ECONOMICS AND MANAGEMENT MATTERS

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Cooperative Supply Firms' Objectives: Beyond Maximizing Profit

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Cooperative is a complex business organization. It operates beyond the standard theory of the firm, which assumes profit maximization as an investor-owned firm (IOF)'s objective. Assertions about the economic behavior of a cooperative differ from that of an IOF because it may pursue goals other than maximizing economic gains. A common goal for cooperatives is to maximize members' benefits, which can be done through different strategies or objectives. Across cooperatives, objectives may vary due to diverse and conflicting interests of its officers, manager, and members, who are all involved in the firm's decision-making process. Depending on their agreement or on the urgent or long-term needs of the firm, a cooperative may pursue one or a combination of objectives (Table 1).

Table 1. Price and output solutions for a cooperative supply firm

Objectives	Optimal Solution	Quantity (Q)	Price (P)	Patronage Refund	Net Price (C)
1. Maximize net surplus	MR = MC	Q_1	P_1	$P_1 - C_1$	C_1
2. Minimize net price paid by members (or per unit cost of output produced)	MC = ATC	Q_2	P_2	$P_2 - C_2$	C_2
3. Maximize member returns	AR = MC	Q_3	P_3	$P_3 - C_3$	C_3
4. Maximize quantity of output	AR = ATC	Q_4	P_4	$P_4 - P_4$	P_4

Source: Reproduced from Royer, J.S. 2014. The Theory of Agricultural Cooperatives: A Neoclassical Primer. Faculty Publications: Agricultural Economics. Paper 123.

Cooperatives may measure its success in terms of the amount of patronage refunds it distributes to the members. Another measure is the extent in which they are able to offer the least possible price for their members, made possible by cost-reduction measures. Some cooperatives may gauge success in relation to their size and growth, hence leading them to maximize the output volume, increase market share or achieve economies of scale or maximize earnings to augment their internal funds for financing their growth.

To illustrate the price and output solutions of cooperative supply firms under different objectives, assume a monopolistic competition where firms face a downward sloping demand curve. For simplicity, a cooperative is assumed to produce a single farm input, say, fertilizer, and to sell exclusively to its farmer-members, but with the members allowed to purchase fertilizers from other farm supply firms. Under Objective (1), the solution is consistent with an IOF's profit maximization objective, wherein a cooperative maximizes its net surplus at a point where marginal revenue (MR) intersects marginal cost (MC) (Figure 1). Net surplus maximization occurs when the cooperative produces a quantity (Q) of fertilizer equal to Q_1. At Q_1, the net surplus is computed as $(P_1 - C_1)$ x Q_1. Assuming that all these earnings are returned to the members, the per-unit patronage refund is $P_1 - C_1$ and the net price paid by members or the lowest possible cost at which the fertilizer can be produced is C_1. Price and output solutions under other alternative objectives are also shown in Table 1.

An important issue in the cooperative economic behavior is the effect of patronage refund on the members' purchasing decision. Except for Objective (4), where price and cost are equal and thus, patronage refund is zero, all solutions involve distribution of patronage refunds. Given that patronage refund is based on the members' use of the cooperative products, members find an incentive to increase their purchase from the cooperative, even if this means going beyond the optimal level. With this possible instability in the equilibrium solutions, a cooperative may not be able to achieve its objective(s). It is thus critical for cooperatives to understand the extent to which members consider patronage refund in their purchasing decision when choosing the objectives and its supporting strategies.
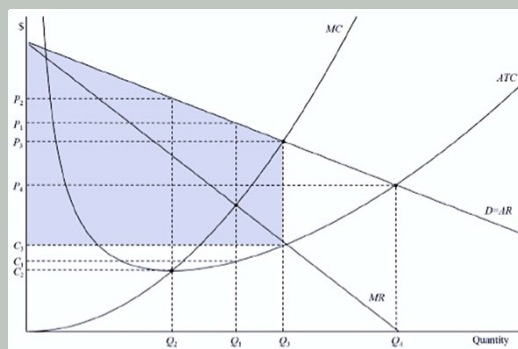

Figure 1.   Price and output solutions for a cooperative supply firm under monopolistic competition
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