Employee Stock Ownership Plans and Shareholder Wealth: An Examination of The Market Perceptions of The Non-Tax Effects

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Abstract

As a means of achieving broad social and economic objectives, Congress has provided tax incentives designed to encourage Employee Stock Ownership Plans (ESOPs). The purpose of this study is to determine if some of the observed market reaction to ESOP adoption may be attributed to nontax benefits of ESOPs. This study's findings indicate that the securities market does perceive positive benefits from an ESOP other than from the tax benefits provided by Congress.

Introduction

Proponents of Employee Stock Ownership Plans (ESOPs) have long advocated their use as a means of achieving several broad social and economic objectives. Foremost among the economic objectives is the improvement in the productivity and international competitiveness of American industry. Studies have supported the presumption that increased employee stock ownership would create a more entrepreneurial attitude and boost their productivity [i.e., see GAO, 1987; Estrin et al., 1987]. In order to encourage firms to adopt ESOPs, Congress has provided several tax incentives. While numerous studies have shown that the security markets perceive an increase in shareholder wealth attributed to the adoption of an ESOP along with the direct and indirect tax incentives that bring on their establishment, it is less clear whether the security markets agree that the ESOPs are capable of providing the productivity gains that were envisioned by Congress.

The studies that focus on the security market perceptions of ESOP sponsorship, have demonstrated that ESOP adoption enhances shareholder wealth in the form of abnormal security returns. However, these studies fail to establish the underlying factors that explain the wealth increases, since they fail to differentiate between market reactions arising from tax incentives and any that may be due to anticipated improvements in productivity. Many of the firms that sponsor

ESOPs, benefit directly from the tax incentives designed to induce ESOP use. The observed increases in shareholder wealth may be due solely to these tax benefits.

The primary purpose of this study is to determine if there is an observed positive market reaction to the adoption of an ESOP that may be attributed to non-tax benefits. This is accomplished by examining ESOP adoptions for firms with no discernable or expected tax benefits. Determination of such a relationship would provide evidence that the market perceives a benefit from ESOP sponsorship not detected by prior research. At the same time, if the security markets react positively to the benefits of the ESOP without the tax incentives, these results may question the need for the tax incentives and the loss of federal revenues in a time of large federal deficits. The results of this study do show a significant increase in the average abnormal return for all firms on the day following the Board of Directors approval of non-tax benefit ESOPs.

The balance of this paper is organized into the following sections. The first section discusses the basic theories relating ESOPs to improved firm performance and briefly outlines the development of ESOP legislation. In the context of this discussion, the previous research on the effects of ESOP sponsorship is reviewed. The second section describes the hypothesis

tested in this study and explains the methodology utilized. The third section presents the results of the empirical tests, while the final section discusses the implications and limitations of the findings.

Previous Research

Theoretical Aspects of Employee Ownership

Congressional support for ESOPs has been grounded on basic theories of employee motivation. ESOP proponents assert that individual employees will become more motivated, and thus more productive, when they own an equity interest in their employer. Congress addressed this objective of increased motivation and productivity in the work force in its discussions of ESOPs:

Each worker would be placed in a position where his own efforts toward cost minimization and increased production would directly influence the size of his dividend checks and the value of the capital estate he can acquire during his working lifetime [Long 1973].

This theory rests on at least three underlying assumptions. First, it assumes that there exists within the typical worker a latent potential for increased productivity. Second, it assumes that this potential can be released through proper motivation. Finally, it assumes that the collective efforts of workers can significantly affect the productivity of the firm.

Employee ownership is believed to increase productivity and profitability through improved organizational efficiency. Prior research [Bruns and Waterhouse, 1975; Brownell and McInnes, 1986] indicates that both job satisfaction and performance are positively correlated to the level of employee participation. Thus, to the extent that employee ownership encourages employee participation, job satisfaction and performance should be improved.¹

Tax Law

ESOPs are employee benefit plans recognized under either the Employee Retirement Income Security Act (ERISA) of 1974 or the Tax Reduction Act (TRA) of 1975. ERISA ESOPs (hereinafter referred to as ESOPs) allow the employer to form a trust that may borrow funds with which to purchase stock of the employer. Thus, these ESOPs became known as leveraged or leverageable ESOPs. Non-ERISA ESOPs were established one year later by the TRA, and were commonly referred to as tax credit ESOPs, or TRASOPs. TRASOPs may not be leveraged. This was the beginning of a group of various tax-benefit incentives that Congress began providing to stimulate corporate adoption of ESOPs. A brief history of these stimuli is presented in Table 1.

According to a General Accounting Office study [GAO 1987], the various tax incentives factor into the ESOP sponsorship decision 74 percent of the time. Thus, an examination of ESOP adoptions must take account of the effects of future tax benefits. However, Table 2 reveals that benefits for employees and improved productivity were also factors in the vast majority of ESOP adoptions.

Similarly, surveys by the ESOP association [1987] indicate that approximately 75 percent of ESOP sponsors believe that their ESOP has resulted in improved employee productivity. Like Congress, many firms have accepted the theories asserting that ESOP participation can favorably influence productivity.

Prior Research on ESOPs

ESOP tax legislation and the theories underlying its Congressional support have been subject to considerable criticism. Doenberg and Marcy [1986] argue that any benefit derived by a firm from an employee's increased productivity does not flow directly to the employee, but is shared by all the owners of the firm. This problem suggests that employees will not be motivated towards greater productivity since there is so little connection between their efforts and their benefits.

ESOP legislation and tax incentives have also been criticized for both their direct and indirect costs. The GAO [1987] estimated that ESOP tax incentives reduced Federal government revenues by approximately 13 billion dollars over a six year period. Of even greater significance are the projected social costs. According to the Employee Benefit Research Institute [1989], ESOPs represent "a much more risky retirement vehicle than other qualified retirement plans." The ultimate cost of this increased risk, which arises primarily from the lack of diversification inherent in an ESOP, has never been quantified.

When researchers have investigated the relation between ESOP participation and productivity [i.e., see Dunbar and Kumbhaker, 1992; Tennenbaum et al., 1984; Brooks et al., 1982; Hamilton, 1983; Marsh and McAllister, 1981; Bloom, 1985; and GAO, 1987], they attempted to detect the suggested link by correlating ESOP sponsorship with an increase in a measure of profitability or productivity for the firm. Generally, the findings of these studies have been that there is no significant difference between the profitability or productivity of ESOP sponsors and non-sponsors. Similarly, no significant change in firm performance was found when comparing pre-adoption time periods to post-adoption time periods.²

The prior research on the effects of ESOP sponsorship provides little comfort to supporters of ESOP tax

Table 1.
Chronology of Incentives for ESOPs Provided by Congress

Year	Legislative Action
1974	allows formation of a trust that may borrow funds to purchase stock of the employer (1974 - present).
1975	additional investment tax credit equal to 1% of qualified investment in plant and equipment if employer makes an equal contribution to the ESOP (1975 - 1982).
1981	basis of the credit was changed to payroll and was a .5% credit based on wages (1982 - 1986).
1984	allows qualified lenders to exclude 50% of the interest earned on a leveraged ESOP loans (1984 - present). dividends paid on ESOP-held shares are deductible to the extent that such dividends are paid out to employees or to repay an ESOP loan (1984 - present). when 30% of the stock of a privately owned company is held by an ESOP, a shareholder may defer the gain on the sale of stock to the ESOP if the shareholder reinvest the proceeds into the stock of another company (1984 - present). an ESOP could assume the estate tax liability of a shareholder in exchange for stock of equal value (1984 - present).
1986	an estate could generally deduct 50% of the proceeds on a sale of stock to an ESOP (1986 - 1989).
1989	the dividend paid deduction was limited to stock acquired with the ESOP loan (1989 - present). the interest income exclusion was limited to ESOPs that own more than 50% of the employer's stock (1989 - present). the net operating losses deduction limitation rules on changes in ownership of greater than 50% do not apply to changes in ownership that result in an ESOP owning more than 50% (1989 - present). the rollover gains on sales of stock to an ESOP limited to shareholders that have held the stock for three years (1989 - present).

incentives. The failure to find any significant improvement in the measured productivity or profitability of ESOP sponsors evidences an inability on the part of those incentives to achieve their Congressional intent. On the other hand, studies such as Klein and Hall [1988] and the GAO [1987] indicate that individual employee behavior may be favorably influenced through ESOP participation. Security market research [Jiang 1987, Chang 1990] clearly indicates that ESOP sponsorship increases shareholder wealth. However, the studies did not determine whether the observed increases in

wealth arise solely from tax benefits, leaving the question of nontax effects on shareholder wealth unanswered.

Research Method

Hypothesis

The primary purpose of this study is to determine whether the security market associates ESOP sponsorship, in the absence of any expected tax benefit, with increased shareholder wealth. Such a finding would provide evidence that the market has observed some of the benefits of ESOP sponsorship anticipated by Congress. In order to make this determination, the following null hypothesis is tested:

HO: There is no reaction by the securities market to the adoption of an ESOP in the absence of either anticipated tax benefits or other significant information release.

Three requirements must be met in order to successfully test this hypothesis. First, changes in shareholder wealth must be examined at the time the market learns that a firm is adopting an ESOP. Second, only firms that have no known or expected tax benefit arising from the ESOP adoption may be examined. Finally, ESOP adoptions associated with events examined by Chang [1990] such as takeover defense and leveraged buyouts must be screened from the examination. The determination of the period examined in the study, as well as sample selection criteria, are

Table 2.
GAO Survey Response:
Why Employers Adopt ESOPs

1. To benefit employees	91 percent
2. Gain tax advantages	74 percent
3. Improve productivity	70 percent
4. Buy stock of major owner	38 percent
5. Reduce turnover	36 percent
6. Transfer majority ownership to employees	32 percent
7. Raise capital for investment	24 percent
8. Other	18 percent

The GAO survey results most likely overstate the percentage of ESOPs adopted in order to gain tax advantages. This study examines only unleveraged ERISA ESOPs sponsored by publicly traded firms while the survey includes TRASOPs, which are widely viewed as being heavily tax motivated. Additionally, item six generally pertains to closely held companies, while item seven applies to leveraged ESOPs.

discussed in the following section.

Model

If the market believes that an ESOP enhances the present value of the plan sponsor, then the efficient market hypothesis would predict a positive abnormal return for such a firm on the day that the sponsorship information becomes known to the market. In order to isolate the effects of the ESOP adoption, abnormal returns are calculated using the familiar market model:

$$R_{it} = a_i + B_i R_{mt} + U_{it} \quad (1)$$

where

$$\begin{aligned} R_{it} &= \text{return on security } i \text{ in period } t; \\ R_{mt} &= \text{return on the equally weighted market portfolio in period } t; \\ u_{it} &= \text{the stochastic portion of the individualistic factor representing the part of security } i\text{'s return which is independent of } R_{mt}. \text{ Expected value} = 0; \text{ and} \\ a_i, B_i &= \text{intercept and slope respectively, of the linear relationship.} \end{aligned}$$

Equation (1) is used to establish the parameters for each company's stock during a time period outside of the event period. During the event period, the actual abnormal returns are calculated as:

$$AR_{it} = R_{it} - a_i - B_i R_{mt} \quad (2)$$

and average daily abnormal returns for the entire sample are calculated as:

$$DAR_i = \sum_{t=1}^j AR_{it} / N_t \quad (3)$$

where

AR_{it} = the abnormal return for company i on day t , as calculated in equation (2), and

N_t = the number of ESOP firms included in the portfolio on day t .

Examination Period

Ideally, only abnormal returns for the day that the market learns of the ESOP adoptions should be included in the examination. Unfortunately, the date that the market learns of the adoption can not be determined with precision since a firm's adoption of an ESOP and its public announcement are not generally simultaneous. Examination of public announcement dates concerning ESOP adoptions reveals that they typically follow the adoption decision by several months, in which case it is quite possible that the information has already been discovered by the market.³

In light of Jiang's [1987] success in the examination of board of directors approval dates for Canadian firms, this study examines the market returns surrounding the board of directors vote to adopt an ESOP. A total of three trading days are examined, commencing with the

board of directors approval date. Although this examination window excludes most of the announcement dates examined by Chang [1990], it should capture the effects of any information leakage concerning the ESOP adoption during a reasonable time period.⁴ Thus, it is assumed that the market will learn of most of the adoptions, whether a public announcement is made or not.

Sample Selection

The sample of ESOP adoptions were carefully screened in order to determine security market reaction solely to the adoption of non-tax incentive ESOPs for employee benefit and productivity purposes. Therefore, all ESOPs with observed or expected tax benefits were omitted from the study. Specifically, TRASOPs were excluded from the sample since they provide a direct tax benefit to the sponsor through the tax credit.

Unlike TRASOPs, there are no direct tax benefits associated with the adoption of an ERISA ESOP. Although tax incentives have been provided by Congress to motivate employers to adopt ERISA ESOPs, utilization of these incentives requires either the borrowing of funds or the payment of dividends. Specifically, these incentives are the partial interest exclusion, which results in low-interest loans to ESOPs, and the deduction for dividends paid by the sponsoring firm on stock held by an ESOP. According to the GAO [1987], the vast majority of ESOPs have never utilized either of these incentives. Thus, the mere adoption of an ESOP does not provide a current tangible tax benefit, nor does it guarantee a future use of an ESOP tax incentive. In fact, the GAO [1987] considers non-leveraged ESOPs to be essentially tax neutral. By excluding ESOP firms that elect to employ any of the optional tax incentives, one can hypothesize that any observed market reaction to ESOP adoption is attributable to non-tax benefits derived through ESOP sponsorship.

Firms were also omitted from the study if there was any news release or other indication that the ESOP was adopted for reasons other than employee benefit/productivity gains. Firms were selected for the study based on four criteria. To be included, each firm must: (1) have established an ERISA ESOP for which a Board of Directors adoption date can be obtained, (2) be represented on the Center for Research in Security Price's Daily Returns File for New York Stock Exchange (NYSE) or American Stock Exchange (AMEX) firms, (3) have neither leveraged the ESOP nor utilized the

dividend pass through election within one calendar quarter of its adoption, nor indicated that these tax benefits will be utilized in the future, and (4) have no other significant announcements in the *Wall Street Journal* that might affect security prices throughout that firm's event period.⁵

The first two criteria insure that the required data are available for each firm. The third criteria is designed to eliminate from the study companies experiencing or even anticipating any tax benefits to which the market may respond. Similarly, the fourth criteria is designed to eliminate companies with major confounding events such as merger negotiations. If any of these criteria are not met, the firm was excluded from the sample.

Through examination of both the National Automated Accounting Research System (NAARS) and Disclosure databases through 1988, 445 ESOP firms were identified that 1) traded on either the NYSE or AMEX and 2) had not leveraged the ESOP or used the dividend pass-through election. All these firms were contacted by phone or mail (or both) and requested to provide the date that the Board of Directors had met and approved the ESOP. Of the 445 firms contacted, 225 (51%) responded to the request with complete information on the type of ESOP and the board of directors' adoption date. After eliminating firms with TRASOPs, as well as firms for which stock return data was unavailable or for which disqualifying announcements were made during the event period, 85 ESOP adoptions were examined.

Table 3.
Mean Abnormal Returns for ESOP Firms:
Three Day Test (Event) Period

Day	Daily Mean Abnormal Return (%)	t stat
0	.262	.93
1	1.103**	2.54
2	.377*	1.99
* Level of Significance = .05		
** Level of Significance = .01		

Results

The results for the 3 day test period are summarized in Table 3. The day of the Board approval (day 0) has a positive but insignificant abnormal return. However, days one and two both yield significantly positive abnormal returns. These results indicate that the

market associates the ESOP adoptions with a significant increase in shareholder wealth.

wealth suggests that the security market perceives that the ESOP will provide an increase in employee productivity. The most important finding of this study is that

Table 4.
Comparison of ESOP Adopters
With and Without Dividend Announcements
During 3 Day Event Window

Sample	Mean Abnormal Return (%)
Dividend Announcement Firms (n=32)	.1399*
Non-Dividend Announcement Firms (n=53)	.2412*
* Level of Significance = .05	

In addition to the means being insignificantly different, the dividend announcement subsample had a smaller positive abnormal return than the non-dividend subsample. Thus, if the firms with dividend announcements had any effect at all, it appears that they lessened the observed overall abnormal return.

As discussed in the previous section, dividend announcements were not treated as significant, and companies making such announcements were included in the study. In order to determine whether the dividend announcements provided additional information which could confound the results, overall tests of significance for two subcategories of the ESOP sample are presented in Table 4. The two categories represent firms which either did or did not have a dividend announcement during the event period.

As indicated in Table 4, both sub-samples yield significantly positive mean abnormal returns. This indicates that the dividend firms could have been deleted entirely and the null hypothesis could have been rejected. Furthermore, a test of the difference between the two independent means indicates a Z value of .199, indicating no significant difference between the means.⁶ Thus, it can be assumed that the dividend announcements do not contribute to the observed abnormal return.

Implications and Limitations

An increase in shareholder wealth upon the adoption of an ESOP would indicate that the security market has perceived an increase in shareholder wealth due to either a reduction of costs caused by tax incentives or an expectation of an increase in employee productivity. By eliminating those ESOPs that provide tax incentives, evidence is provided that an increase in shareholder

shareholder wealth increased for firms adopting non-tax incentive ESOPs. This increase in shareholder wealth is significant in more than a mere statistical sense, with shareholders on average experiencing an abnormal gain of over one percent on the day after board approval despite the lack of an announcement. While this finding is consistent with the various theories relied on by Congress in its deci-

sions to provide incentives for ESOPs, the study cannot definitively conclude that the observed market reaction is due to an anticipated improvement to productivity.

The results are also interesting in light of Chang [1990], which detected a significant increase in wealth following public announcements concerning ESOP adoption. If the market reacts both to the initial knowledge of the adoption, as demonstrated in this study, and subsequent public announcements, as determined by Chang, it would indicate that such announcements act as signals to the securities market. Unfortunately, the degree of overlap between Chang's sample and the one examined in this paper is unknown. It is likely that Chang's announcement date was also the adoption information release date for at least some of his sample.

Despite these limitations, the study provides an extension to the existing ESOP literature. Prior studies suggest that ESOPs are not effective in increasing the productivity and competitiveness of sponsoring firms. However, the increase in shareholder wealth indicates that significant benefits accrue to ESOP sponsors, even after controlling for any obvious effects of tax incentives or information releases. In summary, the findings suggest that the securities market has observed benefits arising from ESOP sponsorship not detected by prior research.

Suggestions For Future Research

By analyzing market data we learn what is the market's perception of the impact of the adoption of an ESOP on the market value of the firm. The ultimate question is whether an ESOP adoption actually increases the productivity and competitiveness of the adopting firm. While the results of prior studies are mixed, most of these studies indicate no significant difference between the profitability or productivity of an ESOP sponsoring firm and a non-sponsoring firm. Yet in study after study the market still perceives a benefit and as this study shows that the benefit is not just the tax benefits. The results of these studies need to be reconciled. The measures of profitability and productivity need to be examined to determine if the information we are seeking is actually being captured. The other alternative is that the market's perception could be incorrect.

Endnotes

1. In an examination of ESOP sponsors, Quarrey (1986) also determined that employee participation was correlated with firm performance. However, firm performance was measured by growth in employees and sales rather than direct measures of productivity or financial performance. This finding extended the work of Rosen and Klein (1983), which determined that employment growth for employee-owned firms was correlated with the type of industry and the "democratic" nature of the corporate sponsor.
2. One possible explanation for the failure of prior research to detect significant effects is the method employed. For example, the GAO (1987) measured profitability as after-tax return on assets, observed over a four year period. Profitability for ESOP firms for the four year period was compared to a control group of non-ESOP firms. This method can be criticized on the basis that 1) comparison of accounting ratios using assets measured at historical cost introduces considerable error, 2) annual return measures reflect many factors, and the impact of any single factor is difficult to detect, and 3) the benefits to be derived through employee ownership may be experienced over an extended period, and the four years observed offer too short a time frame to evaluate any effects. In fact, the GAO admitted a lack of confidence in its ability to detect significant differences due to the factors listed above.

However in an interesting exception to the general findings, the GAO (1987) found a positive correlation between its measure of productivity and the

level of employee participation in corporate decision making. Such a finding suggests that the beneficial aspects of ESOPs are available only to firms that actively endorse the concept of employee ownership, and indicates a need for more research on the actual behavioral aspects of ESOPs.

3. For the 85 firm ERISA ESOP sample examined in this study, announcement dates for a large percentage of the firms were never located. Only eight public announcements were made during a twenty trading day period commencing on the date of the ESOP adoption.
4. Discussions with executives at the largest ESOP consulting firm in the U.S. indicate that this is a reasonable assumption. Details of ESOPs, like other employee benefit plans, are generally made available soon after adoption.
5. Approximately one third of the ESOP adopters released quarterly dividend information on the day following the board of director's meeting. Not wanting to discard this many observations, the dividend announcement was not classified as a significant event, and the abnormal returns for these firms were included in the sample. The effects of these dividend announcements are evaluated with the overall results.
6. A value of 1.96 would be necessary to reject the null, using a two tailed test at the 95 percent confidence level. Because of the relatively small sample sizes involved, a t-test might be more appropriate. However, in this circumstance the z-test is more conservative since it is more likely to result in rejection of the null hypothesis of no difference between means and no information from the dividend announcements.

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