# Sustainable Growth Rates for Cooperatives

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Nathan Smart
Graduate Research Assistant
Department of Agricultural Economics
Kansas State University

Brian C. Briggeman, Ph.D.
Professor and Arthur Capper Cooperative Center (ACCC), Director
Department of Agricultural Economics
Kansas State University

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Many cooperatives are growing at an exceptional rate. Cooperative growth has been driven by producer consolidation, a highly competitive marketplace and new opportunities through rising global demand. Agricultural producers have benefited from this growth through various investments such as grain storage and train loading facilities as well as enhanced access to technology. However, if this growth is unsustainable, the cooperative could experience significant financial stress, which could potentially harm the producer.

The purpose of this fact sheet is to examine the sustainable growth rate (SGR), which can be used by a cooperative's management team and board of directors to monitor a cooperative's growth. The sustainable growth rate (SGR) is a financial metric used by many businesses to address potential growth problems. Monitoring growth via the SGR is done through examining four key financial ratios – earnings retention, leverage, profit margin, and operating efficiency. Each of these ratios positively impact the SGR, and if examined carefully, can show opportunities for improvement and challenges.

When the SGR is compared to actual growth rates of the cooperative, the sustainable growth challenge (SGC) can be identified. Higgins (1977) states that the SGC is found by subtracting SGR from actual sales growth rates. The SGC is a straightforward way to see how far a firm is straying from the SGR and, over time, see where the correction was made to converge to the SGR. If a business has a negative SGC, then actual growth rates exceeded SGR, which means outside financing is necessary to fund growth. If SGC is positive, then the firm is not meeting their growth target and potentially not capturing their full value for their owners.

A key takeaway of the SGR for a cooperative board of directors is that growth of a firm is not an independent decision, but an interdependent decision of acceptable financial and operating ratios. Understanding how these ratios interact within the SGR, is a key learning objective of this fact sheet. To illustrate this objective, the SGR is applied to Kansas cooperatives. Since 1997, Kansas cooperatives have generally experienced positive sustainable growth. SGR is largely driven by profit margins and operating efficiency. When actual sales growth outpaces the SGR, cooperatives tend to use leverage to circumvent the SGC.

**Calculating the Sustainable Growth Rate**

The sustainable growth rate (SGR) equation is straightforward and shows how four key financial ratios affect cooperative growth. Cooperative managers and directors can view these four ratios as "levers" that can be adjusted to drive growth. Before showing how to calculate each ratio, let's first show the intuition of the SGR model.

$$\textit{Sustainable Growth Rate} = \textit{Earnings Retention} \times \textit{Leverage} \times \textit{Profit Margin} \times \textit{Operating Efficiency} \quad (1)$$

Earnings retention is the first lever a board can pull to drive SGR. If earnings are retained within the cooperative, either as retained patronage or as retained earnings, then that provides additional capital for growth. Conceptually, there is a slight difference between retained patronage and retained earnings because retained patronage will eventually be redeemed into cash. Given most

farmer cooperatives have relatively long revolving periods, equity redemption payments have only a nominal impact on SGR. If earnings are not retained, then they are distributed back to patrons in the form of cash patronage, which means the cooperative will have less capital to fund growth.

Leverage reflects the capital structure of the cooperative and is controlled by the board of directors. Growth can be fueled by adding more debt capital or leverage. Having more debt to fund additional investments is a way to boost the SGR. However, reducing debt capital will pull down the SGR because the cooperative will not have as much capital available to fund growth.

Profit margin is key to any cooperative's performance and critical to calculating a SGR. It is fairly intuitive that growth is bolstered by higher profits. And, when profits are lower, growth is lower. However, a cooperative's ability to pull this "lever" to drive SGR is limited. For example, increasing margins requires either lifting revenues or lowering costs, and in a competitive business environment, it is difficult to do either item.

Operating efficiency is the final piece of the SGR equation. This particular "lever" shows how efficiently a cooperative's assets are being utilized to generate sales. So if a cooperative decides to expand assets, then sales needs to rise significantly in order for there to be operating efficiencies gains and a higher SGR. Conversely, if assets are reduced or certain assets are culled, then sales need to remain at their current levels or drop only slightly to maintain higher operating efficiencies and SGRs.

Calculating the SGR only requires a few financial numbers. These numbers can be obtained from the cooperative's financial statements. Equation (2) below shows how to calculate the SGR.

$$SGR = \underbrace{\left(1 - \frac{Cash\ Patronage}{Net\ Income}\right)}_{\textit{Earnings Retention}} \underbrace{\left(1 + \frac{Total\ Debt}{Total\ Equity}\right)}_{\textit{Leverage}} \underbrace{\left(\frac{Net\ Income}{Total\ Sales}\right)}_{\textit{Profit Margin}} \underbrace{\left(\frac{Total\ Sales}{Total\ Assets}\right)}_{\textit{Operating Efficiency}} \qquad (2)$$

*Note: *Cash Patronage* above is the cash paid back to patrons.

It is important for cooperative managers and directors to recognize that the SGR levers influence each other. Equation (2) clearly shows that the four levers of the SGR are not independent, but are interdependent. Profit margins and operating efficiency both use 'Total Sales' in their calculations. 'Net Income' appears in earnings retention and profit margin. Furthermore, 'Total Equity' increases if the board decides to retain more earnings within cooperative so earnings retention and leverage are connected.

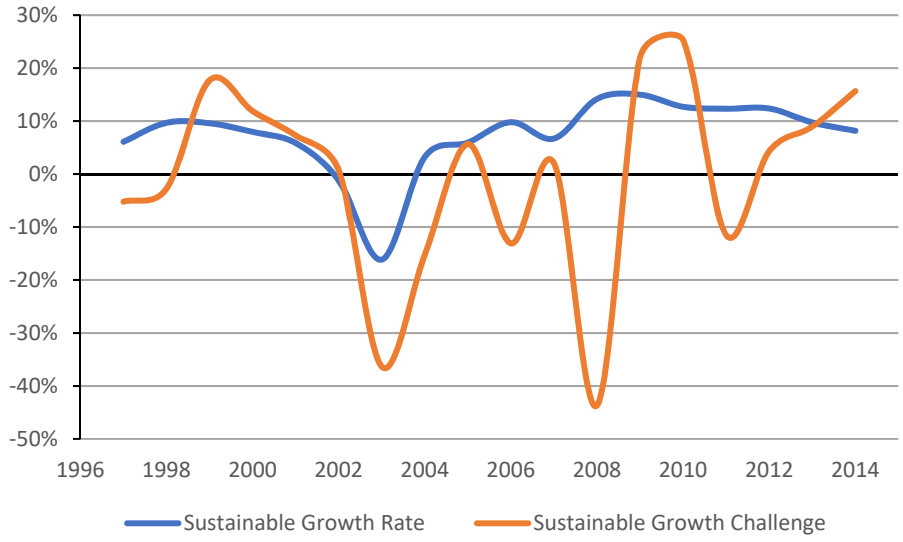
Managers and directors need to be aware that decisions made to adjust one lever will have ramifications on another lever. For example, let's assume that a cooperative board of directors decides to pay less cash patronage. As a result, the amount of earnings available to retain within

the cooperative goes up (i.e., the earnings retention lever increases). Holding everything else constant, leverage will decrease because 'Total Equity' rose. Remember that less cash patronage is being paid so more earnings are retained within the cooperative. Equity goes up and the cooperative does not need to add debt capital to maintain their SGR. While similar examples can be done for the other levers, the key point remains, decisions made to adjust one SGR lever will affect other levers.

**Applying the SGR to Kansas Grain and Farm Supply Cooperatives**

Over time, SGRs for Kansas grain and farm supply cooperatives has varied with the changing agricultural economic climate. SGRs tend to rise and hold steady when the agricultural economy is doing well and rapidly fall when economic challenges arise. If a cooperative's SGR falls too much or does not rise quickly enough to keep up with actual sales growth, then a sustainable growth challenge (SGC) occurs. An SGC forces cooperatives to acquire outside capital to fund their growth.

Kanas grain and farm supply cooperatives' SGR has remained fairly stable. According to the CoBank RiskAnlayst data from 1997 to 2014, Kansas grain and farm supply cooperatives have an average SGR equal to 10 percent (figure 1). So these cooperatives will on average be able to finance sales growth of 10 percent without using outside capital.




Note: Panel data are from the CoBank RiskAnalyst and represent 27 grain and farm supply cooperatives in Kansas

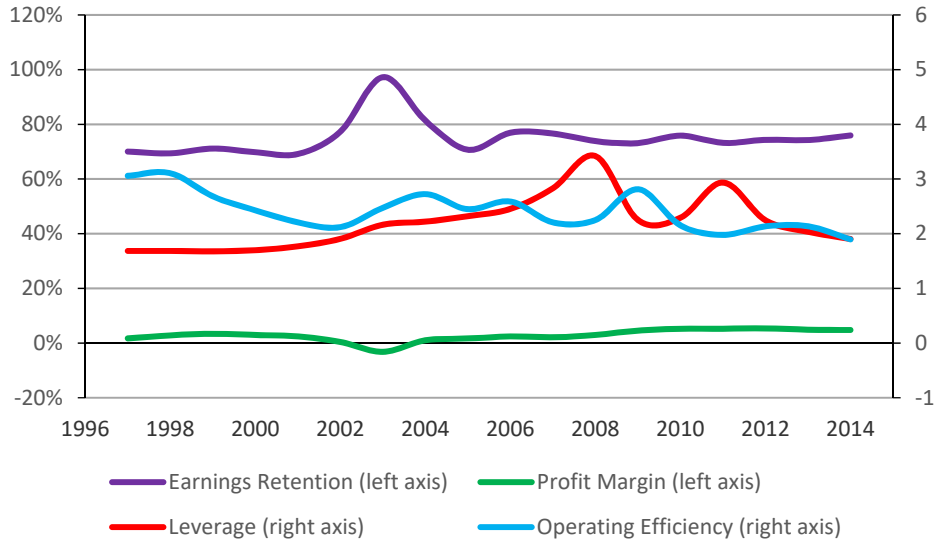
Figure 1. Sustainable Growth Rate and Challenge for Kansas Grain and Farm Supply Cooperatives from 1997 to 2014

Growth challenges arise because sales growth is not always stable. It is fairly common for Kansas cooperatives sales growth to outpace their SGR, which leads to an SGC as shown in Figure 1. When the SGC turns negative, actual sales growth is growing more rapidly than the

cooperative's SGR. From 1997-2014, there were 7 years when the average SGC was negative. So when this occurs, cooperatives must source outside capital to finance their rapid growth.

Severe economic stress leads to negative SGRs and SGCs. In 2003, Kansas cooperatives experienced significant financial stress due to the bankruptcy of Farmland Industries. This event pushed the average SGR down to -16 percent and the SGC down to -36 percent. A negative SGC indicates outside financing is necessary to get through the turbulent time. However, a negative SGR is much more concerning. Negative growth is detrimental and something that must be corrected quickly or else the business will have to declare bankruptcy and cease operations.

The primary reason for negative growth was because profit margins turned negative, which directly impacted earnings retention. Figure 2 shows a breakdown of the four components of the SGR. The only time average profit margins turned negative was in 2003, which led to negative SGRs for Kansas cooperatives. As a result, cooperative directors and managers responded by retaining earnings as opposed to paying out cash patronage. In fact, nearly all Kansas cooperatives in 2003 paid no cash patronage.




Note: Panel data are from the CoBank RiskAnalyst and represent 27 grain and farm supply cooperatives in Kansas

Figure 2. Four Levers of the Sustainable Growth Rate for Kansas Grain and Farm Supply Cooperatives from 1997 to 2014

Rapid sales growth can also create growth challenges. In 2008, Kansas cooperatives faced their most significant SGC. Sales growth nearly reached 60 percent while the SGR sat just below 15 percent (figure 1). As a result, the SGC plummeted to -45 percent forcing co-ops to find outside financing to fund this exceptional sales growth.

Cooperative's primary way to fund rapid sales growth is through debt capital or leverage. Given cooperatives have limited to no ability to raise outside equity capital, leveraging the balance sheet through additional debt capital is how cooperatives fund the additional growth. Leveraging

the balance sheet during very rapid sales growth periods like 2008, has ramifications for the SGR. Figure 2 shows that the SGR rose from leverage going up.

The rapid growth experienced in 2008 and 2012 led to significant investments in infrastructure and a change in operational efficiency. A rise in operational efficiency occurred following the rapid rise in 2008 sales but it has tapered off recently (figure 2). Incidentally, as operational efficiency has fallen, the SGR has fallen too. Cooperative directors and managers should be keenly focused on deploying capital in a way that will bolster operational efficiency for future growth.

**Conclusions**

The sustainable growth rate (SGR) model provides a framework for cooperative directors and managers to discuss growth of the cooperative. If actual growth exceeds what is sustainable, then the discussion needs to focus on acquiring outside capital to fund the growth. Or, if actual growth is slower than what is sustainable, then the discussion should center around why is the co-op not growing fast enough.

A deeper growth discussion is possible when examining the four levers of growth. These levers show how key financial ratios are connected and affect a cooperative's SGR. Through time, it appears that cooperative directors and boards have the ability to react to economic challenges by retaining more earnings. But during boom times, using an appropriate amount of leverage and enhancing operating efficiency are key focal points. While significant competition limits directors and management's ability to lift profit margins to drive growth, profitability must occur or else growth will turn negative.

In summary, the SGR model is a straightforward way to analyze cooperative growth. All directors and managers must find ways to ensure the cooperative's capital is being used in a way to create value for the membership. The SGR model is one method to start that discussion.

**Reference**

Higgins, R.C. (1977). How Much Growth Can a Firm Afford? *Financial Management*, 7-16.