EMPLOYEE STOCK OWNERSHIP PLANS AND THE
PUBLICLY HELD CORPORATION, A STUDY
OF THEIR ACCOUNTING, FINANCIAL
AND ECONOMIC IMPLICATIONS

DISSERTATION

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

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Denton, Texas
August 13, 1977

An Employee Stock Ownership Plan (ESOP) is a form of qualified stock bonus plan. The basic purpose of ESOP's is to help provide a means of financing capital expansion and at the same time provide a means for corporate employees to acquire an equity interest in the corporation. If ESOP's are to have any significant impact on the financial conditions of working Americans and the American economy's capital needs, it will be necessary for large publicly held corporations to adopt them. However, to date the majority of the firms that have adopted ESOP's are smaller, closely held corporations. Unless ESOP's can be made attractive to large publicly held corporations, their total effect on the economy can only be slight. If increased employee stock ownership is for the public good, then it becomes important to provide information that will permit individuals to make intelligent decisions on whether they stand to benefit or suffer from such plans.

The purpose of this study is twofold. First, the results of the study are used to isolate the impact of ESOP financing on actual firms as closely as possible. This is simply to
point out many of the advantages and disadvantages of ESOP financing. Second, the results of the study are used to compare the relative costs of ESOP's with other deferred employee compensation.

A computer model was developed in such a way that various forms of ESOP and deferred employee compensation plans could be simulated on top of actual firms to show the various effects on certain financial variables. The primary source of data was obtained from COMPUSTAT's industrial files. (COMPUSTAT is a service which provides financial data on publicly held corporations via computer tape.)

The study is organized into five chapters. Chapter I is an introduction to the study. A comprehensive survey of prior research is presented in Chapter II along with a brief history of employee stock ownership in the United States. Chapter III presents a detailed description of the research methodology. Chapter IV presents the results and Chapter V concludes the study. This last chapter summarizes the findings of the study and emphasizes the importance of the findings. Implications of the findings and conclusions are presented here and recommendations are made.

The evidence gathered in this study suggests that various types of ESOP's affect firms' financial structures in different ways. The exact effects were influenced by several factors such as earning power, dividend payments, investments in
qualified property for investment credit purposes, relative size of the firm's contribution to the various plans, etc.

In general, the findings indicate that ESOP's have little to offer as a means of financing for publicly held corporations. However, they may have certain advantages when used as a part of a firm's total employee compensation package.

The findings indicate that accounting rules for certain types of ESOP's tend to distort per share calculation in the early years of the plan. To correct this, ESOP shares should be considered outstanding only as they become unencumbered.

The study found that a definite need exists for empirical data relating to ESOP's motivational effects. This is a key factor in determining how the ESOP will affect a firm's financial structure. Further study of this aspect would provide valuable information regarding the ESOP's effect on the firm's productivity.
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CHAPTER I

INTRODUCTION

Employee Stock Ownership Plans (ESOP's) are a current topic of discussion with tax practitioners and financial analysts. Their popularity arises from recent tax legislation designed to promote such plans. Firms that adopt a "qualified" plan have significant tax advantages.

ESOP's are a form of a qualified stock bonus plan. A trust (ESOT) is formed and the plan is qualified by filing a letter of determination with the IRS. (Both terms "ESOP" and "ESOT" are used interchangeably in current literature. This study will use the term "ESOP" when referring to the plan in general and "ESOT" when referring to the trust.) There are several uses of ESOP's, but this study will deal with three major variations of ESOP's:

1. Nonleveraged ESOP's (or the basic ESOP),
2. Leveraged ESOP and
3. Investment tax credit ESOP.

In the usual nonleveraged ESOP, the corporation contributes its own stock to the trust (ESOT). The corporation receives a tax deduction for the fair market value of the contributed stock. The corporation incurs very little (or no) cash
expenditure and at the same time increases its cash flow from the decreased tax burden.

In the leveraged ESOP the trust borrows funds from a lending institution. It uses these funds to purchase stock from the corporation or existing shareholders. The ESOT's stock is used to secure the loan along with the corporation's guarantee that the loan will be repaid. The corporation makes annual cash payments to the trust that are sufficient to pay off the loan. These payments are deductions for corporate tax purposes.

The investment tax credit ESOP is relatively new. The 1975 Tax Reduction Act made it possible for corporations to receive an extra one percent investment tax credit on qualified investment property if they contributed the extra one percent to an ESOP. Thus, instead of receiving a ten percent investment tax credit on qualified property, they could receive eleven percent if the extra one percent was put into an ESOP. Typically, the corporation contributes their own stock (with a fair market value of one percent of the qualified investment property) to the trust. The corporation's tax bill is reduced by the fair market value of the stock.

The 1975 Tax Reduction Act only extended the extra one percent credit for 1975 and 1976. The 1976 Tax Reform Act extended the extra one percent through 1980. Also, it gives the corporations an extra one half percent (total of eleven
and five tenths percent) if employees will match the extra one half percent with their own funds.

Statement of the Problem

The basic purpose of ESOP's is to help provide a means of financing capital expansion and at the same time, provide a means for corporate employees to acquire an equity interest in the corporation. ESOP's provide a potential for a more equal distribution of the nation's wealth. Powerful members of the United States Congress have stated that they believe the ESOP concept can provide a mechanism to improve the financial condition of working Americans and the productivity of American industry (4, pp. 1-85). Congress has backed up this belief by passing five separate pieces of legislation to provide incentives for corporations to adopt ESOP's.

However, to date the majority of the firms that have adopted ESOP's are smaller, closely held firms (4, pp. 614-622). If the economy and the nation are to benefit from ESOP's, large publicly held corporations will have to adopt them. This is where the majority of the nation's wealth is held. Therefore, if ESOP's are to make a significant contribution to the economy's capital needs, they must be made attractive to large publicly held corporations.

Neil Wassner, partner in Main Lafrentz, has stated that he feels the main reason that publicly held firms have been slow to adopt ESOP programs is that they have alternative
sources of financing that have a lower cost of capital (5, p. 20). Another reason often cited as why ESOP financing has not been widely adopted by publicly held corporations is its possible negative impact on reported accounting income and earnings per share (4, p. 69). This reason is simply a re-stated version of Wassner's view in that it implies that there are alternative sources of funds available with lower costs to the corporation. For example, assume a corporate employer has the option of selling stock on the open market or issuing the stock to an ESOT. By selling stock on the open market the employer corporation receives funds equal to the fair market value of its stock (less selling costs). By issuing the stock to the ESOT the employer corporation creates a non-cash employee compensation expense, thereby, reducing its income tax liability by its marginal tax rate times the amount of the ESOP contribution (fair market value of the stock donated to the ESOT). Thus, the employer corporation would receive less for its stock using the ESOP alternative.

The cost of capital argument also compares ESOP financing with traditional debt financing (2). In traditional debt financing only the interest payments are tax deductible. Therefore, only interest payments are charged against pretax earnings. The principal amount must be paid for with after tax funds. A leveraged ESOT borrows funds and purchases employer stock with these funds. The employer corporation is then obligated to make annual cash contributions to the ESOT so
that the ESOT is able to repay its debt and make its interest payments. These cash contributions are deductible by the employer corporation for tax purposes. Thus, in effect, the employer corporation is repaying the entire debt (principal and interest) with pretax funds. However, since the entire contribution to the ESOT would be charged against pretax earnings, it would decrease reported earnings more than straight debt financing (in which only interest payments are charged against earnings). At the same time, additional shares of stock are issued to the ESOT which increase the number of shares outstanding for earnings per share calculations. It is argued that this effect on reported earnings would likely be more serious for a publicly held corporation than a closely held corporation whose shares are not traded on the open market (5, p. 19).

The possible negative impact on reported accounting earnings would probably be more important to a publicly held corporation than a closely held corporation. If one assumes that reported accounting earnings and earnings per share have an impact on the market price of a publicly held corporation's stock, then those corporations would tend to be more sensitive toward measures that would adversely affect their reported earnings. The closely held corporation may tend to opt for increased cash flow that would result from their decreased reported tax earnings.
Prior to the Tax Reform Act of 1976, the investment tax credit ESOP was only available for 1975 and 1976. Large capital intensive firms that could take advantage of this credit may have been reluctant to do so when they knew the credit was only available for two years. An ESOP is a form of deferred employee benefits and by its inherent nature it tends to be a long term proposition. Although it may be possible to discontinue such a plan, firms may find it difficult to explain to employees. But no matter what the reasons are, it is a fact that the large publicly held firms have been reluctant to adopt ESOP's.

If the impact of ESOP financing could be isolated on actual situations, the advantages and disadvantages of ESOP type financing should become more obvious. The fact that only a few large publicly held corporations have adopted ESOP's presents a problem in studying the effect of ESOP's on them to any extent. Empirical evidence is extremely scant on the subject. Thus, the study approached the problem by simulating ESOP's on actual data from large publicly held corporations. Certain publicly held corporations were chosen for the study. A computer model was constructed for each of the three types of ESOP's. The model was constructed in such a way that the three forms of ESOP's could be simulated on top of the actual firms selected to show the various effects on certain financial variables. A primary purpose of this study was to isolate the impact of ESOP financing on actual firms as closely as possible.
Importance of the Topic

Proponents of ESOP's, specifically Louis Kelso and Senator Russell Long, claim that widespread adoption of ESOP's will solve many of our economic problems. Specifically, they claim that ESOP's will accelerate economic growth to unprecedented levels; create full employment, and create an economic climate for stopping inflation, and provide a means for a more equitable distribution of wealth (1; 3). These are truly momentous claims!

It appears that the ESOP concept will continue to be encouraged. The motive power pushing the ESOP concept comes from the political arena. Senator Russell Long, Chairman of the Senate Finance Committee, has been the chief motivator of the concept on Capital Hill. Lately, many other influential politicians have been pushing the ESOP concept. Thus, in the future, it appears likely that the ESOP concept will be made more attractive for industry.

Much has been written about ESOP's virtues and vices, but little empirical research has been carried out concerning them. The main reason for this is the lack of empirical data (to any significant extent) regarding the actual performance of ESOP's. Thus, research in this area (until sufficient empirical data becomes available) will be limited to an a priori approach or at best a simulation using actual firms. If increased employee stock ownership is for the public good, then it becomes important to provide information that will permit
individuals to make intelligent decisions on whether they stand to benefit or suffer from such plans.

Limitations and Key Assumptions

The major limitations of the study result from the assumptions that must be made when simulating ESOP's on actual data. It is realized that there are several choices that each firm would have in regard to the types of financing used. Therefore, the study is only implying what "could" happen, not what "would" happen if these selected firms adopted these specific types of ESOP's in addition to their existing employee benefits.

The study uses the actual market price of each firm's common stock in order to determine the number of shares that are issued to the ESOT. It is possible (maybe probable) that the firm's market price of its stock would change as a result of ESOP financing.

Since the simulation results in additional capital being acquired by the firms, it is possible that the marginal productivity of this extra capital will be either more or less productive than existing capital. Also, employee motivation may result in a change in productivity. But this study assumes that the earning power of any new assets is the same as it was for the actual existing assets. Thus, it is assumed that the advantages and disadvantages of these factors occur in a random fashion and tend to neutralize the overall effect.
Other assumptions relating to the firms' combined marginal tax rates, interest rates on ESOT loans, each firms' investments expenditures qualifying for the investment tax credit, and the percent of employees participating in the various plans are explained in detail in Chapter III.

Methodology

A simulation involving nonleveraged, leveraged and a tax credit ESOP was used to provide data for the study. These types of ESOP's were simulated using actual financial data of publicly held firms. In addition to the three types of ESOP's, a qualified pension plan of equal size was also simulated on the same firms so that employee benefits would be more comparable.

The primary source of data was obtained from COMPUSTAT's industrial files. No effort was made to select the firms on a random basis. Instead, the specific firms were chosen primarily by the amount of necessary data reported by COMPUSTAT. All firms on the industrial file with adequate earnings and reporting adequate data for the simulation were chosen. The firms used in the study are presented in Appendix A.

Chapter Descriptions

A comprehensive survey of prior research is presented in Chapter II along with a brief history of employee stock ownership in the United States. Chapter II includes a brief summary of recent legislation regarding ESOP's to acquaint the reader
with many of the legal aspects needed to understand certain facets of the study. A micro- and macroeconomic analysis of the various types of ESOP's is also presented in Chapter II. In general, Chapter II presents a background of the ESOP concept.

Chapter III presents a detailed description of the research methodology. The technique used to collect the data and a description of the models that the simulation is based on are described in full. In addition, many of the assumptions not presented in Chapter I are explained in Chapter III.

Chapter IV presents a description and explanation of the research results. The simulated ESOP's are compared against actual data and against a qualified pension plan of comparable size. The data is presented in terms of the relevant factors used in the study.

Chapter V concludes the study. This chapter summarizes the findings of the study and emphasizes the importance of the findings. Implications of these findings are presented here and conclusions and recommendations are made.
CHAPTER BIBLIOGRAPHY


1920's, interest in these plans began to reappear. Amount and
interest in employee stock plans, then again in the propensities
where business began to fall off there were fewer firms interested
in and the propensities years immediately thereafter, such firms
stock ownership has declined. For example, during World War
1900's, for several well known United States firms, such firms
employee stock ownership plans date back to the early

Chapter II

Stock Ownership Plans

History and Background of Employee
business sector in the late 1940s there was a renewed interest

but as people began to regain their confidence in the

some form of employee stock ownership plan (27, p. 29).

War II. In 1946 102 out of 3,498 (2.9 percent) firms had

provisions (26, p. 25). This trend continued until after World

organized plan to sell (or give) stock to rank-and-file em-

that out of 2,700 companies only 119 (4.4 percent) had an

the 1930's. A survey by the Conference Board in 1939 showed

years. There was little interest in such plans at all during

and bad feelings toward employee stock ownership for many

also lost any hope of retirement income. Thus, naturally one-

subordination. Thus, the not only lost their jobs, but many

were laid off and had no means of paying the balance of their

willed to pay off stock subscriptions to their firm. They

stock ownership. When the crash came many workers were com-

the 1929 crash seemed to have a profound effect on employee

discontinued after the stock market crash of 1929 (4, p. 5).

many of the plans that were adopted in the twenties were

(8, p. 8).

By 1926 over 200 firms had employee stock purchase plans

from the early 1920s, just a few of the more well known firms that had adopted some

Atlantic and Pacific Company, and Steel Corporation are

United Cigar Stores, Corning Products Refining Company, Great

Bethlehem Steel Corporation, General Motors Corporation,

Great Western Sugar Company, Jones and Laughlin Steel Corpora-

13
Contributed by the Employer Corporation.

I. A separate trust is created to manage the funds.

Common characteristics of Employee Stock Ownership Plans (ESOPs) have certain
several forms and can be used for several purposes, but are
different deals with this type of plan. These plans can take
form of what real estate amounts to a stock bonus plan. This
Employee Stock Ownership Plans have recently taken the
a percentage basis (the employer's contribution to the plan
of the employer, offer the employer corporation matched (on
1991 reduction and arranged for reduced or no brokerage fees
through the employer. The employer usually provided a pay-
purchase plan where the employer purchased the firm's stock
before recent tax incentives) seems to have been a stock
of Employee Stock Ownership Plans. The most common approach
over the years there have been several different types
interest they had in the 1920's.

Interest by Congress through tax incentives, they had never requested the
congressional plan (25, p.8). But until the recent push by
interest on the New York Stock Exchange had some sort of Employee
By 1966 another survey showed that twenty percent of the firms
International Harvester Company renewed their plans (4, p.6).

Example: In 1949 American Telephone and Telegraph Company and
abandoned their earlier plans began to reestablish them. For ex-
In employee Stock Ownership, many of the firms that had
2. The trust assets are primarily in the form of employer stock or dividends from the stock.

3. The stock is allocated to the employees and is distributed whenever the employee terminates, normally at retirement.

4. The employer corporations can deduct the fair market value of their contributions to the trust (or in certain cases claim a credit against their federal income taxes).

The founding father of the modern ESOP concept is Louis Kelso, a lawyer and investment banker, who has been working on the concept since the latter part of the 1940's. He has been the outspoken leader of the idea. His principal publications are The Capitalist Manifesto (1958), The New Capitalists (1961) and How to Turn Eighty Million Workers into Capitalists (1962).

J. Adler, but the original and basic theory was Kelso's work and the possible revolution which he believed may lead. Also, it presents a program which they term as a capitalistic revolution in the United States within the next fifty years. Three years later in 1961, Kelso and Adler wrote The New Capitalist (15). This book mainly attempts to explain the feasibility of the earlier plan. Additional evidence of the financing of their earlier plan. Additional evidence of the
Kesto’s ideas and interest led him to dinner at a Washington
Senator Long’s executive secretary. Long was interested in
committee, was introduced to Kesto’s book by Wayne Thiebaud.
In 1973 Russell Long, the Chairman of the Senate Finance

$50 (23, p. 550).

paid for the newspaper in seven and one half years, through the
plan to sell the children. Kesto put together a plan and the employees

moder $50. According to Kesto, the owner wanted his employees
Newspapers, Inc. This plan is now credited as being the first

ESOP that Kesto set up was in 1986. It was for the Pensacola
little throughout the 1980’s and 1990’s. In fact, the first
despite the early efforts of Kesto, ESOP’s were used very

This book was the culmination of all his previous ideas, in-

Next, Kesto co-authored How to Turn Workers
claim with spread capital ownership to all classes of people.
fiatt’s concept of ESOP’s. Much of the

studies the basic economic concept of all his previous ideas, in-
This book was the culmination of all his previous ideas, in-

co-authored How to Turn Workers
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test-ESOP’s are based on the


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the legal structures tend to increase the concentration of
The act also
require employee stock ownership or
ownership in the reorganization. However, the act did not
call for directed to consider the possible use of employee stock
Consolidated Rail Corporation (Consrail), which was specif-
covered in the act. The UPA was to design a new corporation,
reorganization of the six bankrupt northeastern railroads
United States Railway Agency which was responsible for the
reorganized railroads of the Northeast, the act created the
ESOP's to be used as a means of acquiring capital to run the
The Regional Railroad Reorganization Act of 1973 permits

deduction of the contribution to the trust (13). The
exaction of the trust beneficiares and to the employer's
under the provisions, this special treatment applies both to
for stock bonus, pension, or profit sharing plans that qualify
one code of 1954. Here, special tax treatment is provided
authority is derived from Section 491(a) of the Internal Reve-
possibility for well over twenty years. The basic statutory
legislation encouraging ESOP's, but they have been legally
since 1973, Congress has passed five separate pieces of
Recent legislation

and the Joint Economic Committee.
Senate Finance Committee, the House Ways and Means Committee
before committees of both houses of Congress, especially the
Supplement to this meeting, Kelo has testified several times
has become a pernicious political motivator of ESOP's (39).
hotel (31; p. 18). As a result of this exposure, Senator Long
It includes (a) any fiduciary, counsel or employee covered

interest as defined in section 149 of ERISA. Basically,

with the trust (32, section 408 [6]), the term "parties in
who otherwise would not be permitted to enter into agreements
the ESOP to enter into transactions with "parties in interest"

the loan (32, section 409 [b] [3]). ERISA excepts ERISA also permits

percent of the assets in the employer corporation's securities

its diversification rules so that the ESOP may invest 100

on other employee benefit plans. ERISA excepts ESOP's from

that quantity as ESOP's from many of the restrictions placed

section 407 (d) [c]). Thus, actual employee benefit plans

primary in qualifying employee securities. . . . (32, sec-

30 of the IRC of 1954, and which is designed to invest

bonuses, plans and money purchase plan which is a stock

which plan as an "integrated account plan which is a stock

section 407 (d) (c) of ERISA described in employee stock owner-


The next phase of legislation dealing with ESOP's was

roads (33, p. 641).
Section 301. However, the law provides that an investment in the own stock or cash to a qualified BESP (36), an additional amount equal to that one percent of the qualified stock which one percent of the corporation to corporations who own at least seven to ten percent, the tax reduction act of 1975 provided.

In addition to increasing the investment credit from 1 percent to 2 percent, the act was to in- crease employment in areas hurt by foreign competition.

The trade act of 1974 provided federal guaranties for loans made to companies hurt by foreign competition. The act also, under the trade act only common stock with equal rights.

Section 273 of the loan to an BESP (36), section 273 of the loan to an BESP (36), section 273 of the loan to an BESP (36), section 273 of the loan to an BESP (36), section 273 of the loan to an BESP (36), section 273 of the loan to an BESP (36), section 273 of the loan to an BESP (36).

A plan and (e) in a fifty percent owner of the employer (32), (f) an employer of employees covered by such plans. (d) in a plan to the plan's, (d) in a plan to the plan's.
requirements if a firm elected the extra one percent tax credit. The firm electing to take the extra one percent tax credit must also meet the basic requirements that cover ESOP's under ERISA. Such as, the ESOP must be a defined contribution plan which is a stock bonus plan, a stock bonus and a money purchase plan, or a profit sharing plan (36, Section 301). The plan must invest primarily in employer securities. The only employer securities that may be used are common stocks with voting power and dividend rights no less favorable than the rights of other common stock of the corporation (36, Section 301). This act became law in March of 1975 and was scheduled to be in effect until January 1, 1977.

To date, the last piece of legislation that deals with ESOP is the Tax Reform Act of 1976 (37, Section 803). This act extends the additional one percent tax credit (provided in the Tax Reduction Act of 1975) through 1980. In addition, the act provided for an additional one half percent credit. The additional one half percent credit is allowable if the employer and the employees both contribute an amount equal to one half percent of the qualified property to the ESOP. Under this rule the employer could receive a maximum of eleven and one half percent investment tax credit.

Also, under this act the plan may provide for the employer to recapture any contribution made to the ESOT under certain conditions. This recovery was permitted to refund employer contributions which were not later matched by employee
contributions. The employer can also recover any portion of its contribution to the ESOT that is recaptured under the investment credit rules. The employer has an option on whether it wishes to withdraw these funds or take a deduction for the recaptured contribution or to reduce future contributions to the plan. The employee may also recapture his contribution if for some reason the employer is unable to make matching contributions. Employee contributions may not be made as a condition of employment or conditions of participating in the plan. In other words, employee contributions must be voluntary.

The entire investment credit is not available to a utility if a public service commission requires the utility to flow through any part of that additional credit to the consumer. In effect, this law prevents public utilities from using this tax benefit for rate making purposes. Thus, the entire additional investment tax credit goes to the employees participating in the ESOP. This portion of the law applies after 1975.

The law makes it permissible for the employer to contribute employer securities when the investment credit is allowed instead of when it is claimed. Also, rather than its own stock, the employer may contribute stock of affiliated corporations to the ESOT. Employer stock held by the ESOT is excluded for purposes of determining if affiliated corporations can file consolidated returns.
Recent Writing and Research

Several articles and a few books have been written since 1973 concerning ESOP's and their effect upon firms, stockholders, employees and the economy. In reviewing these recent publications it will be helpful to classify them by types of plan. The three principal types of ESOP's (nonleveraged, leveraged and tax credit ESOP) are, in effect, different types of compensation and financing plans. As such they may have different effects on the employer corporation, stockholders and employees. Therefore, the review of recent work on the subject is separated into these three categories. Also, it should be realized that there can be more than one variation to each of the three major categories of ESOP's. Each variation could have a different effect on the corporate entity, stockholder and employee. For analytical purposes it is convenient to separate the effect on the corporations, stockholder and employee. But when doing this, one must keep in mind that these three elements are interrelated and that an effect on one may cause a reaction from the others.

Nonleveraged ESOP.—A nonleveraged ESOP is commonly used in two ways. The trust can acquire employer stock through annual stock contributions by the employer, or the employer can make cash contributions to the trust and the trust then purchases existing stock from stockholders.

Triad Financial Reports analyzes these two ways of using a nonleveraged ESOP (33, pp. 58-60). First, they use a
situation where the ESOP purchases existing stock from a shareholder. The remaining shareholders' percentage of ownership would not be changed.

To demonstrate the effect of ESOP's they use a hypothetical company with a net worth of $3,000,000; 30,000 shares of common stock outstanding; pretax earnings of $635,000; a combined state and federal marginal tax rate of fifty three percent and they assume the market value of the stock equals the book value ($100).

In their first example (where the ESOP receives a cash contribution from the company and uses the cash to buy out an existing shareholder), they assume the company contributed $200,000 to the ESOP. These funds are used to purchase 2,000 shares from a shareholder at market value equal to book value. Their example proceeds as follows:

<table>
<thead>
<tr>
<th></th>
<th>No ESOP</th>
<th>ESOP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Pretax Earnings</td>
<td>$ 635,000</td>
<td>$ 635,000</td>
</tr>
<tr>
<td>Contribution to ESOP</td>
<td>0</td>
<td>(200,000)</td>
</tr>
<tr>
<td>Pretax Earnings</td>
<td>635,000</td>
<td>435,000</td>
</tr>
<tr>
<td>Tax (53%)</td>
<td>(336,550)</td>
<td>(230,550)</td>
</tr>
<tr>
<td>Net Income</td>
<td>298,450</td>
<td>204,450</td>
</tr>
<tr>
<td>Purchase of Shares</td>
<td>(200,000)</td>
<td>0</td>
</tr>
<tr>
<td>Net Cash Effect</td>
<td>98,450</td>
<td>204,450</td>
</tr>
<tr>
<td>Starting Equity</td>
<td>3,000,000</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Purchase of Shares</td>
<td>(200,000)</td>
<td>0</td>
</tr>
<tr>
<td>Net Income</td>
<td>298,450</td>
<td>204,450</td>
</tr>
<tr>
<td>Ending Equity</td>
<td>3,098,450</td>
<td>3,204,450</td>
</tr>
<tr>
<td>Earning on Starting Equity (%)</td>
<td>9.95%</td>
<td>6.82%</td>
</tr>
<tr>
<td>Shares Outstanding (after purchase)</td>
<td>28,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Remaining Previous Owners (%)</td>
<td>100.00%</td>
<td>93.3%</td>
</tr>
<tr>
<td>Earnings Per Share (after purchase)</td>
<td>$ 10.66</td>
<td>$ 6.82</td>
</tr>
<tr>
<td>Book Value (year end)</td>
<td>$ 110.66</td>
<td>$ 106.82</td>
</tr>
</tbody>
</table>
Note that Triad assumes the firm without the ESOP purchases 200,000 shares of stock directly from existing shareholders in order to make the situations more comparable. Triad concludes from this example that by purchasing through the ESOP, the company's cash position is better, but the position of the remaining owners, net income, earning as a percent of equity, earnings per share and book value are all impaired and the market value of the stock would likely be impaired as a secondary effect.

Triad chose to let market value equal book value. This, in itself, could distort their results. In this type of analysis the relationship of the market price of a stock to the book value is significant. In fact, Lund states that the "critical question in evaluating the ESOT transaction is the price of the stock" (22, p. 57). This indeed is an important factor. For example, if market value is greater than book value, the ESOP will buy fewer shares of stock (as compared to market value equaling book value). This would tend to diminish the unfavorable effect on earnings per share and ending book value per share. However, if market value was less than book value, it would tend to magnify the unfavorable effect on earnings per share and book value per share.

The second type of nonleveraged ESOP is one in which the ESOP receives its contributions in new stock. Triad's example uses the same hypothetical company. The company contributes newly-issued stock with a market value of $50,000 to the ESOP.
This same contribution is made each year for a period of five years. Again, the market value is assumed to be equal to the book value. Thus, in the first year the ESOP would receive 500 shares.

Based on these assumptions, Triad computes net income for the first year as follows:

<table>
<thead>
<tr>
<th></th>
<th>No ESOP</th>
<th>ESOP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Pretax Earnings</td>
<td>$635,000</td>
<td>$635,000</td>
</tr>
<tr>
<td>Contributions to ESOP</td>
<td>0</td>
<td>(50,000)</td>
</tr>
<tr>
<td>Adjusted Pretax Earnings</td>
<td>635,000</td>
<td>585,000</td>
</tr>
<tr>
<td>Tax (53%)</td>
<td>(336,550)</td>
<td>(310,050)</td>
</tr>
<tr>
<td>Net Income</td>
<td>298,450</td>
<td>274,950</td>
</tr>
<tr>
<td>Starting Equity</td>
<td>3,000,000</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Net Income</td>
<td>298,450</td>
<td>274,950</td>
</tr>
<tr>
<td>Shares sold to ESOP</td>
<td>0</td>
<td>50,000</td>
</tr>
<tr>
<td>Ending Equity</td>
<td>$3,328,450</td>
<td>$3,324,950</td>
</tr>
<tr>
<td>Shares</td>
<td>30,000</td>
<td>30,500</td>
</tr>
<tr>
<td>Book Value</td>
<td>109.95</td>
<td>108.01</td>
</tr>
<tr>
<td>Previous Owners</td>
<td>100%</td>
<td>94.4%</td>
</tr>
<tr>
<td>Previous Owners Share of Equity</td>
<td>$3,298,450</td>
<td>3,271,751</td>
</tr>
</tbody>
</table>

With this basis Triad then extends their analysis for a period of five years. They conclude the company would have additional cash of $132,500 at the end of the fifth year. The cost of this improvement in cash position is a progressively eroding ownership position for the previous owners, reduced earnings, reduced earnings on equity and reduced earnings per share. If the cash flow were increased by having the company make larger contributions to the ESOP, then they conclude the negative effects would take place at a faster pace. However, it should be noted that Triad does not make any allowance for earnings on the increased cash flow. This could possibly tend to offset the negative earnings effect.
Price Waterhouse made a similar analysis of the effect of a nonleveraged ESOP on a publicly owned corporation and they came to a similar conclusion:

A publicly owned corporation will realize a permanent cash infusion equal to the tax deduction obtained from contributing stock to the trust, but that is only roughly half the amount it could theoretically have raised by making a public offering... The dilution effect, plus the charge to earnings for the contributed stock, will be reflected in the company's earnings per share and book value per share - factors which may affect the price at which its shares trade. In evaluating the possible use of an ESOP, the publicly owned company needs to compare these factors with the costs of other types of qualified plans which it might use to furnish retirement or post-employment income to its employees (33, p. 860).

Knight analyzes a nonleveraged ESOP from the corporate entity point of view and then the nonemployee shareholder point of view (20, p. 261). From the corporate entity point of view he concludes the corporation's overall economic position will be enhanced by the tax saving resulting from the noncash deduction it receives from the ESOP stock contribution. But he noted,

... the existing shareholders of the corporation will likely have paid a substantial price for the tax deduction as a result of the dilution of their interest in the corporation which follows from the issuance of new stock for the benefit of the employees who are covered by the ESOP (20, p. 261).

Knight concludes the corporation's "tangible return" from the ESOP contribution is approximately half the fair market value of the stock issued to the trust (the tax savings). And the corporation and its shareholders must determine if
this difference paid to the employees is "money well spent for employee compensation; otherwise, the dilution is unacceptable" (19, p. 328).

Blum analyzes the effect of the nonleveraged ESOP on the original stockholder (3, p. 454). He concludes from the standpoint of the pre-ESOP stockholder that their earnings will be diluted unless the return on the capital raised on the issuance of the ESOT shares exceeds that obtained previously. He illustrates this by assuming that a firm's price/earnings ratio is five to one and one new share sold for five dollars. Then the firm must earn at least one dollar annually with these new funds to avoid any dilution.

Then he reasons,

If other things being equal, the same shares were issued for less than $5, say $2.50, earnings of $1 annually would still have to be generated to avoid dilution. Issuance of stock for its tax benefit as an ESOP contribution would mean issuance at approximately half price (i.e., $2.50) if the combined federal/state/local marginal tax rate were 50% (3, p. 454).

However, this assumes that they are able to sell stock to the public. This may or may not be the case.

Schaumberg looks at this same problem from a slightly different angle. He states,

The net effect is that the company has increased its cash through a reduction in taxes by approximately fifty percent of the 'yo-yo' cash. The price it has paid is an equity dilution per share, which is offset, in part at least, by tax savings and hopefully in increased employee productivity (30, p. 69).
The question of increased employee productivity is indeed a key element in these plans. This aspect will be addressed later in the thesis. However, at this time it should be noted that the question of employee motivation remains unsettled.

**The leveraged ESOP.**—The basic difference between the leveraged ESOP and the nonleveraged ESOP is that in the leveraged ESOP the ESOT borrows money from some lending institution and purchases the employer corporation's securities with the funds. The employer usually guarantees the ESOT's loan and the ESOT normally pledges the acquired securities in case of default. The employer then makes tax deductible contributions to the ESOT that are sufficient to amortize the loan over the agreed upon period. Again the securities that the ESOT acquires can be newly issued or purchased from existing stockholders.

It is safe to say that Kelso was the originator of this type of plan. In fact, it has come to be called the Kelso Plan (10, p. 4). Kelso believes this type of ESOP will provide the firm with increased employee productivity and motivation and will provide cheaper financing for expansion resulting from the tax benefits from ESOP's (17, p. 7). Kelso claims that ESOP financing can lower the cost of financing capital expenditures in the following manner:

The tax savings resulting in an accumulation of funds normally equal to or exceeding half the amount
of the debt repaid (i.e., in a 50% effective corporate income tax bracket, the tax saving would equal half of the debt), which saving will grow in proportion to the company’s rate of return or invested net worth. This comparison is significant, of course, only when comparing with conventional debt financing or other financing from internal cash flow or borrowings repaid from internal cash flow. It does not apply when comparing with the sale of stock to the public for cash, but the latter in recent history is regarded as a very unpopular and expensive method of financing (17, p. 7).

Kelso admits that this may not be a lower cost method of financing in the short run, but he feels it will normally be true in the long run. That is, one should expect a temporary dilution of the equity of existing shareholders at the outset. He says this is due to the fact that both stock and a loan obligation are outstanding. But as the corporation repays its debt in pretax dollars through the trust, funds are accumulated which restore the dilution because of the yield on invested net worth of the tax savings (33, p. 365).

Henley and Gravelle researched several aspects of ESOP’s for Congress in 1975 (10, pp. 9-48). In their research they illustrated how the leveraged ESOP could be used in corporate finance. They used the Santa Fe Railway Company in a simulation. Santa Fe regularly borrows funds from the capital market to finance the purchase of new equipment. In March of 1975 this firm offered fifteen million dollars worth of equipment trust certificates to mature over the next fifteen years at a rate of one million dollars a year with interest rates ranging between 6.25 percent and 8.20 percent. The
researchers substituted a leveraged ESOP by using the above facts on Santa Fe. They came to the following conclusions.

1. The tax benefits for ESOP's under present law would not have been sufficient to make ESOP's attractive from a corporate financing standpoint for Santa Fe if net cost alone were considered. The same would be true of other publicly held corporations where dividend levels are relatively high.

2. The tax benefits make ESOP's attractive as a corporate financing plan where a very low level or no dividends are being paid (10, p. 28).

Henley and Gravelle's research is important in that it uses actual data in order to make a comparison and it establishes how important the level of dividend payments are in making ESOP financing decisions.

E. F. Hutton also has analyzed several aspects of ESOP financing. Their research was done at the request and expense of the United States Railway Association (USRA). (The Regional Railroad reorganization Act of 1973 required the USRA to consider the use of ESOP's for ConRail [34]). E. F. Hutton took the position that ESOP financing was a hybrid of debt and equity. That is, equity securities are sold by employers to the ESOT, but the ESOP financing is not true equity financing. The employer corporation would have fixed payments which would be the same as it would have had under debt financing (33, p. 67). Hutton realistically views the loan as made directly to the corporation because the lending
institution providing the funds to the ESOT looks through the ESOT to the source of the funds (the employer) for the loan repayment (33, p. 67). Thus, in their research, Hutton compared ESOP financing with conventional debt and equity financing. To do this they used a hypothetical corporation assuming the following.

1. An equal amount of money was raised under each method.
2. The proceeds from each of the alternatives have equal earning power.
3. The corporation's contributions to the ESOT are equal to the interest and principal payments on the ESOT loan.
4. The corporation guarantees the trust loan.
5. "t" was the corporation's combined marginal tax rate.
6. No effect was given to greater productivity resulting from the plan.
7. The corporation had access to all three means of financing (33, p. 67).

Their study concludes that under ESOP financing pretax income is reduced by the interest and principal payments on the loan (the contribution). Whereas, the pretax income is only reduced by the interest payment under debt financing and there is no reduction at all to pretax income under equity financing. They say that after tax income is reduced by the amount of the interest and principal payments multiplied by \(1-t\) under the ESOP option. However, net income is reduced by only the interest portion multiplied by \(1-t\) with debt financing.
Under both the ESOP option and the equity option any dividends paid on the corporate stock are not tax deductible.

Hutton's researchers determined that cash flow is reduced by the interest and principal payment times \((1-t)\) and any dividend payments to the newly issued stock under the ESOP option (33, p. 69). Under the debt option, cash flow was reduced by the full amount of the principal payment and \((1-t)\) times the interest payment. Of course, under the equity option cash flow would only be reduced by any dividends paid to the new stock.

Hutton also analyzed how the right-hand side of the balance sheet would be affected. They noted that under the ESOP option the corporation would initially reflect the full amount of the trust's loan as a long term liability and as the ESOT applied their contributions to pay off the loan, the liability would decrease just as it would under the debt option (33, p. 71). This is in agreement with the FASB's exposure draft and the AICPA statement of position on the subject. Under these same rules the shareholders' equity (under the ESOP option) would only show an increase as the loan was paid off. However, the number of shares outstanding would be increased when the ESOT buys the shares and the retained earnings would be decreased when dividends are paid on the ESOP shares. This would also be true, of course, for equity financing.
And lastly, E. F. Hutton says under the ESOP, the earnings per share and the book value of existing shareholders would be diluted by the ratio of the number of shares sold to the ESOP and the total shares outstanding after the sale (33, p. 70). Whereas, there is no dilution in the debt issuance. Hutton's recommendation to the USRA regarding ConRail and the use of ESOP was basically negative due to the above conclusions (33, p. 71).

Kelso made a point by point rebuttal of the E. F. Hutton report to the Joint Economic Committee (33, pp. 297-327). Most of his criticisms dealt with Hutton's assumptions and alleged preconceived notions (especially the assumption that ConRail had all three options available). But Kelso especially attacked the fact that Hutton put such strong emphasis on reported earnings. Kelso stated,

The sophisticated investor is not misled by apparent earnings per share, an academic accounting point upon which E. F. Hutton is resting its case against the ESOP. The experienced lender and corporate stockholder focus their attention instead on corporate disposable earning or after tax cash flow per share (33, p. 308).

Kelso is probably right to a certain extent, but the answer to the problem of what investment criteria is used by the so-called "sophisticated" investor is not at all this clear or simple. In fact, much of the recent research regarding capital asset pricing models and the efficient market hypothesis has been aimed at solving this problem (2; 6). Possibly a more accurate statement would have been the sophisticated investor...
should not be misled. Kelso also disagrees with Hutton's conclusions concerning dilution. He concedes there will be a temporary earnings dilution from the issuance of new stock, but that dilution will be restored by the yield on the investment itself and the future earnings on the ESOP tax savings (33, p. 317).

Reum and Reum analyze leveraged ESOP's in a similar fashion to E. F. Hutton (28, pp. 133-143). That is, they compared a leveraged ESOP to debt and equity financing by using a hypothetical situation where a firm raises one million dollars. Reum's example covered a seven year period. Their conclusions are similar to those in E. F. Hutton's report. In comparing ESOP borrowing to debt financing they find that the ESOP approach results in increased cash flow, but dividend payments could offset this. They also conclude that earnings per share and book value per share would be less with an ESOP than with straight debt. Regarding ESOP's or straight equity financing the Reums state,

If the company wishes to issue new stock, it is more advantageous to issue it directly to third parties rather than to an ESOT. The issuance to third parties results in 100% of the proceeds being added to the permanent capital of the company, whereas sale to a leveraged ESOT results only in the retention of cash that would not have been paid in taxes. The net effect is that, in the case of a 50% taxpayer, the addition to net worth is half that of straight equity issue to third parties (28, p. 139).

Of course, they are assuming that the corporation has the option of issuing stock directly to the public. This may or
may not be a viable alternative. But if it is not, one might argue that if outside third parties aren't interested in the firm's stock, why should they (the employees) want it. The Reum's final conclusion was that ESOP financing could be attractive for corporate divestitures, especially for those with limited profitability and marketability. But large publicly held companies should be very cautious before using ESOP's for financing because of their negative impact on earnings per share and book value per share (28, p. 140).

Lund, Casey and Chamberlain compared a leveraged ESOP against a nonleveraged ESOP coupled with conventional debt (22, pp. 55-61). A hypothetical example was used in which eight million dollars was borrowed over a four year period at a ten percent annual interest rate. They concluded that the leveraged ESOP does not reduce the cost of debt or reduce the cost of equity financing vis-a-vis the nonleveraged ESOP, and there is no real tax advantage compared to the nonleveraged ESOP (22, p. 59). They also point out some other interesting aspects. Their findings show that net income, cash flow, net paid-in capital and retained earnings are the same each year under the two approaches. But the number of shares the corporation contributes (or sells) to the ESOP could be different. The number of shares contributed to the ESOT is determined when the loan is made in the leveraged ESOP. But the number of shares the firm contributes to the nonleveraged ESOP is determined each year. They point out
that for the growing, profitable company, the nonleveraged ESOP will receive fewer shares than the leveraged ESOP because of the expected increase in the market value of their shares (22, p. 59). They also point out that there will be more dividends (if dividends are paid) to the leveraged ESOP since there will be more stock outstanding at the outset (22, p. 59).

**Investment tax credit ESOP.**—At this time there has been less written about the tax credit ESOP than the other two major categories of ESOP's. This is probably due to its relatively recent creation and its somewhat tentative status (24, p. 72). In addition, most of the published articles regarding the investment credit ESOP have been of an explanatory rather than analytical nature. However, various writers have made points worth mentioning.

First, the tax credit ESOP will primarily be attractive to publicly held, capital intensive corporations (14, p. 912). Closely held corporations may not wish to pass voting rights through to participants (36, Section 301 [d][5]). Only those firms with a large investment in qualified property would be likely to benefit from the tax credit ESOP. Lew presents an example to illustrate this point (21, p. 33). First, he shows that if a firm invests one million dollars in qualified property, it would receive an additional $10,000 credit. He then compares the tax benefit ($10,000) the firm would receive
from the additional tax credit to the approximate tax benefit the firm would receive from a profit sharing plan. That is, the firm could deduct its contribution to the trust ($10,000) and receive a $5,000 tax break (assuming a combined marginal tax rate of fifty percent). Thus, Lew concludes "the real economic benefit to the corporation of this additional one percent credit is only $5,000 . . . if it invests a million dollars in qualifying property" (21, p. 33). However, he points out that the one percent extra investment tax credit could be substantial for large capital intensive corporations (21, p. 33).

The second point that is worth noting is that the investment tax credit ESOP does not have the dilution aspects of the straight tax deduction. The tax credit simply reduces the firm's tax liability dollar for dollar. Thus, the cost of these contributions will be born entirely by the government (10, p. 23). Huene sums this up rather nicely when he states,

The investment tax credit ESOP thus amounts to a subsidy from the government, using the corporation as a conduit, to give employees company stock. It can promote benefits to employees at little or no cost to the employer and also provide capital for employer corporations (12, p. 723).

In fact, because there is no deduction charged against income and the credit reduces the income tax bill, it should have a positive effect upon earnings after taxes.
Employee motivation.—Employee motivation has been a key element in the ESOP controversy. In fact, Kelso has written "the massive physical task of building the second economy in most countries rests upon the private enterprise worker; his motivation is critical" (18, p. 83). Supporters of ESOP's claim that one of the basic benefits of ESOP's is increased employee motivation and productivity as they acquire ownership in the firm (10, p. 23). Unfortunately, there seems to be a wide diversity of opinion on this subject.

Saul Gellerman, an employee motivation consultant, made a study of this aspect of ESOP's for USRA (33, pp. 786-797). Gellerman's overall analysis of ESOP's as motivators was negative. His report was 179 pages in length, but his basic conclusions are contained in the following letter to the editor of Business Week:

Corporations . . . may find worthwhile tax and financing advantages [in ESOP's], but they are most unlikely to affect employee motivation or productivity.

The evidence [Gellerman's Report] is that employees tend to be either indifferent or appreciative of an extra benefit, but that aside from reduced turnover, their on-the-job behavior is no different from that of employees without ESOP's. The principal exception reported so far introduced a sophisticated employee communication system simultaneously with the ESOP. But similar systems introduced elsewhere produce similar reductions in absenteeism and increases in suggestions.

Labor productivity per se does not increase under ESOP's. To the extent that more capital becomes available than could otherwise be obtained, the company's productivity may increase. Kelso's argument that workers who own capital are, for that reason, more productive has no basis, in fact, and boils down to little more than a unique form of cost accounting.
There is some evidence that employee stock purchase plans [as distinct from Kelso plans, which in effect make a gift of stock] can produce worthwhile gains in employee productivity, especially when they are matched with sophisticated nonfinancial motivators, such as two-way communication and various forms of job enrichment . . . (9, p. 11).

However, this was not the end to employee motivation controversy. Kelso made a point by point rebuttal to Gellerman's study in hearings held before the Joint Economic Committee (33, pp. 328-348). Kelso contended Gellerman's research was not scholarly or objective and was an attempt to state the negative case regarding ESOP employee motivation (33, p. 329). In order to help back up his rebuttal of Gellerman's research, Kelso brings in Raymond A. Ehrle to analyze Gellerman's report. Dr. Ehrle is the Association Director of New Project Development of Teledyne Development Corporation and a lecturer at George Washington University. In general, Ehrle stated that he agreed with some portions and disagreed with other aspects of Gellerman's report. But he felt that Gellerman erred in his research approach. That is, Gellerman used an analytical approach and looked at all aspects of the problem in a "piecemeal" fashion. Ehrle then concluded,

This is the essential problem with the ESOP concept. In order for most people to understand it, they must break it down into small parts and in so doing, destroy it. People are either able to grasp the totality of the ESOP point of view from a global perspective, or not at all (33, p. 334).

The ongoing ESOP employee motivation controversy will in all likelihood continue until it can be settled by empirical
evidence from existing ESOP's. At this time this evidence
does not exist. Only a few ESOP's have been in existence for
a sufficient period for any reliable data to be gathered and
analyzed.

In fact, empirical research of any kind regarding ESOP's
is indeed a scarce commodity. However, Hobbs made a some-
what limited attempt to research actual ESOP's in 1975 (11).
Finding actual ESOP's that have been in existence long enough
to produce reliable data was his principal limiting factor.
He finally selected three firms and made case studies of
each using a questionnaire with his interview. He researched
them on the basis of company history, size and product, ESOP
history and structure, ESOP features, such as owner benefits
and employee benefits, and employee attitudes (11, p. 7).

In regard to the latter, he concluded that the employees
of the three ESOP studies did not exhibit any significant
sense of being owners. They did believe that their "fringe
benefits" were satisfactory and most were satisfied with
their jobs (11, p. 16). Unfortunately, the scope of the
study was so limited and the results were so uncertain that
it provided little in the way of settling the motivation
controversy.

Macroeconomic issues.--By far more controversy has been
generated by the macroeconomic issues involved in ESOP financ-
ing than any other aspect of the plan. It would be unfair
to state that both sides of these issues can be accurately explained without going into more detail than this thesis intends to cover regarding this aspect. Therefore, the reader is warned that the following is simply what was considered the more important aspects of the issues involved.

The basic concept behind the economic rationale of ESOP's is what Kelso has termed "Two Factor Economics." Kelso explains this concept in depth in his three books (15, 16, 18). He outlines a system in which all citizens own or have the opportunity to own productive capital. ESOP's are used as one of the means devised to accomplish this goal. His economic theories are based upon the following assumptions.

1. Capital, not labor, is the primary source of affluence in an industrial society.

2. Mass production implies mass consumption. That is, it is illogical to build the industrial power to produce goods and services without building the economic power of families and individuals to consume the output.

3. The economic growth rate must be increased by several times the current rate if general affluence is to be achieved. This growth must represent real increases in the economy's power to produce consumer-useful goods and services, not make-work projects.

4. In a market economy the aggregate market value of wealth produced is equal to the aggregate purchasing power created by the process of production (Say's Law). The problem
is one of structuring production in such a way so that it can make a productive input into the economy, entitling it to receive purchasing power equivalent to its productive contribution.

5. All men want to produce the wealth they and their families wish to consume (18, p. 10).

As he describes it there are two basic sources of productive input, labor and capital. This distinction is made to point out that the ownership of labor cannot be concentrated and the ownership of nonhuman things (capital) can easily be concentrated. Kelso feels that an individual is entitled to what his labor and property produce. That is, one's economic input is the basis for his economic share of goods and services produced (33, pp. 145-153). In this regard he places high value upon the principle of private property. He says,

Private property enforces productive responsibility; it establishes orderly, dependable relations between men. The need principle, by contrast, abolishes personal productive responsibility, severs dependable property relationships and provides no mechanism to relate the size of the product to the demand of claimants (18, p. 17).

By the "need principle" Kelso refers to the socialist doctrine of "from each according to his capacity, to each according to his need (18, p. 17).

Next, he asserts that technological innovation changes the proportion of the input mix (labor and capital). As technological innovation increases, it shifts the burden of production off the human factor (labor) and onto the nonhuman
factor (capital). Today it is capital that produces affluence and labor (in a free market) can produce only subsistence.

He points out the relative distribution of aggregate personal income between workers (roughly three fourths) and the owners of capital (roughly one fourth) does not reflect this relatively higher productive input by capital because our governmental economic policy (the Employment Act of 1946) attempts to repeal the law of supply and demand as it applies to the value of labor through minimum wage laws, coercive fixing of wages, governmental make-work programs, governmental subsidies to industry and to other governmental entities, etc. He feels the cost of all such efforts enters into the cost of production either directly or indirectly and is, thus, inflationary. According to Kelso these attempts to overvalue labor constitute the monetaization of welfare.

He feels this shift of the input mix to capital would not create problems for the economy if workers had a means of acquiring the ownership of capital, offsetting their decreased productive power, or better yet, increasing it through some means of acquiring ownership of capital. But Kelso adds that traditional techniques of finance do just the opposite of what is needed; that is, they tend to keep newly formed capital in the hands of existing owners. He asserts that over the past fifteen years about ninety eight percent of all new capital formation in the corporate sector is financed out of direct cash flow or borrowing repaid out of cash flow.
Thus, few new stockholders are created in the process. Kelso then concludes,

The logic of business finance is to invest in productive capital that will pay for itself within a reasonably short space of time . . . , and which then will go on throwing off wealth indefinitely, its productive power being replenished through depreciation funds set aside out of gross income before net income is computed. Two factor financing techniques, of which the most widely used today, is the ESOP, makes this logic available to employees.

ESOP financing . . . provides low cost capital, through the use of pre-corporate-tax funds, to finance corporate growth, and on the other hand, builds ownership into workers without diminishing their take-home pay or calling upon their small or nonexistent savings. Under two factor techniques, means are provided for financing unlimited growth, while building market power, economic security, and growing current second incomes from capital into the masses of workers; thus, the market power of potential consumers rises in step with the productive output of the economy. Inflation is eliminated . . . the burden of public taxes imposes upon producers to support the non-productive and under productive can ultimately be virtually eliminated. Fully productive households and individuals do not need to be subsidized (33, p. 153).

To say the least, Kelso has high expectations for the economic potential of his theories. But the essence of his theory is that increased production depends primarily on increasing the nonhuman factors (capital) of production. And a means needs to be provided that will enable workers to acquire greater ownership of capital. This is to provide them with a second income and enable them to share more directly in the increased output resulting from the increased capital inputs. Also, it is to provide workers with greater incentives and increase their productivity and their interest in the profitability of the firm (1).
For several years most economists dismissed Kelso's theories. Most economists felt that such a radical restructuring of the economy was unrealistic and unworkable (7, p. 60). Keynesian economists in particular have ignored his ideas. Paul Samuelson dismissed Kelso "as an amateur crank" (5, p. 132). However, Samuelson fails to follow up with any rebuttal to Kelso's basic theory except to say economic concepts can't be based on tax loopholes (5, p. 132).

However, with the passage of new laws by Congress which encourage firms to adopt ESOP's, several economists have begun to express interest in Kelso's ideas. Hans Brems, Professor of Economics, University of Illinois, points out that Keynes proposed something similar to the ESOP thirty five years ago, that is a wage earners' investment trust (33, p. 55). Basically, employers would contribute stock to a trust owned by the employees. The trust would distribute certificates to the employees which would be redeemed in cash a specified number of years after their issue.

Brems then analyzes ESOP's in comparison with wage earners' investment trusts. He concluded,

... widespread adoption of ESOT could well accelerate capital formation. But if it does, the same effect could have been produced in non-ESOT ways by liberal federal fiscal and monetary policies.

If it is felt that public policy should in one scoop, both accelerate capital formation and do something about the unequal distribution of wealth, then liberal fiscal and monetary policies could be combined with incentives to set up wage earners' investment funds.
My conclusion is that more diversified funds, funds owning voting stock only and funds more acceptable to their beneficiaries, might be considered. Suprafirm funds, funds extending beyond the individual firm, might do less for labor productivity at the plant floor than ESOT does, but might do more for capital and labor mobility in the economy at large, and thereby ultimately do more for labor productivity at large (33, p. 524).

Gerard Brannon, Professor of Economics, Georgetown University, analyzed the economic implications of ESOP's in relation to capital accumulation and wealth redistribution. He feels the argument for ESOP's is "analogous to the argument for a new vitamin pill. . . . look at the basic diet first before you start popping pills" (33, p. 545). In other words, he feels the problem lies with the basic economic and tax structure and such "vitamins" as investment credits, fast write-offs, capital gain benefits, stock bonus plans and ESOP's do not address the basic problem. He concluded that the tax system should be restructured to encourage savings by middle and low income people. To do this, he feels that a non-regressive sales tax should be substituted for part of our income tax and corporate income tax should be integrated with respect to retained earnings (33, p. 546).

Dr. Robert Hamrin, economist on the staff of the Joint Economic Committee, Congress of the United States, came to a similar conclusion in his report. His report states,

Macroeconomic analysis shows that widespread adoption of ESOP's would: (1) Stimulate capital formation, but that this objective could be achieved by many non-ESOP methods which also lowered the cost of capital, (2) be very likely
to increase inflation, especially as greater economic growth led to conditions approaching full employment, (3) not lead to a surge in consumer demand through their increased incomes since the 'second incomes' from dividends would be quite small for many years, and many workers would not be receiving them, (4) lead to a loss of tax revenues which, though very difficult to estimate, could be very significant (35, p. 5).

However, all professional economists do not agree with this. James Green, Professor of Economics, University of Georgia, is an enthusiastic supporter of Kelso's theories and he can't understand why more economists aren't also. He says most economists today were trained under the economic doctrines of Keynes and that "Keynes basic purpose was to strengthen and preserve a market oriented capitalism with all the individual freedoms inherent in that system" (33, p. 831).

According to Green, Kelso is also trying to make the market system work and work more effectively by strengthening motivations to work by broadening the capital ownership base, reinstating the free market economic philosophy that "compensation received reflects the contribution rendered" and by augmenting stability while promoting growth by balancing purchasing power in the market with productive power in the economy (33, p. 831). In contrast with other economists, Green feels basic economic theory supports Kelso's ideas. In fact, he states,

... Jean Baptiste Say postulated an economic law that 'supply creates its own demand.' Say propounded this law in a simple, mostly barter economy in which economic goods were scarce and
universally desired. Any economic good, being scarce and possessing utility would be demanded by someone with some other goods to trade. With the advent of more highly monetized economies, however, demand did not always equal supply. Money performing its function as a storehouse of value need not be immediately spent for the supply of goods offered.

J. M. Keynes redefined Say's Law in more modern terms. 'Production creates Income.' That is, the creation of a given supply of goods creates for the economy an income precisely equal to the market value of that supply of goods. This means that there is in the economy sufficient income to purchase all goods produced. The problem resolves itself then, to the subsequent distribution of income and its active flow through the markets (33, p. 837).

Green feels that Kelso's system would aid in this distribution problem by broadening the ownership base of capital. He concludes that

Kelso offers this nation a viable alternative to more detailed government regulation and controls. His proposals are economically sound and deserve a thorough analysis and all-out effort to preserve and enhance the market-oriented, democratically based enterprising system (33, p. 845).

There are many divergent views about the macroeconomic implications of ESOP's. Like so many other aspects of ESOP's, time and much more research will be needed to provide more definite answers to the many questions that have been raised.
CHAPTER BIBLIOGRAPHY


CHAPTER III

RESEARCH APPROACH

The research approach used in this study was to simulate the effects of different types of ESOP's on publicly held corporations. Nonleveraged, leveraged and the investment tax credit ESOP were simulated or "superimposed" on actual firms. To make the simulated data more comparable, a qualified pension plan of the same size was also "superimposed" on each firm. That is, a pension plan the same size as each of the three types of ESOP's was simulated so that employee benefits would be on a more comparable basis. This was done regardless of whether or not the firm had an existing pension plan. The resulting simulated data was analyzed and compared in order to more completely understand how it affected large publicly held firms.

COMPUSTAT's industrial files were chosen as the data source for a variety of reasons. The service provided extensive financial information on several thousand industrial firms. Information was available (in most cases) for the last twenty years. COMPUSTAT lent itself uniquely in simulating effects of certain financial structures.

All firms listed on COMPUSTAT's industrial files were screened for final selection. The screening process eliminated
firms in which necessary information was not available. The initial screening process eliminated all but 275 firms. After the initial screening 114 firms were selected on the basis of earnings. That is, each firm was tested to see if it had sufficient earnings to absorb the types of ESOP's that were used. The choice of the firms used was admittedly very selective. However, the sample of firms used is not insignificant. As it turned out, many of the largest firms in the United States were included in the sample (see Appendix A).

The selected firms were divided into two groups based on the level of dividends paid. This grouping was made in order to determine how sensitive the various forms of ESOP financing were to a slight variation in dividend policy. This grouping was accomplished by computing each firm's percentage of dividends to earnings. The firms then were arrayed according to percent of earnings paid out in dividends. From this ranking the median was chosen and all those firms on the lower side of the median were classified as the "lower dividend group" and those above the median were classified as the "higher dividend group." The median is particularly useful in this case where a few extreme values might distort the mean. The study was not trying to identify the firm's dividend policy. It was simply trying to rank the firms based on dividend payment so that the effect of ESOP financing could be contrasted against two groups of firms, one with a higher dividend payment than the other.
After the firms were divided into these two categories the three types of ESOP's along with an equivalent pension plan were simulated on each firm for the years 1965 to 1974 inclusive. The mean value of each relevant factor for the simulated firms and actual firms was computed and analyzed. The relevant factors considered were

1. The effect on earnings before taxes,
2. The effect on income taxes,
3. The effect on net income,
4. The effect on earning per share,
5. The effect on cash flow,
6. The effect on book value per share,
7. The effect on percent of debt to total assets,
8. The average number of shares issued to the ESOT,
9. The value of the stock that the average employee acquires,
10. The value of stock plus dividends that the average employee receives and

11. The percent of ESOT ownership of total common stock.

The first seven of these factors are aimed primarily at studying the firm's financial well-being. The last four are primarily to study just how significant the ESOP benefits might appear to employees. Existing shareholders should especially be interested in factors four, six and eleven.
As explained in Chapter II there are basically two ways a firm can use a nonleveraged ESOP. The ESOT can acquire employer stock through annual stock contributions by the employer corporation, or the employer corporation can make cash contributions to the ESOT and the ESOT then purchases existing stock from shareholders. This thesis uses the former. The general plan used in this thesis is

1. The firm creates a trust (ESOT),

2. The firm makes a stock contribution to the ESOT each year equal to approximately fifteen percent of its payroll and

3. The firm takes a tax deduction for the fair market value of the stock contributed to the trust.

The stock contribution was assumed to be made on the last day of each tax year. This way the firm will not have any dividend responsibilities to the ESOT the first year, but it will be able to deduct the value of the stock contribution to the ESOT. The actual years that were used in the nonleveraged model were 1965 through 1974 (1975 was not used because of the lack of data in some cases).

The Nonleveraged Master Flow Chart (Chart 1) shows how the overall program runs. The program performs the various steps on the data of each firm selected year by year. Each lettered block in the master flow chart represents the computation of one or more of the eleven relevant factors. These are as follows.
Block A - The effect on earnings before taxes.
Block B - The effect on income taxes.
Block C - The effect on net income.
Block D - The effect on earnings per share and the percent of ESOP ownership of total common stock.
Block E - The effect on book value per share.
Block F - The effect on cash flow.
Block G - The average number of shares issued to the ESOT, the value of the stock that the average employee acquires, and the value of the stock plus dividends that the average employee receives.

Block H - The effect on the percent of total debt to total assets.

Chart 1.—Nonleveraged ESOP flow chart
Effect on earnings before taxes.--The nonleveraged ESOP affects a firm's "earnings before taxes" in two ways. First, the firm's stock contribution to the ESOT is charged against earnings. Second, the amount of investable funds available to the firm will be changed. The firm will have the opportunity to earn more if the change is positive or the firm's earning base will be eroded if the change is negative. The change in funds available to the firm comes from three potential sources.

1. The cumulative tax savings resulting from the stock contribution to the trust tend to increase the funds available to the firm.

2. The cumulative dividends paid to the new shares of stock issued to the ESOT tend to decrease the funds available.

3. The cumulative net earnings on the "new" funds available will tend to increase the funds available to the firm. This will be true only if the cumulative tax savings exceed the cumulative dividends paid to the new shares issued to the ESOT. If the dividends exceed tax savings, a decrease in funds available would occur and the cumulative net earnings on the decrease in funds available would result in even more decreased funds available.

The research model used in this thesis used these three factors in computing the "change in funds available" which in turn are used to compute "earnings before taxes."
The detailed analysis of the effect of the nonleveraged ESOP is presented in Chart 2. Simulated earnings before tax (with the ESOP) are computed in block AH by adding the reported earnings before tax (without the ESOP) to the change in funds available due to the ESOP (AE), and subtracting the value of the ESOP contribution (AG). The value of the ESOP stock contribution (block AG) was computed by multiplying the firm's labor and related expenses (less their pension and retirement expense) by fifteen percent and then multiplying this product by eighty percent. The maximum deduction allowed by law for the ESOP stock contribution is fifteen percent of the firm's covered compensation. Covered compensation is basically the compensation earned by the covered employees during the year. It would be reasonable to assume that something less than one hundred percent of the firm's current compensation would be used as the base of this compensation. But it would also be reasonable to assume that something more than seventy percent of the current compensation would be used as the base of the fifteen percent calculation. One of the relevant rules that should be considered states that if seventy percent of all employees participate in the plan, the plan will be considered for the exclusive benefit of the employees (2, Section 401 [a]). The plan must be considered for the exclusive benefit of the employees to be a qualified plan. Thus, the eighty percent reduction is somewhat arbitrary, but it falls within the narrow limits set by law.
AA = Prior dividends paid to ESOP shares.
AB = Dividends paid to ESOP shares this year.

DPS = Dividends per share.
DC = Adjusted number of shares contributed to the ESOT (Adjusted for the change in number of shares outstanding - to be explained later.) times dividends per share.

AC = Change in funds available due to the ESOP.
BB = Cumulative tax savings resulting from the ESOP stock contribution (explained later).
AF = Cumulative change in earnings resulting from the change in funds available due to the ESOP.
BD = Cumulative income tax resulting from the change in earnings resulting from the change in funds available due to the ESOP (explained later).

AD = Earning power.

AE = Change in earnings resulting from the change in funds available due to the ESOP.

AF = Cumulative change in earnings resulting from the change in funds available due to the ESOP.

AG = Value of the ESOP stock contribution.
LE = Labor and related expense.
PRE = Pension and retirement expense.

AH = Simulated earnings before tax (with the ESOP).

EBT = Reported earnings before tax.

Chart 2.--Nonleveraged ESOP - effect on earnings before taxes
The change in earnings resulting from the change in funds available due to the ESOP is computed in block AE by multiplying the change in funds available due to the ESOP (AC) by the corporation's earning power (AD). The firm's earning power is computed by dividing the firm's total assets into the firm's earnings before interest and taxes. It is realized that an increase in employee motivation might increase the firm's productivity and, consequently, its earning power. However, due to the lack of any conclusive evidence that this, in fact, would be the case, it was assumed that the firm with the ESOP would have the same earning power it had without the ESOP. The change in funds available due to the ESOP is computed in block AC by adding the cumulative tax savings resulting from the change in funds available due to the ESOP (BB) to the cumulative change in earnings resulting from the change in funds available (AF) and subtracting the cumulative income tax resulting from the change in funds available due to the ESOP (BD), (BB and BD are explained later) the prior dividends paid to the ESOP shares (AA) and one half of the dividends paid to the ESOP this year (AB \div 2). Note that AF minus BD equals the cumulative net change in earnings resulting from the change in funds available due to the ESOP. Dividends are assumed to be paid quarterly, thus, the firm would have the use of these funds (AB) on the average of one half of the year. Since the model assumes the ESOP stock contribution was made on the last day of the tax year,
the only thing that will effect earnings before taxes in the first year (1965) will be the value of the ESOP stock contribution. That is, the value of the stock contribution will simply decrease earnings per share. Note in Chart 2 that prior dividends paid to ESOP shares (AA), dividends paid to ESOP shares this year (AB), the change in funds available due to the ESOP (AC), the change in earnings resulting from the change in funds available due to the ESOP (AE) and the cumulative change in earnings resulting from the change in funds available due to the ESOP (AF) are all zero in the first year (1965).

**Effect on income taxes.**—The nonleveraged ESOP will tend to affect the corporation's income tax in two ways. First, the firm's income tax will be reduced by the fair market value of the ESOP stock contribution times the firm's combined marginal tax rate. This, in effect, will be the firm's tax savings. This is computed in block BA of Chart 3 by multiplying the firm's combined marginal tax rate times the value of the ESOP stock contribution (AB). The combined marginal rate was computed by adding the federal corporate marginal tax rate (forty eight percent) and one half of the assumed corporate state marginal income tax rate. The assumed corporate state marginal rate was computed by taking the average of the marginal income tax rates for ten of the largest industrialized states. The states used included New York, New
BA - Tax savings resulting from the ESOP stock contribution.
AG - Value of the ESOP stock contribution.

BB - Cumulative tax savings resulting from the ESOP stock contribution.

BC - Income tax resulting from the change in earnings resulting from the change in funds due to the ESOP.

AE - Change in earnings resulting from the change in funds available due to the ESOP.

BD - Cumulative income tax resulting from the change in earnings resulting from the change in funds available due to the ESOP.

BE - Simulated income taxes (with the nonleveraged ESOP).

IT - Reported income taxes.

Chart 3.--Nonleveraged ESOP - effect on income taxes

Jersey, California, Delaware, Maryland, Pennsylvania, Ohio Michigan, Illinois and Texas. This rate turned out to be just over six percent. The assumed state marginal rate was divided by two because state taxes are deductible in computing federal income taxes. For all practical purposes the marginal state rates would be reduced by approximately one half. Thus, the combined marginal tax rate used was fifty one percent (forty eight percent federal and three percent state). The combined marginal rate is appropriate because the effect of
the marginal tax rate will be a prime factor in the decision of whether to have an ESOP or not. For decision making purposes it is usually the marginal tax rate that is considered. This is well stated in a popular tax textbook.

...it is the marginal rate that determines how intelligent taxpayers act in many circumstances. In an important sense, the marginal rate is to business what the law of gravity is to physics: tax bases tend to seek their lowest level just as water does (3, p. 3/5).

Second, the firm's simulated income taxes (with the ESOP) will be changed by the income tax resulting from the change in earnings resulting from the change in funds available. If those earnings are positive, the tax will be increased and if these earnings are negative, the tax will be decreased. Note that since the ESOP stock contribution was assumed to be on the last day of the tax year, there was no change in funds available due to the ESOP which results in zero income tax resulting from the change in earnings from the change in funds due to the ESOP (BC) for the first year (1965).

**Effect on net income.**—Simulated net income is computed in Chart 4, block CA by simply subtracting the simulated income taxes with the nonleveraged ESOP (BE) from the simulated net income with the nonleveraged ESOP (AH).

![Diagram](chart_4.png)

**CA** = **AH** - **BE**

- **CA** - Simulated net income.
- **AH** - Simulated earnings before tax.
- **BE** - Simulated income taxes.

Chart 4.—Nonleveraged ESOP - effect on net income
Effect on earnings per share and percent of ESOP ownership of common.—Simulated earnings per share (with the nonleveraged ESOP) were calculated in block DE, Chart 5, by dividing the simulated net income (CA) by the simulated number of shares outstanding (DD) adjusted for the number of current shares outstanding. This (DD) was computed by adding the cumulative number of shares held by the ESOP (DB) to the reported common shares outstanding. The number of shares contributed to the

\[
\begin{align*}
DA &= AG \div \text{CP} \\
DB &= DA + DB \\
DC &= DB \times \left( \frac{OAF \div CAF}{DB} \right) \\
DD &= SO + DB \\
DE &= CA \div \left( DD \times CAF \right) \\
DG &= DB \div DD
\end{align*}
\]

- DA - Number of shares contributed to the ESOP this year.
- AG - Value of the ESOP contribution.
- CP - Closing price of a share of common stock.
- DB - Cumulative number of shares contributed to the ESOT.
- DC - Adjusted number of shares contributed to the ESOT (adjusted for current shares outstanding).
- OAF - Adjustment factor for 1965 (the adjustment factor at the beginning of the ESOP).
- CAF - Adjustment factor (cumulative) for current shares outstanding.
- DD - Simulated number of shares outstanding.
- SO - Common shares outstanding.
- DE - Simulated earnings per share (with the nonleveraged ESOP).
- CA - Simulated net income.
- DG - Percent of ESOP ownership of common stock.

Chart 5.—Nonleveraged ESOP - earnings per share and percent of ESOP ownership of common.
ESOP this year (DA) was computed by dividing the closing price of a share of common stock into the value of the ESOP contribution (AG). Note, block DC in Chart 5. This is the adjusted number of shares contributed to the ESOP (adjusted for current shares outstanding). It is used later on in the program and will be explained at that time.

The percent of the ESOP ownership of common stock (DG) was computed by dividing the cumulative number of shares contributed to the ESOT (DB) by the simulated number of shares outstanding with the nonleveraged ESOP (DD). It was not necessary to adjust this figure for current shares outstanding because both DG and DD would have the same rights to future stock issues, dividends and splits.

Effect on book value per share.—The nonleveraged ESOP effects book value per share in two ways. First, the numerator of the calculation, simulated common stock equity (block EA in Chart 6) is changed in the following ways.

1. The cumulative tax savings resulting from the ESOP stock contribution (BB) tends to increase common stock equity.

2. The cumulative change in earnings resulting from the change in funds available due to the ESOP (AF) tends to increase common stock equity (if these earnings are positive).

3. The cumulative income tax resulting from the change in earnings resulting from the change in funds available due
EA = RCE + BB + AF - (AA + AB)

EB = EA / (DD x CAF)

EC = RCE / (SO x CAF)

EA - Simulated common equity (with the ESOP).
RCE - Reported common equity.
BB - Cumulative tax savings resulting from the ESOP stock contribution.
AF - Cumulative change in earnings resulting from the change in funds available due to the ESOP.
BD - Cumulative income tax resulting from the change in earnings resulting from the change in funds available due to the ESOP.
AA - Prior dividends paid to ESOP shares.
AB - Dividends paid to ESOP shares this year.

EB - Simulated book value per share (with the ESOP).
DD - Simulated number of shares outstanding (with the ESOP).
CAF - Adjustment factor for current shares outstanding.

EC - Book value per share (as reported).
SO - Common shares outstanding.

Chart 6.--Nonleveraged ESOP - book value per share

to the ESOP (BD) tends to decrease common stock equity (if these earnings that the tax is based on are positive).

4. The cumulative dividends paid to the ESOP shares tend to reduce common stock equity (AA + AB).

Second, the denominator of the calculation simulated number of shares outstanding (DD) is computed adding the actual number of shares outstanding to the cumulative number of shares contributed to the ESOT (See Chart 5). In the actual
calculation (block EB, Chart 6) the denominator of the
calculation is also adjusted for current shares outstanding.

**Effect on cash flow.**—Due to limitations of the data
available, it was impossible to obtain a true picture of the
actual cash flow. Therefore, an "abbreviated" cash flow was
used. The "abbreviated" cash flow was computed by the follow-
ing formula.

\[
\text{Net income} + \text{Depreciation and Amortization} + \\
\text{Deferred taxes} - \text{Extraordinary items (net of taxes)} - \text{Preferred dividends} - \text{Common dividends}
\]

It is realized that the above does not necessarily reflect
actual cash flow, but on a comparative basis (with ESOP versus
without ESOP) it serves the purpose that was intended. That
is, to illustrate the effect that the ESOP has on cash flow
or its close equivalent—working capital.

A nonleveraged ESOP will affect cash flow or working
capital in four ways (see block FB, Chart 7).

1. The tax savings resulting from the ESOP stock contri-
bution (BA) will tend to increase cash flow.

2. The change in earnings resulting from the change in
funds available due to the ESOP (AE) will tend to increase
cash flow (if these earnings are positive).

3. The income tax resulting from the change in earnings
resulting from the change in funds due to the ESOP (BC) will
tend to decrease cash flow (if these earnings are positive).
FA = (NI + D&A + DT) - (EI + PD + CDS)

FB = FA + BA + AE - BC - AB

FA - "Abbreviated" cash flow (reported).
NI - Net income.
D&A - Depreciation and amortization.
DT - Deferred taxes.
EI - Extraordinary Items (net of taxes).
PD - Preferred dividends.
CDS - Common dividends

FB - Simulated "abbreviated" cash flow (with ESOP).
BA - Tax savings resulting from the ESOP stock contribution.
AE - Change in earnings resulting from the change in funds available due to the ESOP.
BC - Income tax resulting from the change in earnings resulting from the change in funds due to the ESOP.
AB - Dividends paid to the ESOP shares this year.

Chart 7.—Nonleveraged ESOP - Abbreviated cash flow

4. The dividends paid to the ESOP shares each year will tend to decrease cash flow (AB).

As shown, by connecting the various charts the model is set up so that the only item affecting cash flow in the first year is the tax savings resulting from the ESOP stock contributions. This is so because the ESOP was set up on the last day of year one. For all other years all four factors have an effect on "abbreviated" cash flow in the model.

Average number of shares per employee and the value of stock and dividends per employee.— The average number of shares
issued per employee (block GA, Chart 8) was computed by dividing the estimated number of employees participating in the plan (eighty percent of total employees) into the adjusted number of shares contributed to the ESOT (DC). The adjusted number of shares contributed to the ESOT is computed in block DC, Chart 5. This (DC) was computed by multiplying the cumulative number of shares contributed to the ESOT (DB) by an adjustment factor derived by dividing the current cumulative adjustment factor (CAF) into the original adjustment factor at the beginning of the plan. The original adjustment factor was the factor used in 1965. For example, in 1965, the factor may have been two. Thus, the adjustment factor used in DC would have been one \(2 \div 2\) and it would have had no effect on the average number of shares issued per employee (GA). But let's say in 1966 there was a stock split and the cumulative adjustment factor now becomes one. Then the adjustment factor used in DC would be two \(4 \div 2\) and it would double the average number of shares issued per employee (as it should to show the effect of the split on the ESOT shares).

The value of stock that the average employee acquires is computed in block GB (Chart 8) by multiplying the average number of shares issued per employee (GA) by the closing price of common stock each year. The value of the stock plus dividends that the average employee receives is computed in block GD by adding the value of the stock that the average employee acquires (GB) and the amount of the dividend payments to each
GA = DC \div (.8 \times EM)

GB = BA \times CP

GC = (AA + AB) \div (.8 \times EM)

GD = GB + GC

GA - Average number of shares issued per employee.
DC - Adjusted number of shares contributed to the ESOT (adjusted for current shares outstanding).
EM - Employees.
GB - Value of stock that the average employee acquires.
CP - Closing price of common stock.
GC - Amount of the dividend payment to each employee.
AA - Prior dividends paid to ESOP shares.
AB - Dividends paid to ESOP shares this year.
GD - Value of the stock plus dividends that the average employee receives.

Chart 8.--Nonleveraged ESOP - average number of shares per employee and value of stock and dividends per employee.

employee (GC). Again, the estimated number of employees participating in the plan was assumed to be eighty percent of the total employees.

Effect on debt to asset ratio.--The simulated debt to asset ratio (with the ESOP) was computed in block HB (Chart 9) by dividing the firm's total liabilities by the firm's simulated total assets with the nonleveraged ESOP (HA). In the nonleveraged ESOP the firm's simulated total assets (HA) were computed by changing the reported total assets (TA) in the following ways.
HA = TA + BB - (AA + AB) + (AF - BD)

HA - Simulated total assets (with nonleveraged ESOP).
TA - Reported total assets.
BB - Cumulated tax savings resulting from the ESOP stock contribution.
AA - Prior dividends paid to the ESOP shares.
AB - Dividends paid to ESOP shares this year.
AF - Cumulative change in earnings resulting from the change in funds available due to the ESOP.
BD - Cumulative income tax resulting from the changes in funds available due to the ESOP.

HB = TL / HA

HB - Simulated debt to asset ratio (with the ESOP).
TL - Total liabilities.

Chart 9.--Nonleveraged ESOP - debt to asset ratio

1. The cumulative tax savings resulting from the ESOP stock contribution (BB) tend to increase total assets.
2. The cumulative total dividends paid to the ESOP shares (AA + AB) tend to decrease total assets.
3. The net cumulative change in earnings resulting from the change in funds available due to the ESOP (AF - BD) tends to increase total assets (if those earnings are positive).

The Leveraged ESOP

The leveraged ESOP used in this thesis was designed as follows.

1. The firm creates the ESOT (trust) qualified under Sections 401 (a) and 501 (a) of the Internal Revenue Code.
2. The ESOT borrows a fixed amount of funds from a lending institution with the employer corporation guaranteeing the loan. The amount is determined by each firm's ability to amortize the loan over the ten year period of the study. (This is explained in detail in the program explanation.)

3. The ESOT buys common stock from the employer corporation with the loan proceeds.

4. The employer corporation makes annual cash contributions to the ESOT in order to amortize the loan.

The ESOT is assumed to borrow the funds on the first day of the first year (1965) and purchase the stock on that same day. The employer corporation is assumed to make each of its annual cash contributions to the ESOT on the first day of each year (starting in the second year). The study could have assumed that the annual contribution made to the trust was on the last day of the year as it did with the nonleveraged ESOP. However, the intent was to arrange the ESOP so as to give maximum benefits to the firm. Thus, here it is assumed that the first payment on the loan falls due exactly one year from the loan date. The time period for the leveraged ESOP was the same as it was for the nonleveraged ESOP, i.e., 1965 through 1974.

Chart 10 shows how the overall program runs. The program performs the various steps on each firm selected in a year by year fashion similar to the nonleveraged program. Except for block A each lettered block in Chart 10 represents the computation
of one or more of the eleven relevant factors. These are as follows.

Block A - In general block A computed those items that needed to be computed at the beginning of the plan and for various reasons remain constant throughout the program or were only used once in the program.

Block B - The effect on earnings before taxes.

Block C - The effect on income taxes.

Block D - The effect on net income and earnings per share.

Block E - The effect on book value per share.

Block F - The effect on cash flow.
Block G - The average number of shares issued per employee, the value of the stock that the average employee acquires, the value of the stock plus dividends that the average employee acquires, the percent of ESOP ownership of common stock.

Block H - The effect on total debt to total assets.

Chart 11 (Block A in Chart 10) computes items that needed to be computed at the beginning of the plan and for various reasons remained constant throughout the program or were only used once in the program. First, the determination of the price of stock is made when the ESOT buys the stock. In this case, this happened on the first day of the first year (1965). The closest data available pertaining to the market price of stock was the closing price of stock on the last day of the previous year, 1964 (AA in Chart 11).

The annual cash contribution made to the ESOP (AB) was determined by subtracting the pension and retirement expense from the labor and related expense and multiplying the result by fifteen percent. This would be the maximum amount allowed by law (2, Section 404 [a]). This amount was not reduced as it was in the nonleveraged ESOP. The reason for this is that the nonleveraged ESOP stock contribution was computed each year. The leveraged ESOP's cash contribution was computed when the loan was made and it could reasonably be assumed that the compensation earned by the covered employees during each of the succeeding years will grow enough so that the cash contribution will fall within the fifteen percent limit. The tax saving
Year = 1964

AA = CP64

Year = Year + 1

AB = .15 x (LE - PE)

AC = .51 x AB

AD = 6.71 x AB

AE = AD

AF = AD

AG = AD / AA

AH = CAF65

AI = AG

AA - Price of the stock that the ESOP buys.
CP64 - Closing price of common stock in 1964.

AB - Annual cash contribution made to the ESOP in order to amortize the loan.
LE - Labor and related expense.
PE - Pension and retirement expense.

AC - Tax savings resulting from cash contribution made to the ESOP.

AD - Funds from ESOP stock sale *(amount of the loan).
6.71 - Present value factor for a 10 year 8% loan.

AE - Trust debt *(amount of the loan).

AF - Trust loan *(amount of the loan).

AG - Number of shares issued to the ESOT.

AH - Adjustment factor at the beginning of the ESOP (for current shares outstanding).
CAF65 - Cumulative adjustment factor for 1965.

AI - Adjusted number of shares held by the ESOT.

* This amount is needed three different times in the program.

Chart 11.
resulting from the cash contribution made to the ESOP (AC) was computed in the same manner it was in the nonleveraged ESOP, except in this case the tax savings will be the same amount each year because of the fixed cash contribution to the ESOP.

The funds from the ESOP stock sale (AD) is the amount the corporation receives from selling its stock to the ESOP. It was computed by multiplying the annual cash contribution made to the ESOP by 6.71. The 6.71 comes from a present value of a one dollar annuity table. It is the factor used to compute the present value of an annuity of one dollar at eight percent for ten years. Thus, the thesis assumes that the ESOT is able to borrow fifteen percent of the employer corporation's current compensation times 6.71 for a period of ten years at an eight percent interest rate. Following this reasoning the employer corporation will make cash contributions (within its fifteen percent limit) to the ESOT to amortize the eight percent loan over a period of ten years. The trust debt (AE) and the trust loan (AF) are simply places to store this amount (AD) because they are needed later in the program.

The number of shares issued to the ESOT (AG) was determined by dividing the funds received from the ESOP stock sale (AD) by the closing price of stock on the last day of 1964 (AA). This remains constant throughout the program. The adjustment factor at the beginning of the ESOP (AA) is stored here for the same purpose it was in the nonleveraged ESOP program.
adjusted number of shares held by the ESOT (AI) will be used later in the program and explained at that time.

**Earnings before taxes.** The leveraged ESOP affects the firm's earning before taxes in basically the same way that a nonleveraged ESOP does. The firm's annual cash contribution made to the ESOP (versus the stock contribution for the nonleveraged ESOP) is charged against earnings. Also, the earnings resulting from the change in funds available will affect the firm's earning before taxes. The firm will have the opportunity to earn on the funds from the ESOP stock sale (amount of the trust loan), the cumulative tax saving resulting from the cash contribution to the ESOT and the cumulative earnings resulting from the change in funds available due to the ESOP. However, these "extra" funds will be reduced by the cumulative dividends paid to the new shares of stock issued to the ESOT, the cumulative cash contribution made to the ESOP and the cumulative tax on the earnings resulting from the change in funds available due to the ESOP. The research model used in this thesis uses all of the above factors in computing earnings before taxes.

The detailed analysis of the effect of the leveraged ESOP is presented in Chart 12. Simulated earnings before taxes with the ESOP are computed in block BH by adding the earnings resulting from the change in funds available due to the ESOP (BE) and subtracting the annual cash contribution made to the ESOP (AB) from the reported earnings before taxes. The earnings
Chart 12.—Leveraged ESOP - effect on earnings before taxes

BA - Dividends paid to the ESOP this year.
DPA - Dividends per share.
AI - Adjusted number of shares held by the ESOP.
BB - Change in funds available due to the ESOP.
AD - Funds from ESOP stock sale (amount of loan).
BG - Cumulative tax savings resulting from the cash contribution to the ESOT.
CB - Cumulative tax on the earnings resulting from the change in funds available to the ESOP.
BJ - Cumulative cash contribution made to the ESOP.
BC - Earning power.
EBIT - Earnings before interest and taxes.
TA - Total assets.
BD - Cumulative dividends paid to the ESOT shares.
BE - Earnings resulting from the change in funds available due to the ESOP.
BF - Cumulative earnings resulting from the change in funds available due to the ESOP.
AC - Tax savings resulting from the cash contribution made to the ESOP.
resulting from the change in funds available due to the ESOP are computed in block BE by multiplying the change in funds available due to the ESOP (BB) by the firm's earning power (BC). The firm's earning power was computed in the same manner as it was in the nonleveraged ESOP program. The change in funds available due to the ESOP is computed in block BB by adding the funds from the ESOP stock sale (AD), the cumulative tax savings resulting from the cash contribution (BG) and the net cumulative earnings resulting from the change in funds available (BF - CB). From this, one half the dividends paid to the ESOP this year, the cumulative dividends paid to the ESOP shares (BD) and the cumulative cash contribution made to the ESOP (BJ) were subtracted. Note, at the point of the calculation in the program that the cumulative dividends paid to the ESOT shares are actually prior dividends paid in earlier years and that in the first year (1965), the cumulative cash contribution is zero since it was assumed that the cash contributions are made on the first day of each year. Thus, the first payment...
would not be due until the first day of 1966. Also, note that dividends paid to the ESOP this year were divided by two in computing the change in funds available for the same reason they were in the nonleveraged program. Dividends paid to the ESOP this year are computed in block BA by multiplying the dividends per share by the adjusted number of shares held by the ESOT. In year one (1965) the adjusted number of shares held by the ESOT is equal to the number of shares issued to the ESOT (AG, Chart 11). In future years this item (AI) is adjusted for changes in the number of shares outstanding.

**Effect on income taxes.**—The leveraged ESOP affects income taxes much like the nonleveraged ESOP. The tax savings resulting from the cash contribution (AC) will reduce the simulated income taxes (CC, Chart 13) and the taxes on the earnings

![Diagram](chart)

<table>
<thead>
<tr>
<th>C</th>
<th>CA = (0.51 \times) BE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA</td>
<td>Taxes on earnings resulting from the change in funds available due to the ESOP.</td>
</tr>
<tr>
<td>BE</td>
<td>Earnings resulting from the change in funds available due to the ESOP.</td>
</tr>
<tr>
<td>CB = CA + CB</td>
<td>CB - Cumulative taxes on earnings resulting from the change in funds available due to the ESOP.</td>
</tr>
<tr>
<td>CC = IT + CA - AC</td>
<td>CC - Simulated income taxes (with the ESOP).</td>
</tr>
<tr>
<td>AC</td>
<td>Tax savings resulting from the cash contribution made to the ESOP.</td>
</tr>
<tr>
<td>IT</td>
<td>Reported income taxes (without the ESOP).</td>
</tr>
</tbody>
</table>

Chart 13.—Leveraged ESOP — effect on income taxes
resulting from the change in funds available (CA) will tend to increase them. The taxes on earnings resulting from the change in funds available due to the ESOP are computed in block CA by multiplying the assumed combined marginal tax rate (fifty one percent) by the earnings resulting from the change in funds available.

Effect on net income and earnings per share.--Simulated net income with the leveraged ESOP is computed in block DA of Chart 14 by subtracting the simulated income taxes (CC) from the simulated earnings before taxes (BH). Simulated earnings per share were computed in block DD by dividing the simulated number of current shares outstanding (DC) into the simulated net income (DA). The simulated number of shares outstanding

\[
\begin{align*}
D & = DA \\
DA & = BH - CC \\
DC & = SO + AG \\
DD & = DA \div (DC \times CAF)
\end{align*}
\]

DA - Simulated net income.
BH - Simulated earnings before taxes.
CC - Simulated income taxes.
DC - Simulated number of shares outstanding.
SO - Common shares outstanding.
AG - Number of shares issued to the ESOP.
DD - Simulated earnings per share.
CAF - Adjustment factor (for current shares outstanding).

Chart 14.--Leveraged ESOP - effect on net income and earnings per share.
(DC) were computed by adding the number of shares issued to the ESOT to the common shares outstanding (SO).

**Effect on book value per share.**—The computation for the simulated book value per share with the leveraged ESOP (EF, Chart 15) is like its counterpart in the nonleveraged program (simulated common equity [EE] divided by the simulated number of shares outstanding [DC] adjusted for current stock outstanding). But the computation for simulated common equity with the leveraged ESOP is very different from the way common equity was derived with a nonleveraged ESOP. The principle reason for this difference is the way the accounting profession is proposing to account for leveraged ESOP's. The basic provisions for accounting for this type of ESOP are as follows.

1. Employer guarantees of ESOP debt should be reported as a liability on the statement of financial position.
2. The offsetting amount should be deducted from the stockholders' equity.
3. This amount should be reduced only as the stock ownership plan makes payments to retire the debt.
4. The amount charged to expense should be the amount contributed to the stock ownership plan.
5. Employers should treat all shares held by the plan as outstanding when making earnings-per-share calculation (1).

In other words, the employer corporation shows the ESOT's debt as their debt (the corporation's) and their equity only increases as the trust pays off its debt. Therefore, simulated
EA = NI - DA

EB = EA + EB

EC = AB - (.08 x AE)

ED = EC + ED

EE = RCE + ED - EB - BD

EF = EE ÷ (DC \times CAF)

EG = RCE ÷ (SO \times CAF)

EA - Change in earning after tax (Between the ESOP and non-ESOP).
NI - Net income (without the ESOP).
DA - Simulated net income (with the ESOP).
EB - Cumulative change in earnings after tax.
EC - Principal payment on the ESOP loan.
.08 - 8% loan.
AB - Annual cash contribution made to the ESOP.
AE - Trust debt.
ED - Cumulative principal payment.
EE - Simulated common equity (with the ESOP).
RCE - Reported common equity (without the ESOP).
BD - Cumulative dividends paid to ESOP shares.
EF - Simulated book value per share (with the ESOP).
DC - Simulated number of shares outstanding.
CAF - Cumulative adjustment factor for current stock outstanding.
EG - Reported book value per share (without the ESOP and adjusted for stock dividends and splits).
SO - Common shares outstanding.

Chart 15.—Leveraged ESOP - effect on book value

common equity with a leveraged ESOP (EE, Chart 15) was computed by adding the cumulative principal payment (ED) to the reported common equity. From this figure the cumulative change in earnings (EB) and the cumulative dividends paid to
the ESOP shares (BD) were subtracted. The principal payment on the ESOP loan (EC) was computed by multiplying the trust's debt (AE) by eight percent and then subtracting this from the annual cash contribution made to the ESOP. (The trust debt [AE] is recomputed later in the program to reflect the decrease in principal.)

Effect on cash flow.—The same data limitations that applied to the nonleveraged program also apply to the leveraged program in computing cash flow. Thus, again the "abbreviated" cash flow was used. A leveraged ESOP will effect cash flow in the following ways.

1. In the first year when the stock is sold to the ESOP (1965), cash flow will be increased by the amount of the trust loan (AF, Chart 16). Thereafter, this will only affect cash flow by its addition to earnings.

```
FA = (NI + D&A + DT) - (EI + PD + CDS)
FB = FA + AF - EA - BA
AF = 0
```

<table>
<thead>
<tr>
<th>FA</th>
<th>“Abbreviated&quot; cash flow (reported without the ESOP).</th>
</tr>
</thead>
<tbody>
<tr>
<td>NI</td>
<td>Net income.</td>
</tr>
<tr>
<td>D&amp;A</td>
<td>Depreciation and amortization.</td>
</tr>
<tr>
<td>DT</td>
<td>Deferred taxes.</td>
</tr>
<tr>
<td>EI</td>
<td>Extraordinary item (net of tax).</td>
</tr>
<tr>
<td>PD</td>
<td>Preferred dividends.</td>
</tr>
<tr>
<td>CDS</td>
<td>Common dividends.</td>
</tr>
<tr>
<td>FB</td>
<td>Simulated &quot;abbreviated&quot; cash flow (with ESOP).</td>
</tr>
<tr>
<td>AF</td>
<td>Trust loan.</td>
</tr>
<tr>
<td>EA</td>
<td>Change in earnings after tax (between ESOP and nonESOP).</td>
</tr>
<tr>
<td>BA</td>
<td>Dividends paid to the ESOP this year.</td>
</tr>
</tbody>
</table>

Chart 16.—Leveraged ESOP - effect on cash flow
2. Since all tax deductions stemming from the leveraged ESOP are cash deductions, the firm's cash flow will be affected by the change in earnings after tax between the firm with the simulated leveraged ESOP and the same firm without the ESOP (EA). If the earnings after tax (with the leveraged ESOP) are less than they were (without the leveraged ESOP), then cash flow will be reduced by this difference (see block FB, Chart 16). Of course, if the firm earns more with the ESOP, then this will increase the cash flow.

3. The dividends paid to the ESOP each year (BA) will also tend to reduce cash flow. Notice that the model (Chart 16) is arranged so that the trust loan will only affect cash flow in the first year. After that it is zeroed out.

The average number of shares issued per employee, the value of stock the average employee acquires, the amount of the stock plus dividends that the average employee receives, the percent of ESOP ownership of common stock.—The average number of shares issued per employee is computed in block GB (Chart 17) by dividing the assumed number of employees participating in the plan into the adjusted number of shares held by the ESOT (AI). The adjusted number of shares held by the ESOT (AI) is redefined here by the same technique used in the nonleveraged program (see block DC of Chart 5).

The value of the stock that the average employee acquires (GC) was computed by multiplying the average number of shares
AI - Adjusted number of shares held by the ESOT.
AG - Number of shares issued to the ESOT.
AH - Adjustment factor at the beginning of the ESOP (for current shares outstanding).
CAF - Cumulative adjustment factor for the stock dividends and splits.
GB - Average number of shares issued per employee.
.8 - 80% of employees are assumed to participate in the ESOP.
EM - Employees.
GC - Value of the stock that the average employee acquires.
CP - Closing price of common stock.
GD - Average dividends paid per employee.
BD - Cumulative dividends paid to ESOP shares.
.8 - 80% of employees are assumed to participate in the ESOP.
GE - Amount of the stock plus the dividends the average employee receives.
GF - Percent of ESOT ownership of common stock.
DC - Simulated number of shares outstanding (with the ESOP).

Chart 17.—Leveraged ESOP - the average number of shares issued per employee, value of stock that the average employee acquires, the value of the stock plus the dividends that the average employee receives and the percent of ESOP ownership of common stock.

The amount of stock plus dividends the average employee receives (GE) was computed by simply adding the value of stock that the average employee acquires (GC) and the average dividends paid per employee (GD). The latter was computed by
dividing the assumed number of employees participating in the plan into the cumulative dividends paid to the ESOP. The percent of ESOP ownership of common stock (GF) was computed in the same way it was in the nonleveraged program.

The effect on debt to asset ratio.--The simulated debt to asset ratio with the leveraged ESOP was computed by simulating the total debt and total asset structure of the firm and then dividing the simulated total debt by the simulated total assets. This was computed in block HC of Chart 18. The simulated total debt was computed in block HB by adding the trust debt (AE) to the reported corporate debt. The trust debt (AE) is computed as follows:

\[
AE = AE - (AB - \cdot 08 \times AE) 
\]

and the simulated total assets (with the ESOP) is computed as:

\[
HA = TA + AD + BG - BD + BJ + (BF - CB) 
\]

The debt to asset ratio is computed as:

\[
HC = HB \div HA 
\]

where:

- HA - Simulated total assets (with the ESOP).
- TA - Total assets.
- AD - Funds from ESOP stock sale.
- BG - Cumulative tax savings resulting from the cash contribution made to the ESOP.
- BD - Cumulative dividends paid to ESOP shares.
- BJ - Cumulative cash contribution made to the ESOP.
- BF - Cumulative earnings resulting from the change in funds available due to the ESOP.
- CB - Cumulative taxes on earnings resulting from the change in funds available due to the ESOP.
- AE - Trust debt.
- AB - Annual cash contribution made to ESOT.
- .08 - Interest rate is assumed to be 8%.
- HB - Simulated total debt (with ESOP).
- TD - Total debt (without ESOP).
- HC - Simulated debt to asset ratio (with ESOP).
debt (AE) was reduced each year by the annual principal payment. The simulated total assets (HA) were computed by adding the funds from the ESOP stock sale (AD), the cumulative tax savings resulting from the cash contribution made to the ESOP (BG) and the net cumulative earnings resulting from the change in funds available due to the ESOP (BF - CB) to the reported total assets (TA); then from this figure cumulative dividends paid to the ESOP shares (BD) and the cumulative cash contribution made to the ESOP (BJ) were subtracted.

The Tax Credit ESOP

The primary difference between the tax credit ESOP and ESOP's discussed previously is that the employer corporation receives a credit against its income tax bill instead of a deduction. Therefore, the firm's earnings do not have to suffer in order for the firm to receive the benefits of a lower tax bill as in the nonleveraged and leveraged ESOP. The tax credit ESOP model used in this thesis works basically as follows.

1. The employer corporation creates a trust (ESOT).

2. The employer corporation then contributes common stock to the ESOT. The amount of common stock contributed is based on the amount of the tax credit allowed by law. In this case it is one percent of the qualified investment in which the regular ten percent investment credit is based on.

3. The employer corporation then reduces his income tax bill by this amount.
This method of accounting for the investment tax credit ESOP is in agreement with the American Institute of Certified Public Accountants' position. They recommend,

"... the additional investment tax credit should be accounted for as a reduction of income tax expense in the same year in which the contribution to the ESOP is charged to expense, irrespective of the accounting for the normal investment tax credit on property acquisitions (1, p. 6)."

Again, the stock contribution was assumed to be made on the last day of each tax year. Chart 19 diagrams the overall program. Each lettered block in Chart 19 represents the computation of one or more of the eleven relevant factors. In this program the blocks represent the following.

Block A - The effect on earnings before taxes.
Block B - The effect on income taxes and net income.
Block C - The effect on earnings per share and common stock ownership.

Block D - The effect on book value per share.

Block E - The effect on cash flow.

Block F - The average number of shares issued per employee and the value of the stock and dividends that the average employee receives.

Block G - The effect on debt to asset ratio.

**Effect on earnings before taxes.**—In the tax credit ESOP the firm's earnings are only affected by the change in earnings resulting from the change in funds available due to the ESOP. This is computed in block AG of Chart 20 by adding the change in earnings resulting from the change in funds (AE) to the firm's reported earnings before taxes. The simulated change in earnings resulting from the change in funds available (AE) and the firm's earning power (AD) is computed in the same way as before. But the change in funds available due to the ESOP (AC) is computed by adding the cumulative tax credit resulting from the stock contribution to the ESOP (BB) and the net cumulative earnings resulting from the change in funds available (AF - BD) and then subtracting the sum of one half the dividends paid to the ESOP this year (AB) and the prior dividends paid to the ESOP (AA). Dividends paid to the ESOP this year were divided by two for the same reason as in previous programs.
AA - Prior dividends paid to the ESOP.
AB - Dividends paid to the ESOP this year.
DPS - Dividends per share.
CF - Adjusted number of shares held by the ESOT (adjusted for current stock outstanding).
AC - Change in funds available due to the ESOP.
BB - Cumulative tax credit resulting from the stock contribution to the ESOP.
AF - Cumulative earnings resulting from the change in funds available due to the ESOP.
BD - Cumulative taxes on the earnings resulting from the change in funds available due to the ESOP.
AD - Earning power.
EBIT - Earnings before interest and taxes.
TA - Total assets.
AE - Simulated change in earnings resulting from the change in funds available due to the ESOP.
AG - Simulated earnings before taxes (with the ESOP).
EBT - Reported earnings before taxes (without the ESOP).

Chart 20.—Tax credit ESOP - effect on earnings before taxes

The effect on income taxes and net income.—The tax credit ESOP affects the firm's income taxes in two ways. First, the income taxes are reduced by the amount of the tax credit and second, the taxes will be increased by the taxes on the earnings resulting from the change in funds available.
The simulated income taxes are computed in block BE of Chart 21 by adding the taxes on the earnings resulting from the change in funds available (BC) to the reported income taxes and then subtracting the tax credit resulting from the stock contribution to the ESOP (BA). In order to compute the

\[
\begin{align*}
BA &= 0.01 \times 0.273 \times \text{TCE} \\
BB &= BA + BB \\
BC &= AE \times 0.51 \\
BD &= BC + BD \\
BE &= IT + \frac{BC - BA}{BE} \\
BF &= AG - BE
\end{align*}
\]

- **BA** - Tax credit resulting from the stock contribution to the ESOP.
- **TCE** - Total capital expenditures.
- **BB** - Cumulative tax credit resulting from the stock contribution to the ESOP.
- **BC** - Taxes on the earnings resulting from the change in funds available due to the ESOP.
- **AE** - Simulated change in earnings resulting from the change in funds available due to the ESOP.
- **BD** - Cumulative taxes on the earnings resulting from the change in funds available due to the ESOP.
- **BE** - Simulated income taxes (with the ESOP).
- **IT** - Reported income taxes (without the ESOP).
- **BF** - Simulated net income (with the ESOP).
- **AG** - Simulated earnings before taxes (with the ESOP).

Chart 21.--Tax credit ESOP - effect on income taxes and net income.

Firm's tax credit resulting from the stock contribution to the ESOP, it was necessary to determine the firm's investment in qualified property on which the investment credit is
computed. On December 9, 1974, Frederick W. Hickman, former Assistant Secretary of the Treasury for Tax Policy, stated in an address before the Taxation Division of the American Institute of Certified Public Accountants that property qualifying for the investment credit was only twenty seven and three tenths percent of the total investment for all industries combined considering corporations only (3, p. 17/5). Thus, the firm's total capital expenditures (investment) were multiplied by twenty seven and three tenths percent in order to get a realistic figure for the firm's investment in qualified property. The one percent credit was then computed by taking one percent of the above computation (see block BA of Chart 21). Admittedly, it can not be claimed that this is a precise and accurate figure, but it is the most realistic one available with the data that was available. The simulated net income was computed in the same manner as in previous programs as shown in Chart 21.

The rest of the tax credit program is just like the corresponding parts of the nonleveraged program except the tax credit resulting from the stock contribution to the ESOP is subtracted from the income taxes instead of the tax savings resulting from the ESOP stock contribution. Also, no deduction is taken for the value of the ESOP stock contribution. The remaining flow charts follow.
CA - Number of shares contributed to the ESOT this year.
BA - Tax credit resulting from the stock contribution to the ESOT.
CP - Closing price of common stock.
CB - Cumulative number of shares contributed to the ESOT this year.
CC - Simulated number of shares outstanding (with the ESOP).
SO - Number of shares outstanding without the ESOP.
CD - Simulated earnings per shares (with the ESOP).
BF - Simulated net income (with the ESOP).
CAF - Cumulative adjustment factor for current shares outstanding.
CF - Adjusted number of shares held by the ESOT (adjusted for current shares outstanding).
OAF - Original adjustment factor. (This was the adjustment factor in 1965.)
CG - Percent of ESOP ownership of common stock.

Chart 22.—Tax credit ESOP - effect on earnings per share and common stock ownership.
DA - Simulated common equity (with the ESOP).
RCE - Reported common equity (without the ESOP).
BB - Cumulative tax credit resulting from the stock contribution to the ESOP.
AF - BD - Net cumulative earnings resulting from the change in funds available due to the ESOP.
AB + AA - Cumulative dividends paid to ESOP shares.
DB - Simulated book value per share (with the ESOP).
CC - Simulated number of shares outstanding (with the ESOP).
CAF - Cumulative adjustment factor for current shares outstanding.

Chart 23.—Tax credit ESOP - effect on book value per share

EA - "Abbreviated" cash flow (without the ESOP).
NI - Net income.
D&A - Depreciation and amortization.
DT - Deferred taxes.
EI - Extraordinary items (net of taxes).
CDS - Common dividends.
PD - Preferred dividends.
EB - Simulated "abbreviated" cash flow (with the ESOP).
BA - Tax credit resulting from the stock contribution to the ESOP.
(AE - BC) - Net simulated change in earnings resulting from the change in funds available due to the ESOP.
AB - Dividends paid to the ESOP this year.

Chart 24.—Tax credit ESOP - effect on cash flow
FA = CF / (.8 x EM)

FA - Average number of shares issued per employee.
CF - Adjusted number of shares held by the ESOT.
EM - Number of employees.

FB = FA x CP

FB - Value of stock that the average employee acquires.
CP - Closing price of common stock.

FC = (AA + AB) / (.8 x EM)

FC - Dividends paid per employee.
AA + AB - Cumulative dividends paid to the ESOP.

FD = FB + FC

FD - Value of the stock plan dividends that the average employee receives.

Chart 25.—Tax credit ESOP - average number of shares issued per employee and value of the stock and dividends that the average employee receives.

GA = TA + BB + (AF - BD) - (AA - AB)

GA - Simulated total assets (with the ESOP).
TA - Reported total assets (without the ESOP).
BB - Cumulative tax credit resulting from the stock contribution to the ESOP.
(AF - BD) - Net cumulative earnings resulting from the change in funds available due to the ESOP.
(AA + AB) - Cumulative dividends paid to the ESOP.

GB = TD ÷ GA

GB - Simulated debt to asset ratio (with the ESOP).
TD - Total debt.

Chart 26.—Tax credit ESOP - effect on debt to asset ratio
Simulated Pension Plan

So far the three types of ESOP's have been simulated on top of existing reported financial data. With this a comparison can be made between firms with and without ESOP's. This could be helpful to a firm in that they may be able to see their possible "financial picture" if they had adopted an ESOP and compare this to their actual "financial picture." But this comparison is somewhat limited. They would be comparing one situation with more employee benefits to another with less employee benefits. In order to make a more meaningful comparison, qualified pension plans (equal in size to each of the three types of ESOP's) were simulated on top of the reported data. The size of the employer corporation's contribution to each pension plan was determined by the contribution the firm made to the comparable type of ESOP.

Again, the time period used was from 1965 up to and including 1974. It was assumed the contribution to the pension plan was made on the last day of the tax year. Chart 27 shows how the overall program runs. Again, each letter block represents the computations of one or more relevant factors with the exception of block A. Block A represents the computation of the cash contribution to the pension plan under the three basic sizes, namely, to match the type of ESOP in which it was compared. The rest of the letter blocks represent their corresponding charts in the detailed program. One other thing should be noted on Chart 27. This relates
to the decision box immediately after the year counter box. Note that in the left option (year does not equal 1975) that the instructions say "Go to A or B." If the program is being used to simulate a pension plan the size of a nonleveraged or tax credit ESOP, the program will read "Go to A." If the program is being used to simulate a pension plan that is to be compared with a nonleveraged ESOP, the program will read "Go to B." Note that this puts block A inside the "loop" for the comparison to the nonleveraged and tax credit ESOP. Remember,
in these two plans this particular function was recomputed each year. Block A is outside the "loop" for the comparison to the leveraged plan since it was computed at the beginning of the plan when the funds were borrowed.

Charts 28 and 29 show the computation for the cash contribution to the pension plan. The amount of the cash contribution to the pension plan (Chart 28) is determined exactly as the amount of the contribution was determined in the respective ESOP programs. However, the computation is a one time occurrence (in 1965) for comparison to the leveraged ESOP and it is recomputed each year for the nonleveraged comparison. Chart 29 shows the computation for the size of the

\[
AA = .8 \times \left[ .15(LE - PE) \right]
\]

Chart 28.--Computation of the cash contribution to the pension plan for comparison to the nonleveraged and leveraged ESOP.

\[
AA = (.273 \times TCE \times .01)
\]

Chart 29.--Computation of the cash contribution to the pension plan for comparison to the tax credit ESOP.
contribution for comparison to the tax credit ESOP is the same computation used in the tax credit program.

**Effect on earnings before taxes.**—The pension plan's computation for the simulated earnings before taxes (BF, Chart 30) is basically the same as the nonleveraged ESOP computation. That is, it is computed by adding the change in earnings from the change in funds available (BC) to the reported earnings before taxes (EBT). The computation is as follows:

\[
BF = EBT + (BA - AA)
\]

where:

- **BA** = Change in funds available.
- **CB** = Cumulative tax savings resulting from the cash contribution to the pension plan.
- **BD** = Cumulative change in earnings resulting from the change in funds available.
- **CD** = Cumulative change in taxes on earnings resulting from the change in funds available.
- **BE** = Cumulative cash contribution to the pension plan.
- **BB** = Earning power.
- **EBIT** = Earnings before interest and taxes.
- **TA** = Total assets.
- **BC** = Change in earnings resulting from the change in funds available.
- **AA** = Cash contribution to the pension plan.
- **BF** = Simulated earnings before taxes (with the simulated pension plan).
- **EBT** = Reported earnings before taxes (without the simulated pension plan).

**Chart 30.**—Pension plan - effect on earnings before taxes
earnings before taxes and subtracting the cash contribution to the pension plan (AA). Note that the change in earnings resulting from the change in funds available (BC) will be negative because the cash contribution to the pension plan will always exceed the tax savings resulting from the cash contribution to the pension plan. The earnings before taxes simulation is simply showing the expected effect of an extra cash expense. The rest of the computation in Chart 30 should be fairly familiar to the reader by now. But it should be noted that dividends are not used anywhere in the pension plan program because there are no new shares of stock in this program. This is the basic difference in the computation of the change in funds available (BA) and previous corresponding computations.

**Effect on income tax, net income and earnings per share.**—The computation for simulated income tax (Chart 31) and net income (Chart 32) is the same as it was in the non-leveraged program. But the computation for earnings per share is computed differently because in the simulated pension plan, the number of shares outstanding remain the same as previously reported. Therefore, in computing simulated earnings per share (DB, Chart 32) the adjusted number of shares outstanding was divided into the simulated net income (DA).
CA - Tax savings resulting from the cash contribution to the pension plan.
AA - Cash contribution to the pension plan.
CB - Cumulative tax savings resulting from the cash contribution to the pension plan.
CC - Change in taxes on earnings resulting from the change in funds available.
BC - Change in earnings resulting from the change in funds available.
CD - Cumulative change in taxes on the earnings resulting from the change in funds available.
CE - Simulated income taxes.
IT - Reported income taxes.

Chart 31. -- Pension plan - effect on income tax

DA - Simulated net income.
BF - Simulated earnings before taxes.
CE - Simulated income taxes.
DB - Simulated earnings per share.
SO - Number of shares outstanding.
CAF - Cumulative adjustment factor.

Chart 32. -- Pension plan - effect on net income and earnings per share.
Effect on book value per share, cash flow and debt to asset ratio.—The simulated book value per share was also computed with the reported number of shares outstanding, adjusted for current stock outstanding (ED, Chart 33). The simulated common equity (EC) was computed by adding the cumulative change in net income (EB) to the reported common equity. The change in net income (reported versus simulated) would be the only change in equity since all costs are assumed to be cash costs and there are no new shares that would cause extra dividends.

\[ EA = NI - DA \]
\[ EB = EA + EB \]
\[ EC = RCE - EB \]
\[ ED = \frac{EC}{(SO \times CAF)} \]

Chart 33.---Pension plan - effect on book value per share
The simulated "abbreviated" cash flow (FB, Chart 34) was also computed by using the change in net income. The change in net income was subtracted (remember, the simulated net income will always be less than the reported net income) from the "abbreviated" cash flow to arrive at the simulated "abbreviated" cash flow (FB). The simulated debt to asset ratio was computed with the same logic. The debt does not change and the assets only change in the amount of the change in net income. This is computed in block FD, Chart 34.

```
FA = (NI + D&A + DT) - (EI + PD + CDS)

FB = FA - EA

FC = TA - EB

FD = TD ÷ FC
```

PA - "Abbreviated" cash flow (reported).
NI - Net income
D&A - Depreciation and amortization.
DT - Deferred taxes.
EI - Extraordinary item (net of taxes).
PD - Preferred dividends.
CDS - Common dividends.
FB - Simulated "abbreviated" cash flow (with the pension plan).
EA - Change in net income (with and without the pension plan).
FC - Simulated total assets.
EB - Cumulative change in net income (with and without the pension plan).
TA - Reported total assets.
FD - Simulated debt to asset ratio.
TD - Reported total debt.

Chart 34.—Pension plan - effect on cash flow and debt to asset ratio.
After the aforementioned simulations were completed on the selected firms, the resulting data was averaged for the high and low dividend paying groups. The final result was then a summary of the simulation by year and by each relevant factor.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

PRESENTATION AND DESCRIPTION OF RESEARCH RESULTS

The first step in analyzing the data obtained from the simulation described in Chapter III was verifying its accuracy. This step was done by manually simulating each program with a small sample of selected firms and comparing the manual results to the computer results printed out by firm. In addition, the individual firm data was helpful in determining the possible causes of certain results of the aggregated data.

Next, the results were put into graph form. This was particularly helpful for studying such aspects as trends, comparisons and in giving the reader an overall "picture" of the results. On all graphs the horizontal axis was used to show the end of each year, 1965 to 1974 inclusive.

The ending data for 1964 was also presented to give all data a common starting point. The vertical axis of the graphs represented either the results in dollars or in some cases a ratio. In several cases, dollars represented on the vertical axis were described in millions of dollars. In such cases they were appropriately labeled.

The graphs were presented in pairs. The data for the low dividend group was presented next to the graph presenting the data for the high dividend group. Each dividend group had particular characteristics and the reader is cautioned against
making comparisons between the two groups without fully understanding these differences.

The low dividend paying group paid out thirty five percent of its earnings and the high dividend group paid out fifty four percent of its earnings on the average. The higher dividend paying group was composed of larger firms, in general, than the lower paying dividend group. Also, they had different earning patterns.

As shown in Table I, the lower dividend paying group's earning power was more stable than the higher dividend paying group.

<table>
<thead>
<tr>
<th>Lower Dividend Paying Group</th>
<th>Higher Dividend Paying Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Earning Power</td>
</tr>
<tr>
<td>1965</td>
<td>16.8%</td>
</tr>
<tr>
<td>1966</td>
<td>17.6</td>
</tr>
<tr>
<td>1967</td>
<td>16.7</td>
</tr>
<tr>
<td>1968</td>
<td>17.2</td>
</tr>
<tr>
<td>1969</td>
<td>17.0</td>
</tr>
<tr>
<td>1970</td>
<td>15.6</td>
</tr>
<tr>
<td>1971</td>
<td>15.5</td>
</tr>
<tr>
<td>1972</td>
<td>16.2</td>
</tr>
<tr>
<td>1973</td>
<td>17.2</td>
</tr>
<tr>
<td>1974</td>
<td>17.6</td>
</tr>
</tbody>
</table>

group. At this point note that the higher dividend paying group had higher earning power than the lower dividend paying group in the first five years and slightly less earning power in the
last five years. The importance of this is emphasized later in the chapter.

Nonleveraged ESOP and Matching Pension Plan

Effect on earnings before taxes. As shown in Figure 1, both groups' actual earnings before taxes were reduced by the nonleveraged ESOP. However, their earnings before taxes were reduced even more with the matching pension plan. On the average over the ten year period the ESOP decreased the earnings before taxes for the low dividend group by eighteen percent and thirteen percent for the high dividend group. The matching pension plan decreased the earnings before taxes on the average for the low dividend group by twenty eight percent and by an average of twenty six percent for the high dividend group for the ten year period. The difference in effect between the ESOP and the Pension Plan was due to the fact that the firm's contribution to the ESOT was stock instead of cash. Thus, with the ESOP they were able to earn more on the additional funds resulting from the noncash tax deduction.

On the average the stock contribution was larger than the earnings on the "extra" funds available due to the ESOP. This is evidenced by the fact that actual earnings were reduced by the ESOP. (The simulated earnings before taxes with the nonleveraged ESOP were computed annually by adding the earnings from the change in funds resulting from the ESOP and subtracting the fair market value the stock contributed to the ESOP.)
Fig. 1--Nonleveraged ESOP - Effect on earnings before taxes
The effect of dividend policy on the ESOP is not at all obvious from this data. Logically, it would seem that firms paying out higher dividends in relation to earnings should have fewer funds; earnings on those fewer funds should be less. In this case, however, the dividend effect seems to be secondary at best. The relative size of the firm's stock contribution and differences in earning power appeared to effect the two groups more than their particular dividend policy.

Note, in the high dividend group, earnings before taxes with the simulated ESOP appear to be converging on the actual earnings before taxes in the later years. This is deceptive. As the slope of the earnings' lines increase or decrease the lines only appear to be converging. For example, note in Figure 2 lines A and B appear to converge as the slope of the line increases and decreases. Actually, the line is always ten units apart as measured on the vertical scale. The spread between

![Fig. 2--Illustration](image-url)
the ESOP decreased income taxes of the low dividend group by thirteen percent and by nineteen percent for the high dividend group. The matching pension plan decreased the income taxes of the low dividend group by thirty four percent and by twenty nine percent for the high dividend group on the average for the ten year period. This was consistent with the average percentage changes on earnings before taxes.

In the top graph of Figure 3 the lines again seem to be converging as their slope gets steeper. As stated earlier, this is somewhat illusory. The spread between the actual income taxes and income taxes due to the ESOP increased by over five million dollars for the high dividend group between 1972 and 1974. The spread between the actual income taxes and the income taxes due to the pension plan increased almost fifteen million dollars for the same group between 1972 and 1974.

The same causal factors that affected earnings before taxes appeared to have acted in a similar fashion on income taxes. Of course, this is only logical since income taxes were determined by the earnings before taxes and the corporate tax rate.

**Effect on net income.**—The net income data presented in Figure 4 is simply a reflection and a combination of the data presented in Figures 1 and 3. As would be expected the ESOP reduced net income in both groups. The nonleveraged ESOP reduced net income by fourteen percent on the average for the low
Fig. 3—Nonleveraged ESOP - Income taxes
the ESOP decreased income taxes of the low dividend group by thirteen percent and by nineteen percent for the high dividend group. The matching pension plan decreased the income taxes of the low dividend group by thirty-four percent and by twenty-nine percent for the high dividend group on the average for the ten year period. This was consistent with the average percentage changes on earnings before taxes.

In the top graph of Figure 3, the lines again seem to be converging as their slope gets steeper. As stated earlier, this is somewhat illusory. The spread between the actual income taxes and income taxes due to the ESOP increased by over five million dollars for the high dividend group between 1972 and 1974. The spread between the actual income taxes and the income taxes due to the pension plan increased almost fifteen million dollars for the same group between 1972 and 1974.

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Fig. 4—Nonleveraged ESOP - Net income

High Dividend Group

Low Dividend Group
dividend group and by thirteen percent on the average for the high dividend group. The matching pension plan reduced net income of the low dividend group by thirty four percent and twenty nine percent for the high dividend group on the average for the ten year period.

In the low dividend group (Figure 4) the ESOP tended to reduce net income gradually over the ten year period. The earning power of this group was fairly stable (see Table I). The firm's earning power seemed to have a high degree of correlation on the effect the ESOP had on net income. That is, the higher the firm's earning power, the less adverse effect the ESOP had on net income and the lower the firm's earning power, the greater adverse effect the ESOP had on net income. In this case the firms were unable to earn enough on their increased funds to overcome the effect the stock contribution (to the ESOT) had on earnings and income taxes.

Again, the graph of the high dividend group tends to be misleading for years in which the data takes a sharp increase. For example, between 1972 and 1973 the spread between the actual net income and the net income with the ESOP increases over one million dollars. On the graph it appears to narrow.

Table II shows the spread between these two lines is fairly stable for the first five years of the plan. That is, after the first year the ESOP does not further decrease net income until 1970, when the earning power drops below fifteen percent. Note that the high income group had relatively high
TABLE II
SPREAD BETWEEN THE ACTUAL NET INCOME
AND THE NET INCOME WITH THE ESOP

<table>
<thead>
<tr>
<th>Year</th>
<th>Difference Between Actual and ESOP Net Income</th>
<th>Year</th>
<th>Difference Between Actual and ESOP Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965</td>
<td>$19,940,000</td>
<td>1970</td>
<td>$21,498,000</td>
</tr>
<tr>
<td>1966</td>
<td>19,560,000</td>
<td>1971</td>
<td>20,400,000</td>
</tr>
<tr>
<td>1967</td>
<td>19,280,000</td>
<td>1972</td>
<td>19,421,000</td>
</tr>
<tr>
<td>1968</td>
<td>19,430,000</td>
<td>1973</td>
<td>20,200,000</td>
</tr>
<tr>
<td>1969</td>
<td>19,610,000</td>
<td>1974</td>
<td>24,520,000</td>
</tr>
</tbody>
</table>

Earning power on its assets (see Table I) for these years. Also, note that as the earning power declines these spreads tend to increase. This seems to be true for all except 1974 when the spread jumped over four million dollars and the earning power of the high dividend group had only a slight decline. The detailed programs revealed that labor cost took a significant jump in 1974 which in turn increased the amount of the stock contribution to the trust. This would tend to magnify the effect of the ESOP on net income.

Earnings per share.—Figure 5 shows the effect that the nonleveraged ESOP and the matching pension plan had on earnings per share. In both the high and low dividend groups the ESOP and the pension plan substantially reduced earnings per share. The ESOP had lower earnings per share than the pension plan (in both groups) for the first three years of the simulation. Thereafter, the ESOP had less adverse effect on earnings per share than the matching pension plan. On the
Fig. 5—Nonleveraged ESOP - Earnings per share
average over the ten year period the ESOP decreased the earnings per share of the low dividend group twenty eight percent and thirty percent for the high dividend group. The matching pension plan decreased the earnings per share of the low dividend group by thirty one percent and thirty three percent for the high dividend group on the average for the ten year period.

Since the ESOP was issuing new stock the adverse effect on earnings per share was double barreled. That is, the newly issued stock increased the base of the computation (total shares outstanding). The numerator of the computation (net income) was also reduced (as shown earlier). It is interesting to note that the pension plan outperformed the ESOP (in regard to earnings per share) for the first three years of the simulation. This was primarily because the increased shares outstanding with the ESOP had a greater negative effect than the small advantage in net income the ESOP enjoyed over the pension plan in the early years. As earnings from the "extra" funds resulting from the ESOP began to build up the ESOP option became more attractive in regard to the pension plan.

The effect of dividends on the high dividend group seems to be exposed slightly when earnings are presented on a per share basis (Figure 5). The low dividend group's earnings per share appeared to suffer a bit less than the high dividend
group; however, this is by no means conclusive since there are several other factors that could cause this effect.

**Book value per share.**—The results of the effect on book value are presented in Figure 6. In both groups the ESOP had a dilutive effect on book value, but not nearly as much as the matching pension plan. The ESOP reduced book value by an average of three percent over the ten year period for the low dividend group and by four percent for the high dividend group. The matching pension plan reduced the book value of the low dividend group by an average of sixteen percent and by an average of eighteen percent for the high dividend group for the ten year period.

Contrast these results with the results obtained on the effect on earnings per share (Figure 5). Notice in Figure 5 that both the ESOP and the matching pension plan significantly reduced earnings per share. The pension plan also had a significant negative impact on book value per share, but the ESOP was much less dilutive. The cash contribution made to the matching pension plan is an expense in the true accounting sense of the word "expense." That is, it is a flow concept representing an unfavorable change in the firm's resources (2, p. 176). The expense's unfavorable aspect normally reduces the stockholders' equity. The stock contribution to the ESOP is also an expense in the sense that it is used to compensate employees. However, the "value" of this expense
Fig. 6--Nonleveraged ESOP - Book value per share
turns into stockholders' equity. It does not represent an unfavorable change in the firm's resources in the same sense of the cash contribution to the matching pension plan. But the ESOP did have a dilutive effect on book value per share because the total number of shares outstanding was increased and the funds received from the newly issued stock (tax savings) did not earn enough to overcome the "expense" charged against earnings (value of the stock contribution to the ESOT).

In the latter years of the program the high dividend group appeared to be affected slightly more than the low dividend group (see Figure 6). This could possibly be attributed to the fact that as stock builds up in the ESOT, dividend payments become larger. However, as stated earlier, the evidence regarding this was not conclusive. There were other variables that also interacted and affected the two groups differently.

Abbreviated cash flow.—As explained in Chapter III, the actual cash flow of the firms used was not available because of data limitations. Since the objective of this section of the research was to determine the effect on cash flow, this lack of data was not a serious drawback. Thus, an abbreviated cash flow was used. (See the related section in Chapter III for details).

The effect of the nonleveraged ESOP and matching pension plan is presented in Figure 7. In both groups the ESOP increased cash flow whereas, the pension plan had a negative
Fig. 7--Nonleveraged ESOP - Abbreviated cash flow
effect on cash flow. On the average the ESOP increased cash flow for the low dividend group by thirteen percent and seventeen percent for the high dividend group. The matching pension plan decreased cash flow for the low dividend group by an average of fifteen percent and average of twenty one percent for the high dividend group.

The increase in cash flow from the ESOP was due to the tax savings resulting from the ESOP stock contribution and the net earnings from those funds (less dividends paid to the ESOP shares). The matching pension plans' contributions also resulted in tax savings, but its contributions were cash contributions (as opposed to stock for the ESOP). Thus, its cash tax savings were always less (approximately one half) than its cash contributions.

The effect of dividend payments on cash flow between the two groups was not obvious from the research (Figure 7). An analysis of the individual firm shows that the size of the ESOP contribution which determined the tax savings was far more influential on cash flow than dividends. The high dividend group's contribution to the ESOT and pension plan was somewhat greater than the low dividend group's contribution. This was simply because the firms in the high dividend group had larger payroll cost than the low dividend group. This factor was large enough to overcome the difference in dividend payments between the two groups.
Debt to asset ratio.—The ESOP had a favorable effect on the debt to asset ratio in both the high and low dividend groups (see figure 9). That is, the debt to asset ratio was reduced by the ESOP in both cases indicating the firms should be subject to less financial risk. However, the pension plan had an adverse effect on the debt to asset ratio in both groups. Over the ten year period the pension plan increased the debt to asset ratio by an average of eight percent for the low and high dividend groups. But the ESOP decreased the debt to asset ratio by seven percent for both groups on the average for the same time period.

It should be noted in this calculation that the firm's debt (numerator of the ratio) remained unchanged. Neither the ESOP nor the pension plan caused the firm to increase (or decrease) their debt. As shown in Chapter III this was not the case with the leveraged ESOP. The only thing that changed in the nonleveraged ESOP and the matching pension plan was the firm's assets. The ESOP increased total assets through a non-cash expense resulting in income tax savings and net earnings on the net increase in assets. The matching pension plan decreased the firm's assets through the cash contribution to the pension plan. The effect of dividend payments of the two groups was imperceptible on the debt to asset ratio. It is likely that the dividend effect was insignificant in relation to the extremely large numbers involved in this calculation.
Fig. 8—Nonleveraged ESOP - Debt to asset ratio
Percent of ESOT ownership of common stock.—In the low dividend group the ESOT accumulated slightly over twenty three percent of all outstanding common stock over the ten year period and in the high dividend group the ESOT accumulated just over twenty seven percent of the common stock (Figure 9).

![Graph showing ESOT ownership in low and high dividend groups](image)

**Fig. 9—Nonleveraged ESOP - ESOT ownership of common stock**

In both cases, this would be considered a significant amount for corporate control purposes in large publicly held firms. That is, if one assumes the ESOT votes its stock as a block the employees would be in a very strong position as far as corporate control is concerned. This also assumes that voting rights accompany the ESOT stock and that employees are in control of the ESOT. This may or may not be the case. If voting rights were passed directly to individual employees as
they acquire vested interest in the stock, it also assumed they would vote as a block. This also may or may not be true.

Value of stock and dividends per employee.--Figure 10 shows the accumulated value of stock and dividends that the average employee would acquire over the ten year period. This was computed on the actual closing price of the stock so if

the price of the stock changed as a result of the ESOP this factor would change accordingly. The ending value of the stock in the low dividend group was almost $24,000 per employee with
the average employee receiving 1,257 shares of stock. The ending value of the stock in the high dividend group was almost $15,000 with the average employee receiving 764 shares of stock. Dividend accumulations amounted to over $2,600 per employee in the high dividend group and over $2,200 per employee in the low dividend group. The dividend accumulations are only the summation of the dividend payments per employee. If they had been left in the trust and invested in interest paying securities, their ending values would, of course, have been greater.

Leveraged ESOP and Matching Pension Plan

As explained in Chapter III the amount each ESOT borrowed was determined by each firm's ability to amortize the loan over the ten year period. This determination was made in the first year of the plan by assuming the compensation paid employees in the last nine years of the plan would be at least as great on the average as it was in the first year. As it turned out, the firm's compensation paid to employees was greater in later years than it was in the first year. Since the amount of the stock contribution in the nonleveraged ESOP was determined each year on the basis of the firm's compensation to employees, the nonleveraged ESOP turned out to be larger in size than the leveraged ESOP.

But note that the firms with leveraged ESOP's had more funds available on the average (from the ESOP stock sale in
the first year) than the firms with the nonleveraged ESOP. This along with the fact that the two types of ESOP's were unequal in size, makes it dangerous to compare the results of the two plans. However, when certain patterns develop from the two different plans, comparisons will be made. But they will be made in the light of the above differences.

Effect on earnings before taxes.—Figure 11 shows the results of the leveraged simulation on earnings before taxes. In the low dividend group the ESOP had a slight reduction on earnings before taxes in the early years of the plan, but the gap widened slightly in the later years. On the average, the ESOP decreased earnings before taxes by three percent for the low dividend group over the ten year period. The pension plan reduced earnings before taxes somewhat more for the low dividend group. On the average the matching pension plan reduced earnings before taxes by nineteen percent for the low dividend group over the ten year period. This reduction appears to be fairly stable after the first year of the plan. One would expect this since annual contributions were equal and the low dividend group had relatively stable earning power (see Table I).

In the high dividend group the ESOP increased total earnings before taxes for the first five years. For the next two years (1970 and 1971) the ESOP decreased earnings before taxes. Thereafter, the ESOP produced very similar results
Fig. 11—Leveraged ESOP - Earnings before taxes
to the actual earnings before taxes. On the average, over the ten year period, the ESOP increased earnings before taxes by two percent for the high dividend group. The pension plan produced a substantial reduction in earnings before taxes for this group. On the average over the ten year period it reduced earnings before taxes by twenty percent.

These results appear to shed additional light on the causal factors that were discussed in the previous section of this chapter. The earning power of the firm appears to be a key factor. Since the total funds from the ESOT loan and subsequent stock purchase come in the first year of the plan instead of through a quasi installment arrangement as in the case of the nonleveraged ESOP, the earning power factor was applied against a much larger sum from the beginning of the plan. In this case the first year's earnings were magnified by the fact that the firms' first contribution to the ESOP was not made until the second year. But thereafter, note the high correlation with the firms' earning power (Table I) especially for the high dividend group. The earning power effect seems to overshadow the difference in dividend levels of the two groups.

The effect on income taxes.—The leveraged ESOP and the matching pension plan affected the firm's income taxes as shown in Figure 12. As with the nonleveraged ESOP the effect
Fig. 12—Leveraged ESOP - Income taxes
on income taxes followed the same basic pattern as the effect on earnings before taxes.

In the low dividend group the ESOP decreased the income taxes only slightly for the first few years, then the spread widened slightly in later years. On the average for the ten year period the ESOP decreased the income taxes for the low dividend group by almost four percent. The matching pension plan had a greater downward effect on income taxes than the ESOP (in the low dividend group). The pension plan decreased this group's income tax by almost twenty five percent on the average for the ten year period.

The ESOP increased the high dividend group's income tax for the first five years then there seemed to be very little difference for the last five years. This is similar to the results shown for earnings before taxes. On the average for the ten year period, the ESOP increased the high dividend group's income taxes by slightly over two percent whereas, the matching pension plan decreased income taxes by twenty two percent.

Effect on net income.—Figure 13 presents the leveraged ESOP's and the matching pension plan's effect on net income. Figure 13 reflects the combined data presented in Figures 11 and 12. As in these previous figures the ESOP slightly reduced the low dividend group's net income in the early years and as the contributions were made to the ESOT the gap begins
Fig. 13--Leveraged ESOP - Net income
to widen. On the average, the ESOP reduced net income by two and one half percent for the low dividend group over the ten year period. The pension plan reduced net income before taxes for this group by an average of fifteen percent.

In the high dividend group the ESOP increased net income for the first five years of the plan. Then in the next two years the ESOP reduced net income and for the remainder of the simulation the ESOP and actual results were similar. Again, it should be emphasized that these results correlate strongly with the earning power figures presented in Table I. That is, for the high dividend group earning power was relatively high for the first five years, low for the next two and then begins to build back up for the last three years. On the average over the ten year period the leveraged ESOP increased net income by two and one half percent for the high dividend group. For this same group the pension plan reduced net income by an average of twenty two percent for the ten year period.

One other causal factor from the ESOP contribution should be mentioned at this point. That is, each year the firm must make a cash contribution to the ESOT. This, of course, tended to decrease the firm's funds available. If the firm's annual net earnings on the funds from the ESOP stock sale (less ESOP dividends) were not large enough to cover the annual cash contributions to the ESOT, other funds had to be used to help make these contributions. Thus, the firm's asset base declined
causing earnings to decline. This appears to have happened in the latter years especially in the high dividend group.

**Effect on earnings per share.**—The results of the leveraged ESOP and matching pension plan are presented in Figure 14. The ESOP and the pension plan substantially reduced earnings per share in both cases. On the average the ESOP reduced earnings per share by seventeen percent for the low and high dividend groups. The pension plan reduced earnings per share of the low dividend group on the average of twenty percent and by an average of twenty four percent for the high dividend group.

The graph for both groups (Figure 14) is somewhat misleading as the slope of the lines turns up steeply. The spread appears to be narrowing when, in fact, it is widening. For example, in the high dividend group the spread between the actual earnings per share and the earnings per share with the ESOP appeared to narrow from 1972 to 1973 when it increased by over six cents per share. The same is true for the later years of the low dividend group.

In both groups the pension plan had more of an adverse effect on earnings per share than the leveraged ESOP. However, in relation to actual earnings per share, earnings per share with the pension plan did not seem to be significantly less than they were with the ESOP. This is interesting when the basic differences between the ESOP and pension plan are
Fig. 14—Leveraged ESOP - Earnings per share
considered. That is, the ESOP had more funds to work with (funds from the ESOP stock sale). Thus, as was seen from Figure 13, the simulation with the ESOP improved the firm's net income significantly over the simulated pension plan. But this increase in net income appears to come at the expense of existing shareholders through dilution of their stock. However, if employee productivity would increase significantly as a result of the ESOP and thus, increase the firm's earning power, the dilution of existing shareholders' stock would not be as great or perhaps no dilution would occur. This aspect will be discussed more fully in Chapter V.

**Effect on book value per share.**—The effect of the leveraged ESOP and the matching pension plan is shown in Figure 15. Both the high and low dividend groups show similar patterns. In both cases the ESOP decreased book value per share significantly at the beginning of the simulation. However, after the first year, the book value per share of the firms with the ESOP tended to close on the book value per share of the actual firms. The ESOP reduced the book value per share of the low dividend group by an average of ten percent and by an average of nine percent for the high dividend group.

The pension plan had a longer range reduction of book value per share. The reduction is more gradual, but it appears to be greater and more of a permanent nature. In the low dividend group by the fifth year (fourth year for the high
Fig. 15—Leveraged ESOP - Book value per share
dividend group) the book value per share with the ESOP had surpassed the book value per share with the pension plan. The pension plan reduced the book value per share of the low dividend group by an average of twelve percent and fourteen percent for the high dividend group.

The drastic drop in book value the first year resulted from the method used to account for leveraged ESOP, i.e., the American Institute of Certified Public Accountants' statement of position relating to accounting for ESOP's requires the employer corporation to treat all shares held by the ESOT as outstanding stock. In addition, the employer corporation is required to show the ESOT's liability as the employer corporation's liability and the firm must record an offsetting debit equal to the liability as a reduction of shareholders' equity (1). Thus, on the one hand the denominator of this calculation (total number of shares outstanding) was increased in the first year by the total number of shares issued to the ESOT. And the numerator of the calculation (stockholder equity) was not increased at all (as a result of the ESOP) since the total amount of the ESOT's debt equaled the amount of stock sold to the ESOT. As the trust debt was amortized over the ten year period, the stockholders' equity section was credited with each successive reduction in the debt. The accounting aspect of this maneuver will be explored more in Chapter V.
Effect on abbreviated cash flow.--Figure 16 shows how the abbreviated cash flow was affected by the leveraged ESOP and the matching pension plan. The effect on cash flow for the first year presented a problem in the research. Should the funds from the ESOP stock sale be included in the first year's cash flow or not? Similar data from other financing arrangements were not available and were not included in the definition of "abbreviated cash flow." The research model was originally programmed to include the additional funds in the first year. The results were misleading since similar data was not available for other financing arrangements. Therefore, the abbreviated cash flow for the first year was computed without the additional funds from the ESOP stock sale. This method is shown in Figure 16.

In both groups (except for the first year) the ESOP reduced cash flow. In the first year, cash flow was increased simply because no payment to the ESOP was required. The first payment was made on the first day of the second year. The leveraged ESOP reduced cash flow for both groups on the average of four percent over the ten year period. Cash flow was reduced even more by the matching pension plan. In the low dividend group the pension plan reduced cash flow on the average of ten percent and cash flow of the high dividend group was decreased on the average of fifteen percent.

In order for the ESOP to reduce cash flow the cash contributions to the trust had to be greater than the net
Fig. 16--Leveraged ESOP - Abbreviated cash flow
earnings on the increased funds less dividends paid to the ESOT. This appears to have been the case in all years that contributions were made to the ESOT. This implies that even with the tax savings (from what amounts to deducting both principal and interest of the loan) that the firms of both groups were not able to amortize the ESOT's loan over a period of ten years strictly with earnings from the loan. Certain proponents of the leveraged ESOP claim that most firms have the before tax earning power to amortize the loan strictly from earnings on the loan funds in less than ten years. The results of this research seem to run contrary to this claim. This aspect will be discussed further in Chapter V.

**Effect on debt to asset ratio.**—As Figure 17 shows the leveraged ESOP had a significant adverse (increase) effect on the debt to asset ratio in the first year of the plan. It caused the ratio to jump from around thirty three percent to over forty nine percent for the low dividend group and from thirty one percent to almost forty eight percent for the high dividend group. In both groups after the first year the debt ratio continued to drop until it was less than the actual debt ratio. On the average the ESOP increased the debt to asset ratio for both groups by fourteen percent over the ten year period.

The sharp increase in the debt to asset ratio in the first year of the plan was caused by the accounting requirement
Fig. 17—Leveraged ESOP - Debt to asset ratio
that the firms must record the ESOT's debt as a liability. As this liability was reduced through contributions to the trust and as the trust subsequently reduced its debt, the debt to asset ratio then receded to a more normal situation. In this case, in the latter years of the plan the debt to asset ratio ended up in a favorable position with the leveraged ESOP. This was primarily due to the increase in the firm's assets (resulting from the ESOP) and the subsequent reduction of the recorded liability.

Percent of ESOT ownership of common stock.—The data relating to the ESOT's percent of ownership of total common stock is presented in Figure 18. This purports to show possible ESOT control over the firm. However, the same assumptions

![Diagram showing percent of ESOT ownership of common stock for Low Dividend Group and High Dividend Group.]

Fig. 18—Leveraged ESOP - ESOT ownership of common stock
made for this factor with the nonleveraged ESOP would apply. (See the description of Figure 9.)

In both groups presented in Figure 17 the ESOT receives its total block of stock in the first year of the plan. The low dividend group received an amount equal to slightly over twenty three percent of the total outstanding stock (after the issue). The high dividend group received an amount equal to nineteen percent of the outstanding stock. In both cases this most certainly would be considered a significant block of stock especially for large publicly held corporations. After the first year the percentage of stock the ESOT held continued to decline in both groups. So the ESOT's for the low dividend group on the average over the ten year period held slightly less than seventeen percent and ESOT's of the high dividend group held fifteen percent of the total common stock outstanding. At the end of the ten year period the low dividend group's ESOT's held twelve percent and the high dividend group's ESOT's held thirteen percent of the firm's stock. This still was a significant block of stock.

In both groups the ESOT's percentage of ownership declined after the first year because the only time the number of shares they held increased was when they received stock from stock dividends and stock splits. When the various firms in the sample sold new shares, it was assumed that the ESOT did not purchase these issues. Of course, if the ESOT had purchased their relative share of new issues, their percentage of
ownership should have remained the original percent at the beginning of the plan.

Value of stock and dividends per employee.--Figure 19 shows the accumulated value of stock and dividends that the average employee received over the ten year period. Although

in reality, the stock and accrued dividends may not be vested until later years, for illustrative purposes, it was assumed that vesting occurred at the inception of the plan. The total number of shares each employee received was assumed to be assigned to his or her account in the first year. The employees' portion of any stock splits and stock dividends was also assigned to employees' accounts as they were issued. Thus, the increases and decreases in the value of stock per
employee in Figure 19 came primarily from changes in the price of stock on the open market.

At the beginning of the plan the average employee was issued 241 shares of stock in the low dividend group and 197 shares in the high dividend group. For the average employee in the low dividend group this stock had a market value of $10,740 and $9,953 in the high dividend group at the beginning of the plan. At the end of the ten year period the average employee's stock had declined in value for both groups. Total value of the average employee's stock in the low dividend group was $9,890 in 1974 and $5,696 in 1974 for the average employee in the high dividend group. However, over the ten year period the average employee's stock in the low dividend group had an average value of over $12,000. But the average employee's stock on the high dividend group averaged only slightly over $8,600 for the period.

The dividends were also assumed to accrue to each employee's account from the first year of the program. In the low dividend group the average employee accumulated almost $2,400 in dividends and in the high dividend group the average employee received almost $3,000 in dividends. If these dividends had been invested in interest bearing securities, the figures would, of course, be higher.

The primary questions raised by this data relate to motivation aspects of ESOP's. Such as, is the amount sufficient to motivate employees? What effect does the declining
value have on employee attitudes and motivation? The employee motivation issue will be further discussed in Chapter V.

Tax Credit ESOP and Matching Pension Plan

The effect of the tax credit ESOP was limited due to the relatively small amount of credit allowed by law. That is, for ESOP purposes the amount is limited to one percent of the firms' investment in qualified property. This amount turned out to be relatively small in comparison to the nonleveraged and leveraged ESOP's.

This caused a problem for presenting the research results. The effect of the tax credit ESOP and the matching pension plan was so slight, it appeared to be imperceptible in most cases when the data was presented in the same graphic form used previously in the study. That is, the three lines appeared to be only one line. Therefore, the presentation of data for the tax credit ESOP and matching pension plan was presented somewhat differently.

First, the data was presented just as before to give the reader the magnitude of the various factors. Then the difference between the actual results and the simulated results was graphed in order that the effect of the tax credit ESOP and the matching pension plan could be seen. This was done by graphing the actual data as a straight horizontal line and setting it equal to zero. The difference between the actual
data and the simulated data was then plotted and graphed (for an example see Figure 20).

The matching pension plan was used in this section for comparative purposes only. It was used in order to illustrate what it would cost the employer corporation to provide the employees with similar benefits.

Effect on earnings before taxes.—As shown in the top half of Figure 20 the effect of the tax credit ESOP and matching pension plan on earnings before taxes was so slight it was unnoticeable when graphed on this scale. However, when the scale was changed (bottom half of Figure 20) it becomes apparent that the tax credit ESOP increased earnings before taxes while they were decreased by the pension plan.

The tax credit ESOP increased earnings before taxes on an average of one tenth of one percent for the high and low dividend group. The matching pension plan decreased earnings before taxes an average of two tenths of one percent for the high dividend group and an average of three tenths of one percent for the low dividend group.

Note that the adverse effect on earnings before taxes from the pension plan was greater than the favorable effect on earnings before taxes from the ESOP tax credit. This was true because the pension plan was a direct deduction against earnings before taxes whereas, the tax credit reduced the tax liability giving the firms an increased earnings base. The
Fig. 20—Tax credit ESOP - Earnings before taxes
earnings before taxes were affected by the tax credit only because the firm's earnings were increased by their ability to earn on their increased assets (resulting from the increased cash flow). Thus, the tax credit had only an indirect effect (favorable) on earnings before taxes while the matching pension plan had a direct (unfavorable) effect on earnings before taxes.

**Effect on income taxes.**—The effect of the tax credit ESOP and the matching pension plan on income taxes was also relatively small (see the top half of Figure 21). The tax credit ESOP decreased income taxes an average of three tenths of one percent for the high dividend group and five tenths of one percent for the low dividend group over the ten year period. The matching pension plan reduced income taxes on the average of three tenths of one percent for the high dividend group and four tenths of one percent for the low dividend group.

In the early years of the simulation (lower part of Figure 21) the tax credit ESOP reduced income taxes relatively more than the matching pension plan. The tax credit resulted in the ESOP directly reducing income taxes, whereas, the contribution to the pension plan only indirectly affected income taxes. That is, the pension plan contribution was charged against earnings before taxes and income taxes were reduced by the marginal tax rate of the firms.
Fig. 21—Tax credit ESOP - Income taxes
Thus, in both groups, the tax credit ESOP tended to reduce income taxes more than the matching pension plan in the first half of the simulation. However, as earnings from the increased funds of the ESOP tax credit began to accumulate, the income taxes on those earnings also increased. Therefore, as the simulation progressed, the pension plan appeared to have a greater downward effect on the firm's income taxes. But in actuality, the earnings base of the firms with the tax credit ESOP had increased causing their income tax liability to also increase.

Effect on net income.--The effect of the tax credit ESOP on net income is presented in the bottom portion of Figure 22. Again, the total results of simulation and actual data were plotted on the top graphs to give the reader an understanding of the total magnitude of the data. Also, as before the effect of the simulations was relatively slight in relation to the total magnitude of the firm's net income. The tax credit ESOP increased the net income of the high dividend group an average of four tenths of one percent and one half of one percent for the low dividend group over the ten year period. The matching pension plan decreased the net income of the high dividend group an average of two tenths of one percent for the high dividend group and almost three tenths of one percent for the low dividend group. These results simply combine and mirror the results shown in Figures 20 and 21.
Fig. 22—Tax credit ESOP - Net income
Note (in the bottom half of Figure 22), the tax credit ESOP tended to increase net income approximately twice as much as the matching pension plan decreased net income. This effect resulted from the fact that 100 percent of the tax credit was used to decrease income taxes and thus, net income was increased by the full amount. Whereas, the contribution to the pension fund was charged against pretax earnings, decreasing both pretax earnings and income taxes. Thus, net income with the pension plan was reduced by approximately one minus the marginal tax rate times the contribution to the pension trust \([(1 - \text{marginal tax rate}) \times \text{contribution}]\). However, this was not exact because such things as increased earnings on additional funds, decreased earnings on less funds and dividends paid to the ESOT shares tended to obscure this exact formula.

Effect on earnings per share.--Earnings per share data is presented in Figure 23. The top pair of graphs again show the total trend of earnings per share. Except for the last few years of the simulation the effect of the tax credit ESOP and the matching pension plan was so slight it was difficult to show any difference on this scale. The increased scale (the bottom pair of graphs of Figure 23) showing only the effect of the tax credit ESOP and the matching pension plan shows that the ESOP increased the earnings per share and the pension plan decreased the earnings per share.
Fig. 23—Tax credit ESOP - Earnings per share
On the average the ESOP tax credit increased the earnings per share for the high dividend group by nine tenths of one percent and one and two tenths percent for the low dividend group. The matching pension plan decreased the high dividend group's earnings per share by an average of one half of one percent and nine tenths of one percent for the low dividend group.

The favorable effect of the tax credit stemmed primarily from the earnings that the firms were able to make on the new funds available and the direct reductions in their income tax liability. The tax credit seems to be unique in providing this two pronged increase in net earnings. For example, the issuance of stock through the tax credit mechanism was equivalent to selling the stock on the open market for its fair value. That is, the federal income tax liability was reduced by the fair market value of the transferred stock. Thus, giving the firm the equivalent funds they would have had from a normal stock sale. However, note the firm's after tax earning also got an accounting boost from the direct reduction in income taxes.

Notice the favorable effect of the tax credit continually increased net income as the simulation progressed. And by 1974 the tax credit ESOP increased earnings per share by five cents for the high dividend group and by seven cents for the low dividend group. Possibly over a long time period the tax credit might make a significant impact on earnings per share.
However, that time period might be much longer than the average working life of an employee.

**Effect on book value per share.**—The effect of the tax credit ESOP and the matching pension plan on book value is shown in Figure 24. As with other financial factors the tax credit ESOP had a relatively small effect on book value. For both dividend groups, the tax credit ESOP increased book value by less than one tenth of one percent on the average over the ten year simulation. The matching pension plan decreased book value an average of slightly over five one hundredths of one percent over the ten year period.

The increase in the book value per share from the tax credit ESOP was greater than the decrease in book value resulting from the matching pension plan. The common equity was increased by the full amount of the tax credit plus the earnings resulting from the change in funds available less the dividends paid to the ESOP shares. The pension plan reduced the common equity by the cumulative change in net income resulting from the pension plan. The reduction was dependent upon the marginal tax rates of the firms (see the explanation of Figure 22 for details). This amounted to approximately half the amount of the cumulative contribution to the pension plan.

The tax credit ESOP increased the denominator of the book value calculation each year when the stock contribution was made to the ESOT. This, of course, tended to negate some
Fig. 24—Tax credit ESOP — Book value per share
of the favorable effect that the additions to the numerator of the calculation had on book value. But it should be noted that the stock was transferred at fair market value which was determined by the closing price of the firm's stock. During the particular time period used for the simulation (1965 through 1974) most firm's stock was selling for much more than its book value. When stock can be sold for an amount greater than its book value, it tends to increase book value per share of all stock.

Effect on cash flow.—Abbreviated cash flow data is shown in Figure 25. As would be expected the tax credit ESOP and matching pension plan had a relatively small effect on cash flow. The tax credit increased the cash flow of both groups by an average of slightly more than three tenths of one percent for the ten year period. The matching pension plan decreased the cash flow of both groups an average of less than two tenths of one percent.

The effect on cash flow tended to be cumulative with the passage of time. That is, as the funds resulting in the tax credit ESOP accumulated, the earnings effect continually increased the positive effect on cash flow. And by the end of the tenth year (1974) the cash flow of the firms in the high dividend group had increased by one million dollars ($600,000 for the low dividend group).
Fig. 25—Tax credit ESOP - Abbreviated cash flow
Again, as in all other factors considered previously except earnings before taxes and income taxes, the tax credit ESOP's positive effect was greater than the pension plan's negative effect. The greater increased cash flow resulted from the reduction in the income tax liability by the full amount of the market value of the stock contributed to the ESOP plus the earnings from the "extra" funds available less the dividends paid to the ESOT. The pension plan's reduction in cash flow was buffered by the firm's marginal tax rate.

Effect on debt to asset ratio.—The tax credit ESOP and matching pension plan had only slight effects on the firm's debt to asset ratio. The results of the simulation of the firms' debt to asset ratio is shown in Figure 26. The tax credit ESOP had a slight favorable effect on the debt to asset ratio. The effect was again cumulative. By 1974 the tax credit ESOT had decreased the debt to asset ratio by almost eight hundredths of one percentage point for the high dividend group and seven hundredths of one percentage point for the low dividend group.

The pension plan had a slightly unfavorable effect on the debt to asset ratio. By 1974 the pension plan had increased the debt to asset ratio by six hundredths of one percentage point for both the high and low dividend groups. Again, the unfavorable effect of the pension plan was less than the favorable effect of the tax credit ESOP. But the magnitude of
Fig. 26—Tax credit ESOP - Debt to asset ratio
these differences in effect was not as great as for other previous factors. In any case the effect on this factor was so small it appears it would take a very long period of time for any significant difference to surface.

Percent of ESOP ownership of common stock.—The amount of stock contributed to the ESOT over the ten year period was relatively small. As shown in Figure 27 the ESOT acquired only four tenths of one percent of all outstanding common in the high dividend group. And in the low dividend group the ESOT held only five tenths of one percent of outstanding stock at the end of the simulation.

For the tax credit ESOP, voting rights must be passed on to the employee. Even if employees vote their stock as a block, it does not appear they would receive any significant amount of
corporate control in this period of time. At the rate indicated by the research, it is not likely that the employees would achieve any significant control from the present tax credit ESOP within their working lifetime.

The value of stock and dividends for the average employee. Figure 28 shows research results relating to the value of the stock and dividends the average employee received. As a motivation factor they appear to be insignificant. After a ten year period the average employee in the high dividend group had stock valued at $162 ($254 in the low dividend group).
The average annual value of stock the average employee received was at best slightly over twenty dollars.

The average employee of the high dividend group received thirty two dollars in dividends over the ten year period or an average of two dollars and sixty-six cents in dividends. And, in the low dividend group, the average employee received a total of twenty five dollars in dividends or an average of slightly over two dollars per year. Again, this would seem to have little monetary significance as a motivating factor.

The dividend policy appeared to have little bearing on the effects of the tax credit ESOP. Other factors appeared to offset the difference in dividend payments between the two groups. Most of these factors have been discussed previously. The results presented in this chapter did not turn out in exact compliance with some of the theoretical models discussed in Chapter II. There were several intervening factors that tended to obscure some of the primary cause and effect relationships. Although these factors at times tended to create unclear and indifferent results, they were valuable in uncovering some before unnoticed points.
CHAPTER BIBLIOGRAPHY


CHAPTER V

SUMMARY AND CONCLUSIONS

Summary of the Study

The evidence gathered in this study suggests that the nonleveraged, leveraged and tax credit ESOP's affect firms' financial structures in different ways. Also, the exact effects were influenced by several factors such as, earning power, dividend payments, investments in qualified property for investment credit purposes, relative size of the firm's contribution to the various plans, etc. At times some of these factors tended to obscure the effects of others or possibly work together to magnify other effects. Nevertheless, certain tendencies did become apparent.

It should be emphasized that the various simulated ESOP's are compared against the firms' data as it actually existed and against a simulated qualified pension plan of comparable size. It would be hard to say which comparison is more important because these two comparisons are made for specific and different reasons. The comparisons of the ESOP's to the actual data are made to determine certain effects of the ESOP's of a firm's financial structure. Comparisons between the ESOP and pension plan are made primarily to point out the relative cost of certain types of employee benefits.
In comparing the nonleveraged ESOP to actual data the nonleveraged ESOP tended to increase cash flow and favorably affect (decrease) the debt to asset ratio of the firms, but at the expense of the firm's reported earnings and book value figures. The increased cash flow resulted from the noncash expense of the stock contribution to the ESOT. The "extra" earnings resulting from the ESOP-related funds were never enough to overcome the stock contribution's charge against earnings. In addition, the existing shareholders suffered further dilution of earnings per share (and book value per share) because new shares were issued to the ESOT increasing the total numbers of shares outstanding. However, it should be noted that the matching pension plan had a more unfavorable effect on all financial factors. Also, the ESOP increased cash flow, whereas, the pension plan decreased cash flow, and the ESOP had a favorable effect on the firm's debt to asset ratio while the pension plan affected this factor adversely. The value of the stock and dividends accruing to employees appeared to be a significant (but not extraordinary) amount. The employees acquired a significant percent of all outstanding stock with the nonleveraged ESOP. If it could be assumed that that stock acquired was voting stock and voting rights were passed through to the employees, this would mean that employees could exercise a significant amount of control on the corporation if they would vote their stock as a block. However, with this type of an ESOP, voting stock does not have to be used. Even
if voting stock is used, voting rights do not have to be passed on to employees. In fact, most plans are drafted so that the plan committee directs the trustee in the voting of company stock (3, p. 434). Therefore, it would be difficult to make any definite statements regarding major shifts in corporate control resulting from nonleveraged ESOP's. Nevertheless, anytime this much stock is concentrated in one place, many possibilities regarding changes in corporate control exist. This possibility of such concentration of stock is an important finding.

The leveraged ESOP appeared to have a more favorable effect on earnings than the nonleveraged ESOP. But when the differences between the two plans were considered the apparent advantage was not great. For example, with the leveraged ESOP's, the firms increased their funds immediately through the ESOP stock sale. Thus, they should be earning more since they had more funds to earn with. In addition, the charge against earnings was less with the leveraged ESOP than with the nonleveraged ESOP. This was because the contribution to the trust was less for the leveraged ESOP's than it was for the nonleveraged ESOP. (Recall all contributions to the leveraged ESOT were computed in the first year of the plan. The contributions to the nonleveraged ESOT's were recomputed annually on an increasing amount of employee compensation.)

When compared to actual data the leveraged ESOP had an adverse effect on cash flow (except for the first year).
This primarily resulted from the cash payment to the ESOT that was required to amortize the loan (debt service) and the fact that, in most cases, the earnings on these funds were not large enough tocover the cash contributions to the ESOT. Also, the leveraged ESOP had an adverse effect on the firm's book value per share and the debt to asset ratio in the early years of the plan. This effect was modified as the simulation progressed. The method of accounting for the leveraged ESOP tended to magnify these results. The value of the stock and dividends accruing to the employees again appeared to be significant. Since the contributions to the leveraged ESOP were smaller than those to the nonleveraged ESOP the employees received less stock under the leveraged plan, but the employees received more dividends on less stock from the leveraged ESOP. This was because all the stock was outstanding from the start of the plan in the leveraged ESOP and the stock was issued on a quasi installment basis in the nonleveraged program. The employees' percent of ownership of all outstanding stock was also significant.

The tax credit ESOP had a small favorable effect on all financial variables tested. That is, earnings, book value, and cash flow were slightly increased. Income tax and the debt to asset ratio were decreased slightly. However, none of the factors was affected in any significant sense. The amount of stock and dividends the employees received was relatively
small. Any possible increase in employee control over the corporation could only be termed as insignificant.

Significance of the Findings

When compared to actual data the results of the nonleveraged ESOP simulation tended to confirm the proposition that the nonleveraged ESOP increased the firms' cash flow and equity base. But this comes at the expense of reported earnings and equity of the nonemployee shareholders. The nonemployee shareholder tended to suffer from the dilution of his equity and earnings per share. Furthermore, the amount of the dilution appeared to be large enough that it would likely be unacceptable to nonemployee shareholders. However, if the firms' earning power was increased substantially from possible increased employee motivation, the dilution might be reduced to more acceptable levels. Since an ESOP is simply a form of employee compensation, it is logical to assume the firm would expect to receive something in return for this compensation or they would be reluctant to initiate such a plan. It is also possible that very large firms with a high degree of market power may be able to pass on the extra cost to their customers (or suppliers). If this is true, it might also reduce the dilution to more acceptable levels.

The firm's earning power along with the relative size of the firm's contribution to the nonleveraged ESOT appears to dominate the ESOP's effect on earnings. The direct negative
effect on earnings tends to be large enough to more than offset the indirect positive effect of earnings from the increase in funds. But the earnings on the increased funds available were the primary reason the nonleveraged ESOP showed higher earnings than the matching pension plan.

One of the most significant findings resulting from the nonleveraged simulation was the possible amount of corporate control that employees could acquire. The simulation showed that it was possible for over one fourth of all outstanding stock to accumulate in the ESOT over a ten year period. Whether the employees vote their stock or whether the plan’s trustee votes the stock depends upon the individual plan. But in either case, the possibility of a shift in corporate control is very real. This might prompt the firm to make more stock offerings (using warrants and options) to existing non-employee shareholders to offset this trend. Of course, the employee stockholders would be able to take advantage of any future issues if they have the financial ability and desire.

The leveraged ESOP simulation also showed that it was possible for a shift in corporate control. However, unless this was used as a continued financing method, the control within the leveraged ESOT tended to decrease as new stock issues were made to the public.

An important finding brought to light by the leveraged ESOP simulation was the inability of some of the firms to amortize the trust's debt and interest payments with pretax
earnings solely from the funds from the ESOP stock sale over the ten year period. This was evidenced by the fact that when comparing the ESOP data to actual data, the simulated ESOP actually decreased earnings and cash flow for many firms tested. In other words, the pretax earnings on funds from the ESOP stock sale (trust debt) were less than the cash contribution required to amortize the loan. For the high dividend group, it appears pretax earnings were sufficient to amortize the loan within the ten year period. In fact, the pretax earnings on the loan proceeds were more than enough to pay principle and interest charges for the first five years (these were years when earning power was the highest for the high dividend group). In the low earning years (1970 and 1971) the high dividend group failed to generate enough earnings from the stock sale proceeds for ESOP debt service requirements. The earnings picture does not take into account dividends paid to the ESOP shares. When the effect of dividends is considered (see the leveraged ESOP's effect on cash in Figure 16) it becomes clear that neither group had the ability to amortize the loan in a ten year period strictly from funds generated from the stock sale proceeds. This is somewhat contrary to Kelso's claim that "new capital formation in well-managed businesses (e.g., the top 2,000 U.S. corporations) does not come in existence unless it will pay for itself in a reasonably short period of time - generally, under five years" (4, p. 61). In order for new capital projects to pay for
themselves in this length of time (five years), they will need to earn much more than the average firm earned on its assets in this study. The findings of this study imply that most firms tended to earn enough on their assets to pay for capital formation out of pretax earnings in slightly over ten years. However, the evidence regarding this statement is inconclusive. For example, it does not take such things as rising prices and inadequate depreciation charges into account for the replacement of the capital. These factors would tend to prolong the time period required to pay for capital formation.

The findings of the leveraged ESOP simulation illustrate a sharp decline in the book value per share for the first year. Then the book value figures (with the ESOP) tend to gradually approach the actual book value per share (see Figure 15 in Chapter IV). This configuration results because the firms must report the shares issued to the ESOT as outstanding in the year of issuance, but they are only allowed to record the increase in equity as the trust pays off its loan. Thus, book value per share received a double blow in the early years of the plan.

The debt to asset ratio takes a similar adverse jump in the first year. Again, the culprit seems to be the accounting method required for leveraged ESOP's. That is, firms must record the trust's debt as their own debt. The liability is reduced as the corporation makes contributions to the ESOT and the ESOT in turn pays off its debt.
Probably, the most significant finding relating to the tax credit ESOP was just how insignificant and small the effect on the various factors were. At the rate indicated in the findings it would take several years to make an appreciable impression on the various financial factors used in the study or an increase in the maximum legal limits of the allowable credit. The legal limit of one percent (one and one half percent in certain cases) of the qualified investment tends to be so small relative to total figures that the investment credit ESOP will not be likely to have any major part in corporate financial plans. However, the ESOP tax credit could have considerably more effect on certain firms in highly capital intensive industries. The larger a firm's investment in qualified property the more it will benefit from a tax credit ESOP.

However, the various trends were enlightening in some respects. For example, if increasing earnings after taxes and earnings per share have a high priority for corporate managements, then the tax credit mechanism provides Congress with an extremely powerful incentive tool. The tax credit has a direct positive effect on net income and earnings per share, whereas, the deduction mechanism has an indirect negative effect on after tax earnings. This is true as long as the "flow through" method of accounting for the investment credit is required.
Implications of the Findings

Accounting implications.--Accounting for the nonleveraged ESOP poses no special problems. As stock is issued to the ESOT, the firm simply credits its equity accounts for the fair market value of the issued stock and debits an expense account to show the additional employee compensation expense. This expense reacts like any other expense on the income statement, i.e., it is a direct reduction in earnings. However, on the balance sheet it does not have the same impact as a normal expense. When the firm's after tax earnings are credited to the stockholders' equity accounts, the "expense" recorded earlier would tend to reduce equity just as any other expense. But when the shares were issued to the ESOP, the shareholders' equity account was credited for their market value. Thus, this "expense" does not represent an unfavorable change in the firm's resources as does a typical expense. But this effect does not necessitate any special accounting procedures.

However, this is not the case with a leveraged ESOP. Normally, the corporation guarantees the debt incurred by the trust in a leveraged ESOP. The ESOT usually pledges the stock as collateral for the loan which was used to purchase the stock from the employer corporation. In addition, the employer agrees to make future cash contributions to the ESOT sufficient to amortize the loan over an agreed upon period of time. The Accounting Standards Division of the American Institute of Certified Public Accountants recommends that the
trust's debt should be recorded as a liability of the employer corporation when the employer guarantees the trust debt and makes a commitment for the trust to meet future debt service requirements (2).

Since the liability is created by a credit to a liability account, it follows that something must be debited by an equal amount. When the stock was issued, stockholder equity was credited, but to offset the liability, stockholder equity is to be debited for the amount of the trust's liability. Thus, stockholders' equity is increased only as the trust's debt is reduced. This offsetting debit to stockholders' equity is similar to the unearned compensation discussed in the Accounting Principles Board Opinion No. 25, paragraph fourteen (1).

As the liability of the trust is reduced, the employer corporation reduces its liability and increases its stockholders' equity. The amount the employer corporation contributes to the ESOT is recorded as an expense. The shares issued to the ESOT are considered outstanding shares for per share computations.

The logic used in accounting for the leveraged ESOP is that the ESOT's debt is considered the employer corporation's debt. The expense is treated as unearned until the employer corporation actually makes the contribution to the trust. In essence, this treats the stock sale as a stock subscription — to be paid for out of future earnings in the form of employee compensation. This mixture of logic tends to distort the
firm's book value per share and earnings per share in the early years of the plan. That is, the stockholders' equity is increased only as the trust's debt is reduced, but for per share calculations the ESOT shares are considered fully outstanding from the time they are issued. In order to correct this, the shares should be considered outstanding in proportion to the repayment of the trust's debt. The shares should be considered outstanding only as the trust repays its debt and the shares are released from the pledge of collateral. If all shares are considered outstanding from the outset, it results in a distortion of the per share calculation.

Financial implications.--The results of the nonleveraged ESOP simulation present the financial manager with a dilemma. That is, when compared to actual data the ESOP tends to increase the firm's cash flow and equity base, but at the expense of reported earnings (especially earnings per share) and book value per share.

From a corporate entity point of view the nonleveraged ESOP appears to be a relatively cheap method of providing employees a form of deferred employee compensation (compared to a normal pension). But the difference in cost between a nonleveraged ESOP and a regular pension plan may be at the risk of nonemployee shareholders losing corporate control. Nonemployee shareholders may be unwilling to take this risk. However, the risk of losing corporate control could be overcome
by issuing nonvoting stock or by also selling more stock to outsiders.

Even though the nonleveraged ESOP appears to be a relatively inexpensive means of providing deferred compensation, employees might prefer a regular pension with a diversified portfolio where benefits are more defined and certain. The ESOT's investments are, of course, primarily in employer stock with very little diversification. If one of the primary objectives of a retirement plan is security and safety, undiversified ESOP's are at a definite disadvantage.

In the simulation the employer corporations' stock contribution was in addition to whatever compensation it was already paying its employees. This, in fact, increased the amount of employee compensation by fifteen percent. The simulation held productivity constant. (There was no existing evidence to do otherwise.) The findings showed the ESOP's negative impact on earnings and the dilution experienced by nonemployee stockholders. In a real situation management and existing shareholders must make a decision if the value of the stock they contribute to the ESOP is worth the expected increase in employee productivity. The ESOP is simply one more means of providing compensation in exchange for the employees' labor. As the findings show, they have a cost just like any other form of compensation.
As in the case of the nonleveraged ESOP, the leveraged ESOP also has its cost. These costs must be weighed against the ESOP's expected value as a form of employee compensation.

Since the employer corporation is required to report the ESOT's debt on its financial statements, the debt to asset and debt to equity ratios take a large jump in the first year. The jump could be significant enough (as shown in the findings) to cause many firms to be in default of existing loan agreements. It could also increase the cost of debt financing for firms. Because the employer corporation is required to include all shares issued to the ESOT in per share calculations while at the same time the stockholder equity account is only increased as the shares become unencumbered, existing shareholder equity (book value) per share and earnings per share decline sharply the first year. This may make it difficult for firms to make any other public offerings.

The firm's earning power appears to be a key factor in evaluating the financial effects of a leveraged ESOP. Since the "extra" funds are available all at once at the beginning of the program, a slight variation in the firm's earning power could make a sizable difference in the firm's total earning picture. If employee motivation and, consequently, the earning power of the firm is increased by the ESOP, it could have a significant effect on the dilution factor of the ESOP.

The findings show the financial impact of the tax credit ESOP is only slight. At the present time the tax credit ESOP
would have to be used in conjunction with one of the other ESOP's for it to have much effect. But if used in conjunction with another plan, it could help to reduce some of their negative effects.

Conclusion and Recommendations

All three types of ESOP's studied have both advantages and disadvantages for publicly held corporations, their shareholders and their employees. Specific advantages and disadvantages depend upon several factors including the type of ESOP chosen. Little would be gained from rehashing these specific items at this point, but the advantages and disadvantages should be fully considered by any corporation considering an ESOP.

A poor case at best could be made for the three forms of ESOP's as a financing tool alone. The leveraged and nonleveraged ESOP's have a "cost" just like any other form of employee financing. The employer corporation has simply paid its employees in corporate stock instead of cash. Just like any other form of compensation, the employer must decide if the benefits received justify the compensation paid. This payment (stock contribution) does not represent an unfavorable change in the firm's tangible resources in a strict sense, but the corporation has given up something of value. There is no magic in such transactions. The real problem is the same problem employers, employees, and stockholders have always
faced - that is, what is the value of the employees' labor and the value of the corporations' stock? The ESOP just adds camouflage to the problem.

Unless corporations' investments in qualified property are substantially more than they were assumed to be in this study, the financial benefits provided by the tax credit ESOP will be relatively insignificant as a method of financing for all but the most capital intensive corporations. Recall that this study assumed the firms' investment in qualified property was only twenty seven and three tenths percent of its total investment. This may seem to be somewhat restrictive, but it was the best data available. Of course, if this assumption was relaxed, the investment credit ESOP would have a larger effect on the factors considered.

The decision of whether or not to adopt an ESOP should be made on its relative merits as part of the total employee compensation package. All ESOP related costs should be weighed against the possible expected benefits as a compensation device. Such factors as employee preference, employee motivation, effect on nonemployee stockholders, and corporate objectives should be considered in the decision process. The basic consideration should always be that an ESOP is an employee benefit and should be used for the exclusive benefit of employees. That is, it is not and was not meant to be a corporate financing tool exclusively.
This research did not deal specifically with the question of employee motivation and productivity. More empirical evidence is needed to incorporate productivity factors in the type of analysis used in this research. This is unfortunate because the results of this research indicate the profitability factor (earning power) is important in determining the effect the various ESOP's have on firms. Employee productivity plays a significant role in determining a firm's profitability. Thus, any increase in employee motivation and, hopefully, productivity would tend to make the ESOP a more attractive form of employee compensation.

On a national level the ESOP concept is very appealing. In a democratic capitalistic society few would argue against the need for broadening capital ownership. The need for capital accumulation for long term economic growth is very real. Tax incentives for the owners of capital are one way to encourage necessary capital expansion. A reduction in the corporate income tax and continued use of investment credits in specific areas may do much for providing economic incentives for needed capital expenditures. Although in the long run the total society stands to benefit from the possible resulting capital accumulation, the most apparent and direct beneficiaries of such policies are the existing capital owners. These existing owners of capital are only a small minority of our total population. Thus, in a democratic society without broad capital ownership these methods of increasing capital
accumulation are unlikely from a political standpoint. The primary beneficiaries of these types of tax incentives for capital accumulation would be those already wealthy. The political appeal of such tax incentives becomes more popular as capital ownership widens. Thus, to the extent that ESOP's broaden the ownership of capital they should be encouraged.

Implications for Further Research

A definite need exists for empirical data relating to ESOP's motivational effects. This is a key factor in determining how the ESOP will affect a firm's financial structure. However, it may be some time before enough valid data is available to complete a thorough research project in this area. Until such data is available, simulated research (such as this thesis) with assumed earning power figures could provide information on just how much increase in productivity will be required to make ESOP's attractive from a financing standpoint.
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APPENDIX A
LOW DIVIDEND PAYING GROUP

Aluminum Company of America
AMP Incorporated
Anchor Hocking Corporation
Anheuser-Busch Incorporated
Atlantic Richfield Company
Bell & Howell
Bemis Company
Brown Forman Distillers
Carnation Company
Caterpillar Tractor Company
Cleveland-Cliffs Iron Company
Continental Oil Company
Copperweld Corporation
Deere & Company
Dennison Manufacturing Company
Economics Laboratory
Emerson Electronic Company
Emhart Corporation
Firestone Tire and Rubber Company
Florida Steel Corporation
General Mills, Incorporated
Goodyear Tire and Rubber Company
Halliburton Company
Hercules Incorporated
Hoerner Waldorf Corporation
Johnson & Johnson
Kresge (S.S.)
Mapco Incorporated
Mayer (Oscar) & Company
Melville Corporation
Milton Bradley Company
Monsanto Company
Moore Corporation
Murphy Oil Corporation
Nalco Chemical Company
New York Times Company
Northwestern Steel & Wire Company
Outboard Marine Corporation
Overnight Transportation
Owens-Corning Fiberglas Corporation
Owens-Illinois Incorporated
Low Dividend Paying Group - Continued

Polaroid Corporation
Rohn & Haas Company
Schering-Plough
Skelly Oil Company
Staley (A. E.) Manufacturing
Standard Oil Company of California
Standard Oil Company (Indiana)
Starret (L. S.) Company
Sun Oil Company
Tecumseh Products Company
Tektronic Incorporated
Textron Incorporated
Union Camp Corporation
Union Oil of California
Vulcan Materials Company
Xerox Corporation

HIGH DIVIDEND PAYING GROUP

Airco Incorporated
Akzona
American Can Company
American Home Products
AMF Incorporated
Amsted Industries
Armstrong Cork Company
Avon Products
Belden Corporation
Borden Incorporated
Burlington Industries
Campbell Soup Company
Carpenter Technology
Clark Equipment Company
Continental Group
CPC International Incorporated
Crown Zellerbach
Dana Corporation
Dow Chemical
DuPont (E. I.) DeNemours
Eastman Kodak Company
Ex-cell-O Corporation
Exxon Company
General Electric Company
General Foods Company
General Motors Corporation
High Dividend Paying Group - Continued

Gulf Oil Corporation
Hoover Ball & Bearing Company
Imperial Oil Ltd.
Inland Steel Company
International Paper Company
Johns Manville Corporation
Kaiser Cement & Gypsum Corporation
Libbey-Owens-Ford Company
Lucky Stores Incorporated
Marathon Oil Company
Maytag Company
McGraw-Hill Incorporated
Merck & Company
Minnesota Mining & Manufacturing Company
Murphy (G. C.) Company
Nabisco Incorporated
National Steel Company
Nicor Incorporated
Pfizer Incorporated
Phillips Petroleum Company
Pittsburg Forgings Company
PPG Industries
RCA Corporation
Remington Arms Company
Rexnord Incorporated
Shell Oil Company
Sherwin-Williams Company
Southern Union Company
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