Measuring the Local Economic Impact of Cooperatives

by
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Abstract

The ability to measure the economic importance of cooperatives to communities is not purely an academic question. Policy makers, cooperative organizations, and community development practitioners are increasingly asking for such information. The most commonly used methodology is input-output analysis. The limitations of input-output analysis when applied to cooperatives have not yet been comprehensively explained in the literature, although they significantly affect the application of the model as well as the interpretation of results. We discuss five issues that need to be addressed when using input-output models and suggest additional analysis that should be completed to gain an accurate assessment of the local economic impact of cooperatives.

Key words: cooperatives, economic impact, community development, input-output models

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Introduction

Can we accurately measure the total economic contribution cooperatives make to their communities? This is not purely an academic question. Policy makers and community development practitioners are increasingly asking for such information to make more informed decisions regarding the support of alternative business development options (Leistritz, 2004). Cooperatives and the organizations that serve them are also interested in economic impact figures that can be used to support favorable public policy and build community support for new or existing cooperatives (Merrett et al., 2002; Nembhard, 2004). The most commonly used methodology for assessing the relative economic importance of a business, industry, or sector to a local economy is input-output analysis (Hastings and Brucker, 1993; Miller and Blair, 1985).[1] Several studies have used input-output analysis to assess the economic impact of cooperatives (e.g., Bangsund and Leistritz, 1998; Coon and Leistritz, 2001; Folsom 2003; Leistritz 2004; McNamara et al., 2001; Zeuli et al., 2003). Part of the input-output attraction rests in its seemingly straightforward application and presentation of results. Single dollar figures representing total economic impact are easily cited in newspapers and government testimonies.

Input-output methods were not, however, designed to measure the economic contribution of cooperatives and as a result have some limitations (Leistritz, 2004). Indeed, the most prevalent models (IMPLAN) do not make any distinction between business structures. As with any economic model, input-output analysis is based on an abstraction of the real world, utilizing assumptions and data that do not completely represent the actual relationship of a cooperative with its local economy. We write this manuscript in part to provide researchers and policymakers with a better understanding of the relevant input-output assumptions and data requirements when completing an assessment of the local economic impact of cooperatives. We hope this will improve both its application and interpretation in future cooperative studies.

The general purpose of this article, however, is to provide a comprehensive elucidation of factors that should be measured when gauging the economic impact of cooperatives (i.e., we focus on describing *what* should be measured rather than *how* it should be measured). More specifically, we argue that any assessment of a cooperative's local economic impact should begin with an account of how well they have corrected the market failures used to justify their

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1   Input-output methodology is widely accepted by both academics and practitioners. Affordable and accessible software such as IMPLAN has helped spawn an explosion of input-output analysis over the last two decades (Hastings and Brucker, 1993; Leistritz, 2004).

existence, namely their market power and the goods and services they provide that would otherwise go missing in their local communities. The assessment should proceed to measure the contribution of cooperatives to local economic stability—the long term growth and resilience of the community.

The subsequent section contains a brief overview of input-output methodology and a discussion of five relevant issues for cooperative analysis. A review of previous cooperative input-output studies illustrates the issues while also suggesting how the methodology can be adapted to better suit such inquiries. In the third section we describe additional economic contributions suggested by cooperative theory that cannot be measured by input-output analysis. The conclusion summarizes the various approaches to measuring the local impact of cooperatives and offers some recommendations for future research.

Input-Output Issues

As noted above, a few studies have already employed input-output analysis to assess the economic impact of cooperatives. McNamara et al. (2001) used multipliers constructed by IMPLAN to calculate the employment and income impacts of locally owned farm supply and grain marketing cooperatives in Indiana and Colorado. Zeuli et al. (2003) and Folsom (2003) both used IMPLAN to measure the economic impact of cooperatives in Wisconsin and Minnesota, respectively. The Zeuli et al. (2003) study was more comprehensive, providing estimates of job numbers, wage and salary income, total income, and tax flows generated by the cooperatives. Folsom (2003) estimated "output impacts," total employment numbers, and total state and local tax revenue. Bangsund and Leistritz (1998) and Coon and Leistritz (2001) estimate the economic contribution of cooperatives in North Dakota using the North Dakota Input-Output Model, which was developed from survey data of firms and households in the state. Other studies have analyzed individual cooperatives (e.g., Leistritz, 2004; Merrett et al., 2002). While individually offering useful results, in the aggregate these studies illuminate five basic limitations of input-output analysis when measuring the local economic impact of cooperatives. All five issues, posed as questions for the researcher, are reviewed in the remainder of this section.

Is the multiplier appropriate for cooperatives?
An input-output model, a subset of a family of methods called social accounting models, offers a "snapshot" of the economy, describing the sales and purchases of goods and services between all sectors of the economy for a given period of

time.[2] The activities of all economic agents (industry, government, households) are divided into *n* production sectors (Miller and Blair, 1985). 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 covers transactions between industries, households, and other institutions outside the economy being modeled. Input-output models can produce many kinds of economic impact measures including estimates of the number of jobs, wages, income, and tax flows (each divided into direct, indirect, and induced components) generated by a firm or industry.

The input-output model can be distilled into the following algebraic expression: $X = (I-A)^{-1}Y$. This equation is simply a shorthand method of rewriting the transactions table: total output (X) is composed of two parts, intermediate consumption used in the production process (AX) and final consumption (Y). The matrix $(I-A)^{-1}$ is called the total requirements table, the Leontief Inverse, or the matrix of multipliers. The economic impact of any change in final demand (Y) can be measured by tracing all the demand ripples (i.e., the multiplier effects) through the multiplier and calculating changes to total output (X). The sum of any particular column of the total requirements matrix is the multiplier of that industry.[3]

The primary limitation of input-output, and specifically IMPLAN,[4] is the inability to account for the unique relationship cooperatives may have with local economies. The standard surveys used by the US Department of Commerce to update the national input-output tables, the tables upon which IMPLAN is based, do not differentiate cooperatives from other business structures. Firms that share similar product mixes, production functions, and distribution of factor income, are grouped together under a single industrial sector or North American Industry Classification System (NAICS) code (Babcock, 1993; Sadoulet and De Janvry,

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2   The foundations of input-output modeling can be found in the pioneering work of Leontief in the 1930s, although it didn't gain in popularity until the late 1960s (Hewings, 1985). A social accounting matrix (or SAM) is simply an extension of an input-output framework. It requires dividing the economic sectors (or accounts) into endogenous and exogenous categories (Sadoulet and De Janvry, 1995).

3   For a more detailed description of input-output techniques see Miller and Blair (1985), Otto and Johnson (1993), Richardson (1972), or Shaffer et al. (2004). For a short, but informative review of the basic underlying concepts see Leistritz (2004).

4   Because of the relative ease of model construction and impact assessment provided by IMPLAN, it has become the preferred provider of impact assessment models in the U.S.

1995).[5] Therefore, within each NAICS code number, all businesses are assumed to have similar production functions and expenditure patterns. Within the input-output framework, this translates into assuming that the A matrix elements (the multipliers) are the same for all business structures within a single industrial classification.

Cooperative theory, however, suggests that this is an incorrect assumption (Fairbairn et al., 1995; Fulton and Ketilson, 1992; Merrett and Walzer, 2001). Cooperatives may purchase more of their inputs locally than other types of firms within the same industry classification.[6] Since generally cooperative owners are also community residents, they may support the purchase of local inputs (even if they are more expensive) because they will benefit from the long-term positive economic and social impacts local businesses have on the general community. Using parallel logic, local consumers may also purchase more locally if the community businesses are cooperatives and they are members. In this case, the consumption estimates (Y) in input-output might also be incorrect.

If spending patterns differ among business structures, this presents a specific form of aggregation bias that has not been previously acknowledged as a limitation to input-output analysis.[7] It suggests that economic sectors based largely on NAICS codes need to be further refined according to business structure. For example, the NAICS code 311511 might represent all non-cooperative milk processing firms while a new code could be established for all cooperative milk processing firms. New multipliers will also need to be calculated for the cooperative businesses. This requires a survey of cooperative purchasing patterns to test the hypothesis that cooperatives purchase more locally than comparable firms with other business structures.[8]

5   The North American Industry Classification System (NAICS) replaced the standard industrial classification (SIC) system in 1997. The IMPLAN model has 528 industrial sectors with no differentiation among business structures.

6   Applied research comparing local merchants with chain retailers (Civic Economics 2002) found that local firms generate greater local economic impacts. The results suggest that certain firms may spend more locally than other businesses.

7   Since input-output analysis aggregates data taken from a sample of firms, measurement error (or aggregation bias) certainly exists and is, to an extent, considered an accepted limitation of the model (Hewings, 1985).

8   The analysis would need to consider whether spending patterns are a function of local ownership rather than business structure. For example, do large, regional cooperatives spend more locally than non-cooperatives owned by local community residents?

Are patronage refunds incorporated into the analysis?

Cooperatives also differ from other business structures in how net profits are handled. Cooperatives predominantly use patronage refunds to share net profits with their members, a different mechanism from the dividends used by investor-owned firms. Further, owners of a publicly traded company receive most of their annual returns through the company's share price, not through dividends. In contrast, cooperative members receive patronage refunds but generally do not hold shares that bear a market value.[9]

The national firm surveys collected by the US Department of Commerce solicit information about dividends but not patronage refunds. Firm surveys done at the local level, to calibrate the national results, may also overlook patronage refunds when analyzing income. Surveys that request a firm's dividend returns will not be getting accurate data on patronage refunds since the two are not exactly similar (and a co-op may use both). Also, once the data is aggregated, the significance of the patronage refund levels would be lost (considering that co-ops are still a relatively small share of the total firm population in any given sector). Without accounting for patronage refunds, the local economic impact of cooperatives would be seriously undercounted (Leistritz, 2004). If these businesses were treated as investor-owned firms, those net profits would have either been re-invested in the firm or returned as dividends. In the latter case, the value-added estimate for local economies would probably be much lower since investors are generally spread across the country.

Even if patronage refund data is collected, additional issues arise in terms of how to analyze it. Total income within an input-output framework comprises all personal income plus property income, and therefore, dividends are included in this category. As Folsom (2003) notes, however, treating patronage refunds as property income would be incorrect when using IMPLAN since they are subject to different corporate level taxation rates than dividends. In addition, IMPLAN's assumption that some revenue leaks out of the region (to reflect returns to non-local investors) might also be inappropriate (i.e., all of a cooperative's patronage refunds may be returned locally). Finally, if a cooperative has replaced an investor-owned firm, technically some of the dividends included in the data set would have to be subtracted. This would be difficult to correct.

In response to the patronage refund issue, Folsom (2003) chose to consider patronage refunds and cooperative dividends as part of personal income. In Zeuli et al. (2003), patronage refunds and cooperative dividends were treated as a separate shock to final demand, thereby creating their own set of impacts

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9   In the U.S., the so-called New Generation Cooperatives are unique in that they offer shares that may be sold to other members at a "market" rate.

(generating slightly more than \$114 million in total income and almost \$50 million in tax revenues). Incorporating patronage refunds into the total income estimate would have generated essentially the same results (only a fraction of a difference) in their model. Bangsund and Leistritz (1998) was the only other study that addressed this issue; they treated patronage refunds as household income (or expenditures to the household sector).

What is the region of study?
Defining the region of study is another key decision in input-output analysis since the direct effects data must only reflect expenditures in that area (Hastings and Brucker, 1993; Leistritz, 2004). For example, if the research objective is to measure the local impact of cooperatives, then it may seem reasonable to limit the study area to a single town or county. However, if the economic activities of local cooperatives extend beyond the town or county, the cooperatives would have to provide estimates of the number of jobs, wages, income, and taxes for the town or county in question. It is dubious to expect that many cooperatives would be willing or even able to accurately segregate their figures by town or county since most businesses do not separate their employment and financial information geographically.

Defining the region of study and collecting accurate data were issues addressed by both Zeuli et al. (2003) and Folsom (2003) since Wisconsin and Minnesota are home to many large cooperatives that are headquartered elsewhere and/or have significant business out of state (e.g., Land O'Lakes). In Zeuli et al. (2003), the original intent of the study was to analyze the local (county-level) and state impacts of the cooperative sector. Assessment at the county level was quickly deemed inappropriate, however, since most co-ops in the state operate in multiple counties and in some cases, states. They decided to extend their survey to some cooperatives *operating* in the state (rather than only those registered in the state). In a somewhat unsystematic process, key informants identified eight large agricultural marketing cooperatives that were operating in Wisconsin, but registered in another state. The marketing cooperatives were asked to provide gross sales, number of members and employees, and salary figures that represented only the Wisconsin portion of their business. Folsom (2003) included only the co-ops registered in Minnesota, but asked the co-ops to estimate the percentage of expenditures going out-of-state. He used this percentage to reduce the gross revenue figures provided by the co-ops. The Folsom (2003) survey recognized the fact that the percentage may have been a rough estimate and thus, may not have lead to entirely accurate results either. Parsing expenditures by county or state may be easier with new cooperative start-ups, the subject of many Leistritz studies (Leistritz, 2004).

Another issue is how well the constructed input-output model reflects the region of study. Many models are created "top-down", where the national input-output model is used as a benchmark for building local models. By assuming that local production technologies are identical to national averages, it is further assumed that the local direct requirements matrix (A) mirrors the national matrix. The coefficients in A should be adjusted to reflect the local availability of various goods or services. If the local economy is unique, with substantially different production technologies than national averages, a more accurate analysis would require constructing a model "bottom-up" using survey data. While this type of model is generally considered superior to other approaches, they are expensive and time consuming to build and maintain. All of the Leistritz studies are built around primary survey data. The North Dakota Input-Output Model was built "bottom-up" by analysts interested in cooperatives, and since cooperatives play a prominent role in many sectors of the state's economy, it may more accurately represent the spending patterns of cooperatives and cooperative members.

What is the unit of analysis?
In most of the input-output studies measuring the impact of the "cooperative sector" (roughly defined as all of the cooperatives in a given geographic region), all cooperatives were grouped together in a single sector. While this may seem like a rational method given certain research objectives, it creates another aggregation issue since the co-ops clearly have diverse product mixes, technology, and behavior. For example, Coon and Leistritz (2001) collectively analyzed credit unions, housing, farm supply and other types of co-ops. They justified this treatment by stating, "it was not the intent of this study to analyze the economic contribution for each cooperative type, but rather for all cooperatives in the state" (p. 1). Aggregating all cooperatives into a single sector creates skewed results and may change the total economic impact numbers; in addition, it also hides the respective impacts of each cooperative type. For example, Zeuli et al. (2003) separated their co-op data into six sectors for analysis: agricultural marketing; farm supply and services; credit unions and farm credit associations; food cooperatives; utilities; and other cooperatives. If instead they had grouped all the cooperatives together, their results would be difficult to interpret since credit unions (by virtue of their numbers, treatment of dividends, and response rates) distort some of the information (e.g., taxes and patronage).

Is the data reliable?
Collecting cooperative data in general poses yet another obstacle for input-output modeling. In the U.S., some detailed firm-level data on agricultural

cooperatives is tracked by USDA-Rural Business Cooperative Services (RBCS), although there is no legal requirement for cooperatives to provide such data. Data on other cooperatives in the U.S. is more difficult to find (Bernardi and Zeuli, 1998; Folsom, 2003). Even identifying cooperatives to survey can be difficult since cooperatives may register with different state and federal departments depending on state regulations and their sector. For instance, in some states credit unions and mutual insurance companies do not register with the same state agency as other cooperatives (agriculture, consumer, etc.) since they are governed by separate statutes (Zeuli et al., 2003). Also, once they are incorporated, state agencies do not regularly update their list to account for firms that are no longer in business. Finally, some cooperatives that do business in one state are incorporated in another (for legal reasons or because of headquarter locations). Therefore, analysts need to decide if they are estimating the impact of all cooperatives operating in a given area or simply those incorporated in that area. Once identified, cooperatives need to be surveyed not only about their financial situation (income, jobs, taxes, etc.), but also about their spending patterns to construct an accurate transactions table or to properly describe the change in final demand for impact assessment.

McNamara et al. (2001) collected employment and financial data from 70 local cooperatives in Indiana and Colorado. Zeuli et al. (2003) received membership, employment, and fairly detailed financial information from 798 cooperatives (all types) in Wisconsin. Folsom (2003) collected membership, employment, and fairly detailed financial information from 496 cooperatives (all types) in Minnesota. Unfortunately, none of the studies gathered information on cooperative spending patterns. This would have required more extensive surveys, which would likely have resulted in lower response rates. As noted above, all of the Leistritz studies are built around primary survey data and, therefore, their results may more accurately represent the economic impacts of cooperatives.

Moving Beyond Input-Output

The previous section highlighted the limitations of input-output analysis when measuring the local economic impact of cooperatives. Researchers can certainly improve the accuracy of their measurement by dealing appropriately with the five issues we highlighted, including collecting data from cooperatives regarding their local employment numbers, income, purchasing patterns, and patronage refunds. No matter how accurate the modeling efforts are, however, input-output

analysis will never be able to measure the total value of cooperatives to either their local economies or to their members. Input-output models cannot tell us what local economies would be like in the absence of cooperatives. In short, input-output models cannot fully measure the marginal contribution cooperatives, as compared to other business structures, make to local economies.

To gain a full estimate of cooperatives' local economic impact, therefore, one must move beyond input-output analysis. From a purely economic perspective, cooperatives are formed in response to market failure and generally not to promote local economic development (Schrader, 1989; Fairbairn, 2004; Zeuli and Radel, 2005). More specifically, rational agents create many cooperatives to either counteract unequal market power (the competitive yardstick theory) or provide missing services, the two foremost economic justifications for cooperatives. Therefore, any coherent measure of cooperatives' local economic impact must include their ability to improve market efficiency in these two areas.

Measuring the competitive effect of cooperatives involves calculating their market share in their given industry as well as the influence they have had on member returns (i.e., the savings or additional revenue they received from cooperative membership). The first is relatively straightforward since market shares are often reported by government agencies or academics. The latter is more complicated because it involves estimating the prices members would have received in absence of the cooperative. For instance, for U.S. dairy farmers, we would need to measure the difference between the prices they receive for their milk today and the prices we would *expect* them to receive had they never established cooperatives. For newly emerging cooperatives in local economies with no other cooperatives in the same sector (e.g., forestry cooperatives or cooperative day care centers), this estimation may not be very challenging. One can easily compare the price of the cooperative with the comparable non-cooperative price. However, in many sectors, such as the U.S. dairy industry, cooperatives have had a strong presence for several decades and thus, predicting the expected price becomes mired in all of the challenges that accompany any type of price prediction. The well developed methodologies from anti-trust or cartel research, where they attempt to measure the "overcharges" generated by the collusion, could be adapted to solve this estimation problem (Connor, 2005).

Once the net benefits (savings or revenue) to the consumers (members) were estimated, one could use input-output to provide a rough approximation of the local economic impact (i.e., the multiplier effects, assuming the money was spent locally). To be completely thorough, one would also have to estimate any negative effects from cooperatives on consumer welfare (e.g., have dairy

cooperatives also increased consumer milk prices beyond what they would have been in their absence?).

In the U.S., the prominent role of rural electric cooperatives remains a classic (and impressive) example of people acting collectively in the 1930's to provide a missing service in their economy. As often as this example is cited, however, no one has attempted to measure the economic impact of the rural electric cooperatives. As Zeuli and Cropp (2004) state, "a formidable argument could be advanced that rural electric cooperatives are responsible for bringing about one of the more profound changes in U.S. agriculture" (p. 19). It seems highly probable that eventually non-cooperatives would have extended electricity to rural areas. The question that needs to be answered then is what was gained by providing the service earlier and perhaps at a cheaper rate? What were the economic ramifications (growth, efficiency, etc.) for rural households and businesses? What are the advantages of rural electric cooperatives today? It would be interesting to compare similar local economies that have had different electricity providers (cooperative and non-cooperative).

Similar research should also be conducted in other sectors. How many businesses in local communities would not have existed had they not been structured as cooperatives? This question has been addressed in two regional studies: Bhuyan and Leistritz (2000) in the US and Fulton and Ketilson (1992) in Canada. Both studies found various types of businesses that were created because other types of firms were unwilling to provide the goods and services. In general, since cooperative members are also community residents, they are still acting rationally when they choose to accept lower profits than the owners of publicly-traded companies require, if their investment provides an important service or product for the community (Enke, 1945; Fulton and Ketilson, 1992). Therefore, research analyzing the local economic impact of cooperatives needs to establish whether existing cooperatives were created in reaction to either a non-cooperative firm leaving the community or a community need that was not being met by other businesses.

In addition, the number of businesses operated by cooperatives should also be counted. For example, local agricultural cooperatives in the U.S. frequently purchase non-related stores (e.g., bakeries, auto parts, etc.) in their rural towns and run them as wholly owned subsidiaries (Zeuli et al. 2005). Typically, the cooperatives are acting as buyers of last resort. Without their purchase, the stores would close and community residents would be forced to patronize stores in other communities (Fairbairn et al., 1995).

Finally, the contribution of cooperatives to local economic stability, or long-term growth and resilience, is another and perhaps the most important measure of their economic impact. One of the major drawbacks of input-output analysis is

the fact that it is a static measurement, capturing the impact of cooperatives at a single point in time. Yet, one of the most compelling arguments for cooperatives as agents of local economic development is their willingness (their incentives) to remain in a local community longer than investor-owned firms (Fairbairn et al., 1995). This premise could be measured by collecting data on business retention patterns in the community over several decades and developing econometric models that estimate the significance of the cooperative structure on the probability of staying in business and staying in the community. A survey of cooperatives asking if they have ever considered leaving the community (or closing local branches), and their reasons for not doing so, would also yield useful information.

The contribution of cooperatives to community resiliency goes beyond their willingness to stay in the community. An indirect effect of doing so, for example, is the ability for a community to attract other businesses (via a vibrant Main Street, healthy industry, etc.) and its ability to develop additional cooperatives. One could survey local community businesses to ask what attracted them to the community or, if a cooperative, whether their founding members had prior experience with other cooperative development in the town. Another argument in favor of cooperatives is the belief that they have lower failure rates than other new business start-ups. A thorough study in Canada provides empirical data to support this theory (Quebec Ministry of Industry and Commerce, 2000). One could replicate their methods to test the premise locally. To gauge the total effect of cooperatives on community resiliency one would have to compare economic indicators from a set of similar communities (differing by the number of cooperatives) over a period of time (of sufficient length to capture economic downturns). Alternatively, one could analyze the ability of a group of comparable communities (again allowing for differences in cooperation) to adjust to a similar local economic crisis (e.g., the loss of a major employer or industry).[10]

Conclusion

Measuring the local economic impact of cooperatives is a daunting, but not impossible task. Input-output analysis has already been used to measure the fundamental economic impacts of cooperatives. The challenges cooperatives

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10 Leistritz, Bastow-Shoop, and Ekstrom (1987) offer an interesting prototype. They surveyed six communities to gauge how well they adjusted to a declining farm economy.

create for conventional input-output based economic impact analysis stem from the fact that cooperatives may have a different relationship with local economies than other business structures. A review of the existing input-output studies of cooperatives illustrates some of these challenges. Since IMPLAN, the most widely used input-output modeling system available in the US, does not segregate firm data based by business structure, data from cooperatives (including local jobs, income, purchasing patterns, and patronage refunds) will need to be collected to improve the accuracy of input-output analysis.

No matter how accurate the modeling efforts are, however, input-output analysis will never be able to measure the total value of cooperatives to either their local economies or to their members. Input-output models can measure the jobs, income, and taxes generated by existing cooperatives and the economic impact of future cooperatives. What they cannot do is tell us what local economies would be like in the absence of cooperatives. In short, input-output models cannot fully measure the marginal contributions cooperatives, as compared to other business structures, make to local economies. As discussed above, they can measure the economic impact of patronage refunds (provided additional data is supplied by the researcher), but this is only one component of their total net economic benefit. Input-output models can neither measure the savings that cooperatives may offer their members nor the economic effects from what members elect to do with those savings. They are also unable to account for the increased profitability that members may achieve through their cooperative business and how they spend those personal profits in the broader economy.

A coherent measure of cooperatives' local economic impact must account not only for such market power effects, but also their ability to correct another market failure: missing services. How many businesses in local communities exist only because they are structured as cooperatives? The contribution of cooperatives to local economic stability, or long-term growth and resilience, is another (perhaps the most) important measure of their economic impact. Are co-ops willing to remain in a community longer and do they have a higher probability of survival than other types of businesses? The relevance of the answers to these questions goes beyond accurately measuring co-ops economic impacts; they should also be used to inform co-op members who are struggling with conversion (demutualization) decisions. The short-term financial gains they may receive from the sale of their cooperative should be weighed against a comprehensive measure of the economic losses for themselves, future members, and their community.

Obviously, the focus of our paper is measuring economic impacts and does not suggest methods for measuring the social contributions of cooperatives. There is certainly a direct link between financial capital, social capital, and

human capital (MacLeod, 1997). True community development requires all three forms of capital (Zeuli and Radel, 2005). Recent research has helped advance our ability to measure the social contributions of cooperatives (e.g., Nembhard, 2004; Quarter et al., 2003; Walzer and Merrett, 2002), but as those authors acknowledge, additional research is necessary to create generalizable results and more operational models.

There are distinct differences in why and how cooperatives engage in community development activity. These differences reflect the capacities and cultures of cooperatives over time. As direct federal assistance for rural development declines in the US and elsewhere, the need for cooperatives to play a more vital role in rural economic development is more significant than ever before. It is essential for scholars, stakeholders, community advocates, and the general public to have an accurate understanding of not only the degree of local economic development cooperatives have been able to achieve, but how to promote additional cooperative development in rural communities where cooperatives have been a less successful community development strategy.

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