**Economic Justification for a Cooperative**

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Why Are Cooperative Formed?

In one sense, the cooperative form of business needs no more justification than do proprietorships, partnerships or investor owned corporations. Businesses are formed when the owners perceive a positive return on investment from providing some combination of products and services to customers. A cooperative is simply an alternative structure for organizing economic activity. The major rationale for forming a cooperative is to improve the economic well-being of the potential members. In almost any situation where there is a potential to form a feasible business there is the potential to form that business as a cooperative and, in fact, cooperatives are successfully operating in almost every business sector. There are however situations where the cooperative form of business is particularly effective. This is particularly true in the case of agricultural cooperatives.

Economies of Scale

When the per-unit cost of an operation decline as the number of units increases there are positive economies of scale. Economies of scale are a classic rationale for starting and operating a cooperative. The per bushel cost of a 1M bushel grain storage structure is typically half that of a 10,000 bushel facility. It is easy to see why producers might want to join together to form a grain storage or fertilizer warehousing cooperative since the cost of jointly owning and operating those functions would be lower than investing in on-farm grain and fertilizer storage. Scale economies also often extend to purchasing and marketing. Sourcing inputs or marketing commodities requires someone to constantly monitor the markets and buy or sell at the appropriate time. The per-unit cost of monitoring and making those transactions declines as the volume being handled increases. Economies of scale is one of the rationales for almost every cooperative although it is more obvious in some situations than in others.

Missing Services

Entrepreneurs are always searching to identify a product or service that customers are willing to purchase at a price that will cover the cost of production and provide a reasonable return on the invested capital. The perception of a missing service can be a rationale for establishing a new business. Many cooperatives are formed to provide a missing service. In many cases that service is somewhat specialized or focused on a particular group of users and has not caught the attention of the broader investment community. Rural electric cooperatives began forming in the late 1930’s to bring electricity to rural America. Investor owned utilities were not interested in investing in electrical infrastructure in rural areas because the customer density was much lower relative to urban areas. Today’s rural electric cooperative system which controls 44% of the lines in the U.S. was clearly created to fill a missing service. Another example of filling a missing service would be the establishment of organic food stores in the early days of the organic movement. The customer base for organic foods was too small to interest the general business community, That led organic food consumers to form cooperatives to provide the missing service of retail organic outlets. As the demand for organic foods has grown those cooperatives continue to prosper but face competition from traditional retail outlets that have now expanded into organic product lines.

Risk Reduction

Every consumer and every business faces risk and it is particularly prevalent in agriculture. Some risks can be eliminated but in many cases the only solution is to share the risk with a pool of other individuals or businesses. Risk pooling is the sole purpose of insurance cooperatives. Like all insurance companies, cooperative insurance companies allow policy holders to pool risk and pay a share (the premium) of the risk each year while avoiding a catastrophic risk. Because the policy holders in an insurance cooperative are owners and receive the residual profits, they have a built in incentive in controlling risk. For that reason, many cooperative insurance companies have active and effective programs to help their owner-members reduce and control loses.

Many other types of cooperatives have risk pooling as part of their functions. Many agricultural marketing cooperatives have marketing pools. That allows the pool participants to receive the average annual price for the grade and quality of commodity they placed in the pool. They eliminate the risk of selling at a below average price at the cost of missing the opportunity to sell at an above average price. Many cooperative members conclude that they cannot beat or time the market and choose to eliminate their market price risk through the marketing pool. Other cooperatives reduce risk through their everyday operation. If a farm supply and marketing cooperatives chooses to operate with a single patronage (profit distribution) pool the risks of losses in agronomy or grain handling are shared. The basic structure of shared services also pools risks. If a producer operates his/her own sprayer or fertilizer applicator they stand the entire risk of any breakdowns. When those services are provided by the cooperative the cost of repairs are implicitly shared across all user through the application fee. The cooperative member using the service does not bear the cost of the applicator breaking down on his/her job.

Unique Role of Agricultural Cooperatives

As mentioned, there are some rationales for a cooperative that are somewhat unique to or at least particularly prevalent in the agricultural industry. Agricultural cooperatives often function as an extension of the farm firm. The cooperative extends the farmer’s business backward into the input supply chain or forward into the marketing and processing value chain. This extension of the farm business is referred to as backward integration into the input supply chain or forward integration into the marketing chain. As we will see later, this concept of the agricultural cooperative serving as an extension of the farm business is the basis of cooperative taxation and the rationale for allowing cooperatives to pass the taxation on distributed profits on to the farmer members. This unique role of the agricultural cooperative also creates challenges for the manager and board. Patrons are affected by both the price paid or received and from the share of the cooperatives profits. Increasing profitability by purchasing the member’s commodities at a lower price does not benefit the member because the increased profits came from reduced commodity payments. The cooperative board and manager have to focus on increasing the profitability of the combined farm and cooperative system.

If producers faced the perfect markets that you studied in your introductory economic class they might not be interested in backward or forward integration. Instead they could simply reinvest to grow their farm business (grow horizontally). For example, if markets were perfect, a cotton farmer to invest in expanding his or her cotton farm rather than investing in a cotton gin (either individually owned or collectively by forming a cooperative). As you might guess, markets are not perfect and there are advantages for producers to form cooperatives to supply inputs (backward integration) or market and process commodities (forward integration). In a very general sense, market failure or at least market imperfections is behind some of the classic rationales for the formation of agricultural cooperatives. Market Failure

In the case of perfect markets (which only exist in textbooks) all products are identical, there are large numbers of buyers and sellers, all market participants have perfect information and producers can enter or exit markets or reallocate to different products at no cost. In those conditions of perfect competition there would be economic rationale favoring the cooperative business form. The U.S. agribusiness sector, like most industry sectors in the U.S. does not have all of those characteristics of the perfectly competitive market. Those deviations from the “perfect market” are termed “market failures” although perhaps “market imperfection” would be a better term. Regardless of the term, it is easy to see how these deviations from the perfect market create incentives for producers to form cooperatives.

Offsetting Monopoly Market Power

A primary characteristic of a competitive market is the existence of a large number of buyers and sellers. In that situation, no market participant has the ability to influence the market price. Fertilizer manufacturing, petroleum refining, food processing and many other agribusinesses are all characterized by a relatively small number of firms on one side of the market. Much of this is due to economies of scale. A large flour mill or a large fertilizer manufacturing plant has a lower cost per unit relative to a small one. When scale economies exists, larger firms grow and smaller firms go out of business or merge. That leads to an industry structure with a limited number of firms. When there are a limited number of firms in an industry, those firms can have market power, i.e. they have the ability to influence the market price. The most extreme case is that of monopoly (one supplier) or monopsony (one buyer). The need to offset the market power in markets with a small number of buyers or sellers is a classic rationale for the formation of a cooperative.

Most of our legacy agricultural cooperatives in the U.S. were established in the 1920s and 1930 during a period of time when large banks and railroads had high levels of market power in rural America. The Capper Volstead Act which provides the legal foundation for U.S. agricultural cooperatives was a direct result of anti-competitive environment during that period of time. For that reason, the importance of offsetting market power as a rationale for cooperative formation cannot be overemphasized.

Spatial Dimensions of Markets

In agricultural markets there are also often “spatial” dimensions to the market or “spatial economic forces”. When the cost of transportation is high, relative to the value of the commodity, or the product is perishable or difficult to transport, there can be limited competition in a geographic area. For example, a dairy farmer might have only one logical choice to market their milk even when there are multiple milk processing plants in the U.S. This is a common situation in many rural areas particularly in the Great Plains states. In this case the buyer or seller is characterized as a spatial monopolist and has market power within a geographic area.

There is often a second dilemma in markets with limited competition within a geographical area.. Adding more buyers or sellers might address the market power but the least cost structure in terms of manufacturing and transport costs might involve a single buyer or seller. For example, if multiple milk processing plants operate within a county they likely have overlapping routes picking up the producers milk. The plants will also be smaller than the most efficient scale and therefore have higher cost. The most economic structure for transport and processing might involve a single firm. However, the existence of a single milk processor, organized as an investor owned firm raises the danger of market power. The milk processor would have a spatial monopoly and could use their market power to offer the producers an unfairly low price. A cooperative milk processing plant provides the ideal solution. It allows the producers to gain the transportation and scale economies of a single large processing plant without concerns over market power. Because the cooperative returns all of its profits to the members supplying the milk, it has no incentive to offer unfair prices. Cooperatives have a very large market share in dairy processing, reflecting the fact that producers understand the economic rationale that a cooperative can provide the scale economies of a single plant without concern over unfair pricing.

Transaction Costs

You might recall that in our perfect market, every participant had perfect information and transactions are costless. The reality of many agricultural markets is that information is imperfect and transaction costs can be significant. A producer may not have access to the prices at all possible outlets and getting current bids may involve both a monetary and time cost. The lack of complete price information can be a particular problem for fruit and vegetable producers and other farmers with perishable products. The producer has a limited time to market their commodities and may sell at an unfavorable price due to limited information. Providing price information and facilitating transactions is a key rationale for many specialty crop marketing cooperatives. There is a successful apple marketing cooperative in New York that only supplies market price information. Their members make the actual transaction and package and transport the product. The cooperative still increases member profits by over 10% simply by giving the producers complete access to prices at all possible outlets.

Bulk commodity marketing cooperatives still play a role in reducing transaction costs. Individual grain producers would find it expensive and time consuming to meet the contract specifications of a flour mill or to export their grain. The grain marketing cooperative reduces those transaction costs by marketing for the combined membership.

Information can also be a part of the value of a commodity and cooperatives can create value by helping to certify and communicate that information. For example, the grade for a product may not represent all of the quality characteristics. A carton of eggs might be graded “Grade A Large” but they might also come from chickens raised in free range conditions, A steak graded “choice” might originate from grass fed beef. Cooperatives such as “Organic Valley” have created value by conveying information to consumers. The “Organic Valley” brand conveys information about how the milk was produced which is important to some consumers.

Coordination

Most agricultural products are processed or at least handled and packaged, before they reach the final consumer. Processing operations have high fixed costs and are most efficient when operated at a constant volume which is at or near their maximum capacity. That creates the challenge of coordinating production with processing. As an example, consider a cull cow processing plant that supplies ground beef to hamburger chains. Ideally, the plant would operate at full capacity year around. Unfortunately, most beef producers cull cattle seasonally. That creates a challenge for the plant to procure a constant year around supply.

Theoretically, a processor can solve the problems of coordination through contracts and date based premiums and discounts. Contract coordination is common in some aspects of agricultural such as broilers and hogs. Contracts can also be risky and expensive. Also, since there is often a single processor dealing with many producers, the producers may fear an imbalance of market power. Having the producers forward integrate into the processing operation has the potential to achieve gains from coordination. Because they share in the resulting profits, the producers are often much more willing to match the timing of delivery with the processing plant’s needs. There can also be further potential gains from producing the crop or livestock varieties and sizes that lowers processing costs and/or creates the highest value in the final product.

Access to the Market

Another rationale for the formation of agricultural cooperatives is simply to have access to the market. The least cost shipping bulk commodities to many markets involve transportation by train or barge. Induvial producers do not have rail or river access and do not have the necessary volume for a full train or barge shipment. Food processors, such as flour mills have strict quality standards and require sellers to have large liability insurance policies. A typical flour mill will purchase over 1 million bushels a week. Flour mill buyers are therefore not interested in dealing with suppliers that cannot provide that level of volume on a weekly basis. Similarly, a grocery chain may purchase millions of eggs per year. They will only purchase from suppliers that can meet extensive food safety standards and who can supply their needed volumes. In all of those situations, marketing cooperatives provide producers with the ability to access the market. The cooperative has the scale of operation, food safety expertise, infrastructure and expertise to access markets that are inaccessible by the individual producer.

Concept of Competitive Yardstick and Invisible Benefit

A famous cooperative scholar, Edwin G. Nourse developed what is known as the **“competitive yardstick”** school of thought on role of cooperatives. Under this concept, the role of a cooperative is to that “the cooperative operating at cost (including a normal return for capital invested) provides a measure of reasonable prices. The competitive yardstick model implies that a major role for cooperatives is to maintain competitive and efficient markets. This leads to a related concept that one benefit of a cooperative is its **“invisible benefit”** in keeping the market competitive. Unfortunately, that benefit is often not recognized until the cooperative disappears and the remaining firms are free to exercise market power through unfavorable prices.

An interesting example of the competitive yardstick comes from rural electric cooperatives. In most states, electric utilities are regulated by the state Corporation Commission or similar entity. The assumption is that, in the absence of regulation, the utility would use its monopoly power to charge unfairly high rates and generate excessive profits. Rural electric cooperatives are generally exempt from regulation. The reason for the exemption is that because of their cooperative business model, if a rural electric cooperative were to charge excessive rates they would simply refund the excess to the very same customers through patronage refunds. For that reason regulators consider rural electric cooperatives to be self-regulating. One could also say, that if we wanted a measure of the fair and reasonable price for electricity we could look to rural electric cooperatives for a competitive yardstick.

Summary

Cooperatives are an alternative form for organizing a business. There basic rationale is that they are providing a good or service that is demanded at a price which creates an acceptable return to the member-owners. There are however some classic situations where cooperatives are particularly effective. In terms of the general cooperative business model, typical rationales include: economies of scale, providing a missing service and reducing or pooling risk. Those rationales also apply to agricultural cooperatives. Agricultural cooperatives operate as an extension of the farm firm and also often operate in imperfect markets. Some of the classic rationales for the formation of agricultural cooperatives include: offsetting market power, addressing the spatial dimension of many agricultural markets, providing market information and reducing transaction costs, and coordinating production and processing. Most U.S. agricultural cooperatives were formed to offset market power and cooperatives continue to have a role in providing “a competitive yardstick” as to fair and reasonable prices and generate an “invisible benefit” in keeping markets competitive.