2016

# Current Trends in Cooperative Finance

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In recent years three important trends have become apparent among grain marketing and farm supply cooperatives. These farmer owned firms have been rapidly investing in infrastructure, reformulating profit distribution and equity strategies, and have pursued consolidation with other cooperatives. This manuscript explores the factors contributing to those trends, the implications for cooperatives leaders, and the impacts on farmer members.

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**Disciplines**
Agricultural Economics | Finance and Financial Management | Growth and Development

**Comments**
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**JEL Classification:** L22, L66, Q13

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Appreciation is expressed to Michael Boland, University of Minnesota for his review and helpful comments on an earlier version of this manuscript

**Current Trends in Cooperative Finance**

Introduction

The cooperative business model has several unique aspects including the systems for distributing profits and the structure of owner's equity. In turn, cooperatives manage distinct financial issues not faced by investor owned firms. Among U.S. agricultural cooperatives, including grain marketing and farm supply cooperatives, three recent trends have emerged. First, cooperatives have recently made unprecedented reinvestments in infrastructure in responses to changes in their business environments. Next, cooperatives have also reformulated their strategies for profit distribution and equity creation. Finally, agricultural cooperatives have and are going through a period of rapid consolidation through mergers. Because of the importance of U.S. agricultural cooperatives to producers and the overall agricultural economy, these trends are worthy of closer examination.

Short Background on Cooperative Finance

Cooperative firms distribute profits in proportion to member use, a system commonly referred to as patronage distributions. This is in contrast to profit distribution in investor owned firms where profit distribution is based on ownership. Patronage distributions eliminate any direct benefit of equity ownership and is therefore also responsible for the unique equity structures of cooperative firms.

While there are minor variations in structure, many U.S. agricultural cooperatives follow this traditional cooperative structure. According to Chaddad and Cook (2004), nearly all U.S. grain marketing and farm supply cooperatives, as well as most dairy and cotton cooperatives, are classified under this structure. These cooperatives are often described as open membership cooperatives because producers can join at any time. To become a voting member and receive patronage from the cooperative, a producer has to make nominal investment in a cooperative's non-tradeable membership share.

Traditional open membership cooperatives create or accumulate the majority of their equity by retaining profits. This is accomplished by retaining a portion of patronage refunds and issuing equity shares to members instead of cash patronage. These equity shares are eventually redeemed by the

cooperative, and are therefore referred to as revolving equity. Cooperatives use a number of different strategies for redeeming equity including systems based on the year the stock was issued, the age of the patron, a percentage pool, and other criteria. The average U.S. agricultural cooperative revolves equity on an 18-year basis (Eversull 2010). In addition to this revolving equity, the cooperative may also retain profits from nonmember business and a portion of the profits from member business as unallocated equity (retaining earrings) which are typically never redeemed. It is worth noting that while there are agricultural cooperatives operating under different structures than these (e.g., pooling cooperatives, new generation cooperatives), the issues discussed in this paper do not apply to those structures.

In a traditional open membership cooperative, the board of directors makes profit distribution decisions on an annual basis. The first step, which is mandated by the Internal Revenue Code of 1986, is to separate member-based profits from nonmember profits. Cooperatives typically retain the after-tax portion of nonmember profits as unallocated equity that is not redeemed. The board has a number of choices for retaining or distributing member-based profits. The profits can be distributed to members in the form of cash patronage (redeemed in cash immediately) or as retained patronage which is redeemed for cash at a later date. When a cooperative retains patronage, they distribute that portion of the profits in the form of equity certificates or equity credits. The equity created through retained patronage is classified as allocated equity because it is designated to particular members.

Cooperatives are allowed to exclude patronage distributions to members from their taxable income calculations. Sub Chapter T of the U.S. tax code provides cooperatives this tax treatment because the cooperative operates as an extension of its members' farms. While cash patronage is excluded from taxable income in the year it is distributed, a cooperative has two choices in issuing retained patronage. It can issue qualified allocated equity which is excluded from taxable income in the year it is distributed. The other choice is to issue nonqualified allocated equity which is excluded from taxable income in the year it is redeemed for cash. In either case, the tax liability is ultimately passed through to the member.

Thus, the choice of qualified or nonqualified retained patronage impacts the timing of the taxation and has cash flow implications for both the cooperative and member.

Historically, most U.S. agricultural cooperatives have distributed retained patronage in the form of qualified allocated equity. The reason for primarily issuing qualified allocated equity was because farmers typically were subject to a lower tax rate than the cooperative. Before the 1980s, individual tax rates were substantially lower than corporate tax rates. As a result, farmers paid less tax on qualified distributions than the cooperative would pay on nonqualified distributions. Given farmers are the owners of the cooperative, it was to their overall benefit for them to immediately pay taxes on the profits at their tax rate rather than "park the taxation" in the cooperative at a higher rate. Today, effective corporate tax rates and individual tax rates are nearly the same. Farmers and cooperatives do not have the same clear-cut decision to only issue qualified allocated equity. In many cases, grain marketing and farm supply cooperatives are beginning to issue nonqualified allocated equity to their farmer-owners (Kenkel, Barton and Boland, 2014)

Recent Investment Trends in Grain Marketing and Farm Supply Cooperatives

In recent years, grain marketing and farm supply cooperatives have made unprecedented investments to construct new assets and replace existing assets for handling grain and oilseeds, crop nutrients, chemicals, energy, and agronomic services. In some cases this is a result of past decisions by cooperative boards of directors to delay reinvesting in infrastructure due to competing needs for cash for cash patronage and equity redemption programs. Basnet and Kenkel (2014) analyzed grain handling infrastructure in Oklahoma and determined that 74% of the steel structures and 91% of the concrete structures were beyond their design lifespan. The authors estimated that grain handlers (both cooperative and private) needed to invest $270M to replace obsolete structures.

Risch et al. (2014) describe the changes in cropping patterns, farming practices, and crop yields which have necessitated these investments which led to increased supply and greater volumes of grain

and oilseeds being handled by marketing cooperatives. These increases have placed stress on facilities which were not designed for the current throughput. Boland (2012) documented the net capital investment (the amount by which capital expenditures exceed depreciation) has been dramatically increasing for grain marketing and farm supply cooperatives. Net capital investment provides a measure of the increase in productive capacity of the firm. These investments have totaled billions of dollars in grain and oilseed storage, crop nutrient and chemical storage, application equipment, and similar assets. It is evident that many cooperatives are responding to member's needs for "speed and space".

An agricultural cooperative can also be thought of as an extension of the farm firm, facilitating scale economies in input acquisition and marketing. The decision to invest in cooperative infrastructure can also be viewed as an allocation of resources between the cooperatives and their producer members. Russell and Briggeman (2014) analyzed the cooperative's decision to distribute cash patronage or retain funds using a two period portfolio model. Because of the complexities of modeling revolving equity, the authors limited the decisions to issuing cash patronage or retaining funds as unallocated equity. They did not include the more common practice of retaining funds as allocated revolving equity. Historical data from the Kansas Farm Management Association and CoBank were used to model the return on assets (ROA) and effective cash rates for Kansas grain and farm supply cooperatives and Kansas farm operations. Based on those historical data series, the average ROA of the cooperatives was higher than that of farm firms (8.5% versus 3.6%). The cooperatives also had lower effective tax rates (9.4% versus 14.1%) and the variance of the cooperative's ROA was less than that of the farm ROAs. The results indicated that the optimal profit distribution allocation was to distribute a small portion of profits to members as cash patronage (10%) and retain the remainder for investment in the cooperative firm.

The insights from Russell and Briggeman's (2014) portfolio model are consistent with the previous discussion on the need for speed and space. Historically, grain producers have utilized on-farm grain storage and producer-owned application equipment as well as participating in those services through agricultural cooperatives. As grain yields have increased, along with average farm size, producers were

faced with decisions to upgrade farm level investments or increase the use of grain handling and application services through their cooperatives. On net, producers decided to source those services through their cooperatives. In the December 1999 USDA position report, 66% of the U.S. corn stocks were stored in on-farm storage. By 2015 that level had fallen to 45% (U.S. Department of Agriculture NASS). Producers' collective decision to store a greater portion of grain in their cooperatives, coupled with the increasing grain yields, contributed to the higher ROAs of cooperative firms. Those ROAs encouraged cooperative boards to invest in infrastructure.

Profit Distribution Reformulation by Cooperative Boards of Directors

The increased net investment by agricultural cooperatives created a parallel need for increased equity. That contributed to a second trend: reformulation of strategies for profit distribution and management of revolving equity. As discussed, the cooperative board has three options for increasing equity. They can retain the after-tax portion of profits as unallocated reserves. Alternatively they can retain the after-tax portion of profits as nonqualified allocated equity, an action which creates a future redemption obligation as well as a future tax deduction. Finally, the cooperative can retain a higher portion of funds as qualified allocated equity. Qualified allocations allow them to immediately exclude the distribution from taxable income but it also creates a future equity redemption obligation. Retaining funds as qualified allocated equity creates taxable income for the member. Under Sub Chapter T, a cooperative must pay at 20% of entire patronage allocation in cash in order for the retained portion to be treated as a qualified distribution. In practice, most cooperatives pay a higher portion of cash so that the producer will have sufficient cash to pay the associated tax obligations.

Impact of the Domestic Production Activities Deduction

As discussed, cooperatives are typically able to retain only the after-tax portion of profits which are channeled to unallocated equity or nonqualified allocated equity since the cooperative is not able to deduct profits channeled to those choices. However, since 2004 U.S. marketing cooperatives have been able to use a deduction against patronage income (analogous to a tax credit) called the *Domestic*

*Production Activities Deduction* (DPAD) This allowed them to retain profits as unallocated equity without the associated increase in tax liability (Kenkel, Barton, and Boland, 2014). The DPAD also increased the attractiveness of retaining profits as allocated nonqualified equity but some cooperatives were reluctant to engage in the communication campaign to explain the new class of equity to their members.

In recent years, grain marketing and farm supply cooperatives have employed multiple strategies to generate the equity and cash flow required for infrastructure investment. The overall tendency has been toward retaining a greater portion of both local profits and distributions from regional cooperatives as unallocated equity. Boland (2012) presented data from 441 farm supply and grain / oilseed marketing cooperatives. Figure 1 illustrates a fairly dramatic increase in the ratio of unallocated equity to total equity. A number of factors likely contributed to this shift. The availability of the DPAD allowed cooperatives to retain profits as unallocated equity without increasing their tax liability.

Many cooperative members are unenthusiastic about receiving patronage in the form of qualified allocated equity due to the tax effects. In some cases, depending on the cash patronage percentage and the member's tax rate, the patronage distribution can even be cash flow negative. Additionally, while cooperative members must receive written notice for allocations of cash, qualified equity and nonqualified equity patronage, information on retention as unallocated income is available only in the audit or in the financial report at the annual meeting. Some cooperative boards may determine that retaining funds as unallocated equity is less controversial. Many boards are also concerned about future equity redemption obligations and/or want to reduce equity revolving periods. Retaining more funds as unallocated equity does allow the cooperative to revolve the allocated equity more rapidly.

Impact of Profit Distribution Strategies on the Cooperative Members' Return

Kenkel (2015) considered the question of how profit allocation impacted the member's rate of return from the cooperative. The study used a time series of financial data from 10 case study and a financial simulation program to create a 30 year set of pro-forma financial statements for each

cooperative. The simulations set the asset growth and reinvestment to be consistent with each cooperative's historical average and modeled the existing equity redemption system. The study examined profit distribution strategies that involved retained funds as unallocated equity, qualified allocated equity and nonqualified allocated equity. The cash patronage rates were adjusted so that each strategy generated the same cash flow to the cooperative. The members' internal rate of return from the cooperative (cash patronage plus eventual equity redemption) was calculated with and without the assumption that the cooperative took advantage of the DPAD. The tax rates for the cooperative and member were consistent with the levels determined by Russell and Briggeman (2014).

The results, which are shown in Figure 2, indicated that retaining funds as nonqualified allocated equity maximized the members IRR with and without the DPAD. If the cooperative did not use the DPAD retaining funds as unallocated equity (the apparent choice by cooperative boards) yielded the lowest member return. If the cooperative used the DPAD retaining funds as unallocated equity yielded a lower member IRR relative to retaining as nonqualified allocated equity but was slightly superior to retaining profits as qualified equity.

When cooperatives take advantages of the DPAD they can shift from retaining funds as qualified equity to unallocated equity without reducing cash patronage and still maintain the same cash flow. If the cooperative has a low cash patronage rate and long revolving period (as was the case in some of the case study firms) the member's IRR is actually improved by not receiving the tax obligation of the qualified equity distribution even though they give up a redemption payment in a future period. Retaining profits as nonqualified equity was still a better choice since it had the same tax effect on the member in the distribution year and led to an eventual cash flow from equity redemption. These results suggest that cooperative boards of directors may need more education to understand their profit distribution choices and the impacts on the members.

Consolidation of Agricultural Cooperatives

A final notable trend is the increase in mergers of local grain marketing and farm supply cooperatives (Eversull, 2014). Periods of increased consolidation across the agricultural retail sector were experienced throughout the 1980s and 1990s; however, the current activity appears to be less cyclical and motivated by somewhat different factors. While this trend is undoubtedly interrelated with both increased net capital asset investments and shifting profit allocation strategies, human capital factors are playing an increasing role.

Historically strategic growth and financial hardships have been the key drivers to consolidation activity in retail agriculture. Jacobs (2016) documents the change in Iowa cooperatives from 1980 – 2015, illustrated in figures 3 and 4. The change in the number of Iowa cooperatives is representative of the grain and farm supply cooperative sector. During the mid-1980s to mid-1990s time period cooperative consolidation occurred in cycles when financially stressed cooperatives merged with other cooperatives or were purchased by private firms. Since the late 1990s, consolidations between cooperatives has been more consistent. The outcome of the consolidation activity since 1980 has been fewer cooperatives, but not fewer locations to serve members. Figure 4 shows, for Iowa, the number of cooperatives and total locations over the period 1979 – 2015. Consolidation between cooperatives has not resulted in a significant drop in the number of locations being managed.

Economies of scale and scope and improvement in equity structures have been the historical driving force of cooperative consolidation. As cooperative firms explore reinvestment in grain storage and crop nutrient handling, it is natural to consider alliances that can accommodate larger-scale regional facilities (McKee, Wilson and Dahl, 2015). The development of jointly owned assets is often a stepping stone to the exploration of unification of the two firms. In other cases, cooperatives consider a merger as direct path to develop a larger scale regionally located facility. Cooperative unification can also be perceived by members of a smaller cooperative as a pathway to more rapid equity redemption. The length of the equity revolving period is closely linked to profitability. Larger cooperatives tend to achieve scale economies that generate higher profitability and allow them to revolve allocated equity more rapidly. The

possibility of more rapid equity redemption can make a merger opportunity attractive to a smaller cooperative's membership.

Human resource issues are a more recent factor contributing to cooperative mergers. Froelich, McKee and Rathge (2011) investigated succession planning in cooperative and non-profit firms. Of the almost 250 firms responding he found that 28% anticipated CEO retirement within 4 years, 64% within 9 years. As a cooperative CEO approach retirement the board often considers whether it might be easier to merge than to identify, recruit and hire the needed level of management talent. McKee and Froelich (2016) also found that boards faced with CEO succession prefer candidates from their same business sector (cooperative firms prefer managers with cooperative management experience) and that they limited their search to a regional scope. Because of these tendencies, cooperative boards often find themselves trying to recruit management talent from a small pool and are competing with neighboring cooperatives.

Smaller cooperatives have somewhat different management resource issues. As the CEOs of these firms gain experience they are often recruited to manage larger cooperatives. Smaller, single location cooperatives are often unable to afford the caliber of mid-level management that can be developed into a CEO. That generates a continuing series of disruptive CEO successions that leads the board to explore unification with another cooperative to achieve a firm size that will attract and maintain a quality CEO.

## Conclusions

Grain marketing and farm supply cooperatives are an important component of the U.S. agricultural cooperative sector and an integral part of U.S. grain production. In recent years these member owned firms have rapidly grown their asset base, consolidating with other cooperatives and shifting to a structure of more permanent equity capital and less revolving equity. All of these changes have been driven by needs to adapt to a changing industry environment and customer base. These changes have also added to the complexity of leading a cooperative. Cooperative boards of directors and senior management teams need a level of financial literacy and business acumen that far exceed historical

levels of knowledge. The agricultural economics and agricultural finance professions have the opportunity to assist cooperatives by further investigating these trends, and developing applied research that can be disseminated to cooperative directors, managers, and employees.

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USDA, National Agricultural Statistics Service, March 2016, 'Grain Stocks'

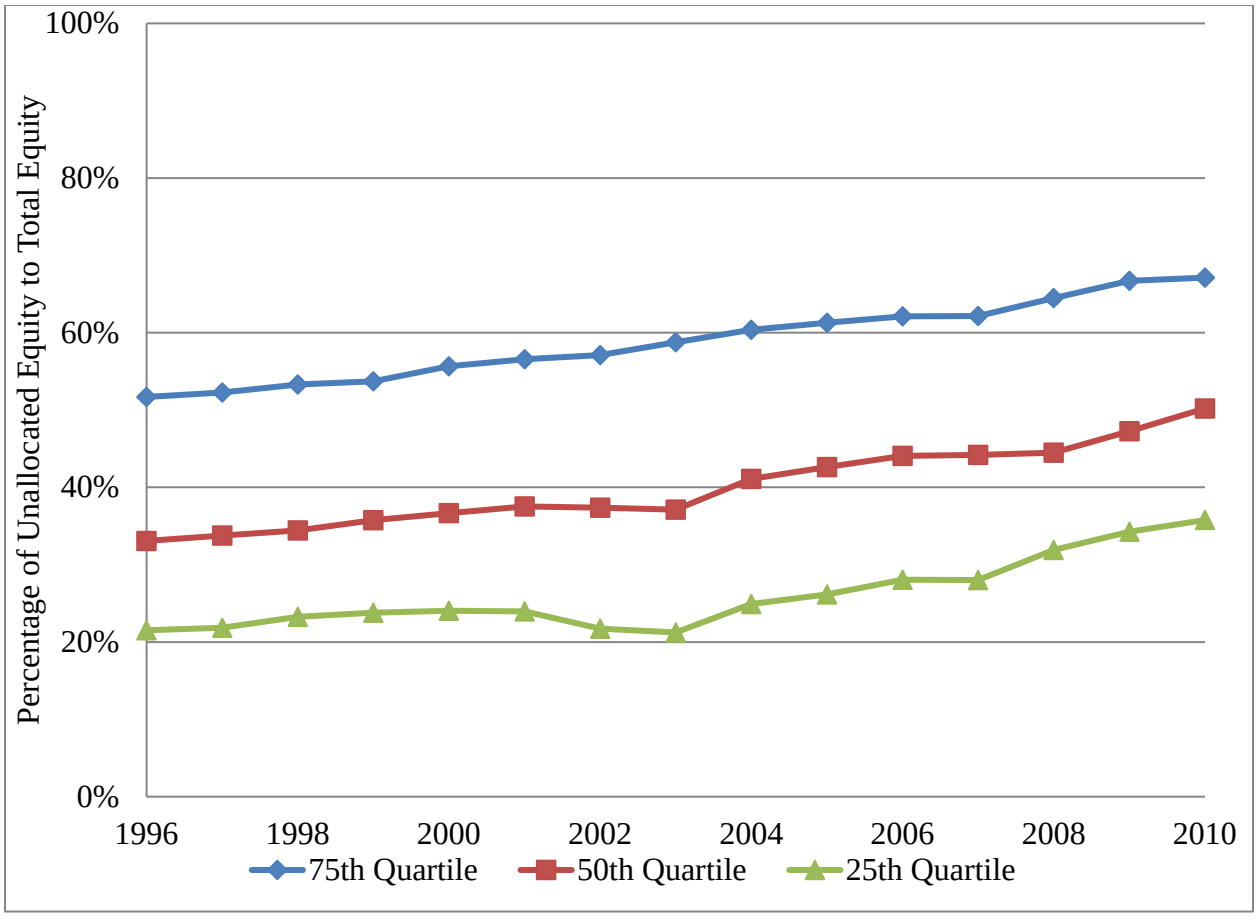


Figure 1: Unallocated equity as a percentage of total equity for local farm supply and grain and oilseed marketing cooperatives, 1996 to 2010

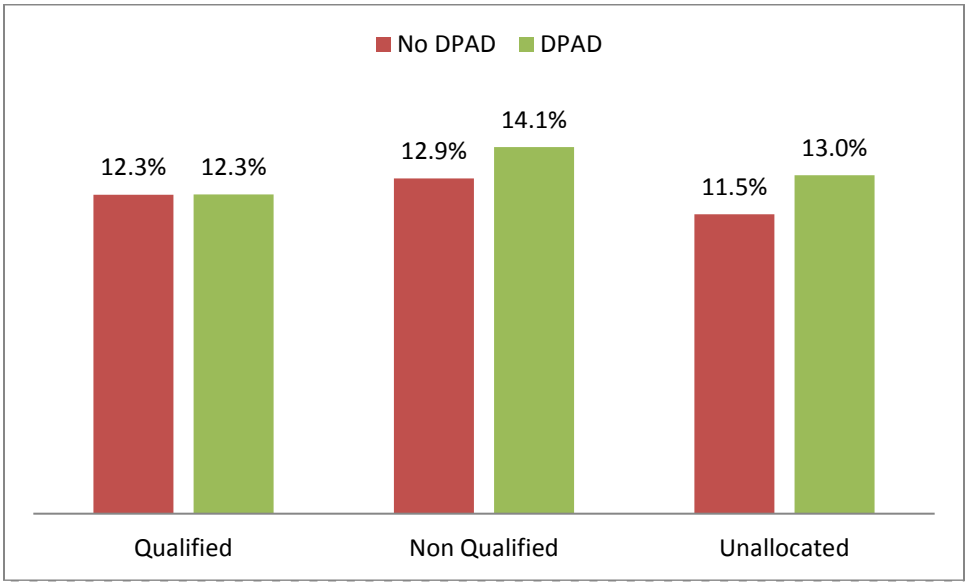


Figure 2. Domestic Production Activities Deduction (DPAD) Impact on Cooperative Members' Internal Rate of Return

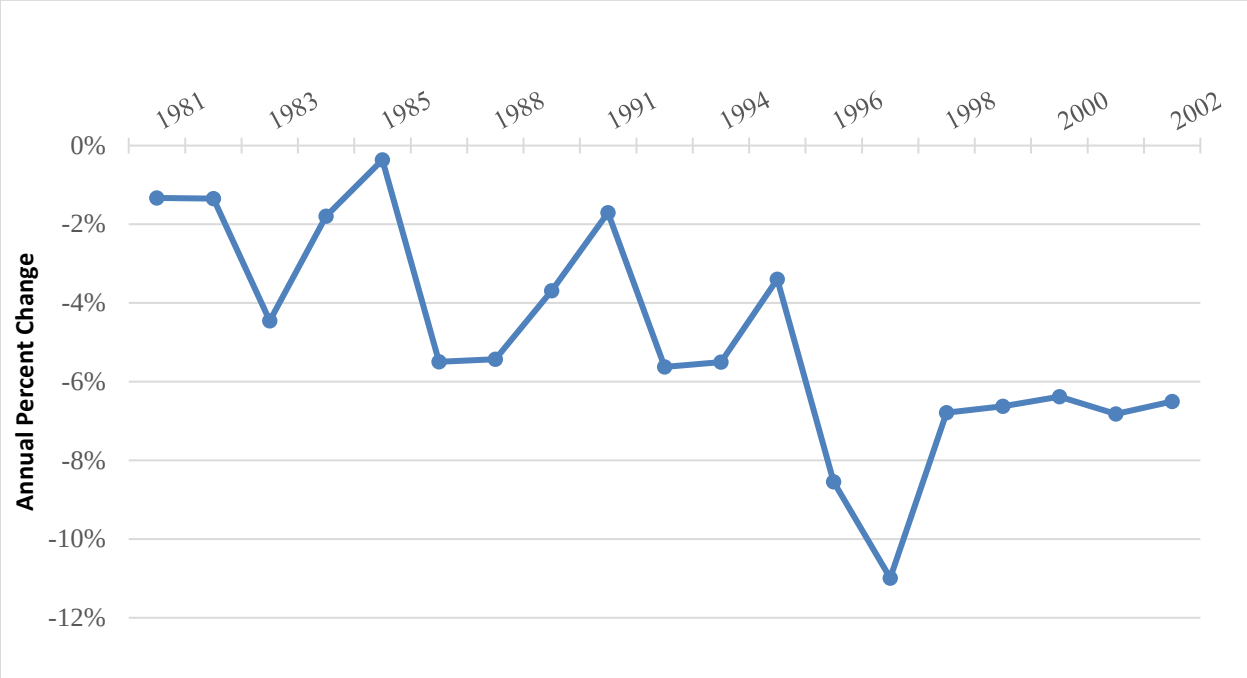


Figure 3. Annual Percent Change in Number of Iowa Cooperatives

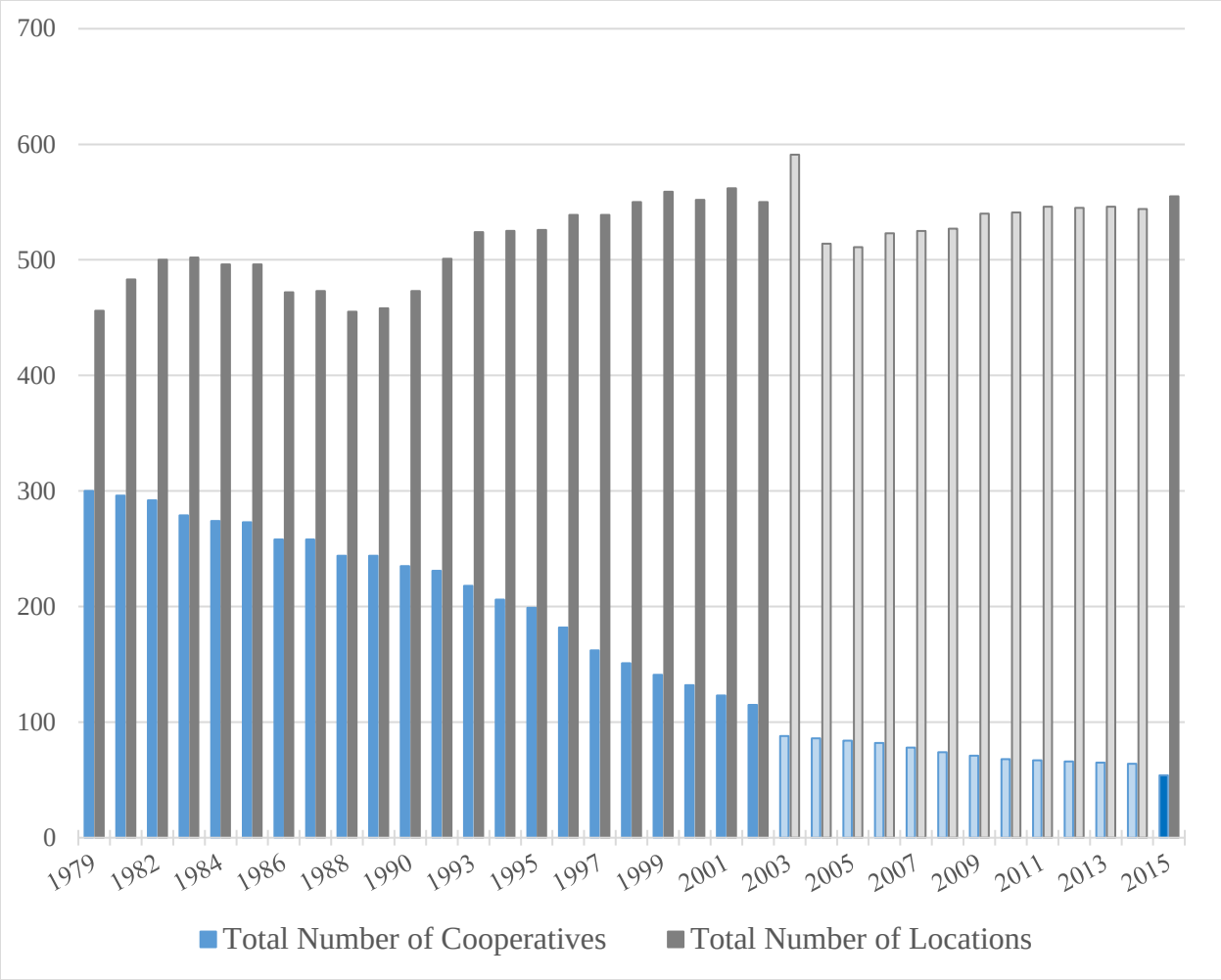

Figure 4. Total Iowa Cooperatives and Locations, 1979 – 2015