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Agricultural and Other Producer Cooperatives

There are three common types of producer-owned enterprise: investor-owned, worker-owned, and farmer-owned. In this chapter we turn to the last of these three, farmer-owned cooperatives that process and market agricultural products. At the end of the chapter we shall also examine other types of producer cooperatives and ask why they are so rare—that is, why there are only three principal forms of producer-owned enterprise.

Farm Marketing Cooperatives

Farmer-owned cooperatives are enormously important in marketing agricultural products. In the United States, as of 1991, there were 2,400 cooperatives primarily engaged in marketing farm products for their members, with an aggregate annual business volume of $56 billion and a total membership of 1,840,000 farmers.[1] These cooperatives marketed 28 percent of all farm products, and their market share reached as high as 81 percent for dairy products, 38 percent for grain and oilseeds, and 36 percent for cotton.[2] The share of the overall market for agricultural products accounted for by the cooperatives has increased substantially over the course of the twentieth century, advancing from 6 percent in 1913 to 15 percent in 1929 and 20 percent in 1950, and achieving a peak of 30 percent in 1982.[3]

Farm marketing cooperatives differ markedly in the scope of their activities. Some are simply bargaining cooperatives that negotiate on behalf of their farmer-members with purchasers of agricultural commodities. These bargaining cooperatives often do not take possession of their members' produce. They simply negotiate a common price for the commodity, leaving purchasers to deal directly with individual farmers to arrange delivery at that price. In the United States, bargaining cooperatives are particularly prominent among producers of milk for fluid consumption and, in the Pacific coast states, among growers of tree fruits and tomatoes and producers of raisins.[4]

Much more numerous and more important than the pure bargaining cooperatives are the cooperatives that actually handle their members' crops. Often the amount of processing done by the cooperative is relatively modest. For example, farmers in a locality who produce a given type of grain—particularly wheat, corn, or soybeans—will often own a local cooperative grain warehouse or elevator company that dries, sorts, and stores their grain prior to sale. The cooperative may simply hold the grain on behalf of its members, selling it on the member's order and charging for its services, or it may purchase the grain from the member and then resell it. These local grain cooperatives are often federated into regional cooperatives that operate large-scale elevator facilities for aggregating grain in greater bulk.[5]

There are also many farmer cooperatives that, like the cheese factory described in Chapter 1, not only take possession of their members' commodities but process them into finished products and even, in many cases, market those products to consumers. The brand names used by some of these cooperatives are quite familiar to American consumers. They include, for example, Sunkist (California orange growers), Sun Maid (California raisin producers), Land O'Lakes (midwestern dairy farmers), Ocean Spray (New England, midwestern, and Pacific Northwest cranberry growers), Welch's (nationwide Concord and Niagara grape growers), Diamond (California walnut growers), and Gold Kist (southern poultry producers). Many of these firms are impressively large. As of 1992, Land O'Lakes, Gold Kist, and Ocean Spray were among the leading fifty firms in the prepared food industry[6] and were also on *Fortune* magazine's list of the five hundred largest U.S. industrial corporations.[7]

The processing cooperatives are sometimes vertically integrated far downstream into manufacturing, marketing, and distribution, and some are highly innovative. Ocean Spray, for example, has developed a succession of new fruit products based both on cranberries and on other fruits, and has also been a leader in packaging.[8]

Just as the market share of the cooperatives has been steadily grow-

ing, so has the relative size of many of the individual firms. In 1962, for example, there were only five agricultural cooperatives among the Fortune 500 largest industrial firms;[9] thirty years later, in 1992, there were fourteen.[10] The cooperatives' degree of vertical integration also appears to have increased steadily over time. The regional grain cooperatives, for example, developed substantial grain export facilities that permitted them to increase their share of total grain exports—previously dominated by several large investor-owned firms—from roughly 5 percent in 1965 to 15 percent in 1985.[11]

Farm marketing cooperatives play a similarly large role in other developed market economies. By the early 1970s, for example, cooperatives accounted for 45 percent of the agricultural market in France, 48 percent in Germany, 60 percent in the Netherlands, over 70 percent in Denmark, and 80 percent in Sweden—in each case a substantial increase from just a decade earlier. Moreover, among these and other European Community countries the areas of concentration roughly parallel those in the United States, with cooperatives having especially large market shares in dairy products and grains and somewhat smaller, though still important, shares in meat and vegetables.[12] In less-developed countries, it appears that agricultural producer cooperatives generally play a distinctly smaller but rapidly expanding role.[13]

There is thus nothing quaint, old-fashioned, or local about agricultural producer cooperatives. They find their most extensive development in those economies that have the most sophisticated and competitive agricultural sectors, and the cooperatives themselves are often large, complex, and dynamic firms. As a consequence, they offer a useful application and test of our theories of ownership.

Costs of Market Contracting

Monopsony

Farming, with its highly homogeneous commodities and numerous producers, is one of the most competitive of all industries. In contrast, the middlemen—handlers and processors—who purchase farm products are often highly concentrated and hence have the potential for exercising a degree of monopsony power over the farmers they deal with.

This monopsony power can sometimes be accentuated by the seasonality or perishability of agricultural commodities. An individual farmer who simply harvests his crop and then takes it to market risks encountering prospective purchasers who offer only a very low price—perhaps below the cost of production—in the realization that the farmer has very little time in which to market his crop and therefore cannot credibly threaten to hold out for long or to engage in an extensive search for other purchasers. A purchaser, in contrast, can often realistically threaten to turn to other farmers to satisfy his needs.

The result is to give farmers an incentive to form cooperatives through which they can bargain collectively with middlemen, or with which they can displace the middlemen entirely. That incentive has apparently played an important role in the formation of farm marketing cooperatives.[14]

Cooperatively owned grain elevators, which were among the earliest forms of farmer cooperatives to be widely successful in the United States, provide a conspicuous example. Economies of scale are such that generally only one or two elevators are needed to collect, store, and transfer to a railroad all the grain produced by farmers within a given locality. In the 1890s, the elevators were nearly all operated by proprietary firms, each of which commonly owned many—sometimes hundreds—of elevators. In the major grain-producing states these firms succeeded in forming highly effective cartels, through which they collectively set the price they would pay farmers for grain. In direct response, farmers established their own local grain elevators organized as cooperatives. After a period of overt economic warfare that lasted roughly through the first decade of the twentieth century, cooperatives were established over a large fraction of the market and broke the cartels. The result was a substantial increase—perhaps between 6 and 12 percent—in the price farmers received for their grain, and a correspondingly larger percentage increase in the price of farmland.[15]

There is good reason to believe that the elevator cooperatives would not have become widespread without the stimulus of monopsony. There had been many efforts to establish cooperative grain elevators prior to the 1890s. These cooperatives typically failed after a few years, apparently because local markets for grain were then competitive. It was only after the cartels succeeded in suppressing effective competition[16] that viable cooperatives were formed by the farmers—the same farmers who had failed in forming cooperatives twenty years earlier.[17]

Outside of the staple grains, marketing cooperatives in the United

States seldom seem to have formed in response to explicit cartels. They do, however, appear to be particularly prevalent where the business undertaken by the cooperative has some degree of natural monopsony power. For example, high transportation costs combined with economies of scale have resulted in high local concentration among the processors of dairy products, which helps explain why dairy processing, like the grain elevator business, is an area in which cooperatives are particularly common.[18]

Monopsony is evidently also an important reason why proprietary processing firms tend to convert to farmer cooperatives in declining industries. For example, in the California fruit and vegetable canning industry, which has been declining since the 1950s owing to better distribution of both fresh and frozen foods, a number of failing proprietary firms have been reorganized as farmer cooperatives.[19] An important incentive for such transactions, presumably, is that once the industry has declined to the point at which local farmers have only a single cannery as a likely purchaser for their produce, they face potential price exploitation. And this possibility is aggravated by the fact that growers often have substantial crop-specific investments in their farms (fruit orchards being the most obvious example) and in their human capital, the value of which is available for expropriation by a monopsonist. The farmers are in a situation similar to that of workers in a declining firm in a declining industry.

The increasing degree of concentration in the canning industry, however, seems to be an exception to the overall trend in agriculture. In general, although markets for farm products remain fairly concentrated, the market power exercised by middlemen appears to have declined over the past hundred years. Explicit cartels among purchasers of agricultural commodities, such as those that prompted the formation of the grain elevator cooperatives at the end of the nineteenth century, have long since disappeared and would be unlikely to arise again under modern antitrust policy. At the same time, the development of futures markets for many agricultural commodities over the course of the twentieth century has reduced the strategic disadvantage that farmers face in dealing with middlemen. With a futures market, a farmer can sell his crop at his leisure long before it is harvested, or even before it is planted.

Nevertheless, as already noted, farm marketing cooperatives have not only continued to thrive but have significantly expanded their market share over the course of the century. Evidently there have also been other factors that have encouraged the success of agricultural cooperatives.

Cartelization

When farmers form a cooperative to displace a monopsonistic purchaser of farm products—that is, to actually own and operate a middleman processing or handling operation that would otherwise face the farmers as a monopsonist—the result promises to be an unambiguous improvement in social welfare, making farmers better off without making consumers worse off.[20] When, alternatively, farmers form a cooperative not to displace a monopsonistic purchaser but rather just to serve as a vehicle through which to negotiate collectively with the monopsonist, offsetting his market power with monopoly power of their own, the consequences for social welfare are more ambiguous. Although it has been argued that the exercise of such "countervailing power" is an important public policy justification for encouraging the formation of farm marketing cooperatives,[21] the issue is debatable. Undoubtedly farmers themselves will be better off if they can form an effective cartel with which to confront a monopsonistic purchaser. And, under some market conditions, consumers will benefit too. But it is also quite possible that consumers will be worse off as a result of the farmers' collective action—that the effect on consumers of putting another layer of market power in the chain of distribution will be cumulative rather than countervailing.[22]

In any event, if a farm marketing cooperative is to exercise countervailing power it must be able to function effectively as a farmers' cartel. That is, it must be able to control the aggregate supply, and hence the price, of the farmers' products. (In contrast, if the objective of the cooperative is not to bargain with a monopsonist but to displace it, as in the case of the grain elevators, then it is not necessary that the cooperative be able to function as an effective cartel.) And indeed, whether for good reasons or bad, farm marketing cooperatives in the United States have been permitted to exercise this power by the Capper-Volstead Act of 1922, which gives the marketing cooperatives a partial exemption from the antitrust laws.

On its face, the Capper-Volstead Act simply provides that setting prices collectively through a farmer cooperative is not an antitrust

violation per se, and thus arguably leaves cooperatives exposed to the threat of prosecution if they should seek to exercise monopoly power. But the exemption has been given a broad interpretation. Farmers have generally been allowed to form both bargaining and processing cooperatives freely, and to use those cooperatives as means to set common prices for their products, so long as the cooperatives do not use "predatory tactics" (such as selective boycotts) to compel either farmers or purchasers to deal with them, and so long as they do not enter into anticompetitive agreements with other organizations that are not cooperatives. The formation of cooperatives, and mergers among existing cooperatives, has been freely permitted.[23] Even agreements among separate cooperatives to fix prices have been upheld, on the theory that they were doing nothing more than would be permissible if the cooperatives involved were to merge into a single organization.[24]

This long-standing antitrust exemption raises the prospect that the marketing cooperatives may have been used to establish market power, not just to counter monopsony, but further to extract monopoly profits for the farmers themselves from ultimate consumers. We must consider, therefore, to what extent farm marketing cooperatives are just cartels, formed not because they are more efficient than investor-owned enterprise but because they provide a means of fixing prices.

There are, in fact, some industries in which farmers have succeeded in using marketing cooperatives as mechanisms for cartelization. Milk is an example. Through an elaborate system of federal and state regulation that has been in place since the 1930s, legally mandated minimum prices for Grade A fluid milk have been established and enforced in most parts of the United States. These prices are well above the prices that would prevail in a competitive market, and they result in a substantial shift of wealth from consumers to dairy farmers.[25] Nevertheless, milk marketing cooperatives have regularly succeeded in raising prices even further, above the legally mandated minimum prices, throughout much of the country.[26]

The success of the milk cooperatives in fixing prices, however, is heavily dependent on the milk regulatory regime, which—among other things—places severe restrictions on the ability to take milk produced in one part of the country and sell it in another, higher-priced market.[27] Producers of most other agricultural commodities do not have the benefit of such an extensive regulatory regime. And it appears that,

as a consequence, cooperatives in other areas generally have not been markedly successful in functioning as cartels.

This is not for lack of trying. Raising prices by restricting the amount produced or marketed has been an explicit objective of many farmer cooperatives handling various agricultural commodities, particularly in the 1920s and 1930s.[28] But most crops are produced by a large number of farmers, each of whom can vary his individual production substantially. Moreover, new entry into production of most agricultural commodities is relatively easy—most obviously, by farmers who had previously been growing other crops. This makes it very difficult for a cooperative to control aggregate production, and hence to exercise monopoly power.[29] If a cooperative succeeds in raising prices above cost, it creates a strong incentive for expanded production that threatens to drive prices back down. This was what happened to the cooperatives that tried to act as cartels in the 1920s and 1930s. They sought to raise prices to monopolistic levels by withholding product from the market. But the resulting surplus production hung over the market and kept prices low, often leaving the members of the cooperatives even worse off than if they had behaved competitively.

Strong evidence that marketing cooperatives generally do not succeed in establishing monopolistic prices comes from their membership policies. Some cooperatives have closed memberships (that is, additional farmers can join the cooperative only with the explicit agreement of the existing members). But the great majority have open membership policies under which any farmer who produces the crop in question is free to join and market his crop through the cooperative. Either policy makes it difficult to control the amount of crop marketed. With closed membership, excluded farmers have a strong incentive to expand production freely to take advantage of any increase in price the cooperative succeeds in arranging. With open membership, higher prices will encourage an expansion of membership and hence of product to dispose of. The evidence suggests that market power is generally sustainable, if at all, only with closed membership. Consequently, the fact that most marketing cooperatives have open membership is substantial evidence that they are unable to control prices. Indeed, a careful 1964 study could locate only four marketing cooperatives that appeared to exercise any substantial market power.[30]

The preceding observations concern cooperatives that engage in processing. One might think that pure bargaining cooperatives would

provide stronger evidence of market power, since they would seem to exist for little other reason. And indeed, some of the more successful bargaining cooperatives represent a very large portion of the market. Yet there is reason to believe that they exercise only a modest degree of market power. For example, the California tomato bargaining cooperative has a very large share of the nation's total crop. Yet it is not clear that the organization has much market power. Entry into tomato growing is easy, and contracts with the cooperative bind the growers only for two years. If there is any market power, it probably derives from California legislation that imposes collective bargaining on the industry.[31] Overall, there is only modest evidence of monopoly power among the various California bargaining cooperatives.[32]

Further structural evidence of low market power comes from the relatively short length of the membership contracts in most marketing cooperatives. Cooperatives commonly employ contracts that bind their members to market their produce through the cooperative. These contracts are enforceable, and typically provide for liquidated damages sufficiently high to discourage breach. The nut growers' cooperative (Diamond), which is one of the few marketing cooperatives that apparently have substantial market power,[33] has contracts of this sort that bind its members to the cooperative for a period of five years. But contracts of this duration are rare. Most marketing cooperatives, including bargaining cooperatives, employ contracts of only one year's duration.[34] Thus farmers can decide annually whether to market their crops through the cooperative, leaving the cooperative with little control over long-run supply.[35]

Ocean Spray is an interesting example in this respect. Although it has about 85 percent of the American cranberry crop, its profitability evidently comes from marketing, not monopoly. For years it was in a position of chronic oversupply. It ultimately succeeded in rescuing its members from this condition, not by cutting back on production, but by developing and marketing new cranberry products.[36]

The preceding evidence is drawn entirely from experience in the United States. But there is good reason to believe that similar conclusions apply in other countries. In Britain, for example, concentration is lower among agricultural marketing cooperatives than among agricultural supply cooperatives, suggesting little effort at monopolization by the former. Also, levels of concentration among marketing cooperatives in Britain are low in comparison with those of the processors to whom the farm products are sold.[37]

The evidence indicates overwhelmingly that cooperatives are not simply a creature of antitrust exemption, and that they would continue to exist in large numbers even if they were effectively barred from raising prices above competitive levels.

Costly Information

Asymmetric information about crop attributes and prices has sometimes served as a stimulus to the formation of farmer marketing cooperatives. Again grain elevators and warehouses in the late nineteenth century provide an example. Proprietary operators, who understood the grading methods employed in the terminal markets better than did local farmers, would assign grain they purchased from a farmer an inappropriately low grade (for example, classifying it as Number 3 Northern Wheat rather than as Number 2), paying the farmer only the price appropriate for that grade and then reselling it at the price prevailing for the higher grade. Or, similarly, when receiving grain from a farmer for storage they would grade it too low and then substitute for it other grain that they owned that was actually of the lower grade.[38]

More generally, farm marketing cooperatives economize on a variety of information costs for their farmer-members. If each farmer in a given locality were to decide separately when and at what price to market his crops, there would be substantial duplication of effort in gathering information about market conditions, prospective purchasers, transportation, and other matters. Cooperatives allow farmers to share these costs.[39]

Risk Bearing

Farming is a risky business. Markets for most crops show large year-to-year fluctuations, and this is accentuated by the large amount of leverage farmers generally undertake in order to meet their substantial needs for capital. It is sometimes said that an important role for cooperatives is to help farmers to deal with this risk.[40] And cooperatives might indeed play such a role if they were organized to pool the returns from different crops. But in fact cooperatives are generally organized to handle only a single crop. And in those cooperatives that handle more than one crop, the returns from the different crops are typically kept separate. Thus there is no risk diversification, and the typical marketing cooperative does not reduce the amount of risk borne

by its member farmers. Indeed, as noted further below in discussing the costs of capital, membership in a cooperative may substantially increase a farmer's exposure to risk.

Marketing Externalities

If there are barriers to entry into agricultural production, but processing is relatively competitive, then there may be opportunities for promoting the commodity through advertising that are available to a cooperative but not to an investor-owned intermediary. This may help explain the success of the fruit and vegetable cooperatives. Entry into (and exit from) production for many fruits, and perhaps some vegetables, is relatively inelastic in the short run because the trees take time to mature and represent a substantial crop-specific investment with a long expected life. The Sunkist orange growers' cooperative, which successfully promoted fresh orange consumption nationwide early in the twentieth century, offers an example.[41]

Tax and Credit Subsidies

In addition to the preceding more or less natural advantages that marketing cooperatives have offered farmers in reducing the costs incurred (or raising the prices received) from contracting, there have been important tax and credit subsidies offered to farm marketing cooperatives. This naturally raises the suspicion that many or most marketing cooperatives may be solely a response to these subsidies, and would not exist in their absence.

Tax Preferences

Under the United States federal corporate income tax, farm marketing cooperatives have the benefit of two favorable regimes that are not available to their investor-owned competitors. First, nearly all farm marketing cooperatives can qualify for the special rules for taxing cooperatives that are contained in Subchapter T of the Internal Revenue Code. Second, as long as they meet some slightly more stringent requirements, farm marketing cooperatives can also qualify for special tax "exemption" under Section 521.

In essence, Subchapter T permits a cooperative to escape the double taxation that is imposed on business corporations. The special privileges of Subchapter T are not confined to farm marketing cooperatives. Rather, they are available to any firm organized as a producer or consumer cooperative, with the exception of lenders' cooperatives (that is, ordinary business corporations). For example, as noted in Chapter 5, Subchapter T is also available to worker cooperatives. Because it has such general importance, it is worthwhile examining briefly how Subchapter T works.

Under Subchapter T, earnings that a cooperative pays out in cash as patronage dividends in the year they are earned are not subject to corporate taxation at all; rather, they are taxable only to the member who receives them, at her personal tax rate. Earnings that are retained rather than paid out can be treated in either of two ways, as the cooperative and its members choose. The first alternative is for the cooperative to pay tax on those earnings at the corporate tax rate. Then, if the earnings are paid out in cash as patronage dividends in a subsequent year, the corporation can deduct them for tax purposes (effectively getting a rebate of its earlier tax payment) and the earnings will be taxed to the members who receive them at their personal tax rate. The second alternative is for the cooperative's members to include their pro rata share of the retained earnings in their personal taxable income in the year they were earned, paying tax on them at their personal rate just as if they had received them as a cash dividend. If, in a later year, the earnings are then distributed as cash patronage dividends, the members receive them free of tax.

Subchapter T thus provides that a cooperative's net earnings are subject to tax only once, rather than being subject to the double taxation imposed upon business corporations. And as long as those earnings are retained rather than distributed, the cooperative can effectively choose whether that tax will be paid at the corporate tax rate or at the personal rates applicable to the cooperative's members.

More precisely, this is true of earnings to be paid out as patronage refunds and not as stock dividends. A cooperative can issue nonvoting capital stock and still qualify for Subchapter T treatment as long as dividends on the stock are limited to a rate of 8 percent. But even under Subchapter T, dividends paid on such stock remain subject to the dual-level system of taxation applied to earnings in business corporations, under which earnings are taxed both at the corporate rate when earned and again at the shareholder's personal tax rate when actually paid out.

Under Subchapter T, a cooperative need never be taxed more heavily

than a comparable business corporation and may well be taxed much less. This is not to say that Subchapter T is either exceptional or unprincipled. The tax regime it establishes is roughly the same as that applied to sole proprietorships, to partnerships, and to the small business corporations that fall within Subchapter S. From the standpoint of economic efficiency, moreover, that regime is substantially more rational than the standard corporate tax regime. In fact, the major inconsistency of Subchapter T is simply that one particular type of cooperative is arbitrarily excluded from it—namely, the lenders' cooperative. Consequently, Subchapter T does not subsidize cooperatives in a general sense but only relative to investor-owned corporations that are subject to the corporate income tax.

In addition to being eligible, like other cooperatives, for the general benefits of Subchapter T, farm marketing cooperatives have the special opportunity of qualifying for status as an "exempt" cooperative under Section 521 of the federal tax code—an opportunity they share only with farm supply (purchasing) cooperatives, which will be examined in Chapter 8. Cooperatives qualifying under Section 521 have all the benefits of Subchapter T. In addition, they are exempt from corporate level taxes on any stock dividends they pay and they are also exempt from corporate taxation on income they derive from business they do with nonfarmers—income that is taxed to other Subchapter T cooperatives just as if they were ordinary business corporations.

But this additional "exemption" that Section 521 offers over the ordinary Subchapter T tax treatment of cooperatives is often marginal. As we shall see, capital stock in farm cooperatives, if present at all, is generally held by the farmer-members of the cooperative in amounts roughly proportional to their levels of patronage. As a result, even a nonexempt cooperative can avoid all corporate level tax on its patronage earnings simply by paying no dividends on its capital stock and instead paying out larger patronage refunds. Because the money distributed will go to the same individuals in any case, there is no particular disincentive to do this. And in fact this is what most farm cooperatives do. Indeed, to qualify for Section 521 status, a cooperative cannot derive more than 15 percent of its income from nonfarm business. Section 521's exemption for nonfarm income is therefore not a major benefit either.

Indeed, a cooperative that pays no stock dividends and has no nonfarm business would not be taxed any differently whether it qualified

for Section 521 or not. And in fact, because the benefits of Section 521 are so modest and its restrictions can be confining, many farm cooperatives do not seek to take advantage of it.[42]

In short, farm marketing cooperatives get roughly the same tax benefits that are available to producer or consumer cooperatives in any other industry. Although those tax benefits may have led to a larger market share for farmer cooperatives than they would otherwise have had, they cannot explain why it is that producer cooperatives are so much more common in agriculture than in other industries.

Credit Subsidies

Beyond tax preferences, the federal government has aided farm marketing cooperatives with credit subsidies. These subsidies began as early as 1916 but achieved more substantial scope with the formation of a system of federally sponsored Banks for Cooperatives in 1933—a system that continues today. For many years these banks had the benefit of capital invested by the federal government without interest and also had the authority to issue tax-free bonds. Prior to 1944 they received some direct interest subsidies as well. By 1968, however, all subsidies to the Banks for Cooperatives had been eliminated.[43] As a result, although the Banks for Cooperatives remain an important source of capital for cooperatives, they are not the exclusive source,[44] and in fact it appears that the terms on which they have offered loans to cooperatives since the late 1960s have not been noticeably different from those offered by commercial banks.[45]

Have the Subsidies Been Important?

How important have these tax and credit subsidies been, overall, in promoting the cooperative form? Some authors have argued that the tax preferences, which provide the only continuing subsidy of importance, are a significant inducement to the adoption of the cooperative form, and that without these subsidies cooperatives would have trouble competing with investor-owned firms.[46] The existing empirical evidence does not permit strong conclusions.[47] Clearly the tax system gives cooperatives an advantage over their investor-owned counterparts at the margin,[48] and presumably the cooperatives' market share is larger as a consequence.

Yet there is good reason to believe that cooperatives would have assumed an important role in the marketing of agricultural commodities in the United States even in the absence of the tax and credit subsidies. Perhaps the best evidence is that cooperatives were well established before any of these subsidies were enacted. For example, both grain cooperatives and dairy cooperatives were already widespread by the time the federal corporate income tax was adopted in 1912 and the first elements of the federal farm credit system were established in 1916. In particular, of the 2,614 grain cooperatives existing in 1936, about 60 percent had been established before World War I.[49] Of the California citrus crop, over half was already being marketed by cooperatives as of 1906.[50]

Costs of Ownership

The preceding discussion suggests that, while market contracting for agricultural products has some costs that offer an incentive for farmer ownership, those costs are not conspicuously high. Moreover, neither antitrust exemption nor tax and credit preferences seem able to account for the unusually large role that cooperatives play in this sector. Apparently much of the explanation is to be found in unusually low costs of ownership.

Monitoring

The farmer-members of agricultural marketing cooperatives are in an unusually good position to exercise effective control over the firm. The result is that agency costs are, from all the evidence available, unusually small in these organizations.

Farmers have both the incentive and the opportunity to monitor marketing cooperatives actively and intelligently. The crops that the cooperatives market represent a major, and often the only, source of income for the farmer. Farmers commonly produce the same crop, and deal with the same cooperative, for many years and sometimes for generations. Farmers of a given crop tend to be geographically concentrated, making participation in governance relatively easy. And where a cooperative covers a large region, it is both possible and a common practice to structure the cooperative in ways that continue to permit active and informed member control. For example, many large

cooperatives in the United States, including those that handle basic grains such as wheat, have a federated structure in which a number of small and highly responsive local cooperatives serve as members of regional or national cooperatives. Similarly, in many cooperatives directors are elected by district rather than at large.

The high degree of control that members are able to exercise over farm marketing cooperatives is reflected in the composition of their boards of directors. The elected members of the boards in these cooperatives, in contrast to a typical large business corporation, do not include the firm's managers but rather consist exclusively of members who are active producers. The elected directors may in turn appoint a few other individuals to seats on the board. These appointed directors may include the cooperative's chief executive officer. That is not common, however, and in any case the CEO does not chair the board. More commonly included among the appointed directors are individuals, such as academics or persons prominent in public affairs, who can serve as "public" directors. Typically the cooperative's management plays no role in the nomination of directors, and sometimes even the board itself does not participate in nominations.[51]

As these board structures suggest, the farmer-members of the marketing cooperatives are commonly well informed about the cooperative's affairs and take an active interest in them. Members usually know one or more directors personally. The directors play an important role not only in conveying the members' views to management but also in conveying information from management to the members. Managers pass important or potentially controversial issues to the board for decision. Boards scrutinize managerial performance closely and not uncommonly replace managers who are not performing well. In this and other ways, management in the cooperatives is highly responsive to members' interests.[52]

This is not to suggest that management of the cooperatives is amateurish or parochial. The larger and more extensively integrated cooperatives, such as Ocean Spray, hire professional managers and give them substantial discretion in running the business.[53]

There is good reason to believe that the resulting low agency costs play a significant role in the success of the cooperatives vis-à-vis investor-owned firms. Important evidence of this is the fact that marketing cooperatives are most common among farmers who produce only one or a very few commodities,[54] and who therefore have the

focused incentive and knowledge to exercise their voice in the cooperative effectively. The geographical distribution of the cooperatives also supports this conclusion. The market share of the dairy cooperatives, for example, is highest in those regions in which dairy farming is most heavily concentrated.[55] This suggests that the effectiveness of farmer monitoring, which is presumably greater when the members of the cooperative live in close proximity to one another, is more important in making the cooperative form viable than is the monopsony power of the milk purchasers, which is presumably greatest when dairy farmers are least concentrated geographically. In similar fashion, the grain marketing cooperatives are strongest in those areas devoted to one or two field crops[56] and the fruit and nut marketing cooperatives span only a single region confined to one, two, or three states.[57]

Of course, farmers located in close proximity to one another are likely to have more interests in common than those located in different regions. The tendency for the farmer-members of a cooperative to be geographically concentrated may thus also reflect another important element of governance costs—the homogeneity of interest among the cooperative's members—to which we now turn.

Collective Decision Making

A critical advantage for farm marketing cooperatives, it appears, is the extreme homogeneity of interest among the typical cooperative's members. Most cooperatives handle only a single agricultural commodity. This commodity is itself exceptionally homogeneous, to the point where the produce of the various members is commonly fungible. This means that the members of the cooperative all share the relatively simple goal of maximizing the value of the commodity involved. Costs of collective decision making, as a consequence, can be kept to a minimum.

The scarcity of cooperatives that handle more than one commodity is strong evidence of the importance of this homogeneity of interest. Cooperatives handling multiple commodities can potentially derive substantial gains from risk diversification and common marketing. Nevertheless, they are rare. Presumably this is because it is difficult to find an objective basis for apportioning costs and revenues. Growers of the different products are likely to disagree about important aspects of the firm's operations, raising haggling costs and leading to decisions

that exploit one commodity for the benefit of another or are otherwise inefficient.

Indeed, the few cooperatives that handle more than one commodity give evidence of just such problems. For example, canneries in California commonly pack more than one crop in order to realize economies of scale and scope. In the canneries operated as cooperatives, this creates conflicts among growers of the different crops in apportioning costs and revenues. Initially these cooperatives operated on a "single pool" system, under which, instead of accounting for costs and revenues separately by crop, each cooperative's aggregate annual profits were simply divided up among growers of the different crops according to a measure of the value of the raw crops they supplied. The measure chosen was the "field price" of the crop, which is the market price paid by proprietary canners. An important reason for choosing this method was its objectivity. But the field price was sometimes ambiguous and was often not an accurate index of the relative profitability of the crop to the cooperative, inducing growers of individual crops to argue that the crop's current field price was "unrealistic" or "unfair." The result was significant conflict among the board members representing growers of different crops as to whether there should be deviation from a specific crop's field price as a measure of value or whether the allotment for a given crop (that is, the aggregate amount purchased by the cooperative) should be increased or decreased because of the crop's current profitability to the cooperative. Moreover, for some crops there was no field price because the cooperative was the only packer. In these cases, the cooperative's board, which was dominated by growers of other crops, would treat growers of the crop the way a proprietary canner would, paying them no more than was necessary to induce supply.[58]

These conflicts consumed substantial amounts of energy from board members and managers and finally led the cooperatives to abandon the single pool system in favor of the "multiple pool" system, under which the cooperative's revenues and costs are accounted for separately for each crop.[59] Yet the apportionment of overhead and other common costs among different crops is necessarily a very subjective process. In addition, under multiple pooling the returns to growers of a given crop can depend heavily on the cooperative's allocation of resources to processing and marketing that crop. Consequently this method, like single pooling, intensely politicizes many operational decisions, breed-

ing substantial conflict for board members and managers and leading to much second-guessing of management by the board of directors. Indeed, one suspects that the difficulties of governing multiple-crop canneries as cooperatives is important in explaining the strong dominance of investor-owned canneries before the industry fell into decline in the 1960s.

It is not only the canneries that have elected the multiple pool system. The relatively few cooperatives of other types that handle more than one commodity commonly do the profit accounting for each crop separately.[60] For example, Land O'Lakes, which primarily markets milk products, also markets turkeys, but makes the latter operation a separate profit center so that turkey growers internalize all their own costs and benefits.[61] Similarly, in order to gain important economies of scope in marketing, Ocean Spray added grapefruit and guava products to its traditional business of cranberries. But the grapefruit growers were formed into their own separate pool, and the guavas are purchased on a commercial basis rather than making the growers members of the cooperative.[62]

Even in the single-crop cooperatives, the conflicting interests of different growers can be significant. For example, although Ocean Spray is dominated by the cranberry growers, "on the board there is a lot of politics," particularly involving the disparate interests of cranberry growers from different geographical regions.[63] In the California fruit bargaining and marketing cooperatives, grading of members' fruit by quality and condition is such a sensitive issue that the cooperatives' managers are reluctant to get involved and commonly contract out the evaluation to independent third parties.[64] Indeed, even among growers of a single crop, accommodation of conflicting interests through collective governance can sometimes bring important efficiency costs.

For example, Hetherington describes a situation in which a strike closed the California fruit and vegetable canneries for eleven days at the peak of the 1976 peach canning season. The investor-owned canneries, observing that the industry inventory of canned peaches was already substantial and demand was weak, simply invoked the force majeure clauses in their contracts and declined acceptance of the fruit that would otherwise have been processed during the period involved, letting the fruit be lost at the expense of the growers. The cooperatives, in contrast, stored the fruit that would have been packed during this period and operated overtime to pack it rapidly at the end of the strike.

By this means they managed to save nearly all the fruit that ripened during the strike. But they also incurred substantial additional costs and packed excessive amounts of fruit for which there was weak demand.

The cooperatives chose this inefficient course to avoid imposing disproportionate costs on some of their members. This norm of equality of treatment—so common as a means of avoiding the costs of conflict in collective decision making, as we saw in Chapter 5—could have been preserved at much lower cost by allowing the fruit in question to spoil while still letting its growers share in the profits from the pool as if it had been packed. But the growers whose fruit had been canned before the strike were unwilling to accept this solution, evidently in part because of the difficulties of deciding, for purposes of determining shares in the pool, the quantity and quality to impute to fruit left unpicked.[65] The equality norm has also led to continued inclusion in the cooperatives of growers that deliver inefficiently small volumes or that are located in areas that have become uneconomical.[66]

The extreme importance of homogeneity of interest also seems a likely explanation for the fact that cooperatives tend to have a larger market share in those crops that are particularly simple to grade, such as grains and milk, than in those that are not, such as vegetables and livestock.[67] Among fruits and vegetables, for similar reasons, the cooperatives have not had much success with highly perishable varieties and have concentrated on the less perishable varieties.[68] This is apparently because, as in the canning cooperatives, perishability makes crops more difficult to grade and also creates disparities in value based on the time the crops ripen—the crops ripening at the peak of the season generally being less valuable than those that ripen at other times, for example. The ease of resolving conflicting interests among the owners seems to be a more important consideration, in determining the assignment of ownership, than are the costs of contracting that arise when investor-owned purchasers try to exploit the pressure to sell that faces growers of perishable crops.

Finally, although various attempts have been made, there have been no successful nationwide bargaining cooperatives. An important reason for this, it has been argued, is that it would be too difficult to reconcile the divergent and conflicting interests of all the farmers involved.[69] This suggests, in turn, that the governance costs of such an organization would be substantial enough to outweigh the potential gains from

increased market power and the economies in information and bargaining costs that the organization could offer its members.

Homogeneity of interest clearly plays a critical role. Where interests among potential members conflict even modestly, marketing cooperatives do not experience much success. Conversely, where the farmers involved have nearly identical interests, marketing cooperatives thrive even when the costs of contracting with investor-owned firms appear relatively modest.

The homogeneity of interest emphasized here, as elsewhere in the book, involves similarity in the types of transactions that members have with the cooperative—or, more precisely, similarity in the effect that any decision by the cooperative will have upon transactions between the cooperative and each of its various members. But there is evidence that homogeneity among the members along other, more personal dimensions can also be important. For example, cooperatives seem to have been particularly successful when the local farmers have shared unusual cultural homogeneity, as where they are mostly of Scandinavian descent. And in spite of strong incentives to form tobacco cooperatives in the South—incentives that arose from both monopoly and asymmetric information—these cooperatives were slow to form and grow, evidently owing in substantial part to the black-white split among farmers.[70]

Capital Supply

For the reasons discussed in Chapter 4, the equity capital required by farm marketing cooperatives must generally be raised from the cooperatives' farmer-members.[71] There are obvious costs to having farmers provide this capital. Modern farms, though predominantly family-owned businesses, are relatively capital intensive. Therefore farmers are unlikely to have substantial amounts of liquid capital available to invest elsewhere. In addition, the returns to a farmer from investing in a marketing cooperative are likely to be positively correlated with the returns to his farm. Since farming is a volatile business in itself, this means that a marketing cooperative is a highly risky investment for a farmer.

Nevertheless, it is not apparent that difficulty in raising capital has substantially inhibited the formation and growth of farmer cooperatives. Many marketing cooperatives are relatively heavily capitalized.

Some of this capital is obtained by borrowing. Much of it, however, is equity capital raised from members.[72] For example, as of 1992 the members of the National Grape Co-operative (Welch's) had each invested an average of $54,000 in the firm, or more than $1,900 per acre contracted to the cooperative, making this investment close to the members' total investment in production assets.[73] Even more impressively, in 1989, the book value of equity in Ocean Spray Cranberries—surely an underestimate of the actual value—was $242,000 per member.[74] And the California canning cooperatives commonly require that members maintain an investment in the cooperative well in excess of 100 percent of the average value of their total annual crop.[75]

In fact, interviews with managers of agricultural cooperatives have not reflected any general sense that their organizations have suffered from serious capital constraints, or even that the cooperatives have found it harder to raise capital than have their investor-owned counterparts.[76] For farmer-owned enterprise, as for worker-owned enterprise, risk bearing and liquidity constraints are evidently far less important constraints than one might expect a priori.

The methods used by the marketing cooperatives to raise equity capital are often highly refined and carefully designed. The same methods are used by farm supply cooperatives, which also are often heavily capitalized. We shall examine those methods with care in Chapter 8.

Why Not Vertical Integration?

An obvious alternative to farm marketing cooperatives is simple vertical integration, in which the marketing firm owns the farms that supply it. Why is it that Ocean Spray, for example, does not simply own its own cranberry bogs? Or why does Land O'Lakes not own its own dairy farms? Vertical integration would presumably serve just as well as farmers' cooperatives, and perhaps much better, in avoiding the costs of market contracting. Moreover, vertical integration would provide easier access to capital and would avoid the cumbersome constraints and costs imposed on cooperatives by potential conflicts of interest among their farmer-members.

The reason is clearly that, in growing most crops, the family-owned farm remains the most efficient unit of production. Economies of scale are not substantial,[77] and individual ownership provides strong incentives for working when and how it is most effective. It is not for lack of

imagination that General Mills does not meet its needs for wheat by owning and operating huge corporate farms as subsidiaries. Large-scale corporate farming was experimented with extensively as early as the late nineteenth century, but has never been able to compete with family farms in most basic crops.[78]

Marketing cooperatives allow farmers to achieve economies of scale where they are significant—namely, in marketing—and to accomplish some economies from vertical integration, while at the same time leaving individual ownership in place where its incentive effects are most important. The flexibility thus afforded by the cooperative form will become even more apparent in Chapter 8, where we examine the farm supply cooperatives from which farmers obtain a large fraction of their farming inputs. Through appropriate use of both consumer and producer cooperatives, small family farms have remained the basic unit of agricultural production while, at the same time, those farms have been vertically integrated with very large firms both above and below them in the stream of production. This neatly articulated system of ownership manages to economize on the costs of market contracting while simultaneously providing effective monitoring of managers where economies of scale are large and, where economies of scale are small, maintaining the strong incentives of owner-entrepreneurship.

The Scarcity of Other Types of Producer Cooperatives

We observed, at the beginning of Part II, that there are only three common types of collectively owned enterprise that are owned by their suppliers: investor-owned firms, worker-owned firms, and farmer-owned firms. Other types, to be sure, can occasionally be found. For example, the owners of independent oil wells located in a given oil field sometimes collectively own the oil pipeline to and through which they sell their oil.[79] Some of the business-owned service cooperatives described in the next chapter, although classified there as consumer cooperatives, could instead be labeled producer cooperatives. For example, Allied Van Lines, the largest firm in the United States providing long-distance moving of household possessions, was from 1928 to 1968 a cooperative owned by the many local moving companies that actually provided the firm's services.

As this example indicates, the line between supplier-owned and consumer-owned enterprise is often vague. When Allied Van Lines

was organized as a cooperative, was it a producer cooperative owned by the local firms that provided the company with the trucks and personnel it used to perform its services? Or was it a consumer cooperative, owned by local moving firms that purchased marketing and dispatching services from the central organization? Similarly, worker-owned firms might often be characterized, not as producer cooperatives, but as consumer cooperatives in which workers collectively own the firm that supplies them with the capital and coordination services they need to work effectively. As the analytical framework offered in Part I suggests, very little depends on whether we label the patrons who own a given firm suppliers or customers. It is principally for simplicity of exposition that firms have been separately grouped here, in Parts II and III, into producer-owned and consumer-owned enterprise.

Nevertheless, regardless of how we choose to classify the borderline cases, there are few examples of producer-owned collective enterprise where the owners are not investors, workers, or farmers. In contrast, there are many different types of consumer-owned enterprise. Why, then, are there only three common types of producer-owned enterprise?

The answer is evidently that there are few inputs other than financial capital, labor, and agricultural crops that meet the essential characteristics, namely: (1) the input is highly homogeneous; (2) the input is provided by a number of different suppliers, none of which is large enough in itself to supply all the needs of a purchaser of efficient scale; (3) there is a compelling efficiency reason to keep the suppliers separate as producing entities rather than merging them under unified control (as would happen if a purchasing firm simply acquired all its suppliers); and (4) a firm's purchases of the input would be attended by some degree of market failure if those purchases were conducted just by means of market contracting.

Our survey of farm marketing cooperatives has reaffirmed the conclusion suggested by our earlier discussion of worker-owned firms, a conclusion that will be further underlined in the chapters that follow: condition (1) is more important than condition (4). Where the input is not highly homogeneous, collective supplier ownership generally does not succeed even in the presence of substantial market failure. Conversely, if the input is highly homogeneous, collective supplier ownership is often viable even if the costs of contracting with an independently owned purchaser would be relatively modest.

Condition (3), however, also deserves attention. In the case of labor, it is satisfied because of the degree of decision-making autonomy that is characteristic of every human being, and because the social prohibition of slavery reinforces this autonomy. For agricultural commodities it is satisfied because the family-owned farm remains the most efficient production unit for most crops.

Why is condition (3) satisfied for the independent oil producers in a given oil field? Presumably the reason is that, although the oil produced by the different properties is essentially the same (since they are generally all situated on top of the same pool of oil), the parcels of land themselves are not homogeneous with respect to the amount of oil believed to lie under them or the ease of extracting the oil from them. This heterogeneity often prevents the owners of the individual parcels in an oil field from forming a single cooperatively owned production firm for the field as a whole, even though they would achieve substantial efficiency advantages from doing so.[80] With cooperative production of that sort, there would be no occasion for collective ownership of pipelines. These observations further underscore the importance of homogeneity of interest: the parcel owners are capable of coming together in cooperative ownership of a pipeline to ship their oil, an enterprise in which the homogeneity of interest is high but the potential efficiency gains are modest; yet the same parcel owners are incapable of organizing a jointly owned production firm, where there is less homogeneity of interest but the potential efficiency gains are large.

Conclusion

Farm marketing cooperatives thrive even where the potential costs of market contracting appear relatively low. The success of the cooperatives does not seem to depend importantly on their own exploitation of monopoly power or on governmental tax preferences or subsidies. Risk bearing and accumulation of capital have apparently not been important obstacles.

These observations reinforce the general conclusions suggested by our earlier study of investor-owned firms and employee-owned firms: where the costs of ownership are low—and, in particular, where the potential producer-owners have highly homogeneous interests—producer cooperatives can succeed even in the absence of serious market imperfections that would make market contracting costly for the producers. This presumably accounts for the impressive growth in the overall market share of farm marketing cooperatives in the United States and other countries over the course of the twentieth century: although the monopsony power of farm product purchasers has evidently decreased over this period, the costs of ownership for farmer cooperatives have apparently decreased even faster.

To be sure, these general inferences are slightly clouded by the fact that each of the types of producer-owned enterprise examined in Part II exists, in the United States and in most other countries, in a relatively complex and specialized legal and institutional environment that obscures somewhat the importance of competing efficiency considerations. When we turn to consumer-owned enterprise, we shall find that such biases play a smaller role (or at least a less ambiguous one), making it easier to draw conclusions about relative efficiency.