts or those with limited mobility. Cooperatives are also organized to offer transportation alternatives that reduce the number of car trips in an effort to address environmental and sustainability issues that accompany the heavy traffic demands of urban areas.

Cooperatives offer an organizational approach for scheduling and vehicle sharing that more cost-effectively meets specialized transportation needs. Public-private cooperative ventures have resulted in ride-share and shuttle programs that provide route-specific transportation services to members, and are frequently organized around commuting patterns of employees.

Car sharing, begun in Europe in the late 1980s, is another approach to car ownership that has used the cooperative model to provide services to members. As of July 2008, the U.S. has 18 programs, several of which are nonprofit member-governed organizations [7]. These consumer cooperative organizations purchase, maintain, and insure cars for use by members on an as-needed basis. Members pay a fee and must meet driving license and record requirements to participate.

Cooperatives also supply the specialized transportation-related needs of a wide variety of members, including truck drivers, owners of biodiesel vehicles, and bicyclists.

Taxi cab cooperatives usually are worker cooperatives organized to benefit the drivers who provide transportation services to paying individuals. Typically, taxi cab companies operate using independent contractors who often must provide their own vehicle or lease one from the company. A worker-owned cooperative may be organized to provide a variety of employee benefits, the potential for a share in company profits, and the right to participate in ownership decision-making.

Privately owned taxi companies may also form purchasing cooperatives to provide more efficient administrative services to its member businesses.

### ***Industry Niche***

Many public governmental entities use cooperative programs to more cost-effectively provide transportation services, such as compliance programs for school districts, and to facilitate inter-agency coordination of transportation planning. As governmental entities, these fall outside the scope of this project. However, many cooperative ventures involving both governmental agencies and private organizations have been formed to provide specialized transportation services, or to tackle the environmental and regional planning issues that arise from delivery of transportation services. In these cases, a nonprofit corporation organized along cooperative lines is sometimes formed to manage these efforts.

Car share cooperatives occupy a small portion of the growing car share market, which is dominated by Zipcar, a privately owned, national business that merged in 2007 with Flexcar, another leading car share enterprise. Car share cooperatives often predated the entry into a local market by Zipcar, or exist in cities not served by a private company. The nonprofit cooperative model also more easily supports a broader educational and outreach mission to reduce traffic and raise awareness of the larger externalities associated with widespread car ownership. The nonprofit status also allows such cooperatives to receive outside grants and donations that can offset the significant start-up costs for such a venture. Another stated benefit of the cooperative model for car share enterprises is the local control it can provide in developing the car share option as part of the larger transportation plan.

Worker-owned taxi cooperatives comprise a small fraction of the approximately 6,300 companies that operate in the United States. Only 6% of taxicab operations have >100 vehicles in service, >80% of these companies operate fewer than 50 vehicles [48].

The transportation sector also encompasses a variety of enterprises, such as small-scale biodiesel fuel supply cooperatives or services to support increased bicycle use. In these cases, the cooperative model provides services in markets that are not sufficiently developed, or do not have sufficient margins to attract profit-driven businesses.

### ***Organizational Structure***

Depending on the type of goods and services being provided, the transportation sector contains several different types of cooperative organization.

Because the provision of transportation services exists in the realm of the public good, many transportation cooperatives are organized on a nonprofit basis, and are collaborations between nonprofit, businesses, or public transportation entities to provide services or to develop trip reduction programs.

Nonprofit status may make collaboration with governmental agencies more straightforward, thus making the cooperatives eligible for grants and donations, and promoting a broader educational mission that can reach more members. Many nonprofit cooperatives exemplify boundary issues described above, and the members may have varying degrees of control over the organization, depending on board structure and bylaw requirements.

Car share cooperatives are member organizations that span the boundary between nonprofit and cooperative. Member representation on the board may vary, and multiple member classes besides individual drivers may exist, including businesses that provide a car sharing service to employees, and non-driving members who may support the goals of the organization.

Worker-owned taxi cooperatives are owned by the taxi drivers who elect a board to oversee the cooperative's strategic generation. The cooperatives are structured to provide employee benefits and patronage profit-sharing; membership requirements vary.

### ***Population Discovery and Data Sources***

The data on transportation cooperatives was obtained from primary research. All economic data was obtained from survey work undertaken by the UWCC. The survey response rate for transportation is 31% and all reporting cooperatives provided us with 2007 fiscal year-end data. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

### ***Economic Impacts***

**Table 4-3** shows that we have data for 13 transportation cooperatives and collectively these firms account for >\$68M in assets, nearly \$290M in sales revenue, and pay nearly \$9M in wages. There are approximately 500 hundred employees and nearly 30,000 memberships. As **Table 4-3.3** shows, by extrapolating to the entire population (49 firms) and adding indirect and induced impacts to this activity, transportation cooperatives account for >\$567M in revenue, nearly 800 jobs, \$20M in wages paid, and >\$60M in valued-added income.

**Table 4-3.3:** Economic Impacts for Transportation

<b>Economic Impact</b>	<b>Multiplier</b>	<b>Units</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Revenues	1.877	million \$	302	120	145	<b>567</b>
Total Income	1.823		34	12	16	<b>62</b>
Wages	1.538		13	3	4	<b>20</b>
Employment	1.243	jobs	618	60	90	<b>768</b>

## 4.2.5 Education

### Overview

The structure and scope of education cooperatives vary widely, reflecting the diversity of educational institutions in the U.S. Educational cooperatives may serve a collective purchasing function for educational institutions. Other cooperatives included in this sector directly deliver educational services to the children of parent members. A few are worker cooperatives, with teachers as member owners.

Public school districts are empowered by individual state statutes, creating many different organizational approaches to delivering educational services. State, county, municipal, and town governments, as well as independent school districts, may all have a role, depending on a given state's legislative provisions.

More than 15,000 public school systems were identified in 2002 [50]. In 2005, public school systems encompassed >97,000 public elementary and secondary schools [56]. In addition to public schools, there are almost 29,000 private elementary and secondary schools, and 6,463 post-secondary institutions identified as participating in Title IV Federal financial aid programs [56]. Another 1.1 million children were home schooled in 2003 [57].

### Industry Niche

The decentralized nature of the public educational system provides many opportunities to achieve purchasing efficiencies through cooperative arrangements. About 620 educational service agencies (ESAs) have been created in 42 states to more cost-effectively provide programs and services to member school districts [5]. ESAs are frequently self-identified as "cooperatives" or "collaboratives".

ESAs enable member districts to cost-share in programs such as special education and professional development, many of which may be state or federally mandated. ESAs may also perform a collective purchasing function by aggregating demand and negotiating more favorable contracts for a wide variety of supplies, and may streamline administrative costs associated with following mandated contract purchasing procedures.

There are also educational purchasing cooperatives that exist independent of state statute, and serve the college, university, and private school markets, as well as school districts in states without ESAs. These cooperatives also aggregate demand, negotiate contracts that provide better terms for their members, and provide assistance in meeting public procurement requirements.

Education cooperatives also encompass schools that are organized using cooperative principles. Parents, as the members who use the school to educate their children, exercise control over that process by direct involvement in all aspects of the school's operations, including its board.

Several teacher cooperatives exist within the educational sector. As worker cooperatives, they provide a greater degree of autonomy and control over how the teacher members practice their profession. In contrast to implementing an externally developed instructional program, teachers develop and execute an educational program as part of the contract between the teacher cooperative and a public charter school. The cooperative also provides administrative services and is responsible for both the financial and academic success of the school.

### ***Organizational Description***

ESAs are nonprofit entities with memberships composed of school districts in a defined geographic location. Authorized by state statute, they are financed by some combination of payments from member districts and contract fees for service [5], and are also eligible to receive state and Federal monies. ESAs are governed by a representative board; however, as public entities, they are subject to regulations and oversight procedures required in the public procurement process. ESA structure is often dependent on state statute, and boards may include appointed officials from state or local governing bodies as well as elected or appointed representatives from participating member districts. Ex-officio members may also have authority over some decisions.

Other educational purchasing cooperatives may be associated with membership in an affiliated professional association. These organizations may be incorporated as cooperatives and operate on a cooperative basis, distributing patronage dividends or certificates of equity based on purchase volume. Those serving school districts not included in ESAs may be incorporated as nonprofit corporations, and have both elected and appointed members on their board.

Cooperative schools typically are incorporated as nonprofit, tax-exempt organizations, even if they are within the public school system. Parents of the children attending the school comprise the membership of the cooperative, and may be asked to contractually commit to classroom, administrative, and fundraising assistance, participate in general membership meetings, and elect a board of directors from the membership. The board may include other community stakeholders. In the case of charter schools, the school district or other appropriate government entity typically is represented on the board. Member financial obligations may vary, depending on the fundraising needs of the school, and whether it is private or public.

Teacher cooperatives are governed by an elected board of directors that may include school and at-large representatives as well as educators. Given that teachers are public employees and may have significant benefits, in some cases teachers have maintained their public employment status while being a member of a teacher cooperative.

### ***Boundary Issues, Population Discovery, and Data Sources***

Some ESAs self-identify as cooperatives or collaboratives, and all ESAs use a representative board governance structure to achieve mutually beneficial cost-savings for members. However, the degree to which ESA boards are subject to public oversight and reporting pose questions about their classification as cooperatives.

The list for education cooperatives come from primary research. The decision to include ESAs was made after population discovery was complete. As a result, some self-identified ESAs are included, but the list of ESAs is not comprehensive. Further research may examine more closely the nature of collaborative government entities in sectors such as education.

All economic data was obtained from survey work undertaken by the UWCC and Guidestar. The survey response rate for education cooperatives was 30.6% and all reporting cooperatives provided us with 2007 fiscal year-end data. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

### **Economic Impacts**

**Table 4-3** shows that we have data for 121 education cooperatives and collectively these firms account for >\$428M in assets, nearly \$700M in sales revenue, and pay >\$300M in wages. There are nearly 10,000 employees and nearly 15,000 memberships. As **Table 4-3.4** shows, by extrapolating to the entire population (390 firms) and adding indirect and induced impacts to this activity, education cooperatives account for >\$1B in revenue, jobs, >\$500M in wages paid, and nearly \$700M in valued-added income.

**Table 4-3.4:** Economic Impacts for Education

<b>Economic Impact</b>	<b>Multiplier</b>	<b>Units</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Revenues	1.757	million \$	753	254	316	<b>1,323</b>
Total Income	1.783		373	124	168	<b>665</b>
Wages	1.458		350	72	88	<b>510</b>
Industry Jobs	1.291	jobs	11,017	1,286	1,923	<b>14,226</b>

### **4.3 Financial Services**

Financial service cooperatives are composed of credit unions, banks within the FCS, mutual insurance companies, and a variety of financing organizations that lend to cooperative firms and banks. **Table 4-4** shows that 8,627 of the 50,330 financial service cooperatives in the U.S. provided us with data. These “reporting” cooperatives account for \$2.8T in assets, \$265B in revenue, 376,000 jobs and \$13B in wages. There are 325 million memberships, which as we noted previously, grossly overstates the total number of unique members within this aggregate sector. For example, many of the 91 million credit union members are also likely members of a mutual insurer.

The Cooperative Finance subsector accounts for the largest share of assets within the Financial Services economic sector, followed by mutual insurance companies, credit unions, and the FCS. Credit unions and mutual insurance companies account for the largest number of firms, establishments, members, and employees.

We report only on firms for which we have collected economic data (some firms did not respond to our requests for information), so that these numbers represent lower bounds regarding the full economic footprint of cooperatives in this aggregate sector. As we described in the previous section, we extrapolated to the full population for our impact analysis. As a consequence, the sum of direct impacts in the following subsections will be larger than the corresponding aggregate variables reported here.

**Table 4-4:** Financial Services: Summary of Key Variables

Economic Sector	No. of Firms		Estab.	Assets (\$M)	Revenue (\$M)	Wages (\$M)	Employees (thousands)	Memberships (thousands)
	Reporting	Total						
Credit Unions	8,334	8,334	29,029	760,971	40,218	9,421	236.55	91,537
Farm Credit System	104	104	1,497	186,451	11,884	1,009	11.17	401
Mutual Insurance	148	1,497	19,761	842,340	140,038	1,893	122.17	232,969
Cooperative Finance	41	43	43	1,072,196	72,691	757	6.25	27,891
<b>Total</b>	<b>8,615</b>	<b>6,627</b>	<b>50,330</b>	<b>2,861,958</b>	<b>264,831</b>	<b>13,080</b>	<b>376.14</b>	<b>324,935</b>

### 4.3.1 Credit Unions

#### Overview

Credit unions play an important role in consumer banking by offering financial services to nearly one-third of all Americans, with 86.8 million memberships. Compared to all depository institutions, credit unions are relatively small with <10% of the U.S. market [33]. Roughly 75% of credit unions have total assets <\$100M, while 80% of commercial banks and 85% savings institutions have assets >\$100M. Less than 2% of credit unions have assets >\$1B [52]. Credit unions, like commercial banks and thrifts, are both Federal and state government chartered. There are currently 5,036 federally chartered credit unions (FCUs) holding \$418B in assets and 3,157 state chartered credit unions (SCCUs) holding \$336B in assets [34].

Like all other financial depository institutions, credit unions take deposits and offer loans to its consumer base. While credit unions resemble banks, they have several distinctive legal differences: they are not-for-profit cooperatives with an IRS tax exemption status. They return earnings to their membership in the form of reduced fee (interest) on loans and increased interest (dividends) on deposits, or they may re-invest earnings into the credit union. Traditionally credit unions were formed with stringent membership criteria based on a “common bond” such as employment, association, religious, or community organization [22]. Following Federal legislation in 1977, credit unions expanded their services to include share certificates and long-term mortgage lending, making them competitive in the financial sector. Some credit unions may be designated “low-income credit unions” by the National Credit Union Administration (NCUA), or, in some instances, a state regulatory agency. This designation allows the credit union to accept non-member deposits and secondary capital in order to better serve its membership and community. Many of these low-income designated credit unions serve narrow fields-of-membership, such as groups of employees.

#### History

The model for modern credit unions was developed in Germany in the mid-19th century. Influenced by the example and principles of the Rochdale Pioneers in England, these credit cooperative societies spread quickly in Europe. The first credit union in the U.S. opened in 1909, in Manchester, New Hampshire, and by 1920 there were credit unions in New York, North Carolina, and Massachusetts. They provided credit for consumer purchases, and opportunities for savings. The prosperity of the 1920s created a strong demand for credit, and many states approved statutes permitting the organization of credit unions. Strong leadership led to the development of state credit union leagues, which supported the growth of the emerging industry.

By 1929, 32 states had credit union legislation, and 1,100 credit unions had been formed. In 1934, the Federal Credit Union Act was passed, which permitted the formation of federally chartered credit unions in states that did not have a credit union law. This precipitated the formation of thousands of additional credit unions during the 1930s. Most credit unions were formed in work places, or sponsored by membership organizations or churches. These early credit unions depended on a network of volunteers who served on the board and often ran the credit unions. As the industry developed, it became more professional and also created strong support institutions. Credit unions formed a self-funded share insurance fund, a mutually owned credit insurance company [11], and cooperatively owned central banking services (state or regional corporate credit unions and U.S. Central Federal Credit Union). These organizations have supported a significant expansion of consumer services. Since the 1970s, many credit unions have repositioned themselves to serve as full service financial institutions for their members.

### ***Organizational Structure***

Credit unions are organized in a three-tiered system. At the top is U.S. Central Federal Credit Union, a wholesale credit union, that provides support and financial services to corporate credit unions (CCUs). CCUs occupy the middle tier and provide financial services to 8,834 natural person credit unions. All three tiers of the system are governed by the NCUA, which is comprised of a three-member board appointed by the President and confirmed by the Senate. The NCUA authorizes all federally chartered credit unions, while individual states charter those subject to state regulation. Most SCCUs have parity power clauses that allow individual SCCUs to adopt Federal credit union rules if they are more progressive. Currently, no laws permit the chartering of SCU's in Delaware, Dakota, and Wyoming.

All FCUs and 95% of SCCUs are insured by the National Credit Union Share Insurance Fund (NCUSIF), which was voluntarily capitalized by individual credit unions and is backed by the "full faith credit" of the U.S. government. Credit unions participate by investing 1% of their savings which NCUSIF uses to invest, cover expenses, and rescue failed credit unions. Members deposit accounts are insured by NCUSIF for \$100K. American Share Insurance (ASI) insures the remaining 165 SCCUs. In the late 1970s, Congress created two member-owned supporting organizations: the Central Liquidity Fund (CLF), which can borrow up to 12 times its capital stock and surplus, and the Corporate Development Revolving Fund (CDRF). The CDRF, with Congressional appropriations and interest, has grown to \$ 16.7M. The CLF's primary purpose is to serve as a lender of last resort and to provide liquidity to its members during times of economic volatility. The CDRF provides support to low income credit unions through technical assistance grants and loans.

Trade associations such as CUNA, the Association of Corporate Credit Unions (ACCU), the National Association of Federal Credit Unions (NAFCU), the National Association of State Credit Union Supervisors (NASCUS), and the National Federation of Community Development Credit Unions provide legislative and regulatory advocacy for credit unions.

### ***Population Discovery and Data Sources***

All data for the credit union system are available from the NCUA website, annual reports from individual corporate credit union, and the U.S. Central Federal Credit Union) website. For the purposes of this analysis, we used 2007 data.

## ***Economic Impacts***

**Table 4-4** shows that, the 8,334 credit unions account for \$761B in assets and \$40B in revenue, and pay >\$9B in wages. There are nearly 100 million credit union memberships and 237,000 employees. As **Table 4-4.1** shows, by adding indirect and induced impacts to this activity, credit unions account for close to \$75B in revenue, close to 500,000 jobs, \$20B in wages paid, and >\$42B in valued-added income.

**Table 4-4.1:** Economic Impacts for Credit Unions

<b>Economic Impact</b>	<b>Multiplier</b>	<b>Units</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Revenues	1.868	million \$	40,088	15,579	19,215	<b>74,882</b>
Income	1.764		23,961	7,823	10,486	<b>42,270</b>
Wages	2.144		9,421	4,854	5,927	<b>20,201</b>
Employment	1.994	jobs	236,459	94,502	140,588	<b>471,549</b>

### **4.3.2 Farm credit system**

#### ***Overview***

Absence of rural credit led to the creation of the FCS in the early 1900s. The system is a cooperatively owned government-sponsored entity (GSE) with an explicit mandate to serve agricultural borrowers. Today the system continues to be a dominant source of long-term farm debt, which has grown from 20% of real estate farm debt in 1960 to 40% in 2006 [55]. Its consumer base includes farmers, ranchers, producers of aquatic products, agricultural cooperatives, select rural communications and energy companies, rural homeowners, and other eligible entities.

The FCS differs from other financial institutions in that it is a pure lender and finances its agricultural lending through the issuance of financial securities. As of 2007, the FCS accounted for 37% of total farm debt with 42% in real estate and 31% in non-real estate activities. In addition to extending dependable credit, the FCS promotes competition by expanding its financial menu to include services such as consulting, estate planning, record keeping, crop insurance, credit and mortgage life insurance, disability insurance, tax preparation, and cash management. Today private financial institutions also offer financial services to the agricultural sector. Collectively the private sector accounts for 60% of total farm debt, 54% in real estate and 65% in non-real estate debt.

#### ***History***

Since its inception during the Roosevelt administration, the FCS has undergone several rounds of restructuring. In 1916, the Federal Farm Loan Act established a credit delivery system to the agricultural sector by creating Federal Land Banks (FLBs) in 12 regions of the U.S. These land banks provided funds to regional banks and associations so that they could provide long-term mortgage financing to farmers. During the Great Depression, the Farm Credit Act of 1933 was enacted to bolster agricultural production by funneling short-term credit through 12 Production Credit Associations and 13 Banks for Agricultural Cooperatives. Simultaneously, the Emergency Farm Mortgage Act was mobilized to refund the FLBs as an aid package to farmers facing foreclosures and debt defaults. All credit agencies were consolidated into the Farm Credit Administration in 1987.

Until the 1980s, banks took care of the lending needs of a specific geographic district and the associations operated within a geographic district. The FCS underwent major reorganizing in response to the farm financial crisis of the 1980s. The three main contributing factors for the farm debt crisis of 1985 were falling commodity prices, falling farm land values, and an increasing farm debt-to-asset ratio [28]. The impact on the system was significant with record losses, increased accumulation of farm property, and increased amounts of high-risk loans. The Agricultural Act of 1987 brought about significant reorganizing: (1) The Farm Credit Administration (FCA) became an independent arm's length regulator of the FCS with increased enforcement powers; (2) the Farm Credit System Insurance Corporation was created; and (3) the Farm Credit System Financial Assistance Corporation was created with the mandate to re-capitalize FCS institutions in financial distress. Today the FCS is composed of 99 lending associations and banks.

Agriculture in the U.S. is a capital-intensive industry where investments in farmland, machinery, equipment, livestock breeding, storage facilities, etc. require long-term financing. Carrying 40% of the total long-term real estate debt and 37% of total farm debt (as of 2007), the FCS undoubtedly is a prominent player in agricultural credit markets. While commercial banks have established themselves as the main competitors for rural credit, it is hard to make the case that rural credit markets in the U.S. are fully competitive [54]. The FCS has access to relatively easy supply of loanable funds borrowed at rates close to the US treasury rate. It is well positioned to absorb the growing demand for agricultural credit given its ability to lend directly to farmers or to farmer cooperatives.

### ***Organizational Structure***

All the banks and associations are federally chartered and have tax-exempt status. The income earned by FLBs and FLBAs are exempt from Federal, state, and municipal/local taxes; securities and other debt obligations are exempt from all but Federal income tax. General oversight for the system is provided by the Farm Credit Administration, which regulates the system and is composed of a presidentially nominated board. The Farm Credit System Insurance Corporation acts as the insurer, and the Farm Credit Council, a trade association, advocates for the system. Organizationally, the FCS is composed of two distinct entities: banks and associations and currently has 94 affiliated lending associations and five banks.

The five banks are AgFirst, AgriBank, Texas, and U.S. AgBank (Farm Credit Banks, FCB) and CoBank (an Agricultural Credit Bank, ACB). The primary function of the banks is to extend credit to its affiliated associations and, to a lesser extent, extend credit to other eligible financial institutions that carry agricultural credit as part of their loan portfolio. CoBank differs from other banks in the system in that it loans directly to agribusiness cooperatives, rural communication, rural electricity, and rural water, and provides international credit promoting US agricultural commodity exports.

Two types of associations: 85 Agricultural Credit Associations (ACAs) and nine Federal Land Credit Associations (FLCAs) comprise the system. The ACAs extend credit for production and intermediate purposes, agribusiness loans, and rural residential real estate loans, while the FLCAs provide credit only for real estate mortgage lending.

Each bank and association of the FCS is its own cooperative, and thus has its own member-elected board of directors. Each institution is required to have a nominating committee to select

potential candidates and the board must consist of at least 60% member-elected directors. Additional restrictions on board composition include: one outside director (the larger banks and associations require two outside directors), one board member who is a qualified financial expert, and audit and compensation committees.

### ***Population Discovery and Data Sources***

The Farm Credit Administration maintains quarterly financial data at their website. Employment data and branch-level data was collected by the UWCC. The most recent year for which data are available is 2007. We relied on a combination of primary data (branch, and employment numbers at the branch level) and the FCA's quarterly report data for reporting the summary statistics. The economic impact data was obtained from the 2007 FCA report.

### ***Economic Impacts***

**Table 4-4** summarizes our data for the farm credit sector. The sector has >\$186.4B in assets, close to \$12B in sales revenue, and >\$1B in wages in benefits. There are approximately 400,000 memberships and 11,000 employees. Adding direct and indirect impacts to this activity, **Table 4-4.2** shows that farm credit cooperatives account for >\$15B in revenue, nearly 35,000 jobs, \$2.1B in wages paid, and nearly \$4.3B in valued-added income.

**Table 4-4.2:** Economic Impacts for Farm Credit System

<b>Economic Impact</b>	<b>Multiplier</b>	<b>Units</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Revenues	1.294	million \$	11,884	1,540	1,958	<b>15,382</b>
Income	1.756		2,446	780	1,068	<b>4,295</b>
Wages	2.078		1,009	484	604	<b>2,097</b>
Employment	3.126	jobs	11,173	9,429	14,326	<b>34,929</b>

### **4.3.3 Mutual insurance**

#### ***Overview***

Insurance is a global industry, with \$4.1T in premiums collected worldwide in 2007. The U.S. had 2,723 property casualty insurance companies in 2007, with \$1.3T in cash and invested assets. The cash and invested assets of the 1,190 life and health insurance companies was more than twice that amount, at \$3T. Many of these companies are part of larger entities, as banking and insurance services have combined within the financial services sector.

#### ***History***

The first mutual insurance company was formed in England in 1696, offering fire insurance. Many of the early property casualty firms were formed by farmers who could not obtain insurance from large companies. They created mutual insurance companies within their local areas and could offer reasonable rates. These were informal associations until legislation passed in the 1870s enabled their formation. After this, the industry flourished nationwide in England.

The life insurance industry was almost nonexistent before the advent of the mutual model. The first mutual insurance companies were created in 1843, and the number grew to 19 by 1849. Mutual life insurance companies were the fastest growing model until 1859, when states began approving regulations that required all insurance companies to conform to better practices, and increased the viability of stockholder-owned firms.

### ***Organizational structure***

Policyholders' interest in a mutual insurance company comes from two sources. Policy holders are holders of an insurance policy that defines a set of rights, and they are also holders of a set of ownership interests. Their ownership interest arises from purchasing a policy and ends with termination of policy. This contrasts with many cooperatives, where ownership derives from purchase of a share of stock, and can continue during periods of non-use of the cooperative.

As with other cooperatives, ownership interests include governance and economic participation in the firm. Policy holders have the right to vote for the board of directors. State laws vary on voting rights and rights to vote on fundamental transactions (merger, dissolution, etc.). In most states, policy holders have rights to distribution of the assets on dissolution. In Minnesota and Wisconsin, these rights are limited, with some assets considered to be in the public interest. The board of directors has the right to decide on use of profit/surplus. The board may add to the surplus or distribute the surplus to members in the form of policy dividends (also called capital distributions). Policyholders can benefit from their economic participation in the firm in other ways, including premium reductions and premium credits.

Although the ownership model is similar, the evolution and benefits of mutual ownership for life insurance policyholders differs from that of property casualty customers. Life insurance customers have a contract with the company that may last several decades. They have a long-term interest in ensuring that decisions are not made at their expense. In stock-owned insurance companies, owners can potentially gain from changing the firm's dividend and financing policies after insurance contracts are sold. When policyholders and owners are merged, in mutually owned firms, this conflict is eliminated.

Mutually owned property casualty insurance firms offer customers an opportunity to be rewarded for practices that lower their insurance claims. They are usually created in environments of market failure, by customers who cannot purchase insurance or are paying too much. Many successful firms focus on a particular industry, where risk management practices are shared. In a stockholder model, the benefits of better practices and lower claims would go to the owners. A mutually owned firm returns the benefits to the customers, through lower rates.

At the same time, there is a heightened opportunity for conflict between management and owners in mutual insurance companies, because many of monitoring devices used in stock-owned firms are unavailable (e.g., hostile takeovers, monitoring by stock analysts, and stock-based compensation programs).

### ***Industry Niche***

Mutual ownership has historically been an important model for insurance firms, particularly in life insurance and property casualty. The insurance industry underwent significant structural changes in the past 20 years, particularly after the passage of legislation in the 1990s that removed some barriers between insurance companies and banks. Although the number of conversions from mutual to stock ownership increased steadily from 1960–1990, the pace of demutualization increased in the 1990s. A significant number of mutual companies wanted to diversify their activities beyond insurance, and needed greater access to capital. Some converted completely to stock ownership. Others formed mutual holding companies that are owned by the policyholders of a converted mutual insurance firm. The holding companies own one or more stockholder-owned insurance firms, and have the opportunity to own banking

subsidiaries. Because the insurance industry is regulated, structural changes were made within a regulatory framework that requires at least advance disclosure and often regulatory approval.

### **Population Discovery and Data Sources**

The list for mutual insurance comes from primary research. All economic data comes from survey work undertaken by the UWCC. The survey response rate for mutual insurance was 48%. We chose a sample of 265 firms with data from Guidestar, and all reporting cooperatives provided us with 2007 fiscal year-end data. Revenue and employment data for the top 15 mutual companies were supplemented from Onesource and annual reports of the individual companies. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

### **Economic Impacts**

**Table 4-4** summarizes our data for the mutual insurance sector. There is >\$840B in assets, \$140B in sales revenue, and nearly \$2B in wages and benefits pay. There are approximately 233 million memberships and 122,000 employees. Adding direct and indirect impacts to this activity, **Table 4-4.3** shows that mutual insurers account for >\$227B in revenue, >500,000 jobs, \$27B in wages paid, and >\$48B in valued-added income.

**Table 4-4.3:** Economic Impacts for Mutual Insurance Companies

<b>Economic Impact</b>	<b>Multiplier</b>	<b>Units</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Revenues	1.209	million \$	187,343	17,273	21,956	<b>226,571</b>
Income	1.756		27,427	8,750	11,982	<b>48,159</b>
Wages	1.846		14,419	5,426	6,772	<b>26,616</b>
Employment	1.829	jobs	321,414	105,729	160,642	<b>587,784</b>

#### **4.3.4 Cooperative finance**

Some banks and other finance companies exist specifically to provide capital to cooperative businesses in the U.S. These include the National Consumer Cooperative Bank, an Association of Corporate Credit Unions, the Cooperative Finance Corporation, and the Federal Home Loan Bank System. Arguably, we could also include the FCS in this subsection (because one of its member companies lends specifically to agricultural cooperatives), but we have elected instead to keep it in a separate subsector because the FCS also provides banking services directly to farmers. In this section, we briefly describe each of these organizations and systems, and report on their aggregate economic impact.

The National Cooperative Bank (NCB) is a U.S. government-chartered corporation organized under the National Consumer Cooperative Bank Act in 1978 and privatized in 1981 as a financial services company. The bank, structured as a cooperative business with >2,500 member owners, also operates an affiliate nonprofit organization (NCB Capital Impact) that provides community lending and business development services, and a subsidiary federally chartered thrift (NCB, FSB) that provides banking services to NCB's national customer base. NCB lending initially focused on natural food and housing cooperatives, but has subsequently broadened to encompass a wide variety of sectors including healthcare, childcare, education, energy and manufacturing, and retail goods and services.

CCUs were formed to meet the liquidity needs of credit unions, diminishing their reliance on banks and other vendors. Today there are 28 CCUs that serve >8,000 natural person credit unions in the U.S. Each CCU has a specific geographic region and serves the credit unions within its jurisdiction by offering operational support, product service, and delivery. U.S. Central Federal Credit Union was created in 1974 to be a centralized banker bank of the CCUs; its membership base includes CUSOs and CCUs.

The National Rural Utilities Cooperative Finance Corporation (CFC) is a cooperative company owned by 898 electric utility systems, 511 telecommunications organizations, 66 statewide and regional service organizations, and 63 associates. CFC provides financing, investment, and related services to its members. It raises funds for loan programs with the support of its owners' equity and investments and through the sale of multiple financing vehicles in the private financial markets.

The Federal Home Loan Bank System (FHLBS) is composed of 12 cooperative banks, each with its own president and board of directors, and 8,100 member lenders who collectively own the banks. The system and its members are the largest source of residential mortgage and community development credit in the U.S. Members borrow money from the system using mortgages they issue as collateral, and the system secures loan funds by issuing debt in private capital markets. The FHLBS is a Government Sponsored Entity with the implicit backing from the U.S. government, but no formal guarantee. The FHLBS does not pay Federal income tax and borrows at low rates due in part to the implicit backing of the U.S. government. In return for this special treatment, the FHLBS must pay 20% of its net earnings to help cover interest on debt issued by the Resolution Funding Corporation (which paid for the Savings and Loan Bailout and contribute 10% of its earnings to affordable housing loans and grants [4].

**Population Discovery and Data Sources**

The list for cooperative financial institutions comes from primary research. All economic data comes from 2007 annual reports of the individual financial institutions. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

**4.3.4.2 Economic Impacts**

**Table 4-4** summarizes our data for the Cooperative Finance subsector. There is >\$1T in assets, \$72B in sales revenue, and nearly \$1B in wages and benefits pay. There are approximately 27,000 memberships and 6,000 employees. Adding direct and indirect impacts to this activity, **Table 4-4.4** shows that cooperative finance lenders account for >\$77B in revenue, 39,000 jobs, \$2B in wages paid, and nearly \$6B in valued-added income.

**Table 4-4.4:** Economic Impacts for Cooperative Finance

Economic Impact	Multiplier	Units	Direct	Indirect	Induced	Total
Revenues	1.067	million \$	72,691	2,130	2,707	<b>77,527</b>
Income	1.756		3,381	1,079	1,477	<b>5,937</b>
Wages	2.987		757	669	835	<b>2,261</b>
Employment <sup>1</sup>	6.254	jobs	6,251	13,035	19,805	<b>39,091</b>

<sup>1</sup> Business to Business financing results in patronage refunds dwarfing wages resulting in a high employment multiplier. Basically we are saying this level of income should produce a very large employment effect.

## 4.4 Utilities

Utilities cooperatives provide electric, telephone, and water services. **Table 4-5** shows that the U.S. has 4,546 utility cooperatives; 3,823 provided us with data. These “reporting” cooperatives have nearly 20 million memberships that account for \$105B in assets, \$61B in revenue, 119,000 jobs and >\$3B in wages. Cooperatives that provide electric utility services dominate this aggregate sector in terms of total economic activity, but many water cooperatives provide valued services to their communities.

We report only on firms for which we have collected economic data (some firms did not respond to our requests for information), so these numbers represent lower bounds regarding the full economic footprint of cooperatives in this aggregate sector. As described in the previous section, we extrapolated to the full population for the purpose of conducting our impact analysis. As a consequence, the sum of direct impacts in the following subsections will be larger than the corresponding aggregate variables reported here.

**Table 4.5:** Utilities Cooperatives: Summary of Key Variables

Economic Sector	No. of Firms		Estab.	Assets (\$M)	Revenue (\$M)	Wages (\$M)	Employees (thousands)	Memberships (thousands)
	Reporting	Total						
Rural Electric <sup>1</sup>	911	929	2,052	111,786	34,275	3,756	67.29	16,652
Generation and Transmission	56	65	198	42,490	2,246	721	11.16	854
Distribution <sup>2</sup>	853	846	1,853	69,296	32,029	3,036	55.09	15,798
Rural Telephones	158	255	255	5,116	1,520.84	521	12.61	964
Water	923	3,352	3,352	2,240	1,703	47	39.26	2,066
Cooperatives and Mutuals	567	2,228	2,228	1,401	350	24	39.05	1,753
Associations	355	1,122	1,122	839	253	23	0.21	312
<b>Total</b>	<b>3823</b>	<b>4,546</b>	<b>5,657</b>	<b>105,034</b>	<b>61,086</b>	<b>3,345</b>	<b>119</b>	<b>19,692</b>

Rural Electric totals adjust for G&Ts

<sup>1</sup> A residential meter defines an electric cooperative member (there may be multiple consumers at a single meter).

<sup>2</sup> Distribution systems include rural electric cooperatives (RECs), public power districts (PPDs), and mutual electric distribution companies.

### 4.4.1 Rural electric Overview

Rural electric cooperatives (RECs) are consumer-owned utilities that were established to provide reliable and affordable electricity by purchasing electric power at wholesale and delivering it directly to the consumer. These distribution cooperatives are primarily located in rural areas where the return on expensive infrastructure investment was not high enough to attract the investor-owned utilities (IOUs).

To assure an adequate supply of the cost-effective, reliable power that is vital to their survival, distribution cooperatives formed generation and transmission (G&T) cooperatives to pool their purchasing power for wholesale electricity. The G&T cooperatives provide wholesale power to their member-owners either by purchasing and delivering power from public- or investor-owned power plants, or by generating electricity themselves.

There are 864 distribution cooperatives delivering 10% of the nation's total kilowatt hours' electricity to ultimate consumers each year. They serve 12% of the nation's electric consumers (42 million people), but own and maintain 42% of the nation's electric distribution lines that cover 75% of the country's land mass [35]. Although electric cooperatives are not the dominant providers of electricity nationwide, they are the primary providers in most of the country's rural areas.

Currently, 66 G&T cooperatives own 6% of the nation's miles of transmission lines. Forty-five own generation facilities that account for approximately 5% of the total electricity generated in the U.S. [35].

In addition to providing electricity, many electric cooperatives are also involved in economic and community development activities.

### ***History***

It was only through cooperatives that electricity was provided to most of the nation's farmers, their families, and rural businesses. By the 1930s nearly 90% of U.S. urban dwellers had electricity, but 90% of rural homes were without power. Investor-owned utilities often denied service to rural areas, citing high development costs and low profit margins. Consequently, even when they could purchase electricity, rural consumers paid far higher prices than urban consumers.

As part of Roosevelt's New Deal, and in the face of significant opposition, the Rural Electrification Administration (REA) was created in 1935, and Congress passed the Rural Electrification Act a year later. In 1937, the REA drafted the Electric Cooperative Corporation Act, a model state law for formation and operation of rural electric cooperatives. The REA administered low-interest and long-term loan programs for rural electrification, and also provided technical, managerial, and educational assistance. By 1939, the REA had helped to establish 417 rural electric cooperatives, which served 288,000 households [40].

The REA was replaced by the Rural Utilities Service (RUS) in 1994, when Congress reorganized the USDA. RUS continues to work with rural electric cooperatives to build infrastructure and improve rural electric services.

Since the 1970s, electric cooperatives have been confronted with energy resource issues. The 1973 oil embargo and ensuing national energy policy initiatives prompted several G&Ts to participate in nuclear power plants. However, nuclear accidents and growing anti-nuclear movements brought cancellations of partially built plants. Some cooperatives filed for bankruptcy.

### ***Industry Niche***

Electric utilities may perform generation, transmission, or distribution functions in the process of converting energy into electricity and delivering it to the consumer. Currently about 3,200 electric utilities throughout the U.S.; about 700 operate facilities that generate electric power. According to 2006 data from the Energy Information Administration [43], generation accounts for 67% of the entire cost of providing electricity. Transmission and distribution account for 7% and 26%, respectively [12].

Electricity is provided to residential, commercial, and industrial consumers by investor-owned utilities (IOUs), municipal utility districts (MUDs), public power districts (PPDs), and cooperatives. IOUs, as commercial, for-profit utilities owned by private investors, are capitalized by shareholder investment, retained earnings, and borrowing on the open market. Profits earned by IOUs are returned to investors in proportion to the number of shares they own. While the U.S. has only 240 IOUs, they provide nearly 75% of the electricity sales to ultimate consumers. IOUs are usually subject to different regulations than are publicly-owned utilities and cooperatives, and they pay taxes as corporate citizens [12].

MUDs are governmental entities created under state law to provide electricity, water, and wastewater treatment systems to the residents of the municipality. State laws govern the creation of MUDs, and vary from state to state. MUDs are distinct from other utility providers because, as public entities, they can levy taxes, issue government bonds, and adopt and enforce rules and regulations. Directors of MUDs are appointed by the municipality. Although a few MUDs are members of NRECA, they are excluded from this analysis because they are government entities, operated by local governments.

Public utility districts (PUDs) are publicly owned entities created by state governments to provide power to residents in the district they serve. However, unlike MUDs, they are governed by a democratically elected board of PUD customers, have no taxing or other rule-making authority, and receive no income from taxes. PUDs can raise capital through revenue bonds sold on the private bond market. They operate on a nonprofit basis and define themselves as “customer-owned” utilities. All power supplied to Nebraska residents comes through PUDs. PUDs are included in this analysis.

Residential consumers use 37% of the nation’s total electricity produced. Commercial and industrial consumers use 35% and 28%, respectively. However, the customer base of cooperatives differs significantly from IOUs, and MUDs. Residential consumers, including farms, consume 57% of the electricity provided by cooperatives, but they comprise only 35% of the IOU customer base and 36% of the MUD base.

Cooperatives serve 7 customers per mile of line, as opposed to 35 for IOUs, and 47 for MUDs. They generate \$10,565 in revenue per mile, while IOUs and MUDs produce \$62,665 and \$86,302, respectively. This disparity reflects the rural nature of the electric cooperatives’ primary service areas, where the geographically dispersed consumers generate the least revenue per mile.

Until the 1990s, all electricity providers operated as monopolies. A major deregulation effort during the 1990s provided more competition in electricity markets, however. In all but 16 of the 47 states that have electric cooperatives, regulators take the position that cooperatives are effectively self-regulated by locally elected boards of directors. While some states have excluded cooperatives from deregulation legislation, in states that have deregulated electric power supply, there has been little or no shift to other providers by rural electric cooperative members.

Most G&T cooperatives generate electric power from coal, like the industry in general. However, electric cooperatives actively support developing power from renewable resources. In 2007, electric cooperatives received 11% of their power from renewable sources, as compared to 9% for the nation’s entire electric utility sector [34].

## ***Organizational Structure***

Electric cooperatives are incorporated under state statutes. They are considered nonprofit corporations and are granted Federal tax-exempt status under IRC section 501(c)(12), provided that 85% or more of their annual income comes from members.

Each rural electric cooperative (REC) customer is a member-owner, and membership is a requirement of all customers. Since most RECs operate as monopolies, consumers must become cooperative members if they wish to purchase electricity. Members are required to purchase all of electric power for a specified location from the cooperative. However, in some cases RECs will sell power to non-members. Members elect a board of directors from among the membership on a one-member/one-vote basis.

As with other cooperatives, RECs strive to operate at cost. However, like other businesses, RECs must accumulate equity capital to support their operations and new initiatives. Because the members are owners of the cooperative, when the REC has net earnings (i.e., revenues exceed expenses), or margins, those margins are returned to member-owners based on patronage.

Among the REC cooperatives, the amount of margin allocated to each member is called a “capital credit.” Capital credits are allocated to members’ accounts, but the underlying value is retained by the cooperative for a period of time. Most RECs have capital credit retirement programs, by which the cooperative gradually returns the value of past allocated capital credits to members. In most cases, members receive the value of their capital credits as a deduction on their electric bill.

Since the Federal government’s early commitment to cooperative ownership during the New Deal, rural electric cooperatives have had strong government support through lending programs, and through power supply preference programs. REA loans and technical assistance provided the primary momentum for rural electric cooperative formation. Over time, however, the dominance of Federal lending has declined. Currently, RUS loans to electric cooperatives comprise <40% of total financing; >60% comes from private sector sources such as the CFC and the National Cooperative Services Corporation (NCSC). Nonetheless, RUS financing remains an essential component of the cooperative utility sector’s loan portfolio.

Further government lending supports rural electric cooperatives’ economic and community development programs. The USDA’s Rural Economic Development Loan and Grant (REDLG) program provides zero-interest loans and grants through electric cooperatives to work in partnership with business and community leaders.

Electric cooperatives, as well as public utilities, have received preference from the Federal power marketing agencies since the first cooperative was established in 1937. The agencies market excess power generated by Federal water projects, and five power marketing agencies currently operate within the U.S. Department of Energy. The government support provided through the “preference clause in power supply” has been critical to ensuring cooperative access to sources of power.

Although governmental support was critical to the formation of consumer-owned electric cooperatives, all electric utilities receive various Federal subsidies. In fact, according to calculations based on Federal government financial reports, rural electric cooperatives receive the smallest Federal subsidy per consumer [33]. As with other utilities, government support to

electric cooperatives has been provided through loan programs or policy involvement rather than direct subsidies.

### ***Population Discovery and Data Sources***

The list for rural electric cooperatives and economic data comes from NRECA, 2006. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

### ***Economic Impacts***

**Table 4-5** shows that we obtained data from 911 electric utilities, and collectively these firms account for >\$97B in assets, exceed \$34B in sales revenue, and pay close to \$4B in wages. There are approximately 16 million memberships and 67,000 employees. As **Table 4-5.1** shows, by extrapolating to the entire population (929 firms) and adding indirect and induced impacts to this activity, electric cooperatives account for >\$45B in revenue, nearly 130,000 jobs, \$6.6B in wages paid, and >\$11B in valued-added income.

**Table 4-5.1:** Economic Impacts for Rural Electric Utilities

<b>Economic Impact</b>	<b>Multiplier</b>	<b>Units</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Revenues	1.265	million \$	34,275	4,039	5,033	43,347
Income	1.757		6,318	2,035	2,747	11,100
Wages	1.749		3,757	1,262	1,552	6,571
Employment	1.907	jobs	67,625	24,524	36,825	128,974

## **4.4.3 Rural telephone**

### ***Overview***

The 260 U.S. telephone cooperatives are consumer-owned utilities established to provide quality telecommunications service at reasonable cost. They offer various telecommunication services to 1.2 million rural Americans in 31 states. Telephone cooperatives are most often located in rural areas where there is a strong cooperative tradition. They provide local telephone exchange services, long distance telephone operations, direct broadcast satellite, wireless, TV, mobile radios, cellular and key systems, and Internet access.

While size varies significantly, the average telephone cooperative has >5,000 subscribers, 31 employees, and an annual revenue base between \$1–5M . Like their rural electric counterparts, telephone cooperatives serve a very small proportion of the nation’s telephone subscribers—about 5%—but their service area covers >40% of the country’s land mass [38].

### ***History***

The lack of telephone service in rural areas spurred the development of small telephone companies, and in areas where farmers were already familiar with agricultural cooperatives, the model was often used to provide telephone service to their communities. Although nearly 6,000 cooperatives, mutuals, and other types of companies were providing telephone service to rural consumers by 1927 [39], poor business practices caused many to fail, leaving farmers and rural residents with significantly fewer telephones in 1940 than in 1920 [29].

Major changes came to rural telephone companies with the advent of the New Deal. The 1934 Communications Act created the Federal Communications Commission (FCC) to provide

quality telephone service to all Americans at reasonable rates. However, rural telephone service availability and quality remained poor until long-term, low-interest loans for rural telephone companies became available as part of the REA loan program in 1949. In 1961, the definition of telephone service was expanded to include provision of educational television, and in 1971, the Rural Telephone Bank (RTB) was created to supplement direct loans from REA. RTB was jointly owned by the Federal government and rural telephone companies, including cooperatives, until 2008, when the availability of other sources of capital made it obsolete.

Between 1934 and 1982, American Telephone and Telegraph (AT&T) dominated the entire telecommunications sector. Independent local carriers, many of which were cooperatives, provided local wiring to end users and purchased access to long distance calling from AT&T. The 1982 breakup of AT&T created the seven regional carriers known as the “Baby Bells,” but demands to completely deregulate the industry continued until passage of the Telecommunications Act of 1996. This Act was the first major overhaul of the 1934 Communication Act, and set new standards with its competition and universal service provisions.

During the 1980s, advances in wireless and satellite technology brought about a tremendous increase in demand for telecommunications services. The National Rural Telecommunications Cooperative (NRTC) was formed in 1986 to foster the development and growth of satellite technology in rural America. NRTC is a joint venture of the NRECA and the CFC, with support from the NTCA. Members include both locally owned commercial telephone companies and cooperatives.

### ***Industry Niche***

The telecommunications industry provides businesses, government, and retail consumers with a wide variety of communications products, including voice communications, internet access, data, graphics, television, and video. These products are provided through fixed wire lines and wireless systems. While wire line communication service continues to be dominant, new wireless communications technologies, internet services, and cable and satellite program distribution are fast gaining an equal share of the industry. The industry is characterized by substantial and fast-paced change in structure, technology, customer preferences, and government regulations, and is dominated by very large investor-owned firms.

The “telecom service value chain” combines production and sales of the “end device,” (e.g., a telephone), end-user connection to telecommunications services by wires and cables, and a local carrier that maintains switching equipment that routes “content” to its final destination in the local area, or to another switching center that routes the content to its final destination. The local carrier also maintains the cable network that forms the backbone of the industry. Regional carriers are switching centers that provide content routing to and from the local carrier within a large (several-state) geographic region. The final step in the chain is long distance carriers that provide routing among the regional carriers and internationally.

While the Telecommunications Act of 1996 provided for entry of many competitors at all levels of the industry, the industry has also seen significant consolidation. AT&T has expanded back through the chain to become a local and regional carrier, as has Sprint, the other giant in the industry.

Access to bandwidth has been a critical factor in the capacity of telecommunications firms to compete effectively, given the rising volume of high-bandwidth transmissions, such as internet data. To expand and upgrade bandwidth capabilities by extending higher capacity fiber optic cable to rural customers is very expensive, however, and many rural wired carriers are leveraging DSL technologies to compete.

To support the delivery of services to rural areas in this competitive environment, telephone cooperatives receive governmental support through RUS loans, which are available for voice telephone service, broadband access, distance learning, and tele-medicine. RUS also makes loans to telephone cooperatives to facilitate third-party lending for rural economic development job creation, and provides significant technical assistance.

Another important source of funding for innovation comes from mandatory contributions made by international and interstate communications carriers to the Universal Service Fund. The fund was established by the FCC to assure that quality advanced telecommunications services are available to all consumers at equitable prices. Although determining what percentage of this amount went to telephone cooperatives is not possible, the websites of telephone cooperatives reflect the importance these cooperatives place on receipt of universal service funds.

Telephone cooperatives, and commercial telephone companies, are subject to regulation by the FCC, the Interstate Commerce Commission, state public utility commissions, and county and local regulators. In many states, however, cooperatives are not subject to state regulation because they are consumer-owned, and considered self-regulating organizations. In addition, like other RUS borrowers, telephone cooperatives are subject to regulations and guidelines established by RUS.

### ***Organizational structure***

Telephone cooperatives are incorporated under state statutes specific to telephone cooperatives, or under the state's general cooperative or corporate laws. Telephone cooperatives are considered nonprofit corporations and are granted Federal tax-exempt status under IRC section 501(c)(12), which requires that they be a cooperative, provide telecommunications services, and meet the 85% income from members rule.

Each telephone cooperative customer is a member-owner of the cooperative. Membership is required of all customers. Although telephone cooperatives were originally monopoly providers, many residents in their service areas can now choose among several telecommunications suppliers. Any person, firm, association, corporation, or political body within the cooperative service area can become a member. Members elect a board of directors from among the membership on a one-member/one vote basis. The number of directors on the board varies, depending on the size of the cooperative. Bylaws may provide that directors be selected from specified territorial districts and may further limit voting for any director to members located in the territorial district that a director represents. Directors are not compensated for their service.

Rural telephone cooperatives strive to operate at cost. However, like other businesses, telephone cooperatives must accumulate equity capital to support their operations and new initiatives. Net earnings allocated to each member based on patronage are called "capital credits", and the underlying value is retained by the cooperative for a period of time. Most telephone cooperatives have capital credit retirement programs in which the value of past allocated capital credits is returned to members, most frequently as a credit on their telephone bill.

## **Population Discovery and Data Sources**

The list for rural telephone cooperatives comes from NTCA. All economic data comes from survey work undertaken by the UWCC and Guidestar. The survey response rate for rural telephone cooperatives was 39.5%, and all reporting cooperatives provided us with 2005–2007 fiscal year-end data. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

## **Economic Impacts**

**Table 4-5** shows that we acquired data on 158 telephone cooperatives, and collectively these firms account for >\$5B in assets, exceed \$1.5B in sales revenue, and pay >\$521M in wages. There are approximately one million memberships and 12,000 employees. As **Table 4-5.2** shows, by extrapolating to the entire population (255 firms) and adding indirect and induced impacts to this activity, telephone cooperatives account for close to \$3.9B in revenue, 23,000 jobs, \$1.3B in wages paid, and \$1.8B in valued-added income.

**Table 4-5.2:** Economic Impacts for Telephone

<b>Economic Impact</b>	<b>Multiplier</b>	<b>Units</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Revenues	1.608	million \$	2,412	653	814	3,879
Income	1.757		1,022	329	444	1,795
Wages	1.530		858	204	251	1,313
Employment	1.785	jobs	12,634	3,965	5,954	22,553

### **4.4.2 Water Overview**

Close to 3,300 water cooperatives in the U.S. are consumer-owned utilities formed to provide safe, reliable, and sustainable water service at a reasonable cost. They provide drinking, fire protection, and landscaping irrigation water. In addition, many of them provide wastewater services. Water cooperatives are most often found in suburban and rural areas that are located too far from municipal water companies to receive service.

Most water cooperatives are small (serving 501–3,300 consumers) or very small (serving fewer than 500 consumers). Eighty-nine percent of the population that is served by public water systems is served by either a publicly owned, municipal water system or a cooperative utility. The remaining 11% of Americans are served by privately owned water systems. Nonprofit cooperatives are the most common organizational form in very small communities.

### **History**

The association between disease and polluted water was recognized by the early 1900s and steps were taken to treat water before its distribution for human consumption. In contrast to the development of other utilities, early water systems were owned by private, for-profit entities. However, as cities and towns grew exponentially and the capital needed to develop water infrastructures increased, municipal governments assumed control of private utilities. After World War I, Congress exempted municipal bond interest from Federal taxation, enabling cities and towns to issue bonds at low interest rates that were still attractive to investors. Much of the country's water infrastructure has been supported by these tax-advantaged municipal bonds. Today most water systems are owned by municipalities.

As is true of other utilities, the expense of providing water to rural residents is considerably higher than providing it to urbanites, due to the large distances water must be transported. The number of rural water cooperatives and mutual associations increased significantly during the late 20th century old farm wells ran dry or became contaminated and unsafe.

Water cooperatives have long benefited from government support. In 1946, the Farmers Home Administration (FmHA) was given responsibility for implementing water programs. Since 1990, the programs have been administered through the RUS's Water and Environmental Program (WEP). Many water cooperatives were developed with significant assistance from rural electric cooperatives, and local rural electrics have expanded into providing water services as well.

### ***Industry Niche***

The Environmental Protection Agency (EPA) describes a public water system as an organization that "provides drinking water to at least 25 people or 15 service connections." Most of the U.S. population (292 million) receive their water from the nearly 155,000 public systems in the U.S. [60]. This figure includes municipal systems, water cooperatives and mutual associations, water districts, and nonprofits. Most systems serve small populations spread over large geographic areas. In 2005, 85% of the systems were estimated to serve just 10% of the population [61]. An estimated 3,352 of these public water systems are cooperatives or mutual associations, nearly all of which are small- or medium-sized utilities. About 60% of the nearly \$40B in revenue generated by U.S. water utilities is from household consumption [27].

Water utilities have three major components: a water source; a treatment facility to remove pollutants and impurities; and a distribution system. This delivery infrastructure, which spans nearly 1 million miles, is the primary asset of public water systems and represents a significant capital investment [32]. In addition to providing enough water for both potable and non-potable needs, the water must be safe, of acceptable quality, provided at appropriate pressure with minimal loss, and economical.

The water sector currently faces many challenges. To replace a rapidly aging infrastructure, much of which was built in the late 1800s and the early 1900s, the American Water Works Association estimated that \$250B will be needed over the next 30 years [61]. Furthermore, consumers have become more educated about the industry, and are placing increasing demands on utilities for high-quality water provided in an environmentally sustainable way. Other challenges include meeting the increasingly stringent governmental standards for water quality, protecting the security of the water supply against potential terrorist threats, and replacing the large proportion of the experienced labor force approaching retirement age.

Significant investments in the water infrastructure are needed to meet these challenges, but represent costs that are particularly difficult for small- and medium-sized utilities to absorb. In 1998, the ratio of net utility plant cost per gallon of water supplied was about 3.5:1 for investor-owned water utilities, more than twice that of the energy and telecommunications utilities [61]. These costs are even higher for small and very small water systems, where the cost ratio is almost 8–10 times higher than for systems serving >50,000 customers. In response, some public water systems have turned to investor-owned firms, either to take ownership of the system and make needed capital investments, or to manage the system and provide needed technical expertise. Many are concerned about the loss of community control over the safety and distribution of water, and point to evidence from other countries that privatization may result

in higher costs to consumers for lower quality water. Others think that private, profit-oriented capital investment is the only way to maintain the country's water infrastructure.

The drinking water industry is regulated by a complex of local, regional, state, and national laws and organizations. Because water supply systems are monopolies, public utility commissions are responsible for regulating rates for private water companies, rates of return, and quality of service. However, publicly owned systems, cooperatives, and homeowners associations are exempt from price regulations. Because they operate on a nonprofit or not-for profit basis, and their directors are elected by consumers, it is presumed that the consumer or the public has control over rates [61]. Water quality is regulated by state agencies using Federal standards. In addition, drinking water systems that serve >3,300 people are federally required to periodically assess vulnerability to attacks by terrorists or others.

### ***Organizational Structure***

Water cooperatives are incorporated under state statutes specific to cooperatives, mutual associations, or nonprofit corporations. The term "water cooperative" is used here to indicate all of these organizational forms. Like other utility cooperatives, water cooperatives are considered nonprofit corporations and are granted Federal tax-exempt status under IRC section 501(c)(12), which requires that they operate on a nonprofit basis, provide water and/or wastewater services, and meet the 85% income from members rule. These cooperatives are found primarily in rural and suburban areas and provide water and wastewater services at cost.

Rural water cooperatives typically are organized by households and businesses that cannot connect to existing water systems, usually because they are located too far from an existing system to make service financially feasible. In contrast, most mutual water associations were created to buy out the real-estate developers who built water systems to service their development properties [64].

Each water system customer is a member-owner of the cooperative, and membership is required of all customers. Water cooperatives are democratically controlled enterprises either on a one-meter/one-vote or a one-member/one-vote basis. In nearly all cases, water cooperatives are monopoly providers, as are other water utilities. As a result, customers do not have the opportunity to choose among a variety of providers. Membership is typically open to any property owner within the designated water service area.

Water cooperatives are governed by a board of directors that establishes policies and provides oversight. Members elect the board of directors from among the membership. The number of directors on the board varies, depending on the size of the cooperative and the responsibilities of the board members. Since most water cooperatives are very small, there are usually no employees and the work is performed on a volunteer basis, often by the board members. The members typically elect 5 or more board members. While larger cooperatives hire staff to perform operational functions, board directors make most of the every-day decisions. Usually, directors are not compensated for their service.

Members usually vote only to elect board members. WEP provides loans and grants to water systems in rural areas with fewer than 10,000 residents to develop and/or repair water and wastewater systems, reduce costs to a reasonable level for rural users, and provide technical assistance and training directly or through grants. Loans are made at variable rates depending on the need to meet applicable health or sanitary standards, and the median household income

in the service area [31]. Additional funds for specified uses are available to water systems through USDA Rural Development’s Community Facility Programs, and may also be available through state programs.

**Population Discovery and Data Sources**

The list for water cooperatives comes from the EPA and Guidestar. All economic data comes from survey work undertaken by the UWCC and Guidestar. The survey response rate was 35% for water cooperatives, 28.6% for water mutuals, 58.9% for water associations, and all reporting cooperatives provided us with 2005–2007 fiscal year-end data. We took a non-random sample of 445 water cooperatives with Guidestar information. The data collection and survey methodology is discussed in detail in the Data Collection section in the Appendix.

**Economic Impacts**

Table 4-5 shows the data we have from 923 water cooperatives, and collectively these firms account for >\$2.2B in assets, \$1.7B in sales revenue, and pay \$4.7M in wages. There are approximately 2 million memberships and 40,000 employees. As Table 4-5.3 shows, by extrapolating to the entire population (3,352 firms) and adding indirect and induced impacts to this activity, water cooperatives account for close to \$2.6B in revenue, 11,000 jobs, \$408M in wages paid, and nearly \$500M in valued-added income.

**Table 4-5.3:** Economic Impacts for Water

Economic Impact	Multiplier	Units	Direct	Indirect	Induced	Total
Revenues	1.190	million \$	2,170	184	228	2,582
Income	1.780		279	93	125	497
Wages	1.457		280	57	71	408
Employment	1.328	jobs	8,542	1,123	1,681	11,346

## 5. Discussion Papers

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In the Request for Proposals, the USDA asked that we conduct research on the “economic impact” of cooperatives, and was explicit about the measures of impact on which we should base our assessment. In essence, the USDA asked that we measure the magnitude of business activity conducted by cooperatives. Although this is a useful starting point, in our proposal we argued that other kinds of impact are also important, perhaps even more important. Measures of business activity do not address the unique contributions of cooperatives, relative to other forms of business organization. In principle, the cooperative ownership structure should lead to distinctive firm-level behavior.

In an effort to identify ways that these “deeper impacts” might be quantified, we set aside funds in our proposal to support a series of competitively sourced discussion papers from the academic community to generate ideas on how we might credibly measure these, and other, impacts in the future. Ultimately, any behavior identified as unique to the cooperative ownership structure will generate the type of impact we seek. In the next section, we discuss how we will use the ideas generated from these discussion papers to continue our research on the economic impact of cooperatives with subsequent rounds of funding.

Here we list the primary author and affiliation of each discussion paper along with a link to their work.

1. Ethan Ligon, Associate Professor, Dept. and Agricultural and Resource Economics, University of California, Berkeley, “Risk Management in the Cooperative Contract.”
2. Philippe Marcoul, Associate Professor, Dept. of Rural Economy, University of Alberta, “*Incentive Pay for CEOs in Cooperative Firms.*”
3. Brian Mayhew, Associate Professor, Wisconsin School of Business, University of Wisconsin, Madison, “*Accounting Research on Cooperatives.*”
4. Jessican Gordon-Nembhard, Visiting Scholar, Centre for the Study of Cooperatives University of Saskatchewan, “*Asset Building through Cooperative Ownership: Defining and Measuring Cooperative Economic Wealth.*”
5. Greg Reilly, Assistant Professor, University of Connecticut School of Business, “*Risk Mitigation Factors Enabling Exploration by Risk-Averse Firms.*”
6. Richard Sexton, Professor, Department of Agricultural and Resource Economics, University of California, Davis, “*A Evaluation of Cooperatives’ Comparative Strengths and Weaknesses in a Vertically Differentiated Agricultural Product Market.*”
7. Gordon Smith, Professor, Brigham Young School of Law, “*Say Cheese: New Molds for “Old” Cooperative Forms? The Case of Wisconsin Specialty Cheesemaking*”
8. Charlie Trevor, Association Professor, Wisconsin School of Business, University of Wisconsin, Madison, “*Worker Performance and Voluntary Turnover in Worker Cooperatives.*”

## 6. Future Research

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The USDA has issued three rounds of funding (covering 2006–2011) to conduct research on the economic impact of cooperatives. We present research from the first round, covering 2006–2008, on our website (<http://reic.uwcc.wisc.edu/>) and in this report. We present essentially an economic census of cooperatives. In our research, we sought to identify, and collect basic economic data on, all cooperative firms in the U.S. Our data, while useful for reporting on aggregate economic activity, it is less useful for conducting analyses of the unique organizational and behavioral character of cooperative firms.

Our intent moving forward is to collaborate with the Census Bureau of the United States to collect much more detailed primary data on a stratified random sample of cooperatives, and to integrate data from this survey into Census databases. Doing so will enable researchers to access data on cooperative businesses, and will, we hope, spur research on understanding and improving cooperative performance. We have also set aside a portion of the budget from each subsequent round of funding to commission specific research projects on the unique impacts created by cooperatives. We will consult with staff at USDA Cooperative Programs to determine the specific future projects.

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## 8. Appendices

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This section contains ancillary material to the findings reported above. We provide a full description of the methodology we used to measure indirect and induced impacts, and describe our data collection procedures. We also provide a glossary of terms and abbreviations that are used in our report, and acknowledge the many contributors to this project beyond the core research staff at the University of Wisconsin Center for Cooperatives (UWCC).

### 8.1 IMPLAN Methodology

#### 8.1.1 Introduction

Researchers generally address questions concerning the size of cooperative businesses or the contribution of cooperatives to the larger economy in three ways. The first and simplest is a “head-count” approach that focuses on assessing the relative size of the sector by inventorying the sales revenue generated by cooperatives, the number of cooperative employees, and the total wages, salaries, and patronage paid by cooperatives. The second approach uses scalar multipliers to assess the level of linkages between cooperatives and the larger economy. This approach enables the research to move from the simple head-count approach to the next step by capturing the “multiplier effect”. The third approach uses a complete model of the larger economy to capture not only the aggregate multiplier effect obtained in the scalar multiplier approach, but also to estimate specific industry-to-industry linkages. This latter research approach enables the researcher to decompose the scalar multiplier to the industry level.

The head-count approach reveals that cooperatives employ 500 persons and pay wages and salary of about \$35K annually per employee (\$17.5M total). If the scalar employment multiplier is 1.5 and the income multiplier is 1.6, then the total impact of cooperatives on the larger economy is 750 jobs ( $500 \times 1.5$ ) and \$28M ( $17.5 \times 1.6$ ). Using the third approach, the research can identify which industries are affected by the multiplier effect and at what level. An important question is, If the 250 jobs generated through the multiplier effect, how many are in services, retail, construction, or the public sector? The third approach will provide insights into this question.

The most common and widely accepted methodology for measuring the economic impacts of cooperatives and other enterprises is input-output (I-O) analysis, a subset of a family of methods called social accounting models (Shaffer, et al. 2004; Hewings 1985). Input-output models attempt to describe an array of economic transactions between various sectors in a defined economy for a given period, typically a year. These models provide researchers not only with estimates of the scalar multipliers but also support a detailed decomposition of the multipliers (briefly described above).

Like any economic model, ours is an abstraction of the real world and depends on assumptions that may be imperfect. Unfortunately, most studies that document the impact of cooperatives seldom discuss these limitations. Regardless, this type of analysis, the results of which are frequently cited in newspapers and used in government testimonies, seems more prevalent than ever. Input-output models are used descriptively and analytically to demonstrate the relative importance of a business, industry, or sector (e.g., agriculture) in an economy, and prescriptively, to predict the economic responses from alternative actions (e.g., building a new sports stadium) (Hastings and Brucker 1996; Hewings and Jensen 1986). Input-output analysis is attractive in part because it provides (seemingly) straightforward results; for example,

agriculture accounts for 20% of the local economy or a new stadium will generate \$1M in additional income. Another appeal of I-O analysis is that it uses multiplier effect to calculate the total impact, which yields far larger values than would be obtained by any direct “head-count” method.

The usefulness of I-O analysis seems to naturally extend to the cooperative sector where such results would surely appeal to multiple groups. Trade associations, government agencies, and even university centers that rely on public funds use the figures to demonstrate the significance of cooperatives to the economy, and hence, the importance of their work. Individual cooperatives might also seek to know the impact of their organization on the local economy, to build support in the community, or to capture a marketing advantage. Using cooperative economic impact analysis would enable policy makers and community development practitioners to make more informed decisions regarding the support of alternative business development options.

Few studies have used I-O analysis to measure the economic impact of cooperatives (Folsom 2003; Zeuli, et al. 2002; Bhuyan and Leistriz 1996; Coon and Leistriz 2001; Herman and Fulton 2001). This dearth may stem from a lack of familiarity with this methodology and how it might be applied. A better understanding of I-O assumptions and data requirements, as related to cooperative studies, is also necessary to avoid “unused, underused, or misunderstood” results (Hastings and Brucker 1996; Zeuli and Deller 2007).

### **8.1.2 Input-output methodology**

An I-O model offers a “snapshot” of the economy, detailing the sales and purchases of goods and services between all sectors of the economy for a given period of time within a conceptual framework derived from economic theory. The activities of all economic agents (industry, government, households) are divided into  $n$  production sectors. The transactions between the sectors are measured in terms of dollars and segmented into two broad categories: non-basic, which includes transactions between local industries, households and other institutions, and basic, which includes transactions between industries, households, and other institutions outside the economy being modeled (i.e., imports and exports).

One can think of an I-O model as a large “spreadsheet” of the economy where columns represents buying agents in the economy. These agents include industries within the economy buying inputs into their production processes, households and governments purchasing goods and services, as well as industries, households, and governments that are located outside the region of analysis. The latter group represents imports into the economy. Economic agents can import goods and services into the regional economy for two reasons. First, the good or service might not be available and must be imported. Second, local firms might produce or supply the imported good or service, but the local prices or specifications might not meet the needs of the purchasing economic agents. The columns represent economic demand. The rows of the “spreadsheet” represent selling agents in the economy or supply. These agents include industries selling goods and services to other industries, households, governments, and consumers outside the region of analysis. The latter group represents exports out of the economy. Households that sell labor to firms are also included as sellers in the economy.

Within the terminology of input-output modeling, this “spreadsheet of the economy” is referred to as a transactions table; an illustrative example is provided in **Table A.1**. In this example, the

economy is composed of three industries including agriculture (Agr), manufacturing (Mfg) and services (Serv) along with households (HH). Reading down the agricultural column reveals the purchasing patterns of the agricultural industry. Here, agriculture purchases \$10 worth of other agricultural goods, such as dairy farmers purchasing feed from other farmers. Farmers also purchase \$4 from manufacturing, such as capital equipment such as tractors or milking equipment. Farmers purchase \$6 worth of services, such as accounting services or specialty crop services. Household supplies \$16 worth of labor, such as the farmer or any hired hands. Finally, agriculture imports \$14 worth of goods and services into the region. Total spending or costs of the agricultural industry (the input) is \$50. Reading across a row identifies the particular industry or sector that sells goods or services. Continuing the agricultural industry example, agriculture sells \$10 worth of product to other farmers, such as feed grain to dairy farmers. Agriculture sells \$6 to manufacturing, such as milk sold to cheese plants. Agriculture sells \$2 to the service sector, such as direct sales to restaurants. Agriculture sells \$20 of product to households, and finally exports \$12 out of the region. Total sales, or total industry revenue (the output) in this example, is \$50.

**Table A.1:** Illustrative Transactions Table

Processing Sectors (Sellers)	Purchasing Sectors (Demand, in \$)			Final Demand, in \$		Output
	Agriculture	Manufacturing	Service	Household	Exports	
Agriculture	10	6	2	20	12	<b>50</b>
Manufacturing	4	4	3	24	14	<b>49</b>
Service	6	2	1	34	10	<b>53</b>
Household	16	25	38	1	52	<b>132</b>
Import	14	12	9	53	0	<b>88</b>
Input	50	49	53	132	88	<b>372</b>

A key assumption in the construction and application of input-output modeling is that supply equals demand. In the framework of the “spreadsheet of the economy” outlined above, the row total (supply or industry revenue) for any particular industry equals the column total (demand or expenditures): the “spreadsheet of the economy” must be balanced. In the above agricultural example, total sales, or total revenue (“Output” in **Table A-1**) is \$50 and total expenditures, or total costs, (“Input” in **Table A-1**) is also \$50: Therefore, the supply of agricultural products exactly equals the demand for agricultural products. This framework enables us to trace how shocks to one part of the economy affect the whole of the economy.

For example, consider an increase in the demand for agricultural products in our simple economy outlined above. Suppose that demand for U.S. milk products increases. To meet this new, higher level of demand, dairy farmers must increase production. Increasing production requires the purchase of additional feed from grain farmers, the purchase of additional capital equipment from manufacturing, purchase of additional professional services such as veterinarian services, and more labor. These other sectors must also increase production, and their corresponding inputs, to meet the new level of demand created by an increase in milk production. The new labor hired by dairy, for example, has higher levels of income that it in turns spends in the regional economy, thus creating even higher levels of demand for milk. The increased milk demand creates a rippling effect throughout the whole of the economy.

This rippling effect, the multiplier effect, can be measured and applied to assessment of how a change in one part of the economy affects the whole of the economy.

### ***Input-Output Multipliers***

We described an input-output model of an economy as a “spreadsheet of the economy” in which any change or shock in one part of the economy ripples across the entire economy. By manipulating the empirical I-O model, it is possible to compute a unique multiplier for each sector in the economy. Using these multipliers for policy analysis can provide insight be useful in preliminary policy analysis to estimate the economic impact of alternative policies or changes in the local economy. In addition, the multipliers can identify the degree of structural interdependence between cooperatives and the rest of the economy. The output multiplier described here is among the simplest input-output multipliers available. By employing a series of fixed ratios from the input-output model, researchers can create a set of multipliers ranging from output to employment multipliers, as shown in **Table A-2**.

**Table A.2:** Understanding Multipliers

Type	Definition
Output Multiplier	The output multiplier for industry <i>i</i> measures the sum of direct and indirect requirements from all sectors needed to deliver an additional dollar-unit of output of <i>i</i> to final demand.
Income Multiplier	The income multiplier measures the total change in income throughout the economy from a dollar-unit change in final demand for any given sector.
Employment Multiplier	The employment multiplier measures the total change in employment due to a one-unit change in the employed labor force of a particular sector.

The income multiplier represents a change in total income (employee compensation plus proprietary income plus other property income) for every dollar change in income in any given sector. The employment multiplier represents the total change in employment resulting from the change in employment in any given sector. Thus, changes in economic activity can be measured three ways.

For example, consider a dairy farm that has \$1M in sales or revenue (industry output), pays labor \$100K inclusive of wages, salaries, and retained profits, and employs three workers including the farm proprietor. Suppose that demand for milk produced at this farm increases by 10%, or \$100K. The traditional output multiplier could be used to determine the total impact on output. Alternatively, to produce this additional output the farmer will need to hire a part-time worker. The employment multiplier could be used to examine the impact of this new hire on total employment in the economy. In addition, the income paid to labor will increase by some amount and the income multiplier could be used to determine the total impact of this additional income on the larger economy.

### ***Initial, Indirect, and Induced Effects***

Construction of the multipliers allows us to decompose the multiplier effect into three parts: (1) the initial (or direct) effects; (2) the indirect effects; and (3) the induced effects. The initial effect is associated with the scenario that creates the impact on the economy. In the agricultural example above, this is the increased agricultural (or milk) sales. To produce the additional output, the firm or industry must purchase additional inputs. The inputs take two forms: (1) purchases from other businesses and (2) labor. The first, purchases from other businesses, creates the indirect effect, while the second form creates the induced effect. For a particular

producing industry, multipliers estimate the three components of total change within the local area:

*Direct effects* represent the initial change in the industry in question (e.g., in the industry itself). *Indirect effects* are changes in inter-industry transactions when supplying industries respond to increased demands from the directly affected industries (e.g., impacts from non-wage expenditures). *Induced effects* reflect changes in local spending that result from income changes in the directly and indirectly affected industry sectors (e.g., impacts from wage expenditures).

Comparing and contrasting the indirect and induced effects can offer important insights. For example, industries that are more labor-intensive will tend to have larger induced effects and smaller indirect effects. In addition, industries that tend to pay higher wages and salaries will also tend to have larger induced effects. Decomposing the multiplier into its induced and indirect effects can provide a better understanding of the industry under examination and its relationship to the larger economy.

### **Data Requirements**

Assessing the contribution of cooperatives to the larger US economy requires describing cooperatives in a way that is compatible with the input-output model. This study faces the challenge that cooperatives are a specific business structure, not a particular industrial sector. Thus, the input-output model provides no direct “cooperative multiplier”. A major component of this study is the creation of a consistent method for assessing the impact of cooperatives across the spectrum of cooperative types. We therefore focused on the income generated by cooperatives through wages and salaries paid to employees plus patronage payments to cooperative members. However, we did not obtain quality data on non-labor-related expenditures. For labor-intensive cooperatives, such as credit unions, this approach adequately represents the scale and scope of the cooperative. Our analysis lacks business-to-business expenditures, such as office supplies or utilities.

Given the gap in our survey data, our study is limited to examining the employment and patronage side of cooperatives. Like any other business, cooperatives employ people and pay wages/salaries to those employees. Many cooperatives also make patronage payments to members, which is a form of income. The study examines the impact of those wages/salaries and patronage payments on the broader economy. Given the computed impact on the economy of cooperatives’ wages/salary and patronage payments, we compute “implicit” multipliers for each type of cooperative. These implicit multipliers can then be used to assess the impact of any one type of cooperative in future analyses. Importantly, because we consider only the labor-related expenditures of cooperatives, the resulting impacts are conservative because they underestimate total impacts.

In some instances, we did not obtain data for all firms in a given sector. In these cases, we used the available survey data to compute a sample mean and then applied it to the population size to estimate population size. For example, if we had usable survey data from 50 cooperatives of a particular type and the total population is 200 cooperatives, we would use the data from the 50 cooperatives to compute an average, then multiply that average by 200 to estimate the total size of the cooperative sector. We then would enter this estimate into the input-output model.

## ***Modeling System***

The input-output modeling system used in this study is IMPLAN (Impact M for Planning), originally developed by the USDA Forest Service. A product of the Rural Development Act of 1972, IMPLAN is a system of county-level secondary data input-output models designed to meet the mandated need for accurate, timely economic impact projections of alternative uses of U.S. public forest resources. The Forest Service made IMPLAN as widely available as possible because it was developed using public funds. Moreover, a small investment by the USDA Cooperative Extension Service ensured that the IMPLAN modeling system became widely used by rural development researchers and Extension specialists in the Land Grant University System. The relationship among university-based researchers, Extension specialists, and the Forest Service quickly became bilateral—researchers and specialists questioned data and assumptions, made suggestions, and demanded changes. To accommodate this demand for services, the Forest Service privatized IMPLAN; it is now operated by the Minnesota IMPLAN Group (MIG). In addition to updating and improving the databases and software, MIG holds regular training sessions, biannual user conferences, and maintains a collection of hundreds of papers that have used IMPLAN.

One advantage of the IMPLAN system is the open access philosophy instilled by the Forest Service. IMPLAN is designed to provide users with maximum access so that they can alter the underlying structure of the data, the model, or means of assessing impact. The combination of the detailed database, flexibility in application, and the open access philosophy has made IMPLAN one of the most widely used and accepted economic impact modeling systems in the U.S. IMPLAN has been accepted in the U.S. court system and in many regulatory settings.

To assess the economic impact of cooperatives, we employed the 2006 IMPLAN database and the model constructions for the U.S. economy. Labor and patronage payments were used to model the impact of each cooperative type on the whole of the U.S. economy. Given data on cooperative sales, employment, wages, and salary along with patronage refunds, we could assess the impact of cooperatives with a high level of confidence.

## **8.2 Data Collection**

### **8.2.1 Population discovery**

The aim of the project was to create a complete census of U.S. cooperative businesses and measure their economic impact on the U.S. economy. The process of creating a census involved three distinct steps:

- Identifying cooperative business and relevant trade associations.
- Compiling business lists with contact information.
- Gathering data on key economic indicators to aid in the measurement of impacts.

Most businesses were identified with the help of key contacts in various trade associations, academic partners and collaborators, and primary population discovery conducted by the UWCC using business software. In the next section, we discuss each of these venues for population discovery.

### ***Trade Associations and Public Organizations***

For regulated industries such as credit unions, corporate credit unions, the FCS, and Federal home loan banks, we used annual reports available at the regulatory Federal agencies'

websites. The data for rural electric cooperatives comes from NRECA. Agricultural Marketing and Supply Co-ops data come from the USDA 2006 annual survey.

Purchasing cooperative lists were provided by NCBA, and housing cooperative lists were provided by NCB. The EPA provided a list of water mutuals and associations which was supplemented with Guidestar data.

### ***Primary Population Discovery***

For many sectors, we created primary lists with the assistance of undergraduate researchers. Online searches were conducted with key phrases such as “co-op”, “cooperative”, and “mutual” for each economic sector. Once cooperatives were identified, lists were created and downloaded into a database with appropriate contact information.

Childcare, Healthcare, Mutual Insurance, Transportation, Education, Water, and Telephones lists were created using Google, Broadlook, Onesource, Dunn, and Guidestar; UWCC purchased the software. Finally, for grocery and worker cooperatives, we used lists maintained by Professor Ann Hoyt and Professor Christina Clamp, respectively.

## **8.2.2 Data collection and survey methodology**

We used standardized survey instruments and a uniform sampling methodology to minimize measurement error and to yield data that would be comparable across economic sectors. The instruments were also designed to identify businesses and collect firm-level data that can be used for future longitudinal studies of cooperative performance.

### ***Design, Sample Frame, and Implementation***

Implementing a survey involved numerous separate tasks. These activities included:

- Designing a survey instrument
- Identifying and building an appropriate sample frame
- Hiring and training enumerators
- Piloting the survey
- Securing the participation of selected cooperative firms
- Sending out invitations for participation
- Making and tracking appointments, and tracking refusals to participate
- Implementing the questionnaire
- Tracking survey completion and quality control
- Entering data and quality control

### ***The instrument***

The identical survey instrument was used for all economic sectors, except that adjustments were made as needed for inherent structural differences. The core instrument has four sections:

- Section I. Institutional Information
- Section II. Organizational Structure
- Section III. Financial Information
- Section IV. Governance & Taxation Information

### ***Selecting a sample frame***

The cooperative business surveys were targeted to a particular set of firms in the following sectors the USDA identified: Commercial Sales and Marketing; Social and Public Services; Financial Services; and Utilities.

Our interest was to collect firm-level data. A firm may have one or many establishments. Financial information for the purposes of this study was collected at the aggregate level, so all reported financial data is consolidated unless otherwise specified.

Our sampling strategy was as follows. If the total number of firms were <400 in a given economic sector, then we interviewed all firms in the list. Our goal was to elicit a 50% survey response rate. The following sectors were surveyed using this approach: Grocery and other consumer retail; Arts and Craft; Education; Healthcare; (not Community Healthcare Centers) Transportation; Biofuels; Telephone; and Purchasing and Worker cooperatives.

For economic sectors with >400 firms we selected a stratified random sample of 300 firms. We employed this approach for the following sectors: Mutual Insurance; Water; and Housing Cooperatives. Our sampling unit for stratification was U.S. states. We followed this approach to ensure that the resulting sample represented underlying distribution within each state for a particular economic sector. To preserve the anonymity of firms, we excluded any state that had fewer than 5 firms in a particular economic sector.

Even following this sampling strategy, identifying telephone numbers for cooperatives was sometimes difficult, particularly in the case of housing and water cooperatives. Most of these cooperatives are small, or without offices, and no one is available during regular business hours. To maximize data points, we redrew our stratified sample from firms with telephone numbers, preserving the population distribution.

### ***Piloting the survey***

We piloted the survey to pretest the questions to minimize question ambiguities, check for clarity and consistency, incorporate input from key participants, and allow survey modification to address sector-specific differences. Finally, piloting enabled better training of enumerators. Our piloting consisted of up to 20 interviews, depending on the number of firms in the sector.

### ***Publicizing and Implementation of the Economic Impact Survey***

Publicizing a survey increases participation. Because we were surveying multiple sectors simultaneously, we used various mediums to invite participants. To increase participation, we solicited help from trade associations to distribute invitations to their member lists, on their websites, and in their newsletters. UWCC also posted an announcement about the survey on its website, mailed invitation letters and e-mails, and often extended direct invitations by telephone.

We intended to create a web form that firms could visit annually to update their profile. Although we followed this approach early in survey implementation, survey responses were not adequate. We therefore hired a staff of 12 students to conduct phone surveys to reach the desired 30% response rate. Calling individual firms and scheduling appointments with the CEO or accountant was more efficient, because this approach gave the respondents time to collect financial information before the phone survey.

Using supplementary data from Guidestar and Onesource, we attained a 30% response rate for all sectors except housing. We surveyed the following sectors: healthcare; childcare; groceries;

purchasing; worker; transportation; education; telephones; water; mutual insurance; farm credit system (only for employment information); arts and crafts; housing; and biofuels. We contacted each firm at least three times. Specific response rates for each economic sector are provided in the sector analysis section under “population discovery”.

### ***Data Entry and Analysis***

Although the data needed for this economic impact analysis was fairly straightforward, the reporting of financial information varies greatly by sector and posed challenges to standardizing data for analysis. This was especially true for defining a patronage refund. Further research needs to carefully document patronage practices across cooperatives.

Once the data was standardized, it was used to create the maps and the IMPLAN analysis.

## **8.3 Acknowledgements**

### **8.3.1 Core research and data collection team for the University of Wisconsin–Madison**

This report was prepared by a core team of faculty and staff led by Brent Hueth, and comprising Steven Deller, Ann Hoyt, Matt Kures, Lynn Pitman, Anne Reynolds, and Reka Sundaram-Stukel. The team benefited greatly from excellent research assistance from Pilar Jano, Hedayat Moussavi, and Andrés Moya; and we are indebted to our two graduate-student IT-Gurus, Badri Narayan Bhaskar and Mayank Maheshwari, who kept the project going. We would like to extend special acknowledgment to Catherine Levinten-Reid for her contributions early in the project. We would also like to thank our army of undergraduate research assistants: Charity Bingham, Tracey Beechner, Christa Behnke, Katie Behnke, Kristen Degeneffe, Eugene Dreyster, Manju Gupta, Alia Jammaluddin, Elizabeth Johnson, Maren Maland, Chris McKim, Monica Sharma, Kevin Vandernaald, and Chris Wollum. Their cheerful telephone personalities and diligence made this analysis possible.

### **8.3.2 Industry collaborators and cooperative community**

First and foremost, we are extremely grateful to the survey participants who took the time from their busy schedules to participate in the study. Without their participation and feedback, this study would not have been possible.

#### ***Industry Collaborators***

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### ***Individual Collaborators***

Excellent and extensive advice was given, during various conference calls and meetings, by Paul Hazen, Christina Clamp, Herb Fisher, John Hays, George A. Hofheimer, Terry Lewis, Martin Lowery, Mike Schenck, Tim Size, Marc T. Smith, Walden Swanson, David Thompson, Roger Wilcox, and John von Seggern. We are grateful to all. We also consulted with Elizabeth Bailey, Spyros Heniadis, Melissa Hoover, Melanie Hovey, Anne Katz, Mary Ann Rothman, Stu Schneider, Rick Shadelbauer, Marc Shafroth, Dr. Tun Wei, and many more that we forget to list.

### **8.3.3 Collaborative research council and boundaries workshop participants**

We formed two advisory committees during the course of our research. The Cooperative Research Council served as a point of contact with the cooperative community and as a review panel for discussion paper proposals. The Boundaries Advisory Committee was formed to help us identify the legal, tax, and structural character of cooperatives to define our research population. We are deeply grateful to those who gave their time to these efforts.

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- Ann Fedorchak, NCB
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- John Hayes, Executive Vice President, Farm Credit Council
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- John Logue, Director, Ohio Center for Employee Ownership
- Martin Lowery, Executive Vice President, National Rural Electric Cooperative Association
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- William Nelson, Executive Director, CHS Foundation
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- Bruce Reynolds, USDA Cooperative Programs
- David Swanson, Partner, Dorsey and Whitney LLP
- Tom Schomisch, Board Member, Group Health Cooperative
- Barry Silver, Executive Vice President, NCB

### 8.3.4 Academic collaborators and discussion paper authors

- Ethan Ligon, Associate Professor, Dept. of Agricultural and Resource Economics, University of California, Berkeley.
- Philippe Marcoul, Associate Professor, Dept. of Rural Economy, University of Alberta.
- Brian Mayhew, Associate Professor, Wisconsin School of Business, University of Wisconsin, Madison.
- Jessican Gordon-Nembhard, Visiting Scholar, Centre for the Study of Cooperatives University of Saskatchewan.
- Greg Reilly, Assistant Professor, University of Connecticut School of Business.
- Richard Sexton, Professor, Department of Agricultural and Resource Economics, University of California, Davis.
- Gordon Smith, Professor, Brigham Young School of Law.
- Charlie Trevor, Associate Professor, Wisconsin School of Business, University of Wisconsin, Madison.

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## 8.4 List of Acronyms <sup>1</sup>

Acronym	Agencies, Organizations, and Trade Associations
ACB	Agricultural Credit Bank
ACA	Agricultural Credit Associations
ACCU	Association of Corporate Credit Unions
ASI	American Share Insurance
AT&T	American Telephone and Telegraph
CCHA	Cooperative Home Care Associates
CCMA	Consumer Cooperative Management Association
CCU	corporate credit union
CDF	Cooperative Development Foundation
CDRF	Corporate Development Revolving Fund
CFC	National Rural Utilities Cooperative Finance Corporation
CLF	Central Liquidity Fund
CUNA	Credit Union National Association
EPA	Environmental Protection Agency
ESA	educational service agency
ESOP	employee stock ownership plan
FCA	Farm Credit Administration
FCB	Farm Credit Bank
FCC	Farm Credit Council
FCC	Federal Communications Commission
FCS	Farm Credit System
FCU	federally chartered credit union

<b>Acronym</b>	<b>Agencies, Organizations, and Trade Associations</b>
FHLBS	Federal Home Loan Bank System
FLB	Federal Land Bank
FLCA	Federal Land Credit Associations
FmHA	Farmers Home Administration
G & T	generation and transmission
GPO	group purchasing organization
GSE	government-sponsored entity
HMO	health maintenance organization
ICA	International Co-operative Alliance
IMPLAN	Impact M for Planning
I-O	input-output
IOU	investor-owned utility
IRC	Internal Revenue Code
LCA	limited cooperative association
LLC	limited liability company
MIG	Minnesota IMPLAN Group
MUD	municipal utility district
NAFCU	National Association of Federal Credit Unions
NASCUS	National Association of State Credit Union Supervisors
NCB	NCB (formerly National Cooperative Bank)
NCBA	National Cooperative Business Association
NCCUSL	National Conference of Commissioners for Uniform State Law
NCSC	National Cooperative Services Corporation
NCUA	National Credit Union Administration
NCUSIF	National Credit Union Share Insurance Fund
NRECA	National Rural Electric Cooperative Association
NRTC	National Rural Telecommunications Cooperative
NTCA	National Telecommunications Cooperative Association
PPD	public power district
REA	Rural Electrification Administration
REC	rural electric cooperative
REDLG	Rural Economic Development Loan and Grant
RFA	Renewable Fuels Association
RTB	Rural Telephone Bank
RUS	Rural Utilities Service
SCCU	state chartered credit union
USDA	United States Department of Agriculture
USFWC	US Federation of Worker Cooperatives
UWCC	University of Wisconsin Center for Cooperatives
WEP	Water and Environmental Program
WSTB	Water Science and Technology Board

<sup>1</sup> Report Prepared by University of Wisconsin Center for Cooperatives (UWCC)