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ESOPS IN PUBLICLY HELD COMPANIES: EVIDENCE ON PRODUCTIVITY AND FIRM PERFORMANCE

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Abstract

Eighty-five publicly traded firms that establish an employee stock ownership plan between 1973 and 1986 are examined to determine the effect of ESOP adoption on their productivity and performance. We analyze several measures of productivity and performance and compare the sample firms with a control group matched by industry and size. The results provide no evidence of any productivity gains or performance improvements following ESOP adoption. The proposition that employees with an equity stake will be more productive and improve firm performance is not supported.

INTRODUCTION

Employee stock ownership plans (ESOPs) have recently received much attention in the popular business press. The National Center for Employee Ownership reports that there were 9,900 ESOPs in the U.S. by the end of 1990, compared to 2,000 in 1975 [15]. Fortune, [9] reports that in the first nine months of 1989 alone, nearly 80 ESOPs involving more than $15 billion were established at Fortune 500 companies.

An ESOP is a qualified employee benefit plan that can substitute for or supplement a company's retirement plan. Money borrowed by a trust (ESOT) set up under the plan and guaranteed by the corporation is used to purchase the firm's common stock in the open market or from the corporate treasury. These shares are then distributed to employees over time on the basis of years of service or an alternative allocation method. The loan used to purchase the shares is paid off over time from employee contributions.

ESOPs originally were created with the idea that employees, given an ownership stake in the company, would have the incentive to increase its productivity and performance. Improvements in morale and job satisfaction were expected to promote the overall productivity and competitiveness of American industry. Recently, many involved in the ESOP movement and other researchers have questioned whether ESOPs are actually being used to restructure employee work incentives as a means of fostering increased productivity. Critics contend that recently established ESOPs are being used by corporate managers to take advantage of tax benefits, boost short-term profits, or erect takeover defenses.

This research examines the effect of ESOP adoption on the productivity and performance of publicly held firms. We find no significant improvements in productivity or firm performance, regardless of why the ESOP was adopted.

This evidence raises the question whether the U.S. should continue to subsidize ESOPs in publicly held companies if they fail to benefit employees, shareholders, or both. The benefits of ESOP adoption, at a minimum, should create enough new wealth to offset the loss to the U.S. Treasury in tax dollars. An additional concern is whether lawmakers should consider changing the laws governing ESOPs if the evidence points to abuses by managers who entrench themselves at the expense of their employees and shareholders.

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ESOP ADOPTION: INCENTIVES AND EMPIRICAL EVIDENCE

Tax Benefits

As an incentive to encourage a business to establish an ESOP, Congress created a triple tax deduction (although the benefit was reduced by the 1989 Tax Act). First, principal and interest payments on an ESOP loan are tax-deductible. Second, the banks that lend money to ESOPs are allowed to deduct one-half of the interest payments on the loan from their taxable income. Finally, any dividend payments on the shares held in the ESOP are tax-deductible. These tax benefits are valuable to most corporations because they may lower borrowing costs, reduce federal taxes, and increase cash flow. Thus, an ESOP may represent a low-cost alternative or supplement to traditional pension plans.

Though the tax benefits of an ESOP appear to provide a valuable incentive for many companies, Chaplinsky and Niehaus [5] and Scholes and Wolfson [16] argue that many of the purported tax benefits related to principal and interest deductibility are merely substitutes for advantages from other tax-deductible cash flows.[1] Thus, the net tax advantages associated with a leveraged ESOP may be far less than envisioned by Congress. Moreover, in a survey of 83 ESOPs, Chaplinsky and Niehaus [5] report that most firms do not take full advantage of the tax benefits associated with dividend deductibility. These studies suggest that the purported tax advantages of ESOPs may be illusionary.

Defensive Mechanism

Corporate managers have recently found that ESOPs can be used to repel a hostile takeover attempt. If a sufficient block of stock (15% is sufficient if the firm is incorporated in Delaware) is placed in friendly hands, such as those of employees, the takeover will fail. Since the trustee votes all unallocated shares, a newly established ESOP can be expected to vote in favor of incumbent management in many instances.

ESOPs used solely as a takeover defense by entrenched management may be detrimental to shareholders because companies insulated from market discipline often perform poorly. This can be especially dangerous for employees, since a large proportion of their retirement savings may hinge on the performance of the company's stock. The evidence on defensive ESOPs is mixed. Gordon and Pound [11], Chang [3], and Chang and Mayers [4] report significantly negative two-day abnormal returns at announcement of ESOP decisions associated with a takeover defense. In contrast, Chaplinsky and Niehaus [6] find no change in shareholder wealth when firms subject to takeover pressure adopt ESOPs.

Wage Concession

Some firms adopt an ESOP in response to financial distress. In return for substantial wage concessions, workers are given an ownership stake in the firm. Often, these distress-related ESOPs involve a major restructuring of the firm, give a substantial percentage of share ownership (sometimes a majority) to employees, and allow employees to actively participate in decision making. Chang [3] and Chang and Mayers [4] both report significantly positive two-day abnormal returns for firms adopting ESOPs as a wage concession.

Employee Benefit To Improve Productivity

To be economically viable, an ESOP must improve productivity and firm performance through greater employee involvement, morale, and satisfaction. Worker-related productivity increases should show up in improved firm performance, which in turn benefits both outside shareholders and employee shareholders by increasing the value of their holdings.

The extent to which ESOPs affect worker productivity and performance may depend, in large part, on the organizational structure of the firm. ESOPs may have entirely different effects in small, private companies and public companies for several reasons. First, in large corporations, top management decisions are more likely than the actions of lower-level employees to affect the stock's price, so stock ownership is likely to be a better motivator for key executives than for operating-level employees. This is particularly true if the lower-level employees have little or no say in firm decisions. Second, there may be a free-rider problem among lower-level employees. The

collective activity of all employees may dramatically increase productivity and performance, but a single employee makes only a marginal contribution. Thus individual employees have limited incentives to participate more actively because of the small perceived marginal effect on productivity and performance. In a related empirical study of stock purchase plans, Bhagat, Brickley, and Lease [1] provide evidence that equity ownership motivates key executives more than subordinate employees.

Many of the existing empirical studies on ESOPs suggest that adoption as a pure employee benefit is beneficial to shareholders. The widely publicized report released in October 1987 by the General Accounting Office [10], however, indicates that most ESOPs do not improve corporate performance as measured by profitability and productivity. Among the surveyed firms, estimated average productivity actually suffered and firms generally performed about 3-5% worse than if they had not adopted an ESOP. The only factor found to relate directly to improved performance was employee participation in decision making. Henry [12] reports on success stories for ESOPs established at Austin Industries, Oregon Steel, Wyatt Cafeterias, and Wierton Steel. The managers of these firms unanimously cite participation by all employees as one of the major ingredients in the success of their ESOPs. Despite the apparent link between productivity and employee participation in decision making, Rooney [13], using a census of all firms in which employees own the majority of the stock, finds very little worker participation in decision making or firm management. If this is true for majority employee-owned firms, then it is likely that minority employee-shareholders have even less say about the way their companies are run.

Most of the empirical studies whose findings indicate that ESOP adoption positively affects firm performance differ substantially in their methodology and focus. These studies are discussed in more detail in the following section.

EMPIRICAL EVIDENCE ON PRODUCTIVITY AND FIRM PERFORMANCE

Studies Of Large Publicly Traded Companies

Gordon and Pound [11], Chang [3], and Chang and Mayers [4] examine the immediate stock market reaction to the public announcement of ESOP adoptions that specifically preclude their use as a takeover defense. These authors report significantly positive share-price reactions to ESOPs adopted solely for the purpose of an employee benefit or wage concession.

Although studies of large public companies provide evidence that the market reacts favorably to the announcement of nondefensive ESOPs, they do not investigate whether firm performance is actually improved in the long run. The positive share-price reaction at the time of the ESOP announcement is consistent with the market's pricing the expectation of higher future cash flows. Whether these higher expected cash flows actually occur is an unanswered question.

Studies Of Small Private Companies

Several studies have examined the long-run benefits of ESOPs. These studies are very limited, however, in that they focus primarily on private companies, use small samples, and have limited data with which to measure performance. Cohen and Quarrey [7] examine what happens to employee-owned companies after the original owners have left. For a sample of 28 small ESOP firms, they report that average annual percentage employment growth is 5.6%, compared with 1.7% industry employment growth, from the time the owner leaves through the end of their study period in 1984. Average annual sales growth for the ESOP firms is 12.7%, versus 9.7% for comparison firms.

Conte and Tannenbaum [8] compare the profitability of 30 ESOP firms with that of comparable sized firms in the same industry. Using the ratio of pretax profits to sales as their measure of profitability, they find their ESOP firms to be 1.7 times more profitable than the comparison companies. This difference is not statistically significant, however. For a sample of 43 employee-owned firms, Rosen and Klein [14] report that the average annual employment growth rate is 2.78 percent higher than that of comparable conventional firms.

Rosen and Quarrey [15] compare growth rates in sales and employment of 45 ESOP companies with those of their industry counterparts, calculating the differences in performance over the five-year periods before and after ESOP adoption. Before instituting their ESOPs, the 45 companies grow moderately faster, on average than their

comparison companies; annual employment growth is 1.21% more and annual sales growth is 1.89% more than for the industry counterparts. After these companies set up ESOPs, annual employment growth exceeds that of the comparison companies by 5.05% and sales growth is 5.4% greater. Rosen and Quarrey conclude that ESOPs exert a positive influence on corporate performance.

A major problem with these small-firm, small-sample studies that investigate the long-run performance of ESOP firms is their reliance on a few simple measures (sales and employment growth) to evaluate firm performance. Most financial economists would agree that sales and employment growth do not necessarily translate into superior financial performance or positively affect a company's stock price.

Another major problem is that one cannot infer from small-sample studies of private companies that ESOPs exert a positive long-run influence on productivity and performance for all firms. These findings may not be applicable to larger, publicly traded companies because of the complexity of the organizational structure in large corporations.

To the best of our knowledge, this study is the first to examine the long-run consequences of ESOP adoptions in large, publicly traded corporations. Since data are more readily available for publicly traded firms, this study evaluates a larger set of performance and productivity measures than previous studies and permits comparison with similar firms.

PREDICTED EFFECTS BY ESOP INCENTIVE

Four incentives for establishing an ESOP have been discussed: 1) to avoid taxes, 2) as a defensive mechanism, 3) as a wage concession, and 4) as a motivating tool to improve worker involvement and productivity. Although tax avoidance could be a primary incentive for some firms adopting ESOPs, this is normally not a reason that management would state as a reason for adopting an ESOP. Rather, firms generally cite one of the other three reasons whether the ESOP is leveraged to lower taxes or not. We predict these three incentives have different effects on the productivity and profitability of the adopting firm.

The bulk of the empirical evidence on takeover defenses adopted by U.S. firms indicates that antitakeover strategies are at best neutral and in many cases harmful to shareholder wealth.[2] The literature provides two competing hypotheses to explain target firms' behavior. The managerial-entrenchment hypothesis states that managers erect barriers to hostile takeovers to insulate themselves from the discipline of the market for corporate control at the expense of shareholders. Alternatively, the stockholder-interests hypothesis contends that defensive strategies enable target firms to extract higher premiums, thereby benefiting shareholders. Our results for defensive ESOPs will automatically be biased toward the managerial-entrenchment hypothesis, since only those firms that remain intact (so we can track their performance up to four years after ESOP adoption) are included in our final sample. Given the existing empirical evidence on antitakeover mechanisms, we predict that ESOPs initiated for defensive purposes should have no effect on productivity and a negative impact on performance measures.

Firms adopting ESOPs as a wage concession inherently experience drastic reductions in labor expenses, which should boost performance. The effect on productivity, however, could be positive or negative. If the ESOP is structured to provide employees with a substantial ownership stake and active participation in decision making, it should have a positive influence on worker morale and productivity. On the other hand, if the wage concession is very large and involves employee layoffs, it could severely depress the morale of the remaining workers and hence have a negative effect on productivity.

Finally, ESOPs established to motivate workers ideally should have positive effects on both productivity and performance. Because of the organizational complexity and free-rider problems inherent in large corporations, however, ESOPs may have no effect on worker productivity or firm performance.

The table below summarizes the predicted effects on firms' productivity and performance according to the incentive for the ESOP adoption.

Predicted Effect On:

Incentive	Productivity	Performance
Defensive Mechanism	None	Negative
Wage Concession	Positive/Negative	Positive
Motivating Tool	None/Positive	None/Positive

DATA

The sample for this study includes ESOPs established between 1973 and 1986. Truncating the sample at 1986 allows a sufficient period after adoption of the ESOP to determine the long-run affect on performance and productivity.

We obtained a list of publicly traded companies containing the name, year of ESOP adoption, and initial ESOP ownership from the ESOP Association[3] and a list of firms used in the Chang and Mayers [4] study also from Professor Saeyoung Chang. These lists initially provided us with the names of 102 firms. Annual reports, proxy statements, and the *Wall Street Journal* (both the *Index* and relevant articles) were examined to verify the year of ESOP adoption. Additional information gathered from these sources includes the percentage of initial ESOP ownership, the reason for ESOP adoption (defensive, wage concession, or employee benefit), and whether the ESOP is leveraged. A total of 85 companies that adopted an ESOP in 1986 or earlier are included in the final sample.[4] Sixty-nine of the firms established the ESOP between 1980 and 1986 (27 in 1985 alone) and the remaining 16 firms established ESOPs between 1973 and 1979.

The sample is partitioned into three mutually exclusive categories according to the primary reason the ESOP was adopted: 1) as an employee benefit (motivator), 2) as a takeover defense, or 3) as a wage concession. A thorough reading of *The Wall Street Journal Index*, *Wall Street Journal* articles, annual reports, and proxy statements enabled us to identify defensive and wage-concession ESOPs. Finally, ESOPs are classified as a pure employee benefit if they are not defensive, wage concession, or leveraged ESOPs and we could surmise from reading the *Wall Street Journal*, annual reports, and proxy statements that the ESOP was specifically established to increase worker morale and productivity.[5]

Productivity And Performance Measures

We use accounting data obtained from *Compustat* to create measures of firm productivity and performance. All sales and cash flow figures are adjusted to constant dollars to remove any bias due to inflation when measuring performance over time. Following is a description of the variables that we use.

Productivity Measures:

SALES/EMP Sales per employee.

CFL/EMP Cash flow per employee. Cash flow includes net income before extraordinary items plus depreciation and amortization.

TATO Total asset turnover is defined as sales divided by the average of the current and past years' total book assets. This ratio measures the firm's ability to use assets productively.

Profitability Measures:

CFL Cash flow includes net income before extraordinary items plus depreciation and amortization.

CFL/SALES Cash flow divided by sales. This ratio measures the percentage of each sales dollar available for reinvestment or dividend payout.

ROA Return on assets is defined as net income before extraordinary items divided by total assets. This ratio measures how effectively the firm generates after-tax income from available assets.

NPM Net profit margin equals net income divided by sales. This ratio measures the percentage of each sales dollar remaining after all expenses have been covered.

Table 1 reports summary statistics for the sample for one year before, the year of, and one year after ESOP adoption. The first item of note is that mean sales are about five times greater than median sales. Thus, there are a number of outliers consisting of very large firms. In going from one year before to one year after ESOP adoption we observe that mean sales and cash flow decline. Median sales increase slightly, however, while median cash flow declines slightly. Looking at either the means or medians, we also observe long-term debt and total assets increasing over time, while the average tax rate declines. The increase in long-term debt and decline in average tax rate of ESOP firms are most likely attributable to the large number of leveraged ESOPs in the sample.

TABLE 1

Summary Statistics For Sales, Cash Flow, Long-Term Debt, Total Assets, Employees, Tax Rate And Stock Market Return For 85 Esops Established Between 1973 And 1986 (Dollars In Millions)

Panel A: One Year Prior To The ESOP

	N	Mean	Standard Deviation	First Quartile	Median	Third Quartile
Sales	78	1,207.07	2,767.35	57.76	243.79	818.21
Cash Flow	73	70.32	227.28	3.68	12.97	49.19
Long-Term Debt	78	200.43	461.11	7.00	36.53	161.50
Total Assets	78	1,315.10	3,269.78	58.18	163.15	903.31
Employees	72	8,820.51	20,510.48	819.0	2,473.0	8,932.5
Tax Rate %	76	38.34	32.38	29.27	43.29	46.85
Market Return %	76	23.13	50.74	-11.85	13.15	46.4

Panel B: Year The ESOP Was Established

	N	Mean	Standard Deviation	First Quartile	Median	Third Quartile
Sales	80	1,175.75	2,574.64	59.95	252.10	862.99
Cash Flow	75	60.89	248.16	2.72	8.86	38.94
Long-Term Debt	80	273.86	828.72	7.48	32.68	233.05
Total Assets	80	1,324.87	3,244.47	51.52	169.99	997.05
Employees	75	8,671.84	17,890.78	913.0	2,533.0	9,304.0
Tax Rate %	80	33.70	45.76	22.06	43.36	47.19
Market Return %	77	28.53	56.66	-7.9	12.3	47.2

Panel C: One Year After The ESOP Was Established

	N	Mean	Standard Deviation	First Quartile	Median	Third Quartile
Sales	79	1,065.68	1,988.05	67.03	251.65	904.65
Cash Flow	73	37.72	254.46	3.36	11.25	29.63
Long-Term Debt	79	313.09	810.26	6.69	46.11	239.84
Total Assets	79	1,403.35	3,447.92	56.01	207.94	1,114.01
Employees	74	8,210.87	14,247.19	990.0	2,439.5	9,000.0
Tax Rate %	79	34.24	38.81	26.03	42.61	45.89
Market Return %	76	12.83	50.76	-16.5	7.25	31.15

METHODOLOGY

The year of ESOP adoption is designated as Year 0. The raw change (percentage or dollar) in each of the productivity and performance measures is calculated over various periods: Year -1 to +1, Year -1 to +2, and Year -1 to +4. A Wilcoxon signed rank test is computed to test the null hypothesis that the median change is zero, i.e., that ESOP adoption has no effect on the productivity or performance of publicly traded firms.

In addition, for each ESOP firm in the sample, a firm within the same industry (identified by the four-digit SIC code assigned by *Compustat*) is matched as closely as possible according to sales in the year the ESOP is established. Industry-adjusted changes are then computed for each ESOP firm and the Wilcoxon tests are replicated.[6]

RESULTS

The results for the sample of 85 ESOP firms are provided in Table 2. This table reports the median changes in the productivity and performance measures for three time windows before and after industry adjustment. The changes in productivity measures over time indicate some deterioration following ESOP adoption. The change in total asset turnover is significantly negative over all three periods and sales per employee is significantly negative over the Years -1 to +1. Some of the performance measures also show some decline following ESOP adoption. Significantly negative median changes are observed for return on assets and net profit margin measures in some of the time windows. When we adjust for the industry, however, we observe no significant improvement or deterioration in any of the productivity or performance measures.

Given the different predicted effects on productivity and performance of ESOPs established for different reasons, the results for the sample as a whole are not unexpected and are somewhat difficult to interpret. In the following sections we discuss the results for three mutually exclusive categories based on the reason for ESOP adoption.

TABLE 2
Median Change And Comparison-Adjusted Change In Productivity And Performance Measures For ESOP Companies Over Various Intervals: 85 ESOPs

From Year i To Year j

Productivity Measures	-1 to +1	-1 to +2	-1 to +4
Change In Cash Flow/Employee ($M)	-.096	-.215	-.064
Comparison Firm Adjusted Change ($M)	.080	.075	-.460
Change In Sales/Employee ($M)	-2.00[B]	-.198	1.69
Comparison Firm Adjusted Change ($M)	-.255	-1.79	-1.33
Change In Total Asset Turnover (%)	-.04[B]	-.07[B]	-.03[C]
Comparison Firm Adjusted Change (%)	.00	-.03	.03
Performance Measures	-1 to +1	-1 to +2	-1 to +4
Change In Operating Cash Flow ($MM)	.766	.452	.638
Comparison Firm Adjusted Change ($MM)	.211	.392	3.049
Change In Cash Flow/Sales ($M)	.0005	-.0014	-.0005
Comparison Firm Adjusted Change ($M)	-.0003	-.0036	.0057
Change In Net Profit Margin (%)	-.31	-.32	-.60[C]
Comparison Firm Adjusted Change (%)	-.12	.45	.75
Change In Return On Assets (%)	-.70	-.50[C]	-1.2[B]
Comparison Firm Adjusted Change (%)	-.60	-.15	.40

Wilcoxon signed rank tests: A- significant at the 1% level; B - significant at the 5% level; C - significant at the 10% level.

Defensive ESOPs

Table 3 contains the results for 17 firms in the sample that adopted an ESOP to thwart a hostile takeover attempt. Defensive ESOPs are predicted to have no effect on productivity and a negative impact on performance. The productivity measures show some deterioration over all three periods, but the median changes are not statistically significant except for sales/employee and total asset turnover in the period -1 to +2. Although all four measures of performance show declines over all three periods examined, none of the changes are significant. Moreover, no statistically significant industry-adjusted changes are observed.

TABLE 3
Median Change And Comparison-Adjusted Change In Productivity And Performance Measures For 17 Defensive Esops Over Various Intervals

From Year i Year j

Productivity Measures	-1 to +1	-1 to +2	-1 to +4
Change In Cash Flow/Employee ($M)	-.138	-.500	.209
Comparison Firm Adjusted Change ($M)	-1.212	-.597	3.050
Change In Sales/Employee ($M)	-7.611	-7.770[B]	-.4665
Comparison Firm Adjusted Change ($M)	1.408	-3.474	1.376
Change In Total Asset Turnover (%)	-.17	-.11[C]	-.03
Comparison Firm Adjusted Change (%)	.05	.05	.06
Performance Measures	-1 to +1	-1 to +2	-1 to +4
Change In Operating Cash Flow ($MM)	-2.160	-1.324	-4.633
Comparison Firm Adjusted Change ($MM)	-18.029	-33.068	20.746
Change In Cash Flow/Sales ($M)	.019	.002	-.008
Comparison Firm Adjusted Change ($M)	-.010	-.016	.010
Change In Net Profit Margin (%)	-.47	-.16	-1.27
Comparison Firm Adjusted Change (%)	-1.12	1.16	3.01
Change In Return On Assets (%)	-.70	-.25	-2.00
Comparison Firm Adjusted Change (%)	-1.05	.40	1.50

Wilcoxon signed rank tests: A- significant at the 1% level; B - significant at the 5% level; C - significant at the 10% level.

ESOPs adopted as a defensive maneuver appear to have little empirically detectable effect (good or bad) on firm productivity or performance. Our findings are consistent with those of Chaplinsky and Niehaus [6], whose event study results indicate no abnormal performance associated with defensive ESOP announcements.

Wage Concession ESOPs

In Table 4, the results are presented for eight firms that adopted ESOPs as a wage concession. The changes in the productivity and performance measures are negative for the shortest and longest intervals (-1 to +1 and -1 to

+4). These measures are mostly positive for the intermediate interval (-1 to +2). None of the changes, however, are significant. The lack of significance in productivity may be explained by the positive/negative predictions for this grouping of ESOPs or the relatively small sample size. The results are not consistent with the predictions made for wage-concession ESOPs.

TABLE 4
Median Change And Comparison-Adjusted Change In Productivity And Performance Measures For 8 Wage-Concession Esops Over Various Intervals

From Year i to Year j

Productivity Measures	-1 to +1	-1 to +2	-1 to +4
Change in Cash Flow/Employee ($M)	-1.799	2.753	-1.632
Comparison Firm Adjusted Change ($M)	1.532	1.854	-.813
Change in Sales/Employee ($M)	-4.40	3.443	-2.208
Comparison Firm Adjusted Change ($M)	6.043	1.259	.814
Change in Total Asset Turnover (%)	.04	-.13	-.43
Comparison Firm Adjusted Change (%)	.07	.20	-.12
Performance Measures	-1 to +1	-1 to +2	-1 to +4
Change in Operating Cash Flow ($MM)	-8.272	-15.502	-18.904
Comparison Firm Adjusted Change ($MM)	-27.841	-6.705	-13.031
Change in Cash Flow/Sales ($M)	-.025	.013	-.044
Comparison Firm Adjusted Change ($M)	-.040	.019	-.016
Change in Net Profit Margin (%)	-2.07	.75	-.60
Comparison Firm Adjusted Change (%)	-3.73	1.08	-.20
Change in Return on Assets (%)	-1.70	.30	-.40
Comparison Firm Adjusted Change (%)	-1.20	-.70	.30

Wilcoxon signed rank tests: A- significant at the 1% level; B - significant at the 5% level; C - significant at the 10% level.

Employee Benefit ESOPs

The results for 20 firms that adopted the ESOP as a pure employee benefit are reported in Table 5.[7] The median changes in productivity measures are, for the most part, positive, with the change in sales per employee significant in both the -1 to +2 and -1 to +4 periods. None of the performance changes are significant. The industry-adjusted median changes are also insignificant for all of the productivity and performance measures.

Our findings are consistent with the proposition that ESOPs do not work well in large public corporations as a motivational tool to increase worker productivity and hence improve firm performance. The complex organizational structure and free-rider problems inherent in this form of organization offer possible explanations for these results. Unless employees have a significant percentage share ownership and voice in the decision-making process, the ESOP is not likely to improve morale or job satisfaction.

TABLE 5

Median Change And Comparison-Adjusted Change In Productivity And Performance Measures For 20 Employee-Benefit Esops Over Various Intervals

From Year i To Year j

Productivity Measures	-1 to +1	-1 to +2	-1 to +4
Change in Cash Flow/Employee ($M)	-.171	.113	1.628
Comparison Firm Adjusted Change ($M)	.098	.734	-.244
Change in Sales/Employee ($M)	3.589	7.518[B]	7.915[C]
Comparison Firm Adjusted Change ($M)	9.890	6.088	6.945
Change in Total Asset Turnover (%)	.01	.04	.12
Comparison Firm Adjusted Change (%)	.13	-.01	.13
Performance Measures	-1 to +1	-1 to +2	-1 to +4
Change in Operating Cash Flow ($MM)	1.083	-.451	.613
Comparison Firm Adjusted Change ($MM)	1.495	1.131	3.354
Change in Cash Flow/Sales ($M)	-.008	-.007	-.006
Comparison Firm Adjusted Change ($M)	.004	.007	.001
Change in Net Profit Margin (%)	-.70	-.102	-.75
Comparison Firm Adjusted Change (%)	.62	1.06	.13
Change in Return on Assets (%)	-1.50	-1.60	-1.55
Comparison Firm Adjusted Change (%)	-.10	.45	.70

Wilcoxon signed rank tests: A- significant at the 1% level; B - significant at the 5% level; C - significant at the 10% level.

CONCLUSIONS

This study examines the performance and productivity of 85 publicly traded companies that establish an employee stock ownership plan before 1986. Using data obtained from *Compustat*, we compare the performance and productivity of these firms before and after they establish ESOPs and look at how they perform in relation to a control group of industry counterparts. Further, we partition the sample by the reason for ESOP adoption to investigate whether there are significant differences in the performance and productivity of firms adopting ESOPs for different reasons.

ESOPs adopted for defensive purposes appear to have little effect on productivity or performance. In contrast to our prediction, we find no evidence that defensive maneuvers lower long-run performance. There is some evidence that ESOPs established as a pure employee benefit do lead to a productivity increase. Unfortunately, any productivity increase does not appear to translate into improved firm performance. There is no evidence that wage-concession ESOPs affect the company's performance or productivity. When the productivity and performance measures are industry-adjusted, we find no statistically significant changes in any of the variables, regardless of the reason for ESOP adoption.

The collective results indicate that ESOPs established in large, publicly traded companies have little or no effect on firms' productivity and profitability. This calls into question why managers, presumably acting in the best interests of stakeholders, undertake the cost of establishing an ESOP when there appear to be few apparent benefits. We conjecture that the organizational structure of large, publicly traded companies makes ESOPs an ineffective means of increasing productivity and improving corporate performance. The perceived benefits of an ESOP may be attainable only with an organizational form in which the incentive-productivity-performance link is more easily observable by the participating employees. Small, privately held companies or public companies in which ESOP ownership and employee participation in decision making are substantial, are two possible organizational forms in which these benefits may be realized.

ENDNOTES

1. As Chang [3] points out, the tax-deductibility of the loan principle is not a benefit of the ESOP. Plan contributions are tax-deductible because they are considered employee compensation that is a tax-deductible expense regardless of the form of compensation. Instead, lower borrowing costs and dividend deductions are the principal financing and tax benefits of an ESOP.

2. A comprehensive review of the literature on hostile takeover defenses can be found in Borstadt, Brickley, and Zwirlein [2].

3. The ESOP Association, 1100 17th Street NW, Washington D.C., 20036.

4. Of the original 102 firms we deleted seven from the sample because they were taken over immediately after the ESOP was adopted. We deleted another ten firms because we could not confirm the existence of an ESOP or verify the year of ESOP adoption.

5. In many of these cases it was stated in the annual report that the specific reason for starting the ESOP was to increase worker participation in the operations of the firm. In several instances, a specific program to increase participation was announced along with the ESOP.

6. In addition, the authors conducted a series of t-tests for difference in means for each of these measures averaged over the four-year periods immediately prior to and after ESOP adoption. The paired comparison t-statistics indicated that there are no statistically significant differences in the before and after measures of productivity and performance. We also calculated paired t-statistics to test for differences between mean values of the ESOP firms and industry comparison firms in both the before and after periods. Again, the productivity and performance measures for ESOP firms were not significantly different from those of their industry counterparts.

7. To focus on ESOPs adopted purely as an employee benefit (and thus, most likely to be used as a motivating tool), we specifically screened out leveraged ESOPs.

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