

INDUSTRIALIZING FOR WORKERS; MODELS FROM ITALY AND SPAIN

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Introduction

The career prospects for industrial workers in North America and Western Europe, once the mainstay of an affluent middle class, have become highly uncertain, if not bleak. The burdens of economic risk and uncertainty faced by mass producers with declining profits and productivity have been substantially passed off onto workers and the communities where they live. Sufficient profit margins are maintained by staff-gutting layoffs in the name of streamlining and plant relocations to areas where manipulable, non-unionized labor will work for lower wages. Bluestone and Harrison estimate that deindustrialization in the 1970s eliminated 32 million U.S. jobs.¹

For the people of Central Detroit; Southeast Chicago; Youngstown, Ohio; Butte, Montana; and a growing list of other areas, deindustrialization has come to mean mass unemployment, rising social service costs to be drawn from a declining tax base, a rundown built environment of abandoned plants and boarded-up shops, and a self-perpetuating climate of bust-town insecurity. Many have cut their losses by emigrating, but that choice is not open to everyone. Those who leave tend to be already employed, to be younger, to have more formal education, and to have generally better prospects elsewhere.² For many others, to "hold on" to what security they have in familiar surroundings and support systems and to simply wait for good jobs to come back are the best opportunities available.

In more diversified cities where the industrial base has not been so thoroughly boarded up, economic restructuring has often replaced good jobs with bad ones. The contraction of basic industries (e.g., steel, autos, textiles, oil) has been accompanied by an expansion of producer services (e.g., advertising, public relations, customer services, management consulting) and a new brand of non-unionized manufacturing (e.g., high-tech electronics), both known for their polarized wage structures.³ Unionized manufacturing jobs that offer higher wages and benefits, the security and upward mobility of internal labor markets, and a grievance mechanism to improve working conditions are being replaced by non-unionized, low-paying, high-turnover, no-future jobs.⁴ Forty-four percent of the net new employment created in the U.S. between 1979 and 1985 paid no more than \$7400 per year.⁵ Furthermore, the number of contingent jobs (part-time, temporary, and self-employed) has increased 25 percent from 1975 to 1985 to include

30 million workers (27 percent of the labor force). Essentially, inflexible economies are being forced to bend by expanding secondary labor markets, the results being greater income disparity, a growing number of workers without formal or long-lasting ties to their jobs, and less reason for workers to be committed to the work they do.

These corporate strategies that disregard costs to the broader social systems, particularly to workers, have been the rule in most industrial economies, but not everywhere. Isolated success stories -- this paper will examine Italian small-firm industrial districts and producer cooperatives in Mondragon, Spain, as models -- suggest the following: (1) that deindustrialization and restructuring are the results of the rigid organizational structure of mass production, its vulnerability to unstable demand, and its inherent conflicts between labor and capital; (2) that smaller firms employing participative workers and flexible technology can substantially increase both productivity and the flexibility to adapt to changing demand; (3) that this flexibility can be regulated to hold the social costs of changing demand to a tolerable minimum; (4) that cooperative agglomerations of these small firms can establish sufficient economies of scale to compete with mass producers, especially those faced with uncertain mass markets; and (5) that the characteristics which make these small firms viable can potentially be replicated elsewhere, for example, to reindustrialize areas where heavy disinvestment has taken place. This paper synthesizes some of the growing body of research on the economic efficiency of Mondragon producer cooperatives and of Italian small-firm districts. To appreciate the success of these alternative production models, a brief review of several noted inadequacies of conventional mass production will be helpful.

The Limitations of the Mass-Production Model

Mass production has facilitated most of the U.S. economic growth and prosperity of this century, particularly in the thirty years following the Second World War. The efficiency of mass producing a product results from the lower costs of dividing the production process into ever-smaller parts and using special-purpose automatic machines to speed up production. Economies of scale are created by integrating this production process into a large organization, producing long runs at a fast pace.⁶

The declining profits and productivity of large mass producers in the 1970s, however, have demonstrated three debilitating limitations to the efficiency of their methods. First, the efficiency of mass production is limited by its rigidity, requiring expensive long-term investment in specialized capital and labor, as well as a sufficient amount of stable, long-term demand to justify that investment. The impact of this rigidity is insightfully analyzed by Piore and Sabel, who describe a series of

supply shocks that turned into a prolonged crisis of demand, crippling mass-production efficiency in the last decade.⁷ Labor shortages were induced in the 1960s, as many previously marginal workers (e.g., women, minorities, and immigrants) demanded a share in the high wages and job security offered to the rest of the work force. In the mid-1970s, this combined with shortages of oil and grain to set off high inflation rates, which were perpetuated by wage contracts tied to the cost of living. Responding policies to control inflation raised interest rates and pushed the economy into a period of stagflation. Adding to these difficulties, fixed currency exchange rates were abandoned in 1971, and the speculation and rapid fluctuations that followed made long-term investment in producing international commodities far more of a risk. The initial result of the increased costs of inputs combined with the lower demand for outputs was a reduction in profits. The long-term impact of these shocks is an atmosphere of confusion about the price and availability of inputs, the level and composition of demand in particular markets, and the predictability of exchange rates, all increasing the risk of long-term commitments to a rigid production system.

Second, the efficiency of mass production is limited by the required mass consumption of a standardized product. The more complex the factory division of the production process becomes, the more specialized each machine and worker must be, and the more difficult it becomes to vary from a standard product or a set range of standard products. The trend toward the saturation of markets for manufactured goods in the post-war period, however, makes this requirement increasingly difficult to meet.⁸ Unable to expand markets further in mature industries, competition for market share becomes more intense, redoubled by the tremendous increase in U.S. imports in the 1970s. As consumer tastes in turn become more responsive to the increased diversity and quality offered by a variety of competitors, mass markets become more uncertain and often break up.

Third, efficiency is limited by the conflicts between labor and capital inherent in the production process. Taylorist scientific management breaks workers down into interchangeable parts of a mechanical process, while an authoritarian, keep-the-line-moving management pushes the parts to work faster. The impact of the reduced job content of mass production, routinizing and trivializing the workers' efforts, can be witnessed in the depth of workers' discontent.⁹ The resulting strikes, sit-downs, absenteeism, and sabotage take a high toll on workplace efficiency.

Less obvious than the cost of militancy, however, is a day-to-day conflict between worker security and potential productivity which,

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combined with inherent production rigidity, reduces even further the mass producer's ability to respond to changing market pressures. Essentially the subdivision of work isolates workers from each other, making each potentially replaceable by added technology. Production workers have job-specific skills, though, that allow them some amount of independence and security. Once a worker becomes adept at that skill, it becomes more difficult for management to interfere with him. "Automation workers possess a unique kind of knowledge and a unique place among workers with similar kinds of knowledge."¹⁰

Within this environment a hierarchy of jobs exists, measured particularly by skill levels required and abusiveness suffered (both mental and physical) – the better jobs generally going to those with the more seniority. Long-time workers, often with bad backs and maimed bodies, tend to feel that they have earned the lighter jobs they have moved up to. They also tend to be more protective of the knowledge and skills that got them there. This hierarchy becomes a sort of social security system, in which even new-hires acquire the benefit of knowing, "I'll do this now, because I'll have that job some day." A problem arises, however, when strategies are implemented to increase productivity through combining jobs or introducing technology to eliminate jobs, both of which present a threat to workers of losing their independence and "going back to loading asphalt" -- or, in a worse case, being laid off.¹¹ Thus production workers, who see every day the specific problems and inefficiencies of production technology, are systematically discouraged from sharing their knowledge or helping improve technology to increase productivity.

Running through these limitations is the implication that the efficiency of the mass-production model is not one of purely economic forces. Rather, it comes to depend on a political and social structure that strains to maintain a large stable demand, a dependable supply of resources, and sufficient worker satisfaction to check militancy in the jobs that technology allows them. As the uncertainty of mass markets continues to grow and as the insecurity of unemployment and under-employment in industrialized nations continues to threaten workers' commitment to their jobs, the potential for new organizational designs that can increase flexibility and productivity in a socially responsible manner is gaining momentum.

Italian Small-Firm Districts

The last two decades have highlighted the superior economic performance of a growing craft sector in villages and small cities of the Italian regions Emilia Romagna, Marche, Tuscany, Umbria, and Veneto. This sector is made up of a decentralized network of mostly family and extended-family shops, concentrated in sectorally-specialized industrial

districts. In terms of economic growth, productivity, employment, and wages, the performance and resilience to crisis of these areas has been remarkable.

Between 1979 and 1981, when deindustrialization and restructuring were reaching new heights elsewhere in Western Europe, Italy registered the highest rate of economic growth and enhanced productivity in the European Economic Community.¹² Small-firm industries have been substantially responsible for that growth. In Emilia, where the small-firm sector is predominant, labor force participation was 6 percent higher and unemployment was 1.9 percent lower than the Italian average in 1980, according to ISTAT (the Central Statistical Office). While the average Italian money income rose by 4.4 million lire per person from 1970 to 1979, that of Emilia rose by 5.6 million lire, and that of its province of Modena, the acknowledged capital of the decentralized economy, rose by 6.2 million lire.¹³ What makes these figures truly impressive is how understated they typically are, missing much of the hidden employment and growth that goes unreported in small firms. Surveys taken in 1978 reveal that, in small-firm areas, actual rates of participation were twice the official rates and that the rate of industrial growth, officially reported as 2.5 percent, was more likely to have been between 5 percent and 7 percent.¹⁴

Production in these small-firm districts is organized through combinations of vertical and horizontal decentralization. The motorcycle industry in Bologna is an illustrative example of vertical decentralization. The Morini plant assembles twenty motorcycles per day but produces only the camshaft and engine mounting. The rest is produced by a network of subcontractors. The production techniques and equipment are generally the same as would be used in a large factory, except that a subcontractor could use one production machine rather than several and lose virtually no technical advantages of scale.¹⁵

Horizontal decentralization of production in small-firm districts divides an industry's range of final products into a variety of specialties produced in small batches. Textile production in the Prato district of Tuscany, one of the world's most important woolen centers, exemplifies the efficiency and growth potential of horizontal decentralization. In the textile industry, lower labor costs in Eastern Europe, the Far East, and Latin America have displaced much of the mass-production of France, West Germany, Great Britain, and the U.S.¹⁶ Despite high labor costs, however, Prato has found a niche in producing high-quality, bright-colored woolens in decentralized districts of skilled artisans. Since 1951 the population has doubled to about 212,000, while the average firm size has dropped from 26 employees to 4.3, almost half of them employed in textile production. More than 800,000

carding spindles were counted there in 1982, 30 percent of the world's total. Their 1986 export value was 3000 billion lire.¹⁷

Strategies for High Productivity

High productivity gives firms in small-firm districts a special capacity to innovate, allowing them to create their own niches of demand, the key to their success. The market for their products is small, often just a single client with a one-time need, so that high quality and efficiency must be designed into small-batch production. To achieve quality, firms specialize, but also switch between specialties; to achieve efficiency, the market for their products is always national or international.

Before discussing specific strategies for increasing productivity, an essential condition that establishes a viable market for the innovations of Italian craft producers must be pointed out, namely the lack of monopsony power among their clients. Small producers in other areas are often dependent upon a parent firm or a limited number of clients. This dependency allows clients to squeeze the profits of producers and to dictate what and how to produce. A different type of producer-client relationship exists, however, in small-firm districts, such that clients have a particular problem to solve but no blueprint for solving it, thus prompting the producer to innovate.¹⁸

One indicator of the lack of monopsony control over an industrial district is the percentage of firms with direct access to final-product markets. For instance, research on Modena's clothing industry in the late 1970s indicated that 50 percent of its artisans produced for their own markets rather than for parent firms, while that proportion in Ferrara was only 8 percent.¹⁹ Artisans frequently visit major cities of Europe to define and establish relations within those markets.²⁰ Another indicator is the percentage of contractors with a large number of clients which they switch between. Bagnasco and Trigilia in 1985 found that only 30 percent of the metalworking subcontractors of Bassano had more than twenty clients a year, while Favaretto found that figure to be 60 percent in Modena and Reggio Emilia.²¹

Combining with this independent access to specialized markets, two specific strategies of organizing Italian craft production establish its high productivity and corresponding capacity to innovate. First, participative relations within these firms create a highly productive and flexible work force, in two ways. One is through the mutual learning process that develops out of face-to-face relations within firms among owners, skilled production workers, and engineers, sharing their different types of expertise. Brusco and Sabel note that,

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Contact between owners, engineers, technicians, and the various heads of production and workers is likely to be extremely close, with little distinction between hierarchical grades ... The result is a blurring of the boundaries between intellectual and manual work. There is a conviction that no one can design a usable, economically viable product if he cannot build it, or build it if he cannot design it.²²

As workers switch between firms and as owners switch between products, this learning process sets the conditions for a wide dissemination of skill and know-how within an industrial district. A socialized work force of flexible artisans develops, who know a little about a variety of equipment and methods and a lot about some in particular.

Another way that participative relations increase productivity is through the shared decision-making process of what and how to produce. One advantage of shared decision-making is the innovative potential of the ideas that get formed on the shop floor, ideas that hierarchical structures and layers of management would stifle but that craft production thrives on. Another advantage is enhanced job content, motivating many workers to become as dedicated to their crafts as owners are to their businesses, in such a way that the two are difficult to distinguish. Long hours, hard work, and pride in results are commonly noted elements of Italian craft production.

This collaboration, however, does not necessarily extend to all workers. As in other small firms, skill in industrial districts can be strongly polarized, with many unskilled workers who do not learn much on the job.²³ Lack of skill in an industrial district, however, is not necessarily permanent, as workers can broaden their skills with increased experience and by moving between jobs within the district. Trigilia notes that class structure in Prato is hardly polarized at all and that rates of social and inter-firm mobility are high.²⁴

Second, the use of sophisticated technology adapted to small-batch production methods increases productivity. Designed for multi-purpose use, these machines allow firms to meet the demand for a variety of specialized markets. Since the profits of these firms are not squeezed by monopsonist clients, they are able to invest more in expensive equipment. In addition, affordable technology which addresses the needs of small firms is increasingly being developed.

Artisan-like techniques of smelting, enameling, weaving, cutting, or casting metal are designed into new machines, some of which are controlled by sophisticated micro-processors.²⁵

Brusco points out the common use of "off-standard" machines,

those able to level a steel surface of 4 by 2 meters perfectly, or those able to carve wood according to a very complex pattern, or those able to work at extremely close tolerances.²⁶

This craft technology is not designed to replace workers' tasks as a machine on an assembly line would do, but to improve the quality and expand the potential of what a worker can accomplish. The difference is not merely psychological but a technical one, inherent in the type of product, the size of the firm, and the machine design. Improved craft technology is not a threat to worker security, but a boost to product quality and the potential to address new markets, as well as a boost to the worker's potential contribution to those goals. Indeed, a determining factor in the use of flexible technology is the skill of the workers. The ability to modify production machinery creates a continuity between product design and production that makes this model very innovative and resourceful.

Strategies of Regulated Flexibility

The success of Italian small-firm production has its roots in extreme labor flexibility. It thrives on fast-changing markets that entail slow-downs and speedups, stops and starts, and changing needs for skilled labor on a regular basis. However, the success of this strategy hinges upon balancing the need for extreme labor flexibility against the strong power of labor in these regions, in order to provide sufficient wages, security, and job satisfaction to warrant that commitment. These internal contradictions have been loosely worked out in three forms of compromise that both promote and restrict flexibility, while widening the social safety net.

First, in the primary sector, workers are protected by very strong unions. Since the nation-shaking strikes and sitdowns of 1969, Italian unions (with regional variations) have been able to secure wage contracts tied to Italy's high inflation rates, to restrict managerial control of the pace of production, to enforce extensive grievance procedures to protect working conditions, and to mobilize forces to block factory closures.²⁷ Though these strengths were consolidated in the larger northern firms, the small-firm regions of central Italy are communist strongholds and the most unionized in the country, their power extending further downward to include much smaller firms than in the northern regions of Piedmont and Lombardy. In Emilia roughly half of the labor force is unionized.²⁸ Even in Prato, where 90 percent of the firms employ fewer than ten persons, the unionization rate was 45 percent in 1985 (and 60 percent for industrial workers). Representative union bodies existed in only 300 of the more than 10,000 textile firms there, but substantial indirect presence is exerted in the others, establishing

regional wage floors that are bargained upward in individual firms. Regional contracts have concentrated on wages and job environment (usually safety) rather than labor organization and flexibility. Most of the details of these regional standards are left to be bargained within individual firms. With this arrangement, wages in these areas have generally been kept higher than those set by the regional contracts.²⁹

Though unions are strong in these regions, they are also reasonable, developing into "a more consensual and cooperative model."³⁰ Communist-dominated unions are heavily influenced by the party's commitment to local economic development, protecting productivity and flexibility. Since the 1970s, textile workers unions have been demanding the introduction of new technology, intended to lower production costs and raise wages. To prevent redundancies, accompanying demands have included a reduction of the work-week and an introduction of new work-shifts to maintain previous manning levels.³¹

Second, the artisanal sector (usually family entrepreneurs) can be expanded in recession, as these smallest firms open up their doors to family and friends who have lost their jobs elsewhere, or as unemployed workers scrape together enough material and equipment to go into business for themselves.³² Artisans can make creative use of long working hours, variable wages, and used (frequently rented) machinery to take up considerable slack in changing demand. An estimated 40 percent of the Prato textile firms in 1984 could be included in this marginal condition.³³ Industrial relations within the artisanal sector are informal, mixing benevolent and authoritarian paternalism.³⁴

Two social characteristics reinforce this artisanal stretching capacity. One is the tendency to work in combination. Vast informal networks to disseminate information and training are created as those employed by different subcontractors work together on different projects. Another reinforcing characteristic is the inclination and ability of workers to go into business for themselves. The *matayage* (sharecropping) traditions of the agricultural sector of central Italy have worked their way through the social structure to create a widely dispersed managerial competence in this region.³⁵ Experience in dealing with suppliers and purchasers, in making investment decisions, and in keeping books is common among family firms. If an artisan does not have sufficient experience with a certain aspect of a new venture, she or he can easily find someone who does in the widely used and growing sector of small-firm managerial consultants in the area.

Third, the local communist government has similarly acted to promote and restrict flexibility. Small firms have been provided infrastructures, waste disposal services, energy resources, commercial promotion, and technical training. Various legal instruments have been used

to restrict prices on commercial property, allowing ease of entry for start-up firms. Municipalities have also worked to control growth, however, through pollution and land-use control.³⁶

The main role of the local government has been to establish a social safety net far surpassing that in other areas of Italy. A higher proportion of public and cooperative housing has kept prices lower than elsewhere. Publicly-assisted daycare centers fill the entire demand for their services in Reggio Emilia and Modena, allowing families to work. In Bologna, creches and nursery schools had enough places to care for 25 percent and 65 percent of their respective age groups, as opposed to 1.5 percent and 4 percent in Naples.³⁷ And public schooling, health care, and transportation needs are generally better provided for than in other areas.

Strategies for Economies of Scale

Producing efficiently for smaller, specialized markets does not require substantial economies of scale; nevertheless, almost as a natural recourse, firms that are linked together within these networks of horizontal and vertical linkages develop extensive forms of cooperation, creating economies of scale external to the firm but internal to the geographic area. In sharp contrast to the cut-throat competition of small producers dependent upon monopsonist clients, a friendly competition exists, "resembling the collegial relations of good doctors, good lawyers, and good university teachers."³⁸ Competition is still strong among these neighboring producers, but they are free to switch clients, and clients are free to switch producers, the result being a far more level playing field.

Trust and reciprocity are necessary ingredients of this interfirm collaboration. Extending far beyond the exchange of ideas, a professional solidarity develops. Investment in expensive equipment is too risky unless an artisan is assured that friends in other firms will help utilize it by passing on orders. Since equipment sophistication is necessary for every firm's success, the other firms are likely to reciprocate now in return for past and future favors.³⁹ Interestingly, the sociological relations of groups are more economic here than the rational self-interest that neoclassical economics is built on.

Scale economies have developed a variety of other forms as well. Cooperative service organizations provide white-collar services (e.g., accounting, marketing, and engineering consulting) that many single firms could not otherwise afford. Consortia of small employers purchase raw materials and secure bank loans at reduced prices.⁴⁰ The firms of industrial districts share a common pool of flexible, skilled labor, making it easier to lay off or reemploy workers as markets

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change. Workers have the same advantage in a common pool of local employers. Each of these forms increases the solidarity and efficiency of the district.

Italian craft districts have thus sidestepped the three limitations cited above on mass-production efficiency. First, industrial districts are inherently flexible – characterized by small firm size, small-batch production, flexible labor, and multi-purpose technology – thus allowing them to more easily adapt in-place to the crises that have shut down so many mass-production plants. Second, the uncertainty or breakup of mass markets, though severely limiting mass-production efficiency, can only help small producers who create their own demand and thrive on diversity. Third, the conflicts between capital and labor that reduce productivity in the large factory are minimized by the extensive worker participation and enhanced job content of craft production, added to a reasonably secure future working in an industrial district, setting conditions for workers to be dedicated to their craft.

While Italian small-firm districts place greater emphasis on the first and second solutions, designing production efficiency for meeting changes in demand, Mondragon cooperatives focus more on the third solution, designing social relations for worker commitment. Flexible-production efficiency and cooperative social relations, however, are essential to both models, and each model indirectly addresses the other of the three mass-production limitations. The overall strategies for solving these limitations are strikingly similar for both models.

Mondragon Producer Cooperatives

In the Basque provinces of northern Spain, headquartered in the town of Mondragon, there exists one of the world's most extensive agglomerations of producer cooperatives. Grown from a five-worker shop producing paraffin heaters and cookers in 1956 and a technical school dedicated to cooperative principles, the group now employs some 20,000 worker-owners in an integrated complex of 95 industrial, 10 agricultural, and 68 service, consumption, housing, and educational co-ops. Their broad range of production, including machine tools, kitchen appliances, electrical components, bicycles, bus bodies, furniture, and food products, had a 1985 sales value of \$880 million.⁴¹

Like Italian craft districts, the economic performance of the group has been outstanding. While Spanish industrial expansion was massive in the two decades preceding 1975, the Mondragon group's growth, productivity, and profitability have been consistently above the norm of Spanish industry. Moreover, during the long recession between 1975 and 1985, while the Spanish work force declined by 28 percent, and that of the three provinces of the Basque Autonomous Community

fell by 35 percent, employment in the Mondragon group actually increased by 22 percent.⁴²

In a time of deindustrialization and restructuring, there is much to be learned from the matured Mondragon group about achieving high productivity and flexibility through principles of equity, cooperation, and participative democracy. Employee ownership and a flat salary structure (the maximum ratio of the highest income to the lowest is only 4.5 to 1) set the conditions for a motivated, classless, cohesive work force. On this base, the group has evolved over time to create strategies for solving the problems that are forcing the decline of other mass producers. The following sections outline those strategies: high productivity through employee participation, regulated flexibility through diversification and sharing the costs of change, and economies of scale through group cooperation and coordination of sectoral linkages. The co-ops remain mass producers, but are smaller, more productive, more flexible mass producers.

Strategies for High Productivity

Productivity in the Mondragon co-ops is increased by employee ownership (supplying the motivation), and structures of employee representation and participation (supplying the means). The first urges the worker to speak, the second gives him or her a voice. Employee ownership motivates increased productivity in three ways. First, worker commitment and self-discipline are increased. An employee who is working for himself has a greater stake in the productivity of his own efforts, urging him to work harder. Surveys of Mondragon employees taken by Bradley and Gelb in 1981 revealed that 84 percent believe in the dependence of enterprise success upon the special effort of the work force, compared to 76 percent for conventional Basque firms. "Only two percent of cooperators considered themselves to be working less hard on their enterprises than they would on a conventional firm while over half considered that they worked significantly harder."⁴³

Second, employee ownership motivates participation in technological innovation, while job security eliminates its threat. Since innovation is an essential key to competitiveness and expansion into new markets, it is high on the list of employee-owners' best interests. Concurrently, the group-wide commitment to avoid layoffs, to retraining in the school system, to intercooperative transfers, and to the long-term expansion of the entire complex minimize the threat of labor-saving technology.

While employee ownership motivates increased productivity, democratic representational structures provide the means for workers to make a greater contribution to their jobs by having more control over

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them and to increase group cohesiveness through decision-making by consensus. Here again, Bradley and Gelb's research, ranking levels of participation (through representation), finds that only 30 percent of cooperators feel they did not participate in important decisions, compared to 80 percent in conventional firms.

77 percent of cooperators consider that the cooperative nature of their enterprise allows them a greater measure of job control than they would have in a conventional firm.⁴⁴

The following three representational structures within each co-op add significantly to that control.

First, the general assembly of employee-members holds ultimate control of the firm, electing a board of directors (Junta Rectora) which appoints and oversees managers. In contrast to shareholders in a corporation who reside outside the organization and often vote by proxy, employee-shareholders can keep a closer eye on management and typically are more critical.

When a manager is not performing well, the cooperators soon get rid of him . . . In a year often twelve cases [out of some eighty cooperatives] occur where managers are dismissed . . . Managers have often to justify their policies before the Junta Rectora and the collective.⁴⁵

Face-to-face oversight thus offers greater control.

Second, the Social Council (Consejo Social), made up of worker representatives to support worker interests (something like a traditional union), "has binding authority over health and safety, job evaluation, pay scale determination, and funds allocated to community projects."⁴⁶ The Social Council performs several representational functions. For one, it establishes a channel for appeal of worker grievances. For another, the representatives hold regular meetings with their constituents in which criticism is encouraged by the leadership and widely practiced by the membership. For yet another, management-level information is passed on to workers, and worker satisfactions and dissatisfactions are passed on to management.

Third, though most of the Mondragon co-ops have continued to organize production within Taylorist job breakdowns, some have implemented autonomous work groups to increase job content and worker control. In Copreci, a spinoff of ULGOR (the oldest and largest Mondragon co-op) producing components for refrigerators and other household appliances, assembly lines were eliminated and production was organized in work-teams around tables on which workers could perform several functions instead of just one. Each group had a great deal of autonomy to rotate jobs and set their own timing and quotas.

Since these groups required less supervision, the supervisors' jobs were in turn expanded to allow closer contact with both administration and engineering. The expeditors' and quality-control persons' roles were eliminated and they were transferred to other jobs. The quality of difficult components increased (though not the quantity), and the overall productivity increased.⁴⁷

In the General Equipment Division of ULGOR, work-teams were developed that act as their own supervisors, designing the products and their own jobs. The workers are essentially craftsmen with a high level of technical expertise, working with lathes and electronics. Skilled workers there, like in Italian craft districts, have essentially full control of what and how they produce.⁴⁸

In most producer co-op situations, however, either changing production technology to facilitate work-teams would be too expensive, or the workers have not wanted to change, or both. In Fagor Electrotecnica, experiments with work teams were tried, but nearly half the workers did not want to move from the assembly lines. Overall productivity here neither increased nor decreased.⁴⁹

Mondragon experience has shown that different participative structures are useful in different technical and social settings. While their post-Taylorist experimentation with work groups and job redesign has not been as extensive as that in Sweden or Norway, employee ownership, flat salary structure, and co-op size limitations create a geographically unique potential to refine participative structures in the future. Mondragon cooperation must be seen as an experiment over time.

Strategies of Regulated Flexibility

Adjustment to the prolonged Spanish recession between 1975 and 1985 has demonstrated that the Mondragon group can equitably internalize the costs of contraction and respond effectively to it through local diversification. The structures that promote technical education and continuous learning, research and development, and job creation through expansion and fission of existing coops establish the Mondragon group's long-term flexibility. The commitment to wage flexibility, smooth labor relations, and moving workers between co-ops to avoid lay-offs establishes greater short-term flexibility.

The record of growth and diversity of the co-ops over the last thirty years is a product of structures with that intended goal. For example, the group's commitment to educational excellence spans from primary school to graduate study at the Polytechnical College. Ikerlan, a technological research and development center and a spinoff of the College, has 90 professional employees and an annual budget of \$2.5 million. Its projects range from generic research to industrial robotics.

Ikasbide, a graduate professional and management training center established in 1985, holds advanced continuing education programs and seminars for co-op managers and leadership.⁵⁰

Combined with the innovation prompted by increased worker know-how, other policies systematically foster growth. One is the provision of sufficient financing. Caja Laboral Popular (CLP), the group's banking and management services institution, makes loans to member co-ops in the following preferential terms: one to two percent below market interest for expansion projects, half the market rates for recovery plans, and at times interest-free for cooperatives less than five years old.⁵¹ It also provides a variety of extensive managerial and financial consulting, information, and technical services. A second policy is the continuous reinvestment of profits. Rather than distributing an annual dividend to shareholders as is done in corporations, co-op earnings (over wages) cannot be withdrawn by employee members until they leave or retire. About 90 percent of those earnings are reinvested back into the coop to assure its long-term viability and expansion.⁵² A third policy is the generally followed rule of limiting co-op size to 500 employees and fission of co-op growth into new spinoffs. These policies make diversity a long-planned response to recession.

Mondragon's record of spinoffs to fill in gaps during the recent years of recession attests to this. As five co-ops were closing, five new ones were taking their place. The recently created Aneko, for example, is to be housed on contract for the first three years in spare facilities of existing co-ops, and about half of the employees are intended to be existing co-op members. Wages are initially restricted to 85 percent of the CLP pay scale, and other resources are economized to reduce the risks of CLP loans to the venture.⁵³ These coordinated efforts to diversify, absorb excess capacity, and yet invest from the conservative viewpoint of workers risking their own money in tough times demonstrate the group's potential to mobilize effectively against recession.

The short-term flexibility of the group is best seen in its commitment to internalize the costs of slowdown equitably and without delay. Real Spanish wages were sticky or continued upward even after 1979, while Spanish industry lost 550,000 jobs (17 percent of its labor force) between 1978 and 1982, and unemployment rates rose steadily from 5 percent to 15 percent. In contrast, CLP pay scales declined by over 3 percent between 1979 and 1983 (differentials remaining almost unchanged). In 1980, ULARCO (a vertically integrated group, including ULGOR and its spinoffs, which manufactures kitchen appliances) cut pay by 11 percent; in 1981 it paid only 90.8 percent of CLP wage scales; in 1982, 93 percent; and in 1983, 93.5 percent. And while employee-owners were cutting their wages, employment in the

industrial and agro-industrial co-ops increased until 1980 and remained fairly steady between 1980 and 1983.⁵⁴ Redundancies in declining co-ops were almost entirely absorbed into others. In ULGOR, for example, 1,300 of 3,500 positions were eliminated between 1979 and 1983 as follows: 145 members split off to form the new Fagorclima, 466 were offered contracts to work in identical positions for other manufacturers outside the group, and the remainder were reabsorbed in the ULARCO group. All departures were voluntary.⁵⁵

Strategies for Economies of Scale

Spain joined the European Economic Community in 1986, opening up the Mondragon group's competition for Spanish markets to the multinational conglomerates of Europe and the U.S. that enjoy much greater economies of scale. Finding a competitive place in that larger environment presents a formidable challenge to the future of the group. Centralized education, finance, and technological research have for many years provided a successful degree of scale for the co-ops, as the League of Education and Culture, CLP, Ikerlan, Lagun Aro, and more recently Ikasbide have evolved to solve problems as needed. Foreseeing Spain's move into the EEC since the late 1970s, however, extensive plans have been made to move the group toward centralized management and planning. A social confederation of co-ops has been formed, organized according to regional and sectoral linkages.

ULARCO (discussed above in its absorption of ULGOR retrenchments during the recession) has been the leading example in this move. Having been organized and functioning as a group since 1965, in 1986 the group was reconstituted into a second-degree co-op, changing its name to FAGOR. The new co-op coordinates marketing efforts, unifies the group's trademarks, conducts research, and sets investment and business strategies for its member co-ops.⁵⁶

Plans are well advanced for the rest of the Mondragon group to unilaterally follow this example. In 1977, CLP policy began to encourage the organization of producer co-ops into regional groups to pool risks and share resources. By the early 1980s, plans were being made to organize the entire producer cooperative complex into sectorally concentrated groups under a central management structure.⁵⁷ By late 1986, all 95 industrial producer coops and many of the agricultural co-ops had organized into fourteen regional groups with the following intentions:

- 1) To consolidate and gain scale economies in central services, such as personnel, training, information management, and purchasing; 2) to diversify business risk, by consolidating income-reporting and profit-sharing within

the group; and 3) to diversify unemployment risk, by providing for interchange of personnel within the group.⁵⁸

Plans now emerging from negotiations superimpose over these regional groups centralized structures – the Cooperative Congress and the Consejo de Grupos – to facilitate vertical linkages within sectoral divisions. Planning for linkages within the furniture, machine tools, and food products sectors has already begun. The Cooperative Congress, a body of representatives from each co-op, first assembled in 1984 to reach accords and set policies in the areas of "production, research, global investment, social and labor regimen, finance, and venture initiation" for the entire Mondragon complex.⁵⁹ The Consejo de Grupos, a centralized body of the regional groups, is also being established as the executive arm of the Congress. It is intended to evolve into a centralized management body, similar to the Junta Rectora within each co-op.⁶⁰

Whether these superstructures will develop more as federations of autonomous co-ops or as standardizing, bureaucratic overburden is a question which threatens the participative quality of Mondragon management. The importance of keeping small has long had a high place in Mondragon ideals, a requisite of participatory democracy. Putting a structure of centralized planning over 20,000 worker-owners who are used to having an audible voice in the operations of their co-ops is quite likely to motivate dissent among the work force. As Heffner notes in 1987,

"Alienation and the sense of working for some large anonymous 'other' will be reinforced, as will whatever tensions that now exist between direct production and managerial workers as a class."⁶¹

There is a logical trade-off between economies of scale and participative management. A cohesive and adaptable group, however, can stretch the limits of how much can be traded off. Thirty years of Mondragon experience has proven many times over that group cohesiveness and adaptability can facilitate innovative solutions to seemingly insurmountable problems.

Summary

In recent years, mass-production efficiency has become severely limited by (1) its rigid production systems, requiring expensive long-term investment in market-specific capital and labor; (2) the increased uncertainties of mass markets; and (3) inherent labor/capital conflicts that reduce productivity. During the same time, however, Italian small-firm districts and Basque producer cooperatives have developed

alternative models of production that successfully minimize these efficiency limitations.

The two models obviously differ in many aspects of structure and emphasis. Small-firm districts are designed for labor and capital flexibility in order to facilitate high-quality, small-batch production for specialized, changing markets, addressing the first and second limitations noted above. Producer co-ops are designed for worker equity, security, and commitment, addressing the third limitation. Despite this difference in emphasis, however, three central strategies for increasing organizational efficiency are common to both models.

First, their participative work forces substantially increase productivity. In the Italian case, the face-to-face relations within firms among owners, skilled workers, and engineers develop processes of mutual learning and shared decision-making which establish the firm's essential capacity to innovate. In the Mondragon case, employee ownership and structures of employee participation motivate workers to be more committed to their jobs. In both cases technological innovation is seen not as a threat to worker security, but as a prerequisite of the firm's viability.

Second, the regulated flexibility of labor enables firms to adapt to changing markets without severely threatening worker security, job satisfaction, sufficient wages, or community stability. Within Italian small-firm districts, workers move between firms regularly without a loss of opportunities, protected by strong unions, an expandable artisanal sector, and the wide social safety net of the local communist governments. The Mondragon complex is designed for continuous expansion and change, moving workers between co-ops when necessary and realigning pay scales promptly and equitably. The adverse social effects of industrial fluctuations are planned for and minimized in both cases.

Third, inter-firm cooperation develops economies of scale. Networks of cooperation, shared resources, and group solidarity have allowed the firms of Italian industrial districts to become exceedingly small and yet produce competitively for international markets. Inter-firm cooperation in the Mondragon group includes formal structures of centralized finance, education, research and development, and, more recently, industrial planning and management.

Taken together, these similar strategies of the two models point to a new standard of industrial efficiency which is working out a widening niche in today's global markets. The standard is one of small, flexible, participative producers existing in agglomeration. As mass markets become more competitive and uncertain, as technology (especially

microelectronics) becomes more applicable to artisanal techniques of production, and as workers and owners in small firms become more adept at defining their own markets for products that no one else can produce better, the efficiency of this new standard will continue to increase.

Prospects

The Italian and Mondragon models offer bright prospects for community economic development efforts, especially where heavy industrial disinvestment has taken place. The following goals are among many that could be accomplished: putting unemployed industrial workers back into jobs that make use of their skills and experience; contributing to a stable, middle-class employment base that is open to a wide range of job seekers, including those without college educations; creating satisfying jobs that motivate worker commitment and pride; making better use of the creative intelligence of workers to improve production; and improving the long-term economic stability and equity of communities.

How closely or readily these models can be replicated in other locations, however, remains in question. Some factors that have contributed to the success of each model are culturally unique. For example, the centuries of handicraft traditions in Italy cannot simply be installed somewhere else. And the years of Basque repression by the Franco regime, in which they were forbidden to even speak their native language, has created unusual bonds of group cohesiveness.

The economic success of these models, however, cannot merely be dismissed as socially unique. Though in different contexts, production expertise and cooperative relations exist everywhere. Obviously, the strategies and organizational structures outlined in this paper would take different forms in different geographic areas, shaped by the technologies, linkages, labor relations, politics, and social conditions that are unique to each area. How wide the parameters of these strategies for organizing production can be stretched to accommodate local differences is a matter for further research. Just as small-firm districts were planned, initiated, and continue evolving to fit local conditions in Central Italy, as with producer cooperatives in Mondragon, different conditions present new challenges for local planners elsewhere. That these strategies for organizing production are locally-based means that their implementation is not likely to look the same in any two places.

NOTES

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- ⁶Michael J. Piore and Charles F. Sabel, *The Second Industrial Divide: Possibilities for Prosperity* (New York: Basic Books, 1984), ch. 2.
- ⁷*Ibid.*, ch. 7.
- ⁸R. J. Johnston, *The American Urban System* (New York: St. Martins Press, 1982), 115; Piore and Sabel, *Second Industrial Divide*, ch. 7.
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- ¹²Piore and Sabel, "Italian Small Business Development: Lessons for U.S. Industrial Policy," in *American Industry in International Competition*, ed. John Zysman and Laura Tyson (Ithaca, New York: Cornell University Press, 1983).
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- ¹⁴Suzanne Berger, "The Informal Sectors in France and Italy," in *Dualism and Discontinuity in Industrial Societies*, ed. Suzanne Berger and Michael Piore (New York: Cambridge University Press, 1980).
- ¹⁵Brusco, "Emilian Model," 170.
- ¹⁶Piore and Sabel, *Second Industrial Divide*, 215.
- ¹⁷Lucia Scarpiti and Carlo Trigilia, "Strategies of Flexibility: Firms, Unions and Local Governments. The Case of Prato," Unpublished draft prepared for the Conference on New Technologies and Industrial Relations: Adjustment to a Changing Competitive Environment. Edicott House, Dedham Massachusetts, February 1987.

- ¹⁸Sebastiano Brusco and Charles F. Sabel, "Artisan Production and Economic Growth," in *The Dynamics of Labor Market Segmentation*, ed. Frank Wilkinson (New York: Academic Press, 1981): 106.
- ¹⁹Brusco, "Emilian Model."
- ²⁰Piore and Sabel, "Italian Small Business Development," 394.
- ²¹A. Bagnasco and C. Trigilia, *Società e politica nelle aree di piccola impresa: il caso di Bassano*, (Venezia: Arsenale, 1985); I. Favaretto, "Subfornitura. Dove scopri che a Modena non si fa bene soltanto il prosciutto," *Argomenti* (1984): 13-14. Both cited in Sebastiano Brusco, "Small Firms and Industrial Districts: The Experience of Italy," in *New Firms and Regional Development in Europe*, ed. David Keeble and Egbert Wever (London: Croom Helm, 1986), 190.
- ²²Brusco and Sabel, "Artisan Production," 107.
- ²³Brusco, "Small Firms," 188.
- ²⁴Scarpiti and Trigilia, "Strategies of Flexibility."
- ²⁵Piore and Sabel, "Italian Small Business Development," 397.
- ²⁶Brusco, "Small Firms," 188.
- ²⁷See Sabel, *Work and Politics*; Berger, "The Informal Sectors"; and Brusco, "Small Firms."
- ²⁸Brusco, "Small Firms," 173.
- ²⁹Ibid.
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- ³¹Claudio Sardo, Edward Grace, and Basilio Ciccarello, "Italian Textile Workers: Innovation and New Industrial Relations," *The Bridge* 9, 1-3 (1987): 10.
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- ⁴²Henk Thomas and Chris Logan, *Mondragon: An Economic Analysis* (Boston: Allen and Unwin, 1982), 46-47.

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- ⁴³Bradley and Gelb, "Motivation and Control in the Mondragon Experiment," *British Journal of Industrial Relations* 19,no. 2 (July 1981): 224. The results displayed a chi-square of 10.1: significant at the .005 level.
- ⁴⁴Ibid., 221. The results displayed a chi-square of 134.0: significant at the .005 level.
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- ⁴⁶Heffner, "Caja Laboral Popular," 10.
- ⁴⁷Ana Gutierrez Johnson, "The Implementation of the New Forms of Work Organization: Development of Autonomous Work Groups," Unpublished draft, Cornell University, Ithaca, New York, 1977. See also Carlos Omelas, "Producer Cooperatives and Schooling: The Case of Mondragon, Spain" (Ph.D. diss., Stanford University, 1980).
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- ⁵⁰Heffner, "Caja Laboral Popular."
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- ⁵⁸Ibid.
- ⁵⁹Ibid., 20.
- ⁶⁰Heffner, "Caja Laboral Popular."
- ⁶¹Ibid., 22.

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