The views presented here are those of the author, and they should not be interpreted as reflecting those of the World Bank.
ABSTRACT

Producer cooperatives, or firms with extensive employee ownership and participation, are marginal to most economies, and have a mixed record at best. A number of examples suggest, however, that under the right conditions, cooperatives can make a useful contribution to regional development. This paper discusses three such cases, the Mondragon Group in Spain and the Dairy and Sugar Cooperatives of Gujerat and Maharashtra, India. It also considers the case for interventions along cooperative lines to assist in the rationalisation of industries, and presents a summary evaluation of factors which appear to be important in determining the success of cooperative endeavours.
Cooperative Production and Accelerated Development:

A Review of Potential and Constraints *

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Cooperative Production and Accelerated Development

A Review of Potential and Constraints

1. Introduction

Producer cooperatives or, more generally, firms with extensive worker participation are only marginal to most economies. There is, nevertheless, considerable interest in the potential for greater productivity of such firms, and in their distributional implications. A moderately large, yet predominantly anecdotal literature suggests that cooperation at work may indeed lead to more efficient production.1/ At the same time, the organizational barriers to participatory firms appear to be formidable. A sizeable list of failures suggests that cooperatives are no panacea for either increasing productive efficiency or for improving income distribution. On closer examination, privately-funded cooperatives sometimes reap large hidden philanthropic gains, and officially touted cooperatives sometimes prosper through subsidisation or protection.2/ For political reasons governments have occasionally launched major drives towards cooperatisation, attempting to find a "middle way" between capitalism and state ownership. These public programs to encourage cooperative-type enterprises appear to have a mixed record at best. One of the best-known cases is the agrarian reform effected by Peru's Velasco government. Between 1969 and 1980 this eliminated virtually every large-scale private land holding, and assigned 90% of expropriated land to


2/ For example, public land is rented to the Ghanian Cooperative of Testour, Tunisia for one-fiftieth of the going rate. On the other hand, the counterpart to subsidization may be extensive public intervention into the running of the cooperative which reduces its efficiency: see Hopkins, 1983.
Agricultural Production Cooperatives (CAP's). While some have performed well, the average showing of these enterprises has been disappointing and the reform has probably caused some loss of output: see Carter, 1984; McClintock, 1981; Kay, 1982.

A number of successful cases indicate that cooperative production is, however, capable of making a distinctive and profitable contribution provided that the organization of units is compatible with their market, labor and social environments, that economies of scale, though necessary, do not require excessive firm size, and that the structure of incentives within the firm is suitable. Cooperatives may do well in the distributive trades; the large-scale Swedish and British cooperative movements are well known examples in the field of retailing while purchasing, processing and marketing cooperatives are quite common in modern commercialized agriculture. Manufacturing producer cooperatives, one focus of this paper, are far rarer. So are rural cooperatives successfully commercialising large numbers of small farmers. Because such experiments address the process of income generation rather directly (as opposed to merely facilitating existing trading of households or firms) and can have a large impact on regional development, they are worthy of special attention. So is a different and unfamiliar feature of "cooperative" public interventions; they can generate a distinctive incentive structure which has advantages over more conventional policies to promote or shelter firms.

This paper therefore reviews the contribution of cooperative organization from three perspectives: First, as a spur to rapid regional development through promoting industrial growth poles. Here there is one outstanding model, the Mondragon group in the Basque provinces of Spain. How does Mondragon's performance relate to its cooperative nature and distinctive
rules? Is the experiment widely replicable? These two questions are the focus of the next section. Second, as a stimulus to rural development by bringing modern inputs and modern processing, with its associated scale economies, within the reach of small farmers. India provides a number of interesting success stories here, notably the AMUL dairy cooperatives and the sugar cooperatives of Maharashtra, together with a number of failures. Why do some attempts succeed and others fail? What seems to have been the effect of successful cooperatives on income distribution? These questions are addressed in Section III. Third, public policy which involves restructuring asset ownership towards employee stockholding may sometimes facilitate the regeneration or promotion of industry by substituting for less effective conventional subsidy, tariff or tax policies or for public ownership, as outlined in Section IV. Here most research has focussed on North America and Britain although similar cases may be found in other industrial countries. One particularly interesting example of the role of some form of worker ownership in assisting de-statisation is provided by Malta. Section V provides a brief summing-up of main, though sometimes very tentative, conclusions.

Before proceeding it should be noted that "cooperatives" vary greatly over the two crucial dimensions of ownership and control. Capital may be socialised or collectively owned (Yugoslavia, Peru) or individually owned by the firms' workers (Mondragon). Ownership may be widely dispersed (Mondragon) or concentrated in a few hands, some of whom may not be workers (Tembec, in Canada). Control may be substantially direct via mass meetings (Peru) or clearly delegated to managers (Mondragon); decisions may be reached through one-man-one-vote or one-share-one-vote. Some workers may not be able to participate at all. Most confusing, there is no uniform relationship across
enterprises between the patterns of equity ownership and those of nominal or actual control. As unusual and naturally insular firms, cooperatives have emerged in assorted circumstances and cultures, have embodied a variety of philosophies and have been intended to serve various objectives. Vanek, 1975, discusses criteria for "true" cooperative production; at an empirical level, judgement of what actually constitutes a cooperative is necessarily somewhat subjective. Here the term, when used generally, should be taken to mean an enterprise with ownership and at least formal control dispersed reasonably widely across its members. Mondragon, the major case discussed below, is one of the few enterprises to actually meet Vanek's criteria.

2. The Mondragon Experiment

2.1 History and Organization

The inspiration for Mondragon was Jose Maria Arizmendi, a Jesuit priest who in 1956 inspired the takeover of a small bankrupt factory as a worker-managed experiment. Arizmendi's search for an alternative productive enterprise arose out of Catholic social doctrine, his familiarity with the works of Robert Owen, one of the earliest industrialist-philanthropists, and the example of the Rochdale Pioneers who had founded the first successful

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4/ In Conte and Tannenbaum's, 1978, study of US employee owned firms there was little relationship between the proportion of workers owning shares and the proportion of shares owned by workers: see also Bradley and Gelb, 1983a.

5/ A review of cases according to Vanek's criteria is provided by Jones, 1980.

cooperative in Britain in 1844.7/ The geographically and culturally isolated yet previously industrial Basque provinces had been devastated by the Spanish Civil War and were suffering the burden of Franco's repression. It is sometimes argued that the consequent Basque solidarity as well as distinctive cultural features were important in Mondragon's success.

Mondragon grew rapidly. Between 1965 and 1975 the number of workers increased by about 1000 per year; the group now provides some 18,000 jobs, of which 90% represents new employment as opposed to the absorption of existing firms. As of 1979 it included 70 industrial and three agricultural cooperatives, a cooperative bank with 84 branch offices, research and development, training and social security cooperatives, 43 education cooperatives and 14 housing cooperatives. The manufacturing cooperatives produce a variety of products—machine tools, refrigerators and other kitchen appliances, furniture, bicycles, electrical goods and bus bodies to mention but a few—using a range of technologies. Capital/man ratios vary between cooperatives—currently they range around $30,000 to $40,000 per worker—and have been rising. In the 1970s Mondragon produced about 14 percent of the industrial output of Guipuzcoa, the province in which their activity is concentrated.

The present structure of the Mondragon group—several "second degree" cooperatives providing centralised banking, management, training, research and development and social security services to the cluster of producer cooperatives—evolved as a response to constraints experienced by the isolation of the latter, "primary" cooperatives which individually found it

hard to secure loans, provide social security, etc. The ability to learn from experience and adapt structure accordingly has been an important feature of the Mondragon experience.

Mondragon's sales, export ratios, profitability, output/man and other vital statistics have been carefully analysed. They appear to be highly satisfactory although the Group has been hit by recession since 1979 as have other Spanish firms. During much of the period of Mondragon's expansion, Spanish industry developed rapidly to fill a growing, protected domestic market. Yet the Mondragon group is considered to have "outperformed the capitalist environment" in virtually all substantive respects. The statistics on employment growth are especially impressive relative to those for other local firms. It is difficult to arrive at any conclusion other than that Mondragon is a most successful group of enterprises when judged by the usual criteria.

Formally, the organisational structure of a typical Mondragon production cooperative does not differ too greatly from that of a capitalist corporation. Figure 1 depicts the essentials. However, the Junta Rectora (board of directors) is responsible to a General Assembly and is elected by cooperatores on a one-man vote basis. The Social Council is the Mondragon equivalent of the German or French "works council," representing cooperatores through a cell-based system to their management and board.

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8/ The distinctive characteristic of a "secondary" cooperative is that its membership may include cooperatives as well as individuals.

9/ The crucial importance of the learning process to the success of five Asian experiments with communally organised rural developmental schemes has been documented by Korten, 1980.

10/ For a detailed assessment see Thomas and Logan, 1982.
Wages are ex-post confirmations of advances out of anticipated profits (anticipos). The range of the wage scale is a matter for debate, although relative to Spanish industry the scale is greatly compressed. The ratio of the lowest to highest payment is theoretically 1:3 although special bonuses may extend this to 1:4.5. Further extension follows if account is taken of the method of deducting social security contributions, but compression is still significant. The lowest paid cooperateurs receive slightly more than their counterparts outside, while managers are estimated to receive less than half their pay on comparable firms.

Mondragon rules governing capital and equity are quite complex. Net profits (or net revenues minus payroll costs, interest and depreciation) are allocated to individual and to two collective accounts, Collective Reserves and the Social Fund, according to a set formula. This so constrains distribution that Reserves bear a major burden of fluctuations in profitability. When profits are low, only 20 percent accrues to Reserves but this proportion increases greatly as they rise. Normally the Social Fund receives a flat 10 percent of profits. Individual accounts receive interest of 6 percent per annum and are revalued annually to reflect inflation and changed circumstances. The distribution of profit to individuals' accounts is in proportion to their total work and interest incomes so that long-serving and more highly paid worker-members tend to receive larger shares of surplus. The use of non-member hired labor is negligible.

Capital contributions are required from workers joining new or existing cooperatives. On retirement, accumulated profits must, by Spanish law, be paid out within two years. Cooperateurs may not sell their shares, and voluntary departures may involve a penalty of up to 30 percent of accumulated profits, although this is discretionary and imposed only when
capital withdrawal is seen as a threat to the enterprise. Individuals are not "tied in" to their cooperatives in practice, but circumstance resulting in "waves" of departures are likely to result in some blocking of funds.

In contrast to considering the qualities of obedience and regularity emphasized in conventional recruitment, Mondragon stresses, besides skill and education, "community" variables which measure the degree of integration of workers into their local communities. Following acceptance, a worker undergoes trial periods of some six months during which time foremen's reports again carefully assess his social acceptability. This screening, and the probable self-selection among potential applicants aware of the criteria, serve to identify and reject workers with little "cooperative" potential: plausibly, those viewing the cooperatives as just another work opportunity. Similar criteria are applied in reviewing candidates for advancement within the cooperative.

Mondragon provides no formal guarantee of lifetime employment. But it is generally accepted that adjustment to structural or market change will not be through job shedding. Cooperateurs may be reallocated between the cooperatives which operate a revenue-sharing "insurance" scheme. They continue to receive 80 percent of their salary if unavoidably laid off. This, of course, inhibits redundancy since firing costs are so high.

Work discipline is closely regulated by rules internal to each cooperative. Misdemeanours are classified as light, grave and very grave. Penalties range from written warnings through suspension to losses of income for up to sixty days. Striking against management is punishable by expulsion. In 1974 this penalty was imposed on seventeen strike leaders and lesser penalties were levied on 397 strikers by the Junta Rectora of ULGOR, these punishments later being ratified by the ULGOR Assembly. Significantly,
the anti-strike ethic was not substantially weakened to accommodate sympathy
strikes in favour of Basque nationalism or Spanish workers in general.
However, to focus on punishment alone is one-sided. An important and costly
element of discipline consists of educational seminars to reinforce the ideal
of cooperativism among members. Mondragon's ideal is to replace discipline by
self-discipline.

The following analysis of Mondragon draws on surveys conducted in 15
cooperatives which yielded a sample size of 1080, surveys of two comparator
firms (sample size 280) and in-depth interviewing of cooperative management.
For more details, see Bradley and Gelb, 1983b, Chapter 4.

2.2 Cooperation, Control and Efficiency

Theoretically, cooperative organization could raise productive
efficiency in three ways. First, if it succeeds in promoting high-trust
relations between managers and workers and inhibits alienation, the
cooperative may experience less resistance towards traditional hierarchical
control and industrial relations may proceed more smoothly. This is most
likely to be important when labor wields considerable power and can either
organize collectively or pass legislation to frustrate management's ability to
run the firm as it sees necessary. Second, profit-sharing might generate
pressure for "horizontal" control, to support or partly to replace
hierarchical management; this might also spill over into tighter monitoring of
managers by workers. Third, spreading incentives and encouraging worker
discretion might encourage self-discipline and voluntary alignment of
individual with collective objectives. It is sometimes argued that worker
participation can utilise production knowledge not available to supervisors or
managers, and thus improve quality and reduce supervision costs.
Empirical support for a relationship between participation and productivity may be found in a number of studies. Berman, 1967, considers the plywood cooperatives of the US Pacific Northwest. Established by Scandinavian immigrants with some tradition of cooperative work, these firms were found to produce higher quality output more efficiently, a conclusion supported by studies of an Internal Revenue Service concerned at the possibility that excessively high wages were being paid to reduce more heavily taxed profits. The most comprehensive studies of participatory firms in general are those of Conte and Tannenbaum, 1978, which cover US firms in which workers own all or part of the capital stock. Conte and Tannenbaum find that such firms do indeed appear to be more productive than conventional comparators although the dispersion in profit rates is high in both sets of firms. Studies of the effects of worker takeovers of declining capitalist firms also provide support: see Bradley and Gelb, 1983a and Bhowmik, 1983, the last for a study of an Indian tea cooperative abandoned by its owners and resuscitated by its workers, then reclaimed by the owners who requested that their gift to the workers be legally set aside. However, it is not easy to prove causality from such studies. Management sophisticated enough to reap the benefits of worker participation may also have greater skills in other directions. Worker buyouts or takeovers are most likely when poor past management is seen as responsible for failure, which poses a selection bias. Hence it is necessary to assess whether Mondragon's commercial record can be ascribed to its cooperative organization, rather than simply to more commonplace factors: sound but conventional management, innovation, good access to loan capital through the Caja Laboral Popular and so forth, all of which are acknowledged as vital by senior managers.
Survey results and interviews suggest that Mondragon's cooperative organization is, indeed, significantly associated with its success and that this link acts through relationships such as those theorised above. Both subject and control groups ranked Mondragon's "cooperativism"—worker involvement in their enterprises—as its most dominant characteristic, considering as other options security of employment, degree of "Basqueness" and level of payments. To assess differences between cooperative and firm working conditions, subject and control groups were asked comparable questions focusing on environmental receptivity: for example, whether they sometimes felt prevented from voicing grievances and opinions, the gulf at work and degree of social differentiation perceived to exist between management and workers, and the potential role perceived for trade unions within their respective enterprises. A positive response to the last issue is taken as an indicator of subjective capital-labor conflict. To cross-check results, the control was asked to rate various aspects of Mondragon's work environment relative to that of their own firm.

Both subject and control responses indicate an imperfect, yet more favorable industrial environment on the cooperatives which is plausibly associated with improved X-efficiency.11/ As is further described below, the cooperatives maintain unusually high-trust relationships between managerial and nonmanagerial members. The conflict which typically accompanies hierarchical control appears to be correspondingly low. The overwhelming majority of cooperateurs support disciplinary codes which are assessed both by Mondragon members and by the control as stricter than on the control firms.

One manifestation of the more disciplined environment is the far lower absenteeism rate of Mondragon.\footnote{12/}

In addition, significant lateral reinforcement appears to be evoked as a result of worker shareholding combined with an appreciation of the role of worker effort and care in the success of the enterprise. Formal supervisory responsibility profiles of the subject and control are similar, so that the cooperatives do not seem to economize on supervisory personnel, although they pay them less. Both groups of workers accept the importance of their effort in success. But mutual encouragement appears to be far more prevalent in the cooperatives than in the control firms: only 48% of the control felt that workers encouraged each other while 76% of cooperateurs agreed that they did so. A generally favorable relationship between cooperative organization and incentive structure, the working environment and efficiency is strongly indicated.

2.3 Potential for Replication

Mondragon thus appears to be successful, both in commercial and participatory terms and is acknowledged as such by, among others, the control group. Is it a stable and widely replicable experiment? The stability over time of cooperative enterprises in general is considered to be questionable by a number of studies. One particular problem—the tendency for cooperatives to restrict membership to maximize average value added per man and to rely increasingly on hired labor (Meade, 1972)—is countered in Mondragon by a strong commitment to expand local employment and the nature of share allocation which prevents new entrants from immediately acquiring claims on older workers' accounts. The dynamic problem of reconciling an indefinitely-

\footnote{12/ As reported in Thomas and Logan, 1982.}
lived firm with the finite lives of its individual workers may be more problematic however. The tendency for successful cooperatives to self-destruct when share values/member become so high as to inhibit new workers from buying-out retirees has been noted in cases studied in the USA;\textsuperscript{13/} problems of building and maintaining equity are not confined to the difficulty of starting up new cooperatives. Here we survey four potential barriers toward Mondragon's stability and replication: Ethnicity, labor mobility, the need for screening in selecting cooperateurs and the recruitment and retention of skilled management.

**Ethnicity** "Basqueness" is more subjective rather than objective; historically, the Basque country has always drawn and assimilated immigrants, and there is no formal distinction between Basque and non-Basque. On the cooperatives the real distinction is between those considered to have integrated themselves into local communities and others. The Basqueness of Mondragon has nevertheless been held to be of great importance to its success. Cultural and political factors are highlighted by several studies as providing a foundation receptive to ideas of self-management.\textsuperscript{14/} Distinctive cultural features include a high Basque propensity to save, while high-trust relationships between workers are considered to have been generated through mutual credit associations centered around working men's drinking clubs. The political factors have been dominated by repression of Basque cultural activity and expression which may have provided a binding force and encouraged consensus between the Basque people. It has been suggested that in the

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\textsuperscript{13/} See Bradley and Gelb, 1983a, p 96, and \textit{Congressional Record}, 19 June 1978 PE 3328 for the example of Amana Corporation.

absence of such unusual circumstances successful cooperatives are much less likely.

Basque nationalism is indeed strong in Mondragon. Within the cooperatives, the official language is Basque, there is some pressure on non-Basque speakers to learn the language and Basque political parties are overwhelmingly supported. However, survey results suggest that Basqueness is not seen as an overridingly significant feature of Mondragon either by its workers or by those on other local firms and that, while the absence of extensive societal stratification may help cooperation as discussed below, peculiarly Basque elements are not critical. From outside of the Basque provinces the distinctively Basque dimension is accredited strong causal significance, but from inside, against the backdrop of general Basqueness, this characteristic is far less important. Although 80% of cooperateur respondents describe themselves as Basque, so do 72% of the control. The gulf perceived by Mondragon workers between themselves and other Basque workers appears to be sharper than that perceived between Basque and Spanish workers. Respondents were asked to rank groups whose behavior they identified most closely with their own interests: Mondragon's cooperateurs' identification with each other appears to be much stronger than with any group of outside workers. In fact, Mondragon managers identify their interest most closely with those of nonmanagerial cooperateurs who, in turn, identify most closely with their own management.

It is also interesting to note the strength of "individualistic" attitudes to pay on Mondragon. The system of allocating the points by which jobs are ranked is largely at the discretion of individual firms and is perhaps the most contentious issue regularly encountered. Mondragon's sole strike occurred because of the introduction of a new grading system. In
response to survey questions, higher-rated respondents desire wider differentials; the lower-ranked would prefer them to be smaller. This is much as would be expected on conventional firms in any industrial society.

Labor Mobility A high proportion of successful cooperatives is located in areas of low geographical mobility and the occupational mobility of many participants seems to be low. Mondragon reinforces natural barriers to mobility by emphasizing integration into local communities, assessing the "social morality" of workers in hiring decisions, strengthening its community links by developing social and welfare services and by unofficially extending some hiring preference to children of cooperateurs. These links are indeed valuable: a major obstacle to the widespread establishment of Mondragon-style cooperatives appears to be the difficulty of reconciling them with mobile labor.

The community-cooperative link might be important for several reasons. Cooperative solidarity can be cemented through social non-work contact which generates high-trust relationships and familiarizes cooperateurs with each other. Strong community ties can invoke sanctions. They also reduce labor mobility; regionalized populations are plausibly less inclined to desire to withdraw capital from their enterprises for remittance to other geographic areas. Labor and capital mobility are therefore related, and both bear on the equity constraint facing cooperatives. Equity must remain in the hands of cooperateurs for them to be capable of taking autonomous decisions.

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15/ In nine out of thirteen cases where conventional firms converted to worker ownership considered in Bradley and Gelb, 1983a, Table 4.1, community linkages related to isolation were judged to be important; in seven the cooperative was a vital local employer. Often, relatively few cooperateurs were young. The plywood cooperatives, North America's most longstanding success stories, were also situated in remote areas.
Even with good access to loan capital, gearing limits restrict available assets/man to some multiple of equity/man. In the long run, the challenge to a cooperative is to maintain sufficient equity to accommodate technical change and sustain growth.

Capital withdrawals by existing cooperateurs may be limited by regulations as on Mondragon. But these can only be sustained if a broad consensus is maintained on the desirability of limitations since the cooperateurs themselves lay down the rules. On the other hand, individual equity shares must be withdrawn by departing cooperateurs if control is to be maintained within the enterprise. If new cooperateurs are unable (or unwilling) to replace equity withdrawn by departing members, equity/man ratios decline with labor turnover.

Survey results support this hypothesized connection between labor immobility and cooperative success quite strongly. Interpreting respondents claiming to be non-Basque as those not integrated into their communities, a close balance between those desiring to withdraw capital and those content with the status quo is maintained only by the high proportion of locally integrated cooperateurs who do not desire to withdraw their holdings.

The location of individual cooperatives also affects the urge to withdraw capital. Only 44% of Mondragon-based respondents desire to withdraw accumulated profits, but 67% of the cooperateurs situated in larger industrial centers wish to do so. Basque and non-Basque proportions are similar in these two groups, but responses suggest that the latter group felt less well-integrated into their cooperatives than did the former. Eighty-three percent of the Mondragon-based sample had "many" friends and relatives working in their enterprises, compared to only 47% of the second group. Cooperateurs in large urban centers generally seem to have been more prepared to consider.
employment in other firms in response to hypothetical offers of higher pay, and were strongly attracted to join the cooperatives because they offered work. In their attitudes to management and their view of the Caja Laboral Popular, they are less imbued with the cooperative ethic and less apt to adopt a unitary view of the organization. The absence of a close link between cooperative enterprises and local communities may therefore make equity accumulation more difficult by expanding the horizons of cooperateurs.

Reallocation of cooperateurs within the Mondragon group is not infrequent but our data suggest that potential mobility from the cooperatives to other firms is quite low. Respondents were asked whether they would be willing to transfer to other hypothetical enterprises for specified wage premia; cooperateurs indicated themselves far less potentially mobile than did workers in the control firms.

Lower intrinsic mobility of cooperateurs blunts the conflict between compressed cooperative wage differentials and labor market forces. Without this, maintaining solidarity while sustaining managerial and specialist skills could prove to be a more severe problem. However, the emphasis on job security has drawbacks too. To cope with possible shifts in demand, the diverse product mix of Mondragon is essential to enable the transfer of labor between enterprises experiencing different fortunes. This is seen as a major safety valve by cooperative management, but it provides only limited flexibility even to so well-developed a group as Mondragon, where depressed markets and technology changes have forced serious consideration of redundancy in addition to the introduction of extensive retraining programs.

Labor turnover and redundancy have, in turn, a major influence on equity accumulation if, as in Mondragon, retained surplus is credited to individual accounts and may be withdrawn on departure. Simulated steady-state
equity/man ratios at given growth rates following Mondragon rules indicate that if 10% of the workforce were to quit every year (with quits distributed uniformly across vintages), equity per man would decline by almost one-third. Retirement poses little problem on its own however, because a stable, ageing workforce accumulates sufficient capital to buy out retirees and still maintain high equity/man ratios.

Accepting the undesirability of accumulating a large set of disaffected cooperateurs by blocking withdrawal of share capital, one apparent way out of the mobility-equity dilemma is the use of collective rather than individual accounts. This might, however, reduce efficiency by diminishing individual incentives, including that towards reinvestment as has been found in Peru: Kay, 1982. At Mondragon, it appears that those who have been longest with the group (hence have accumulated most equity) are far more inclined to cite their investments as a factor motivating concern that they and their fellows work well. While this result could be attributed to other factors (such as age differences) it is nonetheless suggestive.

In sum, to maintain incentives and encourage reinvestment it is probably necessary for cooperative equity to be owned mainly by its individual cooperateurs. Changing conditions and technology render the possibility of labor mobility commercially desirable;\textsuperscript{16/} perhaps more important is the preservation of individual choice in changing firms, location or occupation. Yet, within a Mondragon-type system, a conflict appears between the three objectives: (a) mobility, (b) equity accumulation, and (c) appropriately structured incentives for efficiency and reinvestment of surplus. For

\textsuperscript{16/} Brown and Medoff, 1978, provide some evidence to the contrary when considering the impact of unionisation on productivity. Naturally arguments for labor mobility cannot ignore costs of high labor turnover, as estimated, e.g., by Spandau, 1975.
locational—and perhaps ethnic—reasons, naturally low mobility of Mondragon cooperateurs has diminished the potential conflict between these, so permitting rapid growth and accumulation.

**Screening.** Here we consider the question of whether Mondragon-style cooperatives are likely to provide work for those most immediately in need of jobs. This distributional concern relates to that discussed below over the degree of participation by small farmers and the landless, relative to that of medium and large farmers, in rural cooperatives. It should be appreciated that the indirect employment generation from a successful growth pole such as Mondragon may exceed any direct impact, and that its associated educational and training facilities enhance long run occupational and social mobility. Nevertheless the question is an interesting one, if only to preclude unrealistic expectations.

As described above, Mondragon practices both "social" and monetary screening. The former emphasizes local integration of applicants, the latter is induced by the down payment, and the possible freezing of a part of this by cooperative management should the member intend to depart. While the exact contribution and method of payment varies, the average contribution roughly equals one year's pay at the lowest grade and a proportion must be paid in cash on entry. If the down payment is significant, monetary screening might result in a work force with characteristics different from those of the wider population. Unless funds are easily borrowed, past employment is likely to play a large role in permitting a worker to join. At the same time, cooperative success is likely to increase the pool of potential applicants and expand its ability to choose: cooperative jobs may not be for all, especially for those most in need.
Almost all cooperative survey respondents considered their initial contribution as a "fairly large" sum. In the eyes of the control group, the contribution is perceived as the prime barrier to joining, followed closely by the fear of being "locked-in" which would be expected to reduce applications by workers not seriously intending to stay. Far fewer cooperateurs (33 percent) were unemployed immediately prior to joining their present firms than were control workers (56 percent). This is probably associated, at least to some extent, with the capital requirement. In addition, a past history of unemployment or job change may act as another qualitative screen to cooperative entrants. Because of a larger proportion of shorter-term workers on the control firms, the profiles of joining dates differed markedly between subject and control groups.

Cooperateurs tended to have seen the cooperatives as one of a range of alternative opportunities on joining. Correspondingly, relative to the control, they declared themselves to have been less motivated to join merely because of a desire for work. This impression is reinforced by the observation that 65% of cooperateurs indicated that they would have refused a similar job on a local conventional firm, had one been offered in favor of joining their cooperative, in spite of the deterrent posed by the capital contribution. Relative to conventional firms, Mondragon has provided jobs to those not needing them so that job creation has been largely indirect.

Because of selection biases in determining the population of cooperative workers it is not easy to ascertain what impact such screening may have had on success through providing the enterprises with a more "cooperative" workforce. Survey results nevertheless suggest that screening may have been important in limiting the growth of counter-cooperative attitudes, since cooperateurs who joined mainly for jobs appear to be the more
alienated. Mondragon's considerable expenditure on reinforcing the cooperative ethic through courses and discussion is perhaps the clearest confirmation of the critical importance of this element in success.

2.4 The Management Constraint

One of the clearest themes to emerge from comparing performance across cooperatives is that successful ventures require good management, with the authority to make decisions which can impact adversely upon certain groups of members. And, whatever the structure of capital ownership, the existence of a competitive market for management skills may threaten solidarity by necessitating wide pay differentials between good managers and rank and file members.

Cooperative managers may encounter less difficulty than their capitalist counterparts in dealing with internal labor related matters despite possibly greater limits to their ability to fire. They will probably be subject to other constraints. Coopérateurs are very critical of their managers, and can monitor them more effectively than shareholders for two reasons. First, they are less dispersed and have a natural organizing forum. Second, from inside the firm they are invariably more aware of management's errors and also apt to blame managers for exogenous, unpredictable, factors which lower profitability. Managerial mobility is quite high in Mondragon, with deposed managers often being transferred to another cooperative. Unfair criticism of managers is seen as a particular

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17/ Ulgor's course lasts for 92 hours, and covers economic history, comparative social systems, reasons for cooperative structure, the different aspects of production—product development, inventiveness, quality control, marketing, etc.; Bradley and Gelb, 1983b, p 19.

18/ For example, the failure of Kirkby Manufacturing has been ascribed largely to union-dominated management's inability to rationalise production lines and labor practices: see Eccles, 1981.
problem because of the difficulty of recruiting from the outside with a compressed pay scale.

How then does Mondragon recruit and motivate its managers? Specialised technical skills are frequently contracted out to consultants, who may be hired at competitive rates without breaking solidarity provided that their terms of appointment are not so long that the consultant becomes identified as part of the community. Once this happens, friction mounts over the perceived pay disparity. "Internal" management skills, on the other hand, are fostered largely by "taking risks by employing young people who haven't reached their ceiling and find in the cooperative status, responsibility and creativity." These exciting opportunities are greater given high growth and dynamism. There is therefore a positive feedback from growth towards efficiency and solidarity which operates by helping the cooperatives to retain talent within the narrow differential range: success helps to breed success. How Mondragon's management respond through the severe recession of the 1980s will indicate how strongly this feedback operates in reverse.

3. Milk and Sugar Cooperatives in India: A Brief Review

While Mondragon operates in an industrialised, though isolated environment, the Indian examples reviewed here demonstrate the potential of cooperatives for increasing the degree of commercialization of the traditional rural economy. Because milk and sugar cane are still produced by individuals rather than collectives, these cases are essentially processing cooperatives, unlike the Peruvian examples. They are nevertheless of particular interest in that they involve a wide spectrum of rural participants including many who are extremely poor. Any assessment of the impact and replicability of these organisations must be tentative, especially since the present review is based
on secondary materials. Cooperatives are extremely controversial in India. Some observers laud them as an ideal, easily replicable, way to raise rural output and improve distribution. Others deride them on both counts as expensive failures whose admitted but limited local success may be attributed to idiosyncratic circumstances which themselves are not replicable. The truth, as usual, may be somewhere in between.

3.1 The AMUL Dairy Cooperatives Kaira district comprises some 1,000 villages with three million inhabitants situated in the middle of Gujarat state. About 90% of the population is Hindi; the Patels, an economically dominant caste, constitute almost 15% of the population while almost half of the inhabitants belongs to the Bariya (Rajput) caste. Some 70% of owner-cultivators are marginal or small with landholdings below one hectare; Patels tend to be landowner-cultivators and Rajputs landowners-laborers. Other, lower, castes and migrants also supply farm labor.

Kaira had historically been a major centre of milk production, serving the Bombay market. The first private dairy at Anand was started in 1929, and the second world war generated a large increase in the demand for milk and milk products. In 1946 a mass rally of farmers was held under the leadership of the Patels to protest the extent to which surplus was appropriated by the private dairy marketing firms; a boycott led to the formation of the Kaira District Cooperative Milk Producers Union (AMUL). Verghese Kurien joined in 1950 as an engineer and soon became general manager. Although it took several years to convince producers of the need to


20/ This brief account of AMUL draws on Baviskar, 1983; Baviskar and Attwood, 1983; Apte, 1983; Patel, 1983; and the more critical view of George, 1983.
organize themselves cooperatively, the movement flourished. The number of milk producers grew from 432 in 1948 to 40,500 in 1961 and to 339,000 by 1982; the quantity of milk collected grew at 33.8% over this period.

The AMUL cooperative pattern follows a three-tier system. At village level there are milk producer cooperative societies—8 in 1948 and 895 in 1982—and, at district level, a District Cooperative Milk Producers Union representing the village cooperatives. The District unions are then affiliated in a Cooperative Milk Marketing Federation. The Unions aim to develop marketing facilities, to expand cooperative membership and to supply technical assistance and modern inputs. In almost all Gujrat districts, AMUL-type cooperatives have now been established. In 1965 the Government of India set up the National Dairy Development Board (NDDB) headed by Kurien. The NDDB has been engaged in promoting dairy development throughout the country on cooperative lines through its replication program Operation Flood.

AMUL has played a large role in facilitating the use of modern inputs. Artificial insemination centres were started in 1950; by 1981 81% of Kaira villages had such centres which performed over 300,000 inseminations. Veterinary services have also expanded rapidly. After 1973 crossbreeding of cows began, but more than 85% of milk supplied by AMUL still comes from buffalo. As a result of improved marketing, feeding and extension annual output/buffalo is estimated to have risen by 30% over 1946-1961 and by a further 83% over 1961-76.21/ Even critics of the NDDB and of its attempts to

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21/ These estimates and those of cooperative growth above are due to Patel, 1983. Note that since the number of members has grown in line with the quantity of milk collected, they seem to imply a halving of the number of buffalo per producer. This may be due to growing participation by smaller producers but the explanation is not clear.
replicate AMUL generally concedes that the AMUL experiment itself has been a notable success.

It is often stated and sometimes believed that landless laborers have been most benefited by AMUL, and indeed, participation in dairying is typically quite widespread. However, landowning or at least some access to land is vital for dairying, as it is not economic to rely entirely on purchased feeds. While considerable participation by the landless in dairy cooperatives is sometimes cited, Baviskar, 1983, suggests that many of these so-called "landless" do not really lack access to land (for example, they may use the land of relatives) or rely on other occupations (such as teaching) for a primary income source. AMUL appears to benefit, in proportional terms, mostly the smaller farmers: it has been estimated that small, medium and large farmers derived 35%, 23% and 13%, respectively, of their income from cooperative dairying although large farmers supply more milk on average in absolute terms. Increased regional income appears also to have trickled down quite broadly through improving work opportunities although the precise magnitude of this effect is hard to estimate. But, on the other hand, the poorest may have been adversely affected by the commercialization of dairying in that certain residual but nutritious milk by-products have become less available in the villages.

The extent to which cooperative members participate in and control "their" milk cooperatives is still a matter for debate. Patel, 1983, suggests broad involvement at least at village level, and indeed, relative to the traditional rural economy, some village-level cooperatives seem to provide a forum for joint decision-making along secular, democratic lines. One-third of

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22 Estimates are due to Patel and Pandey as cited in Patel, 1983.
each nine-member committee retires by rotation each year and vacant seats are filled by consensus or elections. However, Baviskar, 1983, notes the ability of the numerically smaller yet economically dominant Patels to control village-level elections and important society offices through their greater literacy and control of other powerful village institutions. The district-level cooperative unions he considers remote from the average producer, and administrator-controlled rather than run by the farmers. The Federation level is seen as even less accessible. This view concurs with that of Lele, 1981. The "cooperative" nature of the organization has also had little impact on decisions on major capital expenditures incurred in the phase of replication.

It is, however, not clear that participation at this level is a major concern of most existing members who seem to have little to gain from replication. Indeed, it would not have been possible to involve new members since the decision to replicate AMUL preceded the establishment of the new village-level cooperatives. This is an inevitable dilemma for attempts to accelerate development through cooperative structures. It is also not clear that the cooperative pattern of Amul is responsible for an apparent tendency towards participation by small farmers in milk production to be relatively greater than in other activities, since dairying may use inputs which naturally are less unequally distributed.

How replicable is the AMUL pattern and how successful will the new cooperatives be in raising income and improving the welfare of the poor? Because in-depth study of other regions has, so far been limited, the answer to this question is not clear23 but some suggestive points may be made.

First, a strong dairy industry preceded the AMUL cooperative, which thus built on natural and existing advantages of access to a large market, familiarity with the industry and a suitable natural resource base. Second, one important factor of AMUL's success has been held to be outstanding leadership and management. This, in turn, may be attributed to the enterprise of the Patels, whose members have been successful in many kinds of business enterprise and include a number of influential leaders. The cooperatives, it is sometimes suggested, have succeeded paradoxically because direct grass-roots involvement in management has not been too extensive: Lele, 1981. Third, as with the sugar cooperatives discussed below, the nature of milk processing—with large scale economies, and requiring speedy, well coordinated handling of a perishable product—may be a favorable factor. Fourth, rather as in Mondragon, local social organisation may have at least not have raised extreme barriers to cooperation, although there is no evidence of a strong local "cooperative" ethic. Social factors are further discussed in the next section.

3.2 The Sugar Cooperatives of Maharashtra\(^{24/}\)

Most of the sugar cane grown in India comes not from large estates but from small peasant holdings, which are not easily subject to consolidation for social and political reasons. Until quite recently the main centre of the industry was in the northeast. As described by Attwood, 1982, the relationship between sugar cane growing carried out by a few large and many small farmers, and the processing factories controlled by industrialists and a few large landholders was unstable and antagonistic. It was difficult for the

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\(^{24/}\) This account of the sugar cooperatives draws on Baviskar and Attwood, 1983; and Attwood, 1982; see also Baviskar, 1980.
factories to secure a steady, reliable cane supply, and thus to operate at high levels of efficiency. The large farmers were more concerned with securing favourable treatment (such as processing priority) for their own output than with maximising the overall profitability of processing, and were able to obtain preferences which undermined the confidence of the small farmers. The smaller cultivators were therefore apt to bypass the factories and to process their cane individually into gul (artisan sugar) with low rates of recovery. This conflict became, if anything, more acute when the state took over unprofitable sugar mills, since farmers then had no stake at all in their profitability.

The first cooperative sugar factory in Maharashtra was organised in 1950 soon after Indian independence, taking as a model one of the few privately-owned modern factories in the area. The cooperative factories were financed by government loans and by shares purchased by the cane growers, who were mainly Marathas. Each share represented one half acre of cane pledged annually to the factory, with a maximum of 25 shares per member. Regardless of shares owned, each member was permitted to have only one vote.

By 1960 there were 14 such factories, by 1970, 30 and by 1980, 60. Most operated at technical efficiency levels at least as good as those of modern private factories. Rather like Mondragon cooperatives, they have elected boards and are managed and run by appointed managerial employees who are, however, not necessarily members. At present some 66% of Maharashtra cane is used in white sugar production as against only one third in the northeast. The state now produces about 35% of India's white sugar. The cooperatives thus have had a major impact on the development and commercialisation of sugar in the Bombay Deccan.
The contribution to vertical integration of the industry through cooperatives appears to be two-fold. First, it has linked processing with growing, and so synchronised planting, harvesting and processing decisions. The mills can run at higher capacity and can process cane promptly to ensure the greatest sucrose yield. Second, the cooperatives have also come to play a major role in improving the technical conditions of cane production, guaranteeing crop loans, distributing fertilisers, and providing extension services.

Why have these enterprises managed to thrive while other cooperative endeavours have failed? The first factor appears to have been the opening up of an "irrigation frontier" with the expansion of canals in the otherwise dry Deccan. This encouraged the emergence of a competitive society marked by the ability of innovative (Maratha) cultivators to organise without undue pressure from outside or traditional interests (Attwood, 1982). The second, related, point is that, as at Anand (and Mondragon), the establishment of the cooperatives followed local initiative, and took place in an industry which was already operating successfully, albeit on a smaller scale. There was therefore good understanding, at least among the larger growers, of cane sugar processing. The role of government has been largely confined to external auditing since the great majority of startup loans has been promptly repaid by the factories. Third, and perhaps most important, the technical requirements of sugar processing establish a basic commonality of interests across all sizes of farmers, which translates, through intense political competition, into pressure for efficient management.

This does not imply that cooperateurs are equal. The large sugar farmers do indeed play a major role in the cooperatives. Normally they dominate the elected boards of directors and take advantage of their position
to confer favours—such as jobs—on their most loyal constituents, usually
distinguished by class or caste. Nearly three quarters of the members attend
general meetings of the cooperatives however, and virtually all participate in
elections. Cooperative politics are characterised by variable alliance
patterns, so that in order to be elected, a leader must be able to appeal to a
diverse set of interests. Maintaining the political balance between large and
small farmers is the dependence of the former upon the steady delivery of cane
by the latter which is necessary for the mills to run efficiently and
profitably. Because major decisions (including those relating to investment)
are made by boards elected through such directly competitive processes, the
sugar cooperatives appear to be more truly participatory than their dairy
counterparts, where representation of individual growers to the highest
decisionmaking levels is necessarily indirect.

The distribution of the benefits from the sugar cooperatives appears
to be similar to that from the dairy cooperatives. In relative terms, the
prime beneficiaries have been the smaller farmers. Landless workers have
derived some gains from the general expansion of economic activity, although
they have not participated directly in the cooperatives to any significant
extent. The gains to local landless workers have also been eroded by in-
migration from dry villages.

The success of the dairy and milk cooperatives might suggest the
hypothesis that the farmers of Maharashtra and Gujerat are unusually skilled
in cooperating, so that their success, as is sometimes proposed for that of
Mondragon, depends on non-replicable cultural factors. There may be an
element of truth to this explanation, in the sense that all of these examples
have benefited from their location in relatively "open" societies not
dominated by rigid, traditional hierarchy. The consequences of such hierarchy
for cooperation is documented by Bandyopadhyay and von Eschen, 1983, in a meticulous study of village life in West Bengal. Their work, and research carried out in other traditional hierarchical societies, indicates that strong patronage linkages between segments of society with very unequal economic status and access to power tend to undermine cooperation, which is essentially based on reciprocity. Cooperatives cannot function successfully when important groups are able to operate at will, without being subject to communal or legal checks and balances. However, other types of cooperatives—cotton in Maharashtra and tobacco in Gujarat—have performed relatively poorly, despite having had similar natural resource, societal, infrastructural and marketing advantages. This appears to demonstrate that the benefits of cooperation are far from uniform across activities. Greater storeability of tobacco and cotton permits these farmers to bypass their cooperatives and to wait for a more favourable price from a private buyer should this be anticipated. The longer-run interests of cooperatives are thus apt to be undermined, unless the technical conditions of the activity are such as to establish a strong community of interests among participants.

4. Cooperatives and Industrial Regeneration.

The final application of "cooperative" industrial policy to be considered here is its use in facilitating the restructuring of failing firms or in strengthening existing regional production patterns which are threatened

25/ Almy, 1983, discusses the case of the Brazilian Northeast; see also the case documented by Bhowmik, 1983.

26/ The benefits of cooperative structure may not either be uniform over all activities within a single firm. In newspaper publishing for example, production is far more likely to reap benefits than journalism; see Bradley and Gelb, 1983a, chapter 8.
by the migration of industry. The prior question of whether government should intervene at all is not considered here. It is taken as given that there may be political pressures or valid social arguments for intervention which cannot easily be resisted, and that, because of the power of actual, relative to potential, firms and costs of relocation, the pressure is likely to be towards preserving existing economic activities and regional patterns of production.

Conventional interventions include a wide range of subsidies and tax incentives, tariffs and quotas against import competition, and perhaps direct nationalisation. These all share three severe drawbacks. First, incentives tend to be conceded ex-post, in circumstances where government has less than complete knowledge of the industry, and is therefore less able to distinguish endogenous from exogenous factors influencing its commercial success. There is therefore a strong bias towards X-inefficiency in heavily protected sectors, and the public safety net provides less incentive for firms which might be eligible for assistance to operate efficiently. Far from helping the firm or industry to improve its competitiveness, assistance increases the likelihood of it becoming a permanent ward of the state.

A second drawback to much conventional policy is excessive leakage. The benefits of subsidization are shared by recipients according to their respective power to appropriate them, rather than according to any social criterion. For example, preferential credit to encourage a labor-intensive industry to continue operating in a depressed area may yield super-normal profits or destroy more jobs through raising capital-intensity than it preserves by sustaining production at high levels. Leakage may be reduced by targeting incentives carefully, but this, too, is difficult with limited information and may bring government into conflict with important actors.
Finally, prolonged dependence of an industry on public support increases the political difficulty of withdrawing concessions, since failure of the firm, together with its associated job losses and writing-down of capital values, is identified with the government's decision to cut subsidies rather than with the underlying basic failure of the firm to achieve viability.

A more suitable method of intervention would: (a) produce powerful incentives for the agents benefiting from support to organize in the most efficient manner possible; (b) encourage self-screening of candidates for support to reduce leakage; and (c) be self-liquidating in the event that the expected benefits of intervening fail to materialise. Interventions which act through restructuring equity ownership towards employees can improve policy effectiveness in these dimensions, although they are by no means able to overcome an intrinsic lack of competitiveness. No country includes such interventions in its arsenal of routine industrial policies. A number of ad-hoc interventions in several countries along similar lines indicates, however, their considerable potential. For a comparative analysis of these cases see Bradley and Gelb, 1983a, where some main features of the strategy are briefly summarised.

The announcement that a major industrial plant is likely to close or relocate sometimes has a catalytic effect. It can bring together a number of normally disparate interests; employees, local suppliers, owners of plant, and possibly local government bodies concerned at the direct and indirect loss of tax and income bases. These proceed to lobby for support to preserve existing production.

In the more successful cases studied, the public response has had a distinctive characteristic which may be termed "reactive"; responsibility for
preserving the firm was established with the individuals and communities most directly involved, rather than assumed by the government. The rescue operations, rather like the successful establishment of the Gujarat sugar cooperatives, represented a marriage of local initiative and planning with public financial assistance generally offered in the form of loans or loan guarantees. In some cases public loans have been secured by prior liens on the assets of firms, which required accommodation by existing creditors.

In an iterative dialog between government and the coalition of groups affected by closure, the initial proposals of the latter have generally been referred back on the grounds that the probability that the assisted firm would achieve commercial viability was unacceptably low. This resulted in a process of compromise between the affected groups. Sometimes significant initiatives to cut costs emanated from employees. Not all of these were original, but some could not be easily be broached by capital or government for fear of alienating organised labor.

Only part of the cost has typically been covered by government assistance. The burden of equity mobilisation was decentralised towards the groups termed in the Chrysler Corporation Loan Guarantee Act, 1979: "persons with an existing economic stake in the health of the Corporation". As in the Chrysler rescue, where workers traded pay concessions for shares, this has tended to force assisted enterprises towards some form of partial employee ownership, and possibly even towards cooperatives, without overt public pressure in this direction.

The indirect inducement towards employee shareholding provided by the appropriate level and type of public assistance accords with the need to decentralise responsibility away from government and to create incentives for efficient operation. The first consequence of this style of intervention is
to screen out those individuals or groups with good alternative employment opportunities. It is no accident that a high proportion of firms assisted through this process has been situated in remote areas or in small towns, and that workers have, for reasons of age or occupation, perceived themselves as having limited alternative job opportunities. A second effect has often been to generate substantial pressure within the firm for efficient operation.

Over the 1970's employee takeovers of their declining firms in the USA were estimated to have had a direct job-saving effect of these takeovers of between 50,000 and 100,000\(^{27/}\) and in no known case had the employee shareholders lost their stakes, although returns to worker equity were indeed low in many cases. Considering the weak position of most of the firms taken over, this is a remarkable performance. It has been paralleled by Canadian experience, and the late 1970's and early 1980's have seen an additional number of well publicized cases. For a variety of reasons (analyzed in Bradley and Gelb, 1983a) British experiments have been far less successful however.

Employee takeovers of declining firms may not lead to "genuine" or durable cooperatives, even when there is a large benefit to the cooperative strategy during the phase of reorganization. In some cases public intervention has been deliberately structured to prevent broad-based control by workers; in others, workers have been accorded far less control than warranted by their capital holdings because of pressure from banks and other financing institutions. Since the main motivation for worker involvement has been to secure jobs, concern over the control structure has usually been

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27/ See Select Committee on Small Business, 1979, pp 15-16. This estimate does not include the far larger yet less complete experiment at Chrysler, where Federal loan guarantees not exceeding $105 billion were conditional on matching contributions of $2 billion which included $585 million from employees' wage concessions and $500 million from existing creditors.
secondary. Sometimes this has led to friction and workers disillusioned with their lack of influence, but once the new firm starts to move towards a sound footing, it is quite possible that workers will seek to sell out their shares, and that the firm will revert to a normal capitalist enterprise.

Finally, industrial policy operating along the lines described here may also have potential in easing a transition from loss-making public to (hopefully profitable) private industry. For an interesting account of innovative Maltese strategy along these lines see Kester, 1980. Towards the end of 1972 it became clear that the losses of Bailey's Shipyards, which had been nationalised in 1968 were becoming unsupportable for the small Maltese economy. With management and unions in a deadlock, Dom Mintoff, then Maltese Prime Minister, appealed directly to the mass of the workers, and secured agreement to a wide range of concessions in return for a claim on future profits. Mintoff's strategy of shifting responsibility onto the mass of workers to facilitate the rationalisation of production is distinctive, yet in a number of respects not dissimilar to the other examples of intervention discussed in this section.

5. Summing Up: Some Tentative Conclusions

This paper has briefly surveyed the contribution of certain cooperatives and of "cooperative" industrial policy from three perspectives: regional industrialisation, commercialisation of small farmers, and as a substitute for conventional measures to assist firms in difficulty. When are cooperatives likely to be effective and to what ends?, What role, if any, should government play in promoting the cooperative option? The cases above suggest some tentative answers.
(i) Social Environment and Cooperative Goals. Cooperative or participatory production appears to be easier to organize and sustain in less overwhelming, hierarchical societies but the social element is only permissive. Although many cooperative proponents stress ethical benefits and broad societal concerns, there is no evidence that cooperateurs forsake individualistic pecuniary goals. For those involved, cooperative structure is an instrument towards attaining these rather than an end in itself. Correspondingly, cooperatives are likely to be far more successful if they are from the outset directed towards conventional commercial objectives. They cannot be expected to serve a variety of social goals and simultaneously generate the surpluses needed for reinvestment and growth. A major part of the benefits from a successful cooperative is likely to be indirect through local multiplier effects and possibly some delivery of local services, rather than through membership to the very poor or inadequately trained.

(ii) Activity. Not all productive activities benefit equally from cooperative organization. The most favorable circumstances appear to involve: appreciable economies of scale achieved at firm sizes not exceeding 300-500; closely interdependent production tasks with potential for lateral monitoring; and technological barriers to bypassing the cooperative for short-term gains. Highly capital-intensive industry is not likely to be fertile ground since employees can accumulate only a small part of the necessary equity. Neither are activities where output is highly personalised and where information and product flows are naturally hierarchical. The monitoring problem in small-scale agriculture suggests that cooperative processing and marketing is likely to have a larger payoff than attempting to cooperatise production itself.
(iii) **Region.** Industrial producer cooperatives are probably most suited to regions of limited labor mobility, to help resolve the multiple goals of equity accumulation, incentives (through individual capital holdings), a stable labor force with a range of appropriate skills and solidarity (through nonwork social contact and compressed payments scale). Because the structure of capital holdings has a critical bearing on the firm's longer-term prospects, its implications under alternative scenarios for labor mobility, technical change and shifts in product demand must be carefully thought through.

(iv) **Participation, Incentives and Management.** Without pressure from external shareholders cooperatives probably require quite broad-based participatory processes, both to minimize dissention and transmit competitive pressures to managers. This in turn, requires an incentive structure which clearly links rewards (current or capital) to performance. Incentive structures are possibly more important than the distribution of asset ownership; examples such as the Kenya Tea Development Authority (KTDA) suggest that autonomous, accountable and appropriately structured public firms can play a developmental role equally well.\(^{28}\) Indeed, successful cooperatives provide valuable lessons on incentive structures which could profitably be introduced into many non-cooperative enterprises. However, like other firms, cooperatives also require managers with a reasonably long-term mandate. There are advantages in restricting managers to members only but it then may be difficult to absorb management talents from outside. Internal procedures for

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\(^{28}\) The KTDA, briefly described in *World Bank*, 1983, p 78, has organized the planning of some 54,000 hectares of tea by 138,000 smallholders and has become a major processor and exporter of black tea. Growers are represented on the Board, some are also shareholders in factories or on factory boards and all have strong incentives to hold the KTDA to high standards.
selecting and training managers are then doubly important, as is provision for obtaining access to consulting services without undermining solidarity. Cooperative managers may find the climate of labor relations more tractable, but will probably face far more critical shareholders than conventional management. A continuous education program for members is probably a necessary component of cooperative survival.

Intergenerational aspects of the incentive system are also important in determining the cooperatives' propensity to grow or stagnate. The Mondragon system builds in a bias towards growth, as the capital stock, owned mainly by older workers, is more valuable the more new workers can be recruited to work with it. Other systems of property rights—equal ownership or dependence on a limited philanthropic trust—carry within them the seeds of stagnation since current members see their equity or call on concessional resources shrink as new members join.

(v) Government Role. The success stories documented above (and a record of many failures) argues for a limited initial public role, probably constrained to providing assistance in the form of timely technical and financial advice (including helping with feasibility studies), and loan capital or loan guarantees to bridge the reluctance sometimes noticed of private lenders to fund new cooperative ventures. Cooperatives build well on existing familiarity with the production process, on widespread realisation that there are indeed large gains to cooperation and, often, on the organizational ability and vision of a few key individuals who are invariably outside the public bureaucracy. Successful cooperatives have been able to identify constraints on their survival and growth, to learn from operating experience and to adapt their structures accordingly. Despite the appeal of Mondragon's rules, there is probably no single pattern of ownership and control which can
be mechanically yet successfully applied in all situations. In the US, Britain and other countries a number of small private and public organizations exist to facilitate cooperative production. The state should encourage such organizations in ways noted above. But it should maintain its distance from the initiating process, at least until successful, thoroughly analyzed cases can be considered for replication.

(vi) **Coops and Rationalisation.** Finally, a number of examples suggests that a phase of cooperative organisation or of widespread employee shareholding can be useful in facilitating the reorganization and rationalisation of firms, particularly when organised labor is a major barrier, or in reducing the cost of public intervention into industry. The firms arising from such interventions may be far from true worker cooperatives and may well revert to conventional corporations, particularly if the stock owned by workers appreciates sufficiently. The role of the state in such intervention is not to take the initiative through a dominant equity stake nor to seek to force the assisted firm into a rigid pattern of ownership and control. Rather, it can assist in the timely financing of well-conceived proposals, as in the case of establishing new cooperative ventures.
References

NOTE: CRD refers to papers presented at the Symposium on Cooperatives in Rural Development, Val-Morion, Quebec in August 1983.


