Employee-owned companies: is the difference measurable?

Employee ownership may be associated with better attitudes toward the job and higher productivity and profits, according to a recent 98-firm survey

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Employee ownership can be found throughout the history of the United States, although companies that are wholly owned by employees (including workers) have always been rare. One survey reported that 389 companies, in which a large proportion of the stock was directly owned by employees, were established in the United States between 1791 and 1940.[1] The number of companies with at least some degree of employee ownership was probably much larger, and there is evidence that this number has grown in recent years.[2]

Several aspects of performance in a variety of employee-owned companies are analyzed in this article.[3] The data employed include: the size and sales volume of employee-owned companies; the percent of employees who participate in the ownership plan; the percent of equity owned by nonmanagerial as well as managerial persons; and aspects of control of the company by employees. Also analyzed are the attitudes of managers toward the ownership plan and their judgment about the effect of the plan on productivity and profit. Actual profit data were available for a subset of companies, and the relationship between profit and other characteristics of these companies was studied.

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Employee ownership can take two forms: direct, where employees own shares in the company as would ordinary shareholders in a joint-stock company; or "beneficial," where employees own shares through a trust, as illustrated by the Employee Stock Ownership Trust (ESOT).[4] The Employee Retirement and Income Security Act of 1975 stipulates that the holdings of an Ownership Trust must be invested "primarily" in the stock of its company—unlike the holdings of the usual profit-sharing trust, which may be diversified, or of a pension trust, which must be diversified.

Contributions to the Trust are governed by an Employee Stock Ownership Plan (ESOP). Depending on the plan, contributions may be made on the basis of a profit-sharing principle (whereby some fixed percentage of company profits is annually transferred to the Trust), a cost principle (whereby a fixed percentage of labor costs is annually transferred to the Trust), a fixed contribution principle (whereby a fixed dollar amount is transferred to the Trust), or by other methods determined entirely at the discretion of a single party or parties. The central requirements, however, are that the Ownership Trust invest "primarily" in employer securities and that disbursements from the Trust be made in employer securities. Dividends that may be declared are not usually distributed immediately to employees but, rather, are held in trust. Nonetheless, the financial well-being of the "beneficiaries" of stock in the Trust is tied to the success of the company.

Finding who owns what

A list of 148 companies in the United States and Canada, thought to have some degree of employee ownership, was compiled.[5] After conducting telephone interviews, usually with the financial officer, 98 of these companies actually were found to have some component of worker ownership; 68 firms had Stock Ownership Plans, and 30 had direct ownership. Their median size was approximately 350 employees; 17 percent had fewer than 100 employees and 25 percent had 1,000 or more. During the previous year, almost half of the companies had sales of at least $25 million.

As shown in table 1, employees in about three-quarters of the companies owned at least half of the equity; ownership of the entire equity by employees was more likely to occur in stock-plan than directly owned companies. This table refers to the percent of equity held by all employees, including managers. Table 2, on the other hand, refers to the percent of equity owned by the workers alone, which, of course, is less than that owned by all employees.

The measure of equity owned by workers in stock-plan companies was obtained by multiplying the percent of the company's equity owned by the Trust times the percent of the Trust's equity owned by the workers. Because of the way records are kept in most of the stock-plan companies, we found it necessary to rely on the distinction between salaried and other personnel as the basis for distinguishing rank-and-file workers from managers in these companies. Furthermore, although most of the directly owned companies could report the allocation of ownership between managerial and other personnel, only about half of the stock-plan companies could report the precise allocation of stock within the Ownership Trust. In these companies, 54 percent of the Ownership Trust stock, on average, is owned by nonsalaried employees. This average, then, was used to define the amount of worker-owned stock within the Trust in each of the remaining cases.[6] As estimated, therefore, worker-owned equity in the remaining cases is directly proportional to (that is, 54 percent times) the percent of the company's equity in the Trust itself.

Table 1. Percent of total equity owned by employees, including managers, in 87 companies

Equity owned by employees	Percent of companies		
	Stock ownership plan (N=60)	Direct ownership (N=27)	All companies (N=87)
Less than 10 percent	4	4	4
Between 10 and 49.9 percent	18	18	18
Between 50 and 99.9 percent	28	59	38
100 percent	50	19	40

NOTE: Eleven companies did not provide sufficient percent of equity owned internally data to determine the percent of equity owned internally.

Table 2. Percent of total equity owned by workers only, in 83 companies

Equity owned by workers	Percent of companies		
	Stock ownership plan (N=58)	Direct ownership (N=25)	All companies (N=83)
Less than 3 percent	34	8	27
Between 3 and 9.9 percent	16	8	13
Between 10 and 49.9 percent	43	20	36
Between 50 and 100 percent	7	64	24

NOTE: Fifteen companies did not provide data relevant to the percent of equity owned by workers.

Employee owners in the Trust are entitled to dispose of their stock at market value once it has been distributed to them. Unlike employees in directly owned companies, however, owners in a Trust generally do not vote their stock. The following tabulation shows the percent of companies where voting rights and other employee control mechanisms are reported to be available:

	Percent of stock-plan companies	*Percent of directly owned companies*	*Percent of all companies*
Employee-owners have:			
Stock-voting rights	27	97	50
Representatives on Board of Directors	36	77	49
Union representation	32	33	32
Influence on important decisions other than through a union.	51	77	56

In general, the data indicate substantial differences between stock-plan and directly owned companies in these measures of employee influence over company decisions. For example, only 36 percent of the respondents in companies with Stock Ownership Plans report that worker representatives sit on the board of directors; 77 percent of the companies with direct ownership report the presence of workers on the board. Similarly, 51 percent of the respondents in companies with ownership plans, compared to 77 percent in companies with direct ownership, indicate that employees influence "important" decisions in the company. In some of the companies, this influence reportedly extends to such decisions as whether or not to make major capital acquisitions. The two types of companies do not, however, appear to differ with respect to whether or not employees are unionized. Although not specifically measured, indications are that directly owned companies have significantly fewer unionized employees than do comparable ownership-plan companies.

Employee ownership and profitability

Profit data were supplied by 30 companies. The ratio of pretax profits to sales was used as a basis for gauging profitability. Each company's ratio was then divided by its industry's 1976 ratio.[7] This weighted ratio was the primary measure of a company's pretax profitability. For five companies, however, an additional adjustment was necessary. Because these companies are directly and wholly owned by employees, they distributed a part of their "profit" to employees in the form of wages. This allocation of funds has the effect of depressing the conventional profit statement, although it has the corresponding advantage of reducing taxes. These moneys, however, should be considered as part of the company's profit for purposes of comparison with other companies in our set. To calculate the amount of money diverted from profits to wages in the five companies, the average wage differential between the worker owners and nonowner workers was used.[8] This differential in each company was added to its formally stated profit figure, and this final value was used for computing the profitability of these five companies. Although this adjustment seems appropriate as a way of maintaining comparability among companies that employ different accounting procedures, the unadjusted profit statements also were compared. This unadjusted value is, most likely, overly conservative; but there may be some utility in examining both measures of profitability.

The average adjusted profit ratio for the 30 companies was 1.7; the unadjusted ratio was 1.5. In both cases, these values, which are greater than 1, indicate greater profitability among employee-owned companies than comparable sized companies in their respective industries. However, because the variance in profitability among the 30 companies is relatively large and the number of cases is small, statistical significance is not achieved. It is also possible that the "sample" of companies may be select with respect to profitability. The results are suggestive, however, that employee ownership, in one form or another, may be associated with the profitability of a company.[9]

Table 3. Regression coefficients for the predictors of "adjusted" and "unadjusted" profitability

Predictor	Adjusted	Unadjusted
ESOT (= 0) vs. direct ownership (= 1)	-.22	-.34
Percent employees participating in plan	-.30	-.31
Percent equity owned internally	-.31	-.19
Percent equity owned by workers	[1]1.02	.78
Worker representativeness on board of directors	-.18	-.18
Employee stockholders vote	-.05	-.24
Multiple r	.72	.47

[1] $p < .02$.

NOTE: The data necessary to calculate the adjusted profitability ratio are unavailable in five companies of the subset and five companies did not provide information concerning all of the predictors in this regression. The number of cases in the adjusted and unadjusted cells are therefore 20 and 25 respectively.

In table 3, the two indexes of profitability (adjusted and unadjusted) are predicted using several aspects of employee ownership in a regression analysis. The predictors include: (1) the form of employee ownership, whether direct or through a Trust (Ownership Trust is scored "0"; direct ownership is scored "1"); (2) the percent of employees who participate in the plan; (3) the percent of company equity owned by employees (by managers and workers); (4) the percent of company equity owned by the workers themselves; (5) whether employees have representatives on the board of directors; and (6) whether employee stockholders have voting rights.

These predictors jointly explain a substantial amount of the variance in "adjusted" profitability, but only one of the predictors, the amount of equity owned by the workers themselves, proves statistically significant (p less than .02); the more equity the workers own, the more profitable the company, other things being equal (beta = 1.02).[10]

The second variable of importance in this analysis, the amount of equity owned internally, has, if anything, a negative relationship with profitability (beta = -.31); but the statistical significance of this variable is marginal, at best—a coefficient of this size occurring about one out of four times by chance. Variation in "internal ownership" in this context is really variation in ownership by managerial personnel, because ownership by the workers themselves is controlled in the analysis. The possible implication, therefore, is that increases in the amount of equity owned by managers may have a negative effect if this increase is not accompanied by an increase in the equity owned by the workers. This result is not strong statistically, but it may be worth considering as a hypothesis.

The impact of the remaining variables can easily be attributed to chance, but it is interesting to see that they, too, imply, if anything, negative relationships in the regression. Direct ownership (rather than through a Trust), the percent of employees who participate in the plan, the existence of worker representatives on the board, and the existence of voting rights show a negative relationship (if anything) to profitability when the percent of equity owned by the workers themselves is controlled.

Prediction of the unadjusted profitability index is not as good as the prediction of the adjusted index, the multiple correlation being only 0.47, and none of the predictors meets the usual criterion of significance. The pattern of results, however, is similar to that for the analysis of the adjusted profitability index; the one predictor that approaches a marginal level of statistical significance is the precent of equity owned by the workers.

The negative signs associated with several of the variables in table 3 do not imply (or they would not imply, even if they were statistically significant) that these characteristics are associated with low profitability; they imply (or would imply) such a negative association only under the conditions of the regression analysis where, for example, the amount of equity owned by the workers is controlled statistically. In fact, because companies where workers hold a high percent of the equity are likely also to be directly owned, direct ownership, like the amount of worker ownership itself, is positively associated with profitability.

Table 4 helps to illustrate these associations. This table shows the simple, zero-order correlations among the variables presented in the regression analysis. Correlations that are significant at the .05 level or better are indicated. We see in this table not only how the predictors may be associated with profitability, but also how the predictors relate to one another. For example, companies in which workers hold a high proportion of the equity tend to be directly owned (r = .68), to have worker representatives on the board (r = .36), and to provide voting rights to employee owners (r = .68). On the other hand, the correlation between the percent of equity owned by the workers and that owned internally (by workers and managers) is not as high as one might expect, in view of the fact that internal ownership includes ownership by workers (r = .34). The proportion of equity owned by managers in many of these companies is relatively large and "internal ownership," therefore, reflects managerial ownership more than worker ownership.

Direct ownership in this table is significantly and positively related to adjusted profitability (r = .48)—unlike the relationship indicated in the regression analysis—because direct ownership is associated with the percent of equity owned by workers, which appears from the regression analysis to be more closely associated with profitability. Voting rights is also associated with the percent of equity owned by workers and it, too, shows a positive relationship with adjusted profitability (unlike the relationship in the regression analysis), although the magnitude of the correlation does not meet the criterion of statistical significance, given the small number of cases.

The percent of employees who participate in the ownership plan, however, does not show the relationship to profitability that one might expect from the hypothesis that employee ownership has a positive effect on profitability (r = .33). The explanation may hinge on the association, or rather lack of association, between the percent of employees who participate and the percent of equity owned by workers (r = .14). Apparently, many companies that have relatively widespread employee ownership, in fact, involve only a small proportion of the companies' equity in such ownership. Many members, in other words, own very little.

Subjectively supported by managers

In a previous study, substantial sentiment in favor of employee ownership was found among

Table 4. Correlations among aspects of employee ownership and profitability

Characteristics	Profit (adjusted) (N=20)	Profit (unadjusted) (N=25)	Stock plan vs direct ownership (N=75)	Percent employees participating (N=75)	Percent of equity owned internally (N=75)	Percent of equity owned by workers (N=75)	Workers on board (N=75)
ESOT (= 0) vs Direct ownership (= 1)	[1]48	27					
Percent employees participating	-33	-29	[1]-.23				
Percent of equity owned internally	-02	-06	-.10	[1].25			
Percent of equity owned by workers	[1]60	31	[1].68	.14	[1].34		
Workers on board	24	.08	[1].36	.08	.04	[1].43	
Employee stockholders vote	30	.18	[1].68	-.11	-.11	[1].47	[1]22

[1]p < 05

both managers and workers in a company that had recently adopted an ownership plan.[11] Employee ownership, they felt, contributed substantially to the satisfaction of all employees, to the motivation of workers, and, ultimately, to the productivity and profitability of the company. Records of the company also indicated that grievances and waste (in the form of expendable tools) declined and that productivity and profitability increased during the period immediately following the introduction of the plan (although profitability was higher during one period a number of years earlier).

In the present analysis, a management representative in each company was asked questions about the effect of employee ownership on productivity and profit. "Do you think that employee ownership affects profits? Does it increase profits, decrease them, or have no effect?" Similar questions were asked concerning productivity. On average, the responses to these questions indicated substantial support for employee ownership. The analyses presented in the previous section, suggesting that employee-owned companies are associated with above average profitability within their respective industries, lend some credence to the claims of these managers. However, the managers who credited employee ownership for high levels of profit did not necessarily work for the more profitable companies.

Managers in companies that were substantially worker-owned were no more likely to ascribe positive effects to employee ownership than managers in less intensively worker-owned companies even though the proportion of equity owned by workers appears to be related to profitability. On the other hand, employee ownership is more likely to be reported to have positive effects on profit where such ownership is direct, rather than through a Trust; managers also respond more favorably where workers are not represented on the board.

Each manager respondent was asked whether employee ownership affected the attitudes of workers toward their job. The average response was 0.84 on a scale from 0 to 1, where "1" means that work attitudes are better and "0" that they are worse as a result of the ownership plan. Their response, therefore, implies that these managers, on average, perceive employee-ownership plans as having a substantially positive effect on the attitudes of employees. But, according to a regression analysis, this judgment by managers may be less positive where workers have representatives on the board of directors. In general, managers were more satisfied with the plan where ownership is direct rather than through a Trust and where the percent of employees who participate in the plan is relatively large. It seems reasonable that managers should think well of the plan where participation is widespread. On the other hand, we have seen that widespread ownership, *per se,* is not associated with profitability; such ownership may very well mean that many employees own only a very small fraction of the equity—and it is the amount of equity owned by workers that appears to be most often associated with profitability.

Taking stock

Employee ownership in the United States has taken a number of forms, although examples where workers own a substantial part of a company's equity are rare. These data, although only preliminary, offer a glimpse of the possible impact of employee ownership on the economic performance of companies and employee attitudes. On the basis of this brief analysis, some tentative conclusions may be suggested: The industrial relations climate in employee-owned companies appears to be good, in the judgment of managerial respondents; managerial respondents in these companies see employee ownership as having a positive effect on productivity and profit; the employee-owned companies that have been studied appear to be profitable—perhaps more profitable than comparable, conventionally owned companies; the ownership variable most closely associated with profitability is the percent of equity owned by the workers themselves; although workers' influence in the company, as judged by managers, is a function of worker-owned equity, managers' evaluation of the ownership plan is not affected in a positive way by either the amount of equity held by the workers or the amount of influence exercised by the workers; managers appear more favorably disposed toward plans with widespread participation among employees, even though this may involve only a small fraction of the company's equity.

These conclusions are tentative. The companies that provided profit data may be select, and the analyses are based on correlations that illustrate association among variables—they do not prove causation. The results, however, are sufficiently encouraging to justify a detailed, longitudinal study of a number of companies over a period of years. Such a study should include measures of the attitudes and motivations of all employees within the companies as well as measures of company performance. If employee ownership does have an effect on the economic performance of a company, as the data of this study tentatively suggest, the explanation may be found, at least partly, in the effect of ownership on the employees themselves.□

FOOTNOTES

[1]Derek Jones, "The economics and industrial relations of producer cooperatives in the United States, 1790–1940," mimeo.

[2]"Employee Ownership," Survey Research Center, Institute for Social Research, University of Michigan, Sept. 23, 1977. Matthew J. Bonaccorso and others, "Survey of Employee Stock Ownership Plans," unpublished masters thesis, University of California, Los Angeles, Graduate School of Management, December 1977.

[3]The study reported here was done under a grant from the Economic Development Administration, U.S. Department of Commerce. The views expressed are those of the authors.

[4]Louis Kelso and Patricia Hetter, *Two Factor Theory: The Economics of Reality* (New York, Random House, 1968).

[5]The list was culled from articles in newspapers, magazines and professional journals, conversations with colleagues, and references given by persons in employee-owned companies whom we contacted.

[6]The definition of "worker" implicit in the stated procedure differs somewhat in the two types of companies. "Workers" may include foremen and salaried clerical workers in some directly owned companies, but not in stock-plan companies. Table 2, therefore, may overstate the difference in worker ownership between stock-plan and directly owned companies, although we do not believe that the definitional inconsistency accounts for the entire difference shown in the table.

[7]Robert Morris Associates, Annual Statement Studies (Philadelphia, Credit Division, 1976).

[8]These nonowner-workers performed essentially the same jobs as the worker owners and received the union wage rate.

[9]For studies in which performance of worker-owned plywood firms is compared to that of conventional firms, see Carl J. Bellas, *Industrial Democracy and the Worker-Owned Firm* (New York, Praeger Publishers, 1972); Katrina Berman, *Worker-Owned Plywood Companies: An Economic Analysis.* (Pullman, Wash., Washington State University Press, 1967); "Comparative productivity in worker-managed cooperative plywood plants and conventionally run plants," unpublished, 1976; Paul Bernstein, "Democratization or organization: theory, practice and further possibilities," Ph. D dissertation, Stanford University, 1972. See also Seymour Melman, "Managerial versus cooperative decision making in Israel," *Studies in Comparative International Development*, 1970–71, who compares the performance of kibbutz firms with conventional firms in Israel. For an analysis of companies that have substantial profit-sharing programs, some of which entail a degree of employee ownership, see Bert L. Metzger, *Profit Sharing in 38 Large Companies* (Evanston, Ill., Profit Sharing Foundation, 1975).

[10]"Beta" refers to a standardized regression coefficient.

[11]*An employee owned firm*, Survey Research Center, Institute for Social Research, The University of Michigan, Jan. 17, 1977. For a study of the reaction of both managers and workers in Israeli kibbutz, Yugoslav, American, Austrian, and Italian factories that differ in their system of ownership, see Arnold S. Tannenbaum and others, *Hierarchy in Organizations* (San Francisco, Jossey-Bass, Inc., 1974). See also Ana Gutierrez Johnson and William Foote Whyte, "The Mon Dragon System of Worker Production Cooperatives," *Industrial and Labor Relations Review*, October 1977, pp. 18–30; and Richard J. Long, "The Effects of Employee Ownership on Organization, Employee Job Attitudes, and Organization Performance: A Tentative Framework and Empirical Findings," *Human Relations*, January 1978, pp. 29–48.