Cooperative businesses provide goods and services in the U.S. economy across a wide range of sectors including food and agriculture, insurance and banking, telecommunications, power generation and distribution, and health care. Economists and historians who have studied the origins and economic purpose of cooperative enterprise have identified several causes for cooperative formation—all of which point fundamentally to the existence of malfunctioning markets (e.g., under provision, market power and weak contract enforcement). Cooperative firms are seen as responses by dissatisfied individuals and businesses to these malfunctions with the effect of providing for themselves a form of private “market regulation.”

From this viewpoint, state support for the cooperative business model can be viewed as a form of public policy.² It is unfortunate, therefore, that none of the 13 federal agencies comprising the U.S. Federal Statistical System currently report statistics on the economic activity of cooperatives.³ Lack of data to describe and track the incidence and impact of cooperative businesses severely limits opportunities to assess existing and future policy initiatives designed to support their development and operation.

This article describes research underway at the University of Wisconsin Center for Cooperatives, in collaboration with the U.S. Census Bureau, to fill this data gap. In what follows, I begin by elaborating on the economic rationale for the beneficial effect that cooperatives can contribute to market performance. This conceptual background provides guidance for defining what it means for a firm to be a “cooperative,” and therefore for delineating the boundaries of the cooperative economy. It also articulates more fully the rationale for supporting cooperatives through public policy, and therefore, for financing the infrastructure necessary to measure and report on economic activity by cooperatives. I outline the criteria we use to identify cooperatives within the universe of all firms and present preliminary measure of their incidence using proprietary data available to us through partnership with the University of Wisconsin—Cooperative Extension and the Business Dynamics Research Consortium (BDRC). I also discuss briefly parallel work underway using data from the U.S. Census Bureau in the Federal Statistical Research Data Center (FSRDC) network and summarize the content of a new question to appear in the 2017 Economic Census aimed at identifying and reporting on cooperatives as a component of the U.S. economy. Lastly, I conclude by emphasizing conceptual and measurement challenges associated with assessing the full impact of cooperative enterprise beyond direct measurement of their economic activity.

³ The U.S. Department of Agriculture’s Cooperative Programs administrative unit (formerly, Cooperative Services) within Rural Development collects data and reports on activities of farmer cooperatives, but is not listed as an agency of the Federal Statistical System. See, Statistical Programs of the United States Government, Office of Management and Budget. 2017.
⁴ Profit-maximizing behavior by firms is sometimes presented as among the assumptions necessary to ensure that competition in markets yields efficient outcomes. This behavior is, however, properly viewed as the consequence of more primitive assumptions regarding capital markets and the ability of firm owners to control managerial behavior. Intuitively, a well-functioning market for firm ownership provides common financial interest by owners to maximize firm value, and this can be achieved by directing managers to maximize profit.
Entrepreneurship can also be collective and occur as a means to fill gaps where opportunity for sustainable commercial enterprise exists, but where investor-owned firms choose not to operate.

What is it about the market environments in which cooperatives form that elicits this growth? It is difficult to start a business, and founders typically face substantial financial risk. As a consequence, new business startup is often initiated by entrepreneurs financed partly by investors who are willing and capable of bearing this risk. However, entrepreneurship can also be collective and occur as a means to fill gaps where opportunity for sustainable commercial enterprise exists, but where investor-owned firms choose not to operate, or to seek remedy where existing markets perform poorly. This kind of entrepreneurship can be an engine for productivity gain and economic growth as well as investor-backed entrepreneurship, but with the difference that the benefits flowing from organizational formation accrue partially to all market participants. Existence of these “spillover benefits” is among the reasons why investor ownership may not be feasible.

Direct benefit provided through patronage transactions can effectively serve as a component of “return” for capital contributions by cooperative members. To attract capital contributions from potential members, a cooperative firm must be able to credibly commit to operating for the benefit of members. Such a commitment is in effect a promise not to pursue profit maximization at the expense of members at some future date. Cooperative statute and bylaw provisions—and the legal infrastructure needed to enforce these provisions—provide an institutional framework that enables contractual commitment to this promise. Among the key provisions used to direct firm behavior away from profit maximization and toward member benefit are a limit on the dividend rate paid to invested capital, limits on non-member participation on the board of directors, and a requirement that firm surplus flow to members based on relative patronage levels (rather than capital contributions).

Private cooperative initiatives to improve market operation can and have been self starting and economically sustainable. These initiatives, however, face a structural disadvantage at startup relative to the formation of investor-owned businesses. Capital requirements and coordination costs present significant challenges in the formation of even a small organization. Good intentions and public spiritedness can contribute positively to overcoming these challenges, but there is no obvious reason to expect person-level behavioral attributes to differ systematically across firms with different ownership models. In contrast, opportunities for providing financial reward to founding entrepreneurs and managers do differ in an obvious way across ownership models. In particular, investor ownership,
combined with markets for trading ownership rights, provide the means to offer founders a share of the entire future flow of benefits created by successful organizational formation.\(^8\)

Any group activity involving costly and difficult tasks encounters the free-rider problem in which those who have not contributed to the costs of an activity nonetheless benefit from it. A large academic literature exists that has made headway toward understanding how to mitigate this problem with good managerial practice and organizational design. An individual entrepreneur who has a product idea with high potential commercial value can use these approaches to increase the likelihood of successful startup, but can additionally offer a share of future firm value to founding employees. This financial incentive can be decisive for eliciting the intensive effort required for successful firm formation. In contrast, cooperative statute and bylaw provisions exist to ensure that member interests are paramount in operation of the firm, which is precisely why a cooperative can be expected to behave differently from a comparable profit-seeking firm. Operation under constraints that ensure the pursuit of member interests over profit is the cause for the beneficial effect that cooperatives have on market performance.

In this section, we discuss criteria for identifying cooperatives in the U.S. economy, summarize data sources and then present a summary of our results. Readers can find more detailed explanation and reporting on our website, Measuring the Cooperative Economy.

**Criteria for defining cooperatives**

Traditionally, the defining characteristics of a cooperative business are that the interests of the business user, or patron, are primary to the capital investor, and returns on capital are limited. Cooperative control is in the hands of 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 U.S. Department of Agriculture summarized these characteristics in its definition of a cooperative as a “user-owned, user-controlled business that distributes benefits on the basis of use.” A broader definition of the cooperative business model and its principles has been developed by the International Co-operative Alliance (ICA). While these principles may be useful for evaluating the cooperative contours of this economy in terms of number of firms and employment. This basic information is critical to economists and policymakers seeking to advance understanding of how cooperatives can be supported as a means of improving market operation and contributing to a growing and inclusive national economy.

In this section, we discuss criteria for identifying cooperatives in the U.S. economy, summarize data sources and then present a summary of our results. Readers can find more detailed explanation and reporting on our website, Measuring the Cooperative Economy.

**The geography of cooperative enterprise**\(^11\)

Collective action in commercial and political spheres during the past century has contributed to the development of a significant “cooperative economy.” This section is an early attempt to measure the

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\(^8\) Due to information asymmetries and the consequent inability of potential buyers to ascertain firm value, financial incentive for startup success are arguably somewhat lower in the case of private noncooperative ownership models. Equity markets provide ownership liquidity to investors, and access to risk capital for firms. Less noted, but also important, are managerial monitoring and firm valuation functions provided by a well-functioning equity market.

\(^9\) Capital is a perfectly fungible good, which facilitates creation of markets for trading the ownership shares of investor-owned companies. Because ownership is defined in terms of capital contributions, owners agree on value of contribution that each makes to sustain firm operation. Dividend payments channel firm surplus to owners in the form of capital. In contrast, each member of a consumer cooperative values patronage differently; similarly for producer cooperatives, cost-of-service to the firm can be different across members. This heterogeneity complicates attempts to value and trade individual ownership stakes.

\(^10\) A term for economics coined by the Scottish writer and philosopher Thomas Carlyle in the 19th century. Currently refers to economics’ most depressing outcomes.

\(^11\) This section draws heavily from, and builds on our 2007 USDA project, “Research on the Economic Impact of Cooperative” (REIC).
character of an individual organization, they are impractical to use for identifying organizations to build a census.

Other possibilities include:

- **Incorporation Status** Like other businesses, cooperatives establish themselves as legal entities at the state level under statutes that provide parameters for governance and operation. State statutes are not uniform and vary widely in their requirements. All states have at least one statute providing for agricultural producer cooperatives. States may have other cooperative statutes for particular sectors and types including healthcare, utilities, housing, credit unions and worker cooperatives. In still other cases, state statutes have been written more broadly to enable cooperative association formation across multiple sectors. State legislative code also varies in its categorization of cooperative statutes as for-profit or a type of nonprofit corporation or association. This inconsistency reflects the conflicting goals and needs of cooperative operations: providing goods or services to members at cost, while also producing sufficient surplus for future financial viability. In some states, cooperative statutory provisions may be a subsection of broader business or nonprofit statute instead of a standalone statute. Depending on the specific entity’s needs, cooperatives may choose to organize under other business statutes not specific to cooperatives, such as laws that govern corporations, limited liability companies (LLC) or nonprofits. Use of state lists to identify cooperative legal entities is neither comprehensive nor efficient.

- **Self-identification** There are some similarities across state statutes that reflect historical developments, especially in federal tax and antitrust law. These provisions relate to member governance and voting rights, and the distribution of surplus or profit based on patronage. Given these statutory distinctions, many state statutes reserve the use of the term “cooperative” or “co-op” in an organization’s name for entities formed under state cooperative statute. Not all states require the use of the term in the name, however. Some cooperative statutes permit these terms if the entity is operating on a cooperative basis for federal tax purposes, independent of incorporation status. Some state statutes provide no standards or requirements for the term’s use. Organizations incorporated in those states may include the term “cooperative” in the business name, regardless of whether they are owned and controlled by patron members.

- **Tax-filing Status** The federal 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. Many cooperatives or businesses operating on a cooperative basis file taxes under the federal tax code subchapter T provisions. These provisions allow businesses “operating on a cooperative basis” to qualify for single taxation treatment. Profits from business that is conducted with members or patrons are proportionately allocated to those members or patrons instead of the cooperative business level. While an entity’s use of these specific tax provisions identify organizations operating “on a cooperative basis” per terms defined by the IRS (that reflect many years of court litigation prior to creation of these provisions), there may be organizations we wish count as cooperatives that do not meet these criteria. Further, individual IRS returns are confidential and are not available to the public for research or statistical reporting.

**Data description**

Lacking obvious means for systematic identification of cooperatives among all firms in the U.S. economy, we develop a range of criteria based on our knowledge of the sector. Space limitations preclude detailed discussion of our criteria in this space, but the interested reader can learn more at our website, Measuring the Cooperative Economy.
The data for this first phase of the project come from three sources. First is the annual file for the 2015 InfoGroup historical times series data product. InfoGroup is a business intelligence service that licenses its data to BDRC. The file provides location, name and employment, North American Industrial Classification (NAICS) codes, and several other establishment-level characteristics for over 15 million establishments (in 2015), including nonprofits and non-employers. For some sectors, the data contain sales and employment figures. InfoGroup claims that their files contain the universe of U.S. business establishments for each year, beginning in 1997.

Second, we acquired a number of sector-specific lists of firms (not including all establishments) from several authoritative industry sources: National Credit Union Administration (NCUA), National Rural Electric Cooperative Association (NRECA), USDA Cooperative Programs’ list of agricultural cooperatives, National Council of Farmer Cooperatives (NCFC), Farm Credit’s list of network organizations, National Co-op Grocers and the National Cooperative Bank’s Co-op 100 List for 2016, and information on over 400 startup co-ops that we identified in a nationwide survey project funded by the Agriculture and Food Research Initiative (AFRI) of the National Institute of Food and Agriculture in the USDA.

Cooperative businesses are not identified as such in any U.S. federal data source or in the InfoGroup annual files. We therefore relied in the first instance on parsing the names of establishments to identify those that self-identify as co-ops, credit unions, mutual insurance (or other) establishments or institutions, collectives and voluntary associations—in general, member-owned “businesses.” We followed up that initial draw of data from the InfoGroup 2015 file with detailed and extensive investigation of individual establishments, most from information on their own or related websites. This process helped us refine the initial list and to add establishments that we had identified by other means.

The scope of this research excludes housing cooperatives. Although many hundreds of housing co-ops do seem to be included in InfoGroup’s annual files, it is very unlikely that most housing co-ops have been captured there. Housing co-ops do not operate

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12 BDRC is developing a new data product called the Your Economy Time Series (YTS), which links annual firm and establishment units across time in the InfoGroup data, and that implements data quality improvements. BDRC aims to make this product broadly available for public use with possibilities for purchased access, or, for researchers, access via in-kind data validation and data quality improvements.

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**Cooperative Locations: Sectoral Composition**

*There are at least 39,594 cooperative businesses in the U.S. Map: University of Wisconsin Center for Cooperatives*
in all cases as businesses that would be readily identified as such, and they are not reliably identified by name in most cases. Although it may be possible at some point to add housing co-ops to this continuing census, the amount of ad hoc effort to identify a large proportion of American housing co-ops ruled out their inclusion in this phase of the project.

**Results**

We identified 37,435 cooperative businesses, not including housing co-ops, in the 2015 InfoGroup file; we compiled data on 1,712 co-ops from the various sector-specific authority lists; and we extracted 447 non-housing co-ops from the AFRI survey. This totals 39,594 cooperative locations as indicated in the table. The InfoGroup data is compiled at the establishment level. That is, it includes all branch and subsidiary locations in addition to headquarters or “parent” locations. The sources of our authority lists, however, all supplied data on “firms” (parent locations only) and the AFRI survey of recent startups is also firm-based. Employment in the cooperatives we identified account for 636,181 jobs, with over half of these in the Financial Services sector. The Commercial, Sales, Marketing & Production and Utilities sectors account for smaller shares—roughly 13 and 16 percent—of aggregate cooperative employment, while the Social and Public Services sector accounted for 3.5 percent.

It is difficult to compare these results with our prior reporting from 2007, because our data sources are different. Though we now have access to a data product covering the entire U.S. economy, it includes only location and employment information about each firm. We also are unable to link firms across time and therefore can say nothing about changes over time. For example, a fall in the number of cooperatives might reflect consolidation and growth in the average size of cooperative firms, rather than the more obvious interpretation of sectoral shrinkage. That said, compared with our 2007 study, the total number of cooperative establishments in the U.S. economy reported here is quite similar. We hope in the future to build historical linkage with prior-year YourEconomy Time Series (YTS) data, and to U.S. Economic Census data, for more reliable and robust reporting on cooperative business dynamics.

For a more detailed discussion of these figures, and in particular of the subsectors within each aggregate sector, please visit our website, Measuring the Cooperative Economy.

**Future directions for data development**

*Continued development and reporting with YTS Data*

We have examined and vetted thoroughly the base InfoGroup data product, but much work remains to be done to improve data quality and refine our reporting. Areas of current focus include:

**Cooperatives in the U.S.**

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Establishments</th>
<th>Total Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Sales, Marketing &amp; Production</td>
<td>7,777</td>
<td>82,134</td>
</tr>
<tr>
<td>Financial Services</td>
<td>27,149</td>
<td>428,311</td>
</tr>
<tr>
<td>Social &amp; Public Services</td>
<td>2,666</td>
<td>103,344</td>
</tr>
<tr>
<td>Total</td>
<td>39,594</td>
<td>636,181</td>
</tr>
</tbody>
</table>

- Initiating examination of YTS data and development of longitudinal cooperative firm and establishment linkages. This will enable reporting of trends across time;
- Identifying firm vs. establishments (locations), and treatment of joint ventures or subsidiaries;
- Formalizing the process for identifying and gathering authority lists on a regular basis to capture businesses with a name that provides little indication they are a cooperative (e.g. CHS, Inc., True Value Hardware and CCA Global Partners);
- Formalizing and systematizing computational algorithms for matching YTS data to authority lists;
- Harmonizing sector assignments as they are understood and used by participants in cooperative sector activities with NAICS coding;
- Developing a roadmap for data quality improvements;
- Enabling capability for users to provide input regarding data errors and anomalies at our Measuring the Cooperative Economy website, and creating a public space to host code used for data processing and reporting of our results.
The Economic Census and the FSRDC Network

As part of our USDA-funded project in 2007, we initiated efforts to access data in the Federal Statistical Research Data Center network for the purpose of identifying cooperatives in the Economic Census and related Census business data products. Since that time, we have established the University of Wisconsin–Madison as an FSRDC location and partnered with Census and the National Cooperative Business Association CLUSA International to design and introduce a new question for the 2017 Economic Census. Data collection will begin in January 2018 and continue throughout most of the calendar year. Data processing will occur in 2019 and public reporting by Census of data summaries (and access to the data by researchers) will likely occur sometime in 2020.

This is a long wait, but it has been nearly a decade-long collective effort by USDA, NCBA CLUSA and University of Wisconsin Center for Cooperatives to reach this point. The United States is now in a position—with the addition of institutional support from the U.S. Census Bureau—to be at the forefront among nations in national reporting on the cooperative sector. These data will support a wide range of new research opportunities using federal microdata to all those who have access to the FSRDC network, and enable production by Census of “official” statistics for public reporting on the cooperative sector that can be used in educational programs and public policy discussions.

Cooperative impact and public policy

Economists normally assess public policy performance by measuring associated impacts on individual well-being and firm profit, including secondary effects caused by market-level responses. Business professionals assess firm performance using (principally) return on investment (which, with a simple present value calculation, can be used to compute firm value). I have attempted in this article to explain how cooperatives can have a beneficial effect on market operation that results from legal provisions governing cooperative business ownership. I argue that these provisions are best viewed as constraints that hinder organizational formation, but that protect member interests once an organization becomes operational. Proper measurement of broader impacts by cooperative businesses must account for their pro-competitive effect, and for the role they play in enabling economically sustainable operation for underserved markets. Return on investment is a concept with limited value in this context. Additionally, spillover benefits from cooperative formation suggests an important role for public policy aimed at encouraging cooperative startup. While there is yet much conceptual work needed to understand how best to measure these impacts—and for effective policy design—the data described above will stimulate new thinking and support the measurement of cooperative impact that would otherwise be impossible.

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Members of the Philadelphia Area Cooperative Alliance catch a ride with worker co-op DC Pedicab. Photo: Sarah Crozier/NCBA CLUSA

“The United States is now in a position—with the addition of institutional support from the U.S. Census Bureau—to be at the forefront among nations in national reporting on the cooperative sector.”