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SHAREHOLDER VALUE FOR ESCO

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A Culminating Project Presented to the Faculty of the Graduate School of Lindenwood College in Partial Fulfillment of Requirements for the Degree of Masters of Valuation Science.

1991



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ABSTRACT

This thesis will focus on the study and use of Shareholder Value Analysis as a technique to be implemented as a measure for business performance. Using the Alcar software to perform the financial modeling for ESCO this thesis will prove that ESCO is undervalued and why. The financial models were built and based upon management's forecast and expectation trends.

Shareholder Value Analysis enables managers to evaluate alternative strategies in terms of changes in corporate value. The approach provides a uniform yardstick, a measuring tool for comparing one business plan to another in order to see which creates the most long-term value. The seven value drivers give a quick idea of where management should focus its planning effort to affect cash flow. Another good reason management should use this technique; the approach helps make intelligent, informed decisions that will maximize the market value of the company,

which could be realized in an eventual "cash out" or restructuring.

The process to get management to incorporate shareholder value in their company may be more difficult because American industry is still run and measured by short-term accounting numbers such as ROI (return on investment) and EPS (earnings per share). Market value is also driven by EPS performance and increasing shareholder value is not the driving force for the corporate restructuring movement.

Thesis Statement: Value like beauty, is in the eye of the beholder. Therefore, management's plans for and expectations of future performance have to be communicated to current and prospective investors in the market place so the value inherent in those plans will be reflected in the price of the stock, and therefore, the expectation gap, or difference between management's perception of value and the market's expectations of value can be closed.

SHAREHOLDER VALUE AND CORPORATE PURPOSE

This Chapter will give an overall introduction to shareholder value concepts and beliefs. While the principle that the fundamental objective of the business corporation is to increase the value of its shareholders' investment is widely accepted, there is substantially less agreement about how this is accomplished.

Many companies believe that "increasing shareholder value over time is accomplished by growth in annual earnings per share; and increased return on equity are still the name of the game." On the contrary, other companies focus on creating "shareholder value" by generating free cash flow in excess of the shareholders' investment in the business.

Capital budgeting applications deal with investment projects such as capacity additions rather than total investment at the business level.

Thus, we sometimes see a situation where the return on capital projects regularly exceed the minimum acceptable rate of return,

while the business unit itself is a "problem" and creates little or no value to the shareholders. This situation can arise because capital expenditures typically represent only a small percentage of total company outlays.

During the past ten years, the concept of shareholder value analysis has frequently been applied not only to internal investments such as capacity additions, but also to opportunities for external growth such as mergers and acquisitions. Recently many companies have found that the shareholder value approach can be productively extended from individual projects to the entire strategic plan. A strategic business unit (SBU) is commonly defined as the smallest organizational unit for which integrated strategic planning, related to a distinct product that serves a well-defined market, is feasible. A strategy for an SBU may then be seen as a collection of product-market related investments and the company itself characterized as a portfolio of these investment-requiring strategies. By estimating the future cash flows associated

with each strategy, a company can assess the economic value to shareholders of alternative strategies at the business unit and corporate levels.

Interest in shareholder value is gaining momentum as a result of several recent developments (Blyth, Friskey, Rappaport 45-55).

1. The threat of corporate takeovers by those seeking undervalued, undermanaged assets.

2. Impressive endorsements by corporate leaders who have adopted the approach.

3. The growing recognition that traditional accounting measures such as EPS and ROI are not reliably linked to increasing the value of the company's shares.

4. Reporting of returns to shareholders along with other measures of performance in the business press such as Fortune's annual ranking of the 500 leading industrial firms.

5. A growing recognition that executives' long-term compensation needs to be more closely tied to returns to shareholders.

Endorsements of the shareholder value approach can be found in an increasing number

of annual reports and other corporate publications. Whether or not executives agree with the tactics of raiders such as Carl Icahn and T. Boone Pickens, they recognize that the raiders characterize themselves as champions of the shareholders. The raiders attack from two fronts. First, they are constantly searching for poorly managed companies, where aggressive changes in strategic directions could dramatically improve the value of the stock. Second, they identify undervalued assets that can be redeployed to boost the stock price or be split up and sold. As a result, many executives recognize a new compelling reason to be concerned with the performance of their company's stock. Executives have also become increasingly aware that many accrual-based accounting measures do not provide a dependable picture of the current and future performance of an organization. Numerous companies have sustained double-digit EPS growth while providing minimal or even negative returns to shareholders. According to Alfred Rappaport, many public companies focus on achieving short-term earnings to meet

external expectations, sometimes jeopardizing their ability to create long-term value (Creating Shareholder Value 20).

Considerable attention has focused recently on the problems associated with rewarding executives on the basis of short-term accounting-based indicators. As a reflection of the increasing scrutiny under which executive compensation has come, business publications such as Fortune and Business Week have begun to publish compensation surveys that examine the correlation between the executive's pay and how well their companies have performed based on several measures, including returns to shareholders. For example, Business Week's executive compensation scoreboard now includes a "pay-performance index" for 255 companies in 36 industries. The index shows how well the top two executives in each company were paid relative to how well the shareholders fared. The index is the ratio of the executive's three-year total pay as a percent of the industry average to the shareholder's total three-year return as a percent of the industry average, the index is 100. The lower the

index, the better the shareholders fared. The broad range in the pay-performance index, even within industries, has further fueled the interest in achieving shareholder value. For the 1982-1984 period, for example, Business Week reported a pay-performance index of 59 for Roger Smith, CEO of General Motors, and an index of 160 for Phillip Caldwell, CEO of Ford Motors (6).

When the shareholder value approach first gained attention toward the end of the 1970's, even the executives who found the concept an intriguing notion tended to think that the approach would be very difficult to implement. The task of educating managers seemed substantial, and they were also not eager to develop a new planning systems if it might involve upheaval in the corporate information system. Recent advances in technology have put impressive analytical potential at management's disposal. Managers' decisions are now greatly facilitated by microcomputer software. New approaches thus can more readily be incorporated without displacing existing information systems.

MANAGEMENT VERSUS SHAREHOLDER OBJECTIVES

It is important to recognize that the objectives of management may in some situations differ from those of the company's shareholders. Managers like other people, act in their self-interest. The theory of a market economy is, after all, based on individuals promoting their self-interest via market transactions to bring about an efficient allocation of resources. In a world in which principals (stockholders) have imperfect control over their agents (managers), these agents may not always engage in transactions solely in the best interest of the principals. Agents have their own objectives and it may sometimes pay them to sacrifice the principal's interests. The problem is exacerbated in large corporations where it is difficult to identify the interests of a diverse set of stockholders ranging from institutional investors to individuals with small holdings.

Critics of large corporations often allege that corporate managers have too much power and that they act in ways to benefit

themselves at the expense of the shareholders and other corporate constituencies.

The argument is generally developed along the following lines (Berle, Means 29-30). Responsibility for administering companies or "control" is vested in the hands of professional managers and thereby has been separated from "ownership." Since the ownership of shares in large corporations tends to be diffused, individual shareholders are said to have neither influence on nor interest in corporate governance issues such as the election of board members. Therefore, boards are largely responsive to management which, in turn, can ignore shareholders and run companies as they see fit.

The foregoing "separation of ownership and control" argument advanced by Berle and Means in 1932 has been a persistent theme of corporate critics during the intervening years (Modern Corporation and Private Properties 29-30).

There are, however, a number of factors that induce management to act in the best interest of the shareholder. These factors derive from the fundamental premise that the

greater the expected unfavorable consequences to the manager who decreases the wealth of shareholders, the less likely it is that the manager will, in fact, act against the interest of shareholders.

Consistent with the above premise, at least four major factors will induce management to adopt a shareholder orientation: 1.) a relatively large ownership position, 2.) compensation tied to shareholder return and performance, 3.) threat of takeover by another organization, and 4.) competitive labor markets for corporate executives.

Economic rationality dictates that stock ownership by management motivates executives to identify more closely with the shareholder's economic interests. Indeed, we would expect that the greater the proportion of personal wealth invested via company stock or tied to stock options, the greater would be management's shareholder orientation. While the top executives in many companies often have relatively large percentages of wealth invested in company stock, this is much less often the case for divisional and business unit managers. And it is at the divisional

and business unit levels that most resource allocation decisions are made in decentralized organizations.

Even when corporate executives own shares in their company, their viewpoint on the acceptance of risk may differ from that of shareholders. It is reasonable to expect that many corporate executives have a lower tolerance for risk. If the company invests in a risky project, stockholders can always balance this risk against other risks in their presumably diversified portfolio. The manager, however, can balance a project failure only against the other activities of the division or the company. Thus, managers are usually hurt by the failure more than shareholders.

The second factor likely to influence management to adopt a shareholder orientation is compensation tied to shareholder return performance. The most direct means of linking top management's interest with those of shareholders is to base compensation, and particularly the incentive portion, on market returns realized by shareholders. Exclusive reliance on shareholder returns, however, has

its own limitations. First, movements in a company's stock price may well be greatly influenced by factors beyond management's control such as the overall state of the economy and stock market. Second, shareholder returns may be materially influenced by what management believes to be unduly optimistic or pessimistic market expectations at the beginning or end of the performance measurement period.

Rather than linking incentive compensation directly to the market returns earned by shareholders, most Fortune 500 companies tie annual bonuses and long-term performance plans to internal financial goals such as earnings or accounting return on investment.

The third factor affecting management behavior is the threat of takeover by another company. Tender offers have become a commonly employed means of transferring corporate control. Moreover the size of the targets continues to become larger. During the 1979-1985 period, seventy-seven acquisitions each in excess of \$1 billion were completed. The threat of takeover is an essential means of

constraining corporate managers who might choose to pursue personal goals at the expense of shareholders. Any significant exploitation of shareholders should be reflected in a lower stock price. This lower price, relative to what it might be with more efficient management, offers attractive takeover opportunity for another company which in many cases will replace incumbent management.

An active market for corporate control places limits on the divergence of interests between management and shareholders and thereby serves as an important conterargument to the "separation of ownership and control" criticisms.

The fourth and final factor influencing management's shareholder orientation is the labor market for corporate executives. Managerial labor markets are an essential mechanism for motivating management to function in the best interest of shareholders. Managers compete for positions both within and outside of the firm. The increasing number of executive recruiting firms and the length of the "Who's News" column in the Wall Street Journal are evidence that the managerial labor

markets are active. What is less obvious is how managers are evaluated in this market. Within the firm, performance evaluation and incentives schemes are the basic mechanisms for monitoring managerial performance. As seen earlier, the question here is whether these measures are reliably linked to the market price of the company's shares.

How managers communicate their value to the labor market outside of their individual firms is less apparent. While the performance of top-level corporate officers can be gleaned from annual reports and other publicly available corporate communications, this is not generally the case for divisional managers. For corporate level executives, the question is whether performance for shareholders is the dominant criterion in assessing their value in an executive labor market. The question in the case of division managers is, first, how does the labor market monitor and gain insights about their performance and second, what is the basis for valuing their service.

"EXCELLENCE" AND RESTRUCTURING

Two of the most visible phenomena of the first half of the 1980's have been the publication of Peters and Waterman's In Search of Excellence and the unprecedented surge in the restructuring of companies (25-30). The "excellence phenomenon" certainly provided no obvious encouragement for management to link its decisions more closely with the objective of maximizing returns to shareholder. In contrast, the more recent restructuring movement is clearly a manifestation of top management's growing concern with its company's share price and shareholder returns.

As U.S. corporations began the 1980's, saddled with a decade of inflation and lagging productivity, nothing could have come as better news than the idea that not all excellent managed companies were Japanese. It was in this climate that In Search of Excellence, published in 1982, became an absolute sensation. Its longevity on the top of best-seller list with its wide coverage in the business press provided an extraordinary platform for the author's ideas.

The basic purpose of In Search of Excellence was to identify key attributes of corporate excellence that are common among successful American companies. To choose the "excellent" companies, Peters and Waterman began by assembling a list of sixty-two U.S. companies that were considered "successful" by business leaders, consultants, members of the business press, and business school professors. From that list they selected thirty-six "excellent" companies based on superior performance for such financial measures as return on total capital, return of equity, return on sales, and asset growth.

Even though the "excellent" firms exhibited superior financial performance over the 1960-1980 period, they did not provide consistently superior returns to the shareholders via dividends plus share price appreciation (Pitts, Waterman 40-41). The excellent companies did not perform significantly better than the market. Indeed, they did not consistently outperform their respective industry groups or closest competitors.

These results once again raise questions about the use of accounting measures to gauge the economic performance of corporations. Since eight attributes of corporate excellence are not associated with systematically superior returns to shareholders, efforts to emulate these attributes may be ill-advised.

But if emulating excellent companies has lost some of its luster, a new focal point of interest has captured the imagination of management during the past couple years—restructuring. Hardly a day passes with some company announcing a major restructuring of its business or capital structure. Restructuring involves diverse activities such as divestiture of underperforming businesses or businesses that do not "fit," spinoffs directly to shareholders, acquisitions paid with excess "cash," stock repurchases, debt swaps, and liquidation of overfunded pension funds. In many cases, these restructurings are motivated by a desire to foil a takeover bid by so called "raiders" who look for undermanaged companies where changes in strategic direction could dramatically increase the value of the stock, and for

companies with high liquidation values relative to the current share price.

There is, of course, no better means of avoiding a takeover than increasing the price of the stock. Thus, increasing share price has become the fundamental purpose of corporate restructuring.

In contrast to the earlier euphoria over emulating excellent companies, the current restructuring movement is solidly based on shareholder value creation principles (Rappaport 50-60). In 1985, the Standard and Poor's 500 appreciated 26 percent in price. Goldman Sachs estimates that corporate restructuring accounted for about 30 percent of that price change. However, the early stage of the restructuring movement, which is known as "Phase I restructuring," is largely based on one-time transactions such as those listed above rather than changes in day-to-day management of the business.

Phase II restructuring, the shareholder value approach, is employed not only when buying and selling businesses or changing the company's capital structure, but also in the planning and performance monitoring of all

business strategies on an ongoing basis. Frequently, the most difficult issue in this area is how to go about estimating the impact of strategies on shareholder value. Fortunately, relatively straightforward approaches do exist for estimating the shareholder value created by business strategy, and an increasing number of major companies have begun to use them.

Most companies already use the same discounted cash-flow techniques used in the shareholder value approach to assess the attractiveness of capital investment projects and to value prospective acquisition targets. As will be shown later, this approach can be extended to estimate the value creation potential of individual business units and the strategic plan for the entire company.

In Phase II restructuring it will also become increasingly important that executive compensation be tied closely to the shareholder value driven plans so that management will be strongly motivated to make decisions consistent with creating maximum returns to shareholders. A successful implementation of Phase II restructuring will

ensure that management has met its fiduciary responsibility to develop corporate performance evaluation systems consistent with the parameters investors use to value the company. It will also minimize the Phase I concern that a take-over of an undermanaged company is imminent.

RATIONALE FOR SHAREHOLDER VALUE APPROACH

In Creating Shareholder Value, Rappaport emphasizes business strategies that should be judged by the economic returns they generate for shareholders, as measured by dividends plus the increase in the company's share price. Rappaport also believes that as management considers alternative strategies, those expected to develop the greatest sustainable competitive advantage will be those that will also create the greatest value for shareholders (11). The "shareholder value approach" estimates the economic value of an investment (the shares of a company, strategies, mergers and acquisitions, capital expenditures) by discounting forecasted flows by the cost of capital. These cash flows, in turn, serve as the foundation for shareholder returns from dividends and share-price appreciation (Rappaport 11-13).

Management is often characterized as balancing the interest of various corporate constituencies such as employees, customers, suppliers, debtholders, and stockholders. As Treynor points out, the company's continued

existence depends upon a financial relationship with each of these parties. Employees want competitive wages. Customers want high quality at a competitive price. Suppliers and debtholders each have financial claims that must be satisfied with cash when they fall due. Stockholders, as residual claimants of the firm, look for cash dividends and the prospect of future dividends which is reflected in the market price of the stock.

If the company does not satisfy the financial claims of its constituents, it will cease to be a viable organization. Employees, customers, suppliers will simply withdraw their support. Thus, a going concern must strive to enhance its cash-generating ability. The ability of a company to distribute cash to its various constituencies depends on its ability to generate cash from operating its businesses and on its ability to obtain any additional funds needed from external sources.

Debt and equity financing are the two basic external sources. The company's ability to borrow today is based on projections of how much cash will be generated in the future. Borrowing power and the market value of the

shares both depend on a company's cash-generating ability. The market value of the shares directly impacts the second source of financing, that is, equity financing. For a given level of funds required, the higher the share price, the less dilution borne by current shareholders. Therefore, management's financial power to deal effectively with corporate claimants also comes from increasing the value of the shares. Treynor, a former editor of the Financial Analysts Journal, best summarizes this line of thinking:(11) Those who criticize the goal of share value maximization are forgetting that stockholders are not merely the beneficiaries of the corporation's financial success, but also the referees who determine management's financial power (10-13). Any management, no matter how powerful and independent, that flouts the financial objective of maximizing share value does so at its own peril (Rappaport 20).

In the following chapters of this paper I will prove my thesis statement: Value like beauty is in the eye of the beholder. Therefore, the management's expectations have to be communicated to the market place so the

value will be reflected in the price of the stock, and therefore, the expectation gap can be closed.

In other chapters of this report will be the core concept of shareholder value, chapter three. ESCO's financial and shareholder value analysis will be explained in chapters four and five.

The Appendix A of this paper contains the financial, sensitivity, shareholder value models based upon ESCO's 1990 Annual Report. Appendix B contains the works cited.

CHAPTER II

HISTORY AND REVIEW OF LITERATURE

Chapter II contains a brief explanation about each article used in the research for this paper. I used several databases, but my efforts were exhausted because literature on this subject is scarce. There exists no other ESCO Shareholder Value Analysis, only the one I created.

The article by Blyth, Friskey and Rappaport is about implementing the shareholder value approach within a company using the Alcar financial modeling software to arrive at a value for a company; which I used in the financial modeling for this paper.

Kimmell's article emphasizes the need for attention to be focused on rewarding executives on the basis of short-term accounting-based indicators. Kimmell believes that executive compensation should be tied to shareholder value.

Johnson believes that the primary responsibility of management is to maximize shareholder's total return via dividends and increases in the market price of the company's shares.

Rappaport writes about the three basic steps to analyzing an industry's attractiveness, evaluating a business' competitive position within the industry, and to identifying sources of competitive advantage. Each one of these steps is analyzed and applied to the shareholder value analysis.

Rappaport's book on Shareholder Value is the foundation and core of the concept. Rappaport originated this concept and teaches it to many companies and universities. Using Rappaport's theory has helped many company's realize their true value and close their value gaps.

Berle's article dealing with disparity between growth in executive compensation and shareholder return and does not provide unambiguous evidence that incentives are misdirected. Instead this article reflects a policy that rewards executives for relative rather than absolute performance.

Rosenberg's article is about the capital asset pricing model (CAPM) which is the theoretical foundation for estimating a company's cost of equity capital. The CAPM is

one of the cornerstones of modern finance theory. This method provides a methodology for quantifying risk.

Gale believes that if a company does not satisfy the financial claims of its constituents, it will cease to be a viable organization. Thus a going concern must strive to enhance its cash - generating ability. The ability of a company to distribute cash to its various constituencies depends on its ability to generate cash from operating its businesses and on its ability to obtain any additional funds needed from external sources.

Balu's article on the threshold margin concept discusses how such factors as capital intensity, asset mix, economic life of depreciable assets, income tax rate, risk, and inflation affect the threshold margin.

CHAPTER III

SHAREHOLDER VALUE APPROACH

As discussed earlier, the "shareholder value approach" estimates the economic value of an investment by discounting forecasted cash flows by the cost of capital. These cash flows, in turn, serve as the foundation for shareholder returns from dividends and share-price appreciation. There are certain "value drivers" such as: sales growth rate, operating profit margin, income tax rate, working capital investment, fixed capital investment, cost of capital, and forecast duration that are developed and incorporated in the shareholder value calculations. After these drivers are identified, the focus shifts from estimating the value of the business to estimating the value created by its strategy during the forecast period. Throughout, the shareholder value approach is linked to parameters with which operating managers are familiar and comfortable.

ESTIMATING SHAREHOLDER VALUE

The total economic value of an entity such as a company or business unit, is the sum of the values of its debt and its equity. This value of the business is called "corporate value" and the value of the entity is called "shareholder value." In summary:

$$\text{Corporate value} = \text{Debt} + \text{Shareholder Value}$$

The debt portion of corporate value includes the market value of debt, unfunded pension liabilities, and the market value of other claims such as preferred stock (Rappaport 40). Rearranging the above equation to solve for shareholder value:

$$\text{Shareholder value} = \text{Corporate value} - \text{Debt}$$

In order to determine shareholder value, one must first determine the value of the total firm or business unit, that is, corporate value. Corporate value, in turn, consists of two basic components:

1. The present value of cash flow from operations during the forecast period.

2. "Residual value," which represents the present value of the business attributable to the period beyond the forecast period.

For a more precise estimation of corporate value, a third component must be included: the current value of marketable securities and other investments that can be converted to cash and are not essential to operating the business. Neither these investments nor the income from them is included in cash flows from operations. Nonetheless, these investments clearly have value, thus they need to be included in developing the corporate value estimate. Corporate value therefore has three components:

Corporate value = Present value of cash flow from Operations during the forecast period + Residual value + Marketable securities

$$CV = PVCF + RV + MS$$

CASH FLOW FROM OPERATIONS

Cash flow from operations represents the difference between operating cash inflows and outflows. These cash flows are relevant for estimating corporate value because they represent the cash available to compensate debtholders and shareholders. Once the cash flow from operations is estimated for each year in the forecast period, these flows are then discounted back to the present. The cash flows are discounted by the cost of capital or the weighted average of the costs of debt and equity capital. See table in Appendix A, Cash Flow Statement for ESCO.

Some brief comments about several of these value drivers: Operating profit margin is the ratio of pre-interest, pretax operating profit to sales. To arrive at operating profit we not only deduct the cost of goods sold, plus selling and administrative expenses but depreciation expenses as well which involve no cash outlay. The incremental fixed capital investment is defined as capital expenditures in excess of depreciation expense that is:

Incremental fixed capital investments =
Capital expenditures - Depreciation expenses

Thus, if depreciation were added back to operating profit (to convert it to a cash flow figure) and the same depreciation expense amount were added to the incremental fixed capital investment figure (to convert it to total capital expenditures), the cash flow from operations figure would remain the same.

When management is conducting analysis for its own business, it ordinarily has a long-term plan which includes capital expenditures estimates. In this case, these estimates of capital expenditures can be incorporated directly into the valuation. However, if the analysis concerns another company, say, a competitor, typically only historical information is likely to be available. In such a situation, it is generally advantageous to forecast investment as a percentage of incremental sales.

Incremental fixed capital investment
rate (100) = Capital expenditures -
Depreciation expense divided by Incremental
sales x (100)

$$IFCI = CI - \frac{D}{S}$$

Incremental fixed capital investment
divided by Incremental sales x (100)

To estimate the average of recent values, take the sum of all capital expenditures less depreciation over the preceding five or ten year and divide this amount by the sales increase during the period. If a business continues to replace existing facilities in kind and if the prices of these facilities remain constant, then the numerator (capital expenditures less depreciation) approximates the cost of real growth in productive capacity.

However, capital expenditures usually rise each year owing to inflationary forces and regulatory requirements such as environmental control. These cost increases may be partially offset by advances in technology. Thus the numerator reflects not only the cost of real growth but price changes in facilities as well as the impact of product mix changes, regulation, and technological improvements. Whether the historical value of this variable is a reasonable basis for the forecast period depends significantly on how quickly and to what extent the company will be

able to offset increased fixed capital costs with higher selling prices or more efficient use of facilities.

The incremental working capital investment represents the net investment in accounts receivable, inventory, accounts payable, and accruals that are required to support sales growth (Rappaport 51-55).

Since this investment is part of the firm's basic operations, it is included in the calculation of "cash flow from operations" This investment can be expressed as a percentage of incremental sales.

Incremental working capital rate (%) =
Incremental working capital investment
divided by Incremental sales x (100)

See table in Appendix A; Cash Flow Statement for ESCO.

The cash income tax rate represents taxes on operating profit for a fiscal year that are either paid by installments during the year or are a liability (income taxes payable) at the end of the year. The cash income taxes are ordinarily less than the reported book income taxes which often include a deferred tax component. Deferred income taxes result from

timing differences in the recognition of some revenue and expenses items for book purposes and tax purposes. Focusing mainly on value drivers underlying cash flow from operations; to convert these cash flows to present value, we need to establish a cost of capital estimate.

COST OF CAPITAL

The appropriate rate for discounting the company's cash flow stream is the weighted average of the costs of debt and equity capital. See Appendix A, Financial Ratios for ESCO.

Estimating the cost of capital is essential for establishing the minimum acceptable rate of return or hurdle rate that management should require on new investment proposals. Investments yielding returns greater than the cost of capital will create shareholder value, while those yielding less than the cost of capital will decrease shareholder value.

The cost of capital rate incorporates the returns demanded by both debtholders and shareholders because pre-interest cash flows are discounted--that is, cash flows on which cash both debtholders and shareholders claims. The appropriate cost of capital is therefore one that considers the claims of each group in proportion to its targeted relative capital contribution. The cash flow discounted by the

cost of capital yields corporate value, and then debt is deducted to obtain shareholder value.

It is important to emphasize that the related weights attached to debt and equity, respectively, are neither predicated on dollars the firm has raised in the past, nor do they constitute the relative proportions of dollars the firm plans to raise in the current year. Instead, the relevant weights should be based on the proportions of debt and equity that the firm targets for its capital structure over the long-term planning period (Rappaport 57).

Suppose shareholders invested \$5 million of initial capital in a company ten years ago. Over the ten-year period book value grew from \$5 million to \$7 million. Market value, however, increased to \$20 million over the same period. A reasonable return in light of present market conditions is 20 percent. Would current stockholders be satisfied with a 20 percent return on the \$7 million book value, or would they expect 20 percent on current market value \$20 million? Rational investors will base the decision on current

market value. Book value reflects historical costs which generally have little correspondence to economic value and therefore is not relevant to current investment decisions.

Measuring the cost of debt is a relatively straightforward matter once it is established that the cost of new debt is appropriate and not the cost of previously outstanding debt. This is so because the economic desirability of a prospective investment depends upon future costs and not past or sunk costs. Since interest on debt is tax deductible, the rate of return that must be earned on debt-financed instruments is the after-tax cost of debt.

The relevant rate for the cost of debt is long-term rate or yield to maturity which reflects the rate currently demanded by debtholders. Short-term rates do not incorporate expectations about long-term inflation. The time horizon for estimating cost of capital should be consistent with the long-term horizon of the cash flow forecast period. Even if a company routinely "rolls over" short-term debt as part of its permanent

financing, the long-term rate is still a better approximation of interest costs over the forecast period because interest rates on long-term debt incorporates the expected cost of repeated short-term borrowing.

The second component of the cost of capital, the cost of equity, is more difficult to estimate. In contrast to the debt-financing example where the firm contracts to pay a specific rate for the use of capital, there is no explicit agreement to pay a specific rate for the use of capital, there is no explicit agreement to pay common shareholders any particular rate of return. Nonetheless, there is some implicit rate of return required to attract investors to purchase the firm's stock and to induce shareholders to hold their shares. This rate is the relevant cost of equity capital. Rational, risk-averse investors expect to earn a rate of return that will compensate them for accepting greater investment risk. Thus, in assessing the company's shares, it is reasonable to assume that they will demand the risk-free rate as reflected in the current yield available in government securities, plus

an additional return or equity risk premium for investing in the company's more risky shares (Rappaport 59). Specifically:

Cost of equity = Risk-free + Equity risk premium.

Even government securities are not entirely risk-free. While they are essentially free of default risk, they are not free from increases in interest rates and the resulting capital losses. For an investor with a long-term horizon, even short-term Treasury bills carry interest rate risk because yields will fluctuate over time. In the absence of a truly riskless security, the rate on long-term Treasury bonds serves as the best estimate of the risk-free rate. Just as in the case of estimating the cost of debt earlier, the time horizon for estimating the cost of equity should be consistent with the long-term horizon of the cash flow forecast period. The use of long-term Treasury bond rates accomplishes this purpose and in addition captures the premium for expected inflation. After all, the rate of return demanded by investors includes not only the "real" interest rate (compensation for simply

making the investment), but also compensation for expected inflation:

Risk-free rate = "real" interest rate +
Expected inflation rate.

The second component of the cost of equity is the equity risk premium. One way of estimating the risk premium for a particular stock is by computing the product of the market risk premium for equity (the excess of the expected rate of return on a representative market index such as the Standard & Poor's 500 stock index over the risk-free rate) and the individual security's systematic risk, as measured by its beta coefficient: (Rosenberg 3-15).

Risk premium = Beta(expected return of Market
- Risk free rate)

The market risk premium should be based on forward-looking rates of return. This premium represents additional compensation that investors expect for holding stocks rather than "risk-free" government bonds. A number of Wall Street firms publish their estimates for the expected rate of return on the market using discounted cash flow models.

The final factor needed for a cost of equity estimate is the beta coefficient. Individual stocks tend to be more or less risky than the overall market. The riskiness of a stock, as measured by beta, is the volatility of its return in relation to that of a market portfolio. The rate of return from dividends and capital appreciation on a market portfolio will, by definition, fluctuate identically with the market, and therefore its beta is equal to 1.0. Stocks with betas greater than 1.0 are more volatile than the market, and thus would carry a risk premium greater than the overall market risk premium. For example, if a stock moves up or down 1.5 percent when the market moves up or down 1 percent, the stock would have a beta of 1.5.

Betas for a stock are calculated by running a linear regression between past stock and past returns on a market index such as the Standard & Poor's 500. The resulting calculation is a historic beta and thereby provides a measure of how risky the stock was in the past. A number of organizations such as Value Line and Merrill Lynch calculate

betas. Investors are naturally concerned with prospective rather than historic risk. In response to this need, Barr Rosenberg developed a fundamental beta. Historic beta measures the relative responsiveness of a company's shares to general market movements. Econometric studies indicate that fundamental characteristics such as the industry in which the company participates, along with its balance sheet characteristics (financial leverage) and earnings performance (earnings variability), provide a basis for estimating the company's exposure to general market or economy-wide developments. This multiple factor model thus provides a means of estimating future betas (Rosenberg 3-10). ESCO's beta is 1.0 according to A.G. Edwards quarterly analysis for ESCO, January 1990.

In summary: $\text{Cost of equity} = \text{Risk-free rate} + \text{Beta}(\text{expected return on market} - \text{risk-free rate})$.

The last two components of cash flow from operations and cost of capital have established the basis for calculating the discounted cash flow value attributable to the forecast period. The component of focus is

the value attributed to the period after the
forecast period, that is, the residual value.

RESIDUAL VALUE

The residual value often constitutes the largest portion of the value of the firm. For most businesses, only a small proportion of value can be reasonably attributed to its estimated cash flow for the next five or ten years. See Appendix A: Cash Flow and Shareholder Value for ESCO.

A business attempting to increase its market share and competitive position will likely increase its new product development and marketing spending, price aggressively, and invest in expanded production capacity and working capital. While each of these activities is aimed at strengthening the organization's longer-term strategic position, cash flow increases may be modest or actually decline over the next several years as a result of these actions even though such actions increase market value. In sharp contrast, a harvesting strategy allows erosion in market share, and thereby increases cash flow by minimizing investment in fixed capital and freeing up working capital. Harvesting is typically appropriate for products with

relatively low market share in mature or declining markets. This strategy will generate greater cash flows during the forecast period than the share-building strategy, but the residual value associated with harvesting is likely to be very small.

What emerges from the above are two important observations. First, while residual value is a significant component of corporate value, its size depends directly upon the assumptions made for the forecast period. Second, there is no unique formula for residual value. Its value depends on a careful assessment of the competitive position of the business at the end of the forecast period. There are, however, several methods for estimating residual value that can be applied in different circumstances. For example, in the case of a harvesting strategy, liquidation value would most likely be the best estimate of residual value. In contrast, for the share-building case, a going concern measure rather than a liquidation measure would be relevant for estimating residual value. One such measure, the perpetuity method, is particularly useful for a wide

range of situations and will be addressed in more detail below.

Value-creating strategies are those that produce excess returns over those demanded by capital markets and thereby produce positive net present values. This value creation objective is achieved by firms that can obtain funds at competitive rates from capital markets and then invest these funds to exploit imperfections in product markets (Rappaport 65-69). For example, a leading firm in an industry may enjoy high entry barriers due to factors such as economies of scale, product differentiation, large switching costs, substantial capital requirements, and favorable government policy (Porter 59-69).

It is, of course, much easier to talk about investing to achieve excess returns than to actually achieve such a result. Most firms operating in a highly competitive, commodity-type industry are not likely to earn excess returns. Newer industries that initially enjoy excess returns often attract additional entrants which leads to excess capacity, price competition, and finally lower returns for all participants in the industry. The video-game

market of the early 1980's is an example of this phenomenon.

The perpetuity method for estimating residual value is based on the foregoing competitive dynamics. It is essentially based on the assumption that a company that is able to generate returns above the cost of capital (i.e., achieve excess returns) will eventually attract competitors, whose entry into the business will drive returns down to the minimum acceptable or cost of capital rate. Specifically, the perpetuity method assumes that after the forecast period, the business will earn, on average, the cost of capital on new investments. Another way of expressing this idea is to say that after the forecast period, the business will invest, on average, in strategies whose net present value is zero.

Once the rate of return has been driven down to the cost of capital rate, period-by-period differences in future cash flows do not alter the value of the business. Therefore, these future flows can be treated as if they were a "perpetuity" or an infinite stream of identical cash flows.

The present value of any perpetuity is simply the value of the expected annual cash flow divided by the rate of return:

$$\text{PV of ESCO's Cash Flow} = \$20,074 \div 38.80 = 517.37$$

See Appendix A, Cash Flow Statements for ESCO's PV of Cash Flow.

Using the perpetuity method, the present value (at the end of the forecast period) is therefore calculated by dividing a "perpetuity cash flow" by the cost of capital:

$$\text{PV of ESCO's Cash Flow} = \$20,074 \div 15.000\% = 133,826.67$$

Keep in mind that the perpetuity method for estimating residual value is not based on the assumption that all future cash flows will actually be identical. It simply reflects the fact that the cash flows resulting from future investments will not affect the value of the firm because the overall rate of return earned on those investments is equal to the cost of capital (Rappaport 72).

While the standard perpetuity method is a reasonable approach to estimating residual value for a wide set of circumstances, there are situations where post-forecast period rates of return can either be expected to sustain above the cost of capital or drop below the cost of capital. These possibilities can be easily incorporated in variants of the perpetuity method (Rappaport 75).



THRESHOLD MARGIN

The threshold margin represents the minimum operating profit margin a business needs to attain in any period in order to maintain shareholder value in that period. Threshold margin is a new type of "break-even analysis," a value-oriented economic break-even analysis. Another term for threshold margin is the operating profit margin level at which the business will earn exactly its minimum acceptable rate of return, that is, its cost of capital. To bridge valuation concepts of modern finance theory with the needs of corporate decisions makers, what is needed is an easily understood, operationally meaningful concept that enables managers to assess the value creation potential of alternative strategies.

The threshold margin concept is particularly well suited to facilitate this linkage because the operating profit margin has widespread acceptance from both security analysts and corporate management as an essential ratio for assessing a firm's operating profitability and efficiency.

Threshold margin can be used to evaluate the past performance of a business as well as to establish performance targets for the future.

The threshold margin concept can be expressed in two ways: either as the margin required on incremental sales (i.e., incremental threshold margin) or as the margin required on total sales (i.e., threshold margin). One essential insight about threshold margin is that when a business is operating at its threshold margin sales growth does not create value.

ESCO's average six (6) percent operating profit margin is the threshold margin of the business. For ESCO's threshold margin, see Appendix A, Financial Ratios, page 2.

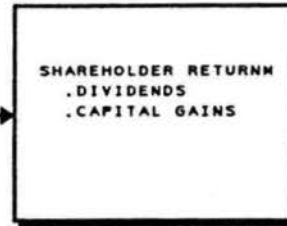
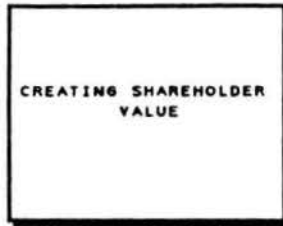
THE SHAREHOLDER VALUE NETWORK

The shareholder value approach can best be summarized by the shareholder value network on the following pages. The network depicts the essential link between the corporate objective of creating shareholder value and the basic valuation parameters or value drivers -- sales growth rate, operating profit margin, income tax rate, working capital investment, fixed capital investment, cost of capital, and value growth duration.

Operating decisions such as product mix, pricing, promotion, advertising, distribution, and customer service level are impounded primarily in three value drivers -- sales growth rate, operating profit margin, and income tax rate. Investment decisions such as, for example, increasing inventory levels and capacity expansion are reflected in the two investment value drivers -- working capital and fixed capital investment. The cost of capital value driver is governed not only by business risk but also by management's financing decisions, that is, the question of the proper proportions of debt and equity to

SHAREHOLDER VALUE NETWORK

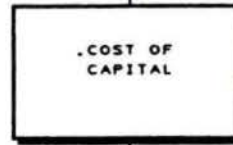
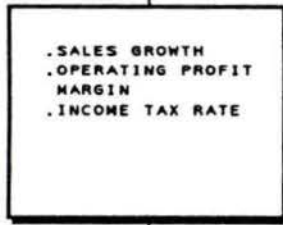
CORPORATE OBJECTIVE



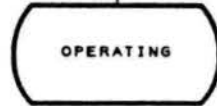
VALUATION COMPONENTS



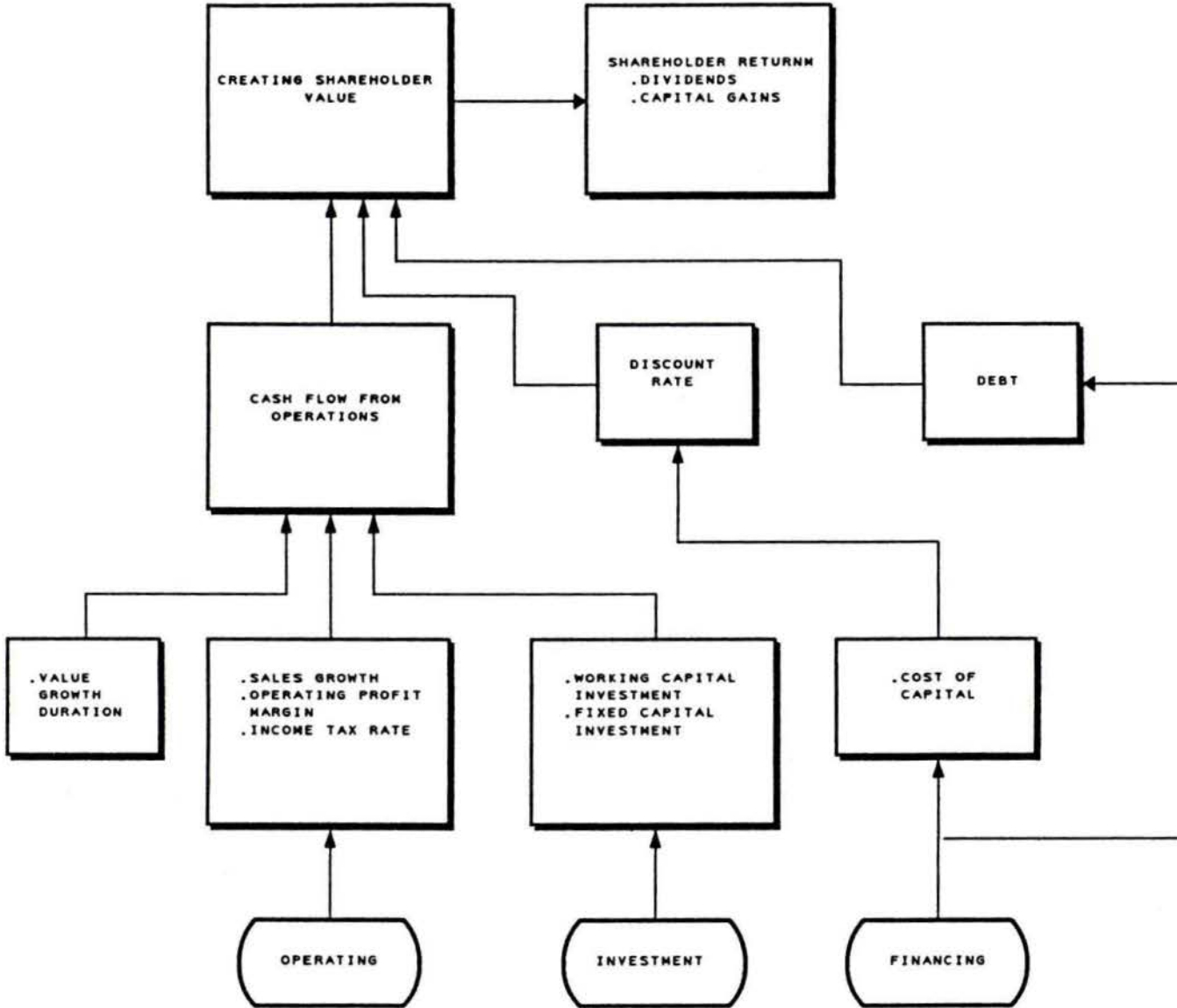
VALUE DRIVER



MANAGEMENT DECISIONS



53



use in funding the business as well as appropriate financing instruments. The final value driver, value growth duration, is management's best estimate of the number of years that investments can be expected to yield rates of return greater than the cost of capital.

As shown in the shareholder network, the first valuation component, cash flow from operations, is determined by operating and investment value drivers along with the value growth duration. The second component, the discount rate, is based on an estimate of cost of capital. Recall that discounting cash flow from operations yields corporate value. To obtain shareholder value, the final valuation component, debt, is deducted from corporate value. Shareholder value creation, in turn, serves as the foundation for providing shareholder returns from dividends and capital gains. The Shareholder Value network was created by Alfred Rappaport (85).

CHAPTER IV
ESCO FINANCIAL
AND
SHAREHOLDER VALUE ANALYSIS

FINANCIAL ANALYSIS OF ESCO

The following analysis was performed on ESCO Electronics Corp formerly a subsidiary of Emerson Electric. The company was incorporated in Missouri in August 1990 to be a holding company for the existing Emerson defense industry subsidiaries. These six companies are; Vacco Industries, Southwest Mobile Systems, Distribution Control Systems Inc., Hazeltine, Electronics and Space Inc., and Rantec Microwave and Electronics Inc. These companies are engaged in research, development, manufacture, sale and support of a wide variety of defense systems and products principally for the United States Government under prime contracts with the Army, Navy and Air Force and subcontracts with their prime contractors. Sales of defense systems and products are also made to international customers.

Among the company's product lines are:

1. Electronic products: radar based systems: electronic identification, communications and display systems; electronic warfare equipment;

microwave and power supply systems; and anti-submarine sensor and subsystems.

2. Armament products: sighting, fire control and integration systems for helicopters and both fixed and mobile ground-based anti-armor missile systems.

3. Automatic Test Equipment: automatic test systems used in the testing of radars and other avionics systems, primarily for high performance aircraft.

4. Mobile Tactile Systems: heavy-wheeled vehicles, trailers, tactical bridging systems and cargo handling equipment.

5. Other products: fluid flow valves, manifolds, and filter products; utility load management systems, and anechori materials.

Looking at the Balance sheet and Income statement of ESCO for the past three years shows net sales of \$538.4 million in 1990 which were \$60.9 million(10.2%) lower than net sales of \$599.3 million in 1989. Talking to ESCO staff we found the reason for the decline in net sales was primarily the result of the maturation of certain armament and automated test equipment programs. In the armament area, new program sales did not fully offset the impact of reduced sales of mature

armament products. Sales of certain electronic products also decreased compared with 1989. The backlog on September 30, 1990 was \$694.2 million compared with \$829.5 million on September 30, 1989. The reduction reflects lower business volume in 1990 Electronics and Space Corp.

The gross profit percent increased from 19.6% to 20.5%, principally as a result of the movement to a mix of more production programs replacing development programs. Selling, general and administrative expenses in 1990 were \$3 million (3.7%) less than in 1989 due to improved operating efficiencies and successful cost containment programs.

Nonrecurring charges in 1990 included \$13.8 million of costs incurred in connection with the settlement of the U.S. Government investigation at E&S and an \$8.8 million charge in connection with the proposed settlement of the Microwave Landing System contract dispute at Hazeltine. In the prior year, costs of \$8.2 million resulting from Government investigations at Hazeltine and E&S were incurred.

Other costs and expenses (net) included a \$3.1 million gain on sale of real estate in 1990 and included costs of \$2.5 million in the prior

year incurred in connection with consolidation and restructuring of operations and facilities in 1989. Interest expenses declined to \$5.9 million in 1990 compared with \$8.0 million the previous year. The reduction resulted from a substantial cash inflow during the fourth quarter of 1989 and the first quarter of 1990. The cash was generated primarily from a combination of advanced payments on foreign programs and the resumption of progress payments on a major U.S. Government development program.

The effective income tax rate of 330.1% in 1990 reflects the difference between the book and tax bases related to certain asset disposal and goodwill amortization. The effective income tax rate of 16.9% in 1989 reflects the payment of income taxes at statutory rates lower than those originally provided for financial accounting purposes in previous periods.

The company has been, and will continue to be, impacted by changes in the defense industry brought about by the changing international political environment and the United States Government's deficit reduction measures, including procurement policies and tax reform. This operating environment requires defense contractors

to make significant capital commitments to programs for extended periods of time. The company has been shifting from a strategy of concentrating on development programs with higher capital requirements and longer lead times of focusing on production programs.

Net cash provided by operating activities was \$.2 million and \$4.5 million in 1990 and 1989, respectively. Both year's cash flows were significantly impacted by the increase in operating working capital. More specifically, the net investment in long term contracts has increased as a result of the performance of individual development programs and the related effects on progress billings and program milestones payments. Net cash used in operating activities was \$48.7 million in 1988, due to the low level of net earnings and the investing in long term contracts described earlier.

Annual capital expenditures have ranged from \$17.6 million to \$21.8 million during the years 1988 through 1990. Major capital projects during 1990 included a new facilities at Southwest Mobile Systems and facility consolidation at Hazeltine. The company does not plan to increase capital expenditures significantly in the future, given

the substantial investment made the past several years. Funding for anticipated capital expenditures is expected to be provided by cash flow from operations.

In December 1989, Emerson, as a predecessor to the Company acquired the net assets of a research and development limited partnership in the electric load management area for \$10 million in cash.

In connection with the spin-off, long term debt owed to Emerson in the amount of \$54.9 million was contributed to the Company's capital. In addition, a dividend was paid to Emerson in the amount of \$20 million, financed with a five year term loan. The Company has available a \$75 million four year working capital credit facility to finance short-term credit requirement.

Certain items resulting from the spin-off will impact the Company's results of operations beginning in 1991. The most significant items are a contract guarantee fee payable to Emerson of \$7.4 million per year and increased rent expense payable to Emerson of \$3.8 million per year.

SENSITIVITY OF SHAREHOLDER VALUE ANALYSIS

The results of sensitivity analysis was performed on all seven value drivers of ESCO and are in Appendix A under Sensitivity Analysis of ESCO. The analysis is based on the 15 percent cost of capital with a variation of 2 to 4 percent. ESCO's sales growth rate, operating profit margin and cost of capital, have the largest variation in the 2 to 4 percent analysis. This is not surprising since the company deviated from its threshold margin in both the historical and forecast periods. The analysis shows these value drivers are the most affected by cash flow. ESCO's other seven value drivers had little or no change in the sensitivity analysis.

CHAPTER V

SHAREHOLDER VALUE ANALYSIS

As "shareholder value" has become the undisputed corporate buzzword of the 1980's, another less positive term, "value gap" has also gained in popularity. However, every corporate executive wants to be the shareholder value champion. No one wants to be associated with or responsible for a value gap.

The term "value gap" has been used to describe the situation where the difference between a company's estimated takeover value and its current stock price. In today's market, managements of businesses with large value gaps find themselves at risk of losing control of their company.

The value gap can be better understood and remedied, if it is perceived as the sum of two distinct gaps. These two gaps consist of 1) the difference between the value of a business based upon management's forecast and the current stock, or an "expectations gap"; 2) the difference between a business's takeover value and the value based upon management's forecast, or a "strategy gap." In other words:

$$\begin{aligned}
\text{Value Gap} &= \text{Takeover value} - \text{Stock price} \\
&(\text{Takeover value} - \text{Value based on Mgmts forecast}) \\
&\quad + \\
&(\text{Value based on Mgmts forecast} - \text{Stock Price}) \\
&= \text{Strategy gap} - \text{Expectation gap}
\end{aligned}$$

Because these gaps involve very different problems that require very different solutions, it is reasonable to separate the two components and analyze them.

The basic problem with the expectation gap is that the market does not recognize or share managements beliefs regarding the business' future prospects. The problem arising in the second gap where there is noticeable difference between a business's takeover value and its value based on managements forecast, may actually be an indictment of management's current strategy. In this situation there is another party which can make better use of the assets and opportunities of a business than current management. Two important questions for any management faced with this problem are: (1) What will the other party do to create value with the business? (2) What is preventing management from replicating that strategy?

The value gap can be more usefully thought of as two separate gaps rather than a single one. If the stock price equals the value of managements current strategy, then there is only one gap a strategy gap and management must consider alternative strategies and portfolio restructuring. However, if the stock price is lower than the value of the company based upon management's more appropriate forecast for their current strategy, then an expectations gap also exists.

In the analysis of ESCO, I concluded the expectation gap to be the reason for the undervaluing of the company. Looking at the Shareholder value analysis in the appendix, the current stock price is \$5.25 and the analysis showed the value of the stock to be around \$17.65 per share. Analyzing the market for other defense contractors revealed the same such data; they too are undervalued. I concluded that their value gap was an industry-wide rather than a company-specific problem.

Nevertheless, the fact that this problem is only perceptual does not make it trivial. If management's expectations are warranted, then the business is undervalued and current shareholders

are not realizing the full benefit of their ownership. Furthermore, the undervaluation may allow a raider to acquire control of the business at a bargain price.

To close the gap and increase working capital, ESCO needs to review unprofitable programs and restructure them to be more profitable or even possibly descope them from the company. ESCO also needs to increase inventory turnover; the financial ratios show inventory turnover has decreased over 50% for the period of 1989-1995. ESCO accounts receivable and short-term liabilities also need to be reduced. ESCO put out about \$2 million in the last two years, due to fines from U.S. Government investigations. ESCO cannot afford to put out this kind of money for fines for very much longer.

Once the expectations gap is identified, it can be closed one way by sending a strong signal to the investment community through a conventional or Dutch tender offer-share repurchase. Studies show that self-tenders have been extremely effective in making investors look at a business more optimistically and in producing significant sustained stock price increasing over 15% (on average). Before ESCO can do all this, they must

free up working capital to have the cash to buy back stock.

ESCO must close its value gap so that shareholders and the market will realize ESCO's true market value. Some of this gap could be closed by increased communications with stock market analysts. It is more important and could be easily accomplished, especially in this time of war when defense is very important to the war effort.

APPENDIX A

Cash Flows and Shareholder Value for ESCO

(Average Cost of Capital (%) = 15.000%)
-----(\$ in Thousands)

Year	Cash Flow	Pres. Value Cash Flow	Cum. PV Cash Flows	Pres. Value Residual Value	Cum PV CF + PV Residual Value	Increase in Value
91	\$81,652	\$71,001	\$71,001	\$136,956	\$207,957	\$71,310
92	32,586	24,640	95,641	119,152	214,793	6,836
93	33,605	22,096	117,737	103,662	221,399	6,606
94	36,597	20,924	138,662	90,186	228,848	7,448
95	40,377	20,074	158,736	78,462	237,198	8,350

\$100,551
=====-----
CORPORATE VALUE \$237,198

Less:Market Value of Debt 26,000

Less:Unfunded Pension Liabs. 13,600
-----SHAREHOLDER VALUE (PV) \$197,598
=====

Share. Value per Share (PV) \$18.02

Current Stock Price \$5.25

Prem/Disc Over/Under Mkt (%) 243.25

SHAREHOLDER VALUE ANALYSIS

BALANCE SHEET AND INCOME STATEMENT
(ALSO IN COMMON SIZE)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Assets											
Current Assets	100,000	120,000	150,000	180,000	200,000	220,000	250,000	280,000	300,000	320,000	350,000
Fixed Assets	50,000	60,000	70,000	80,000	90,000	100,000	110,000	120,000	130,000	140,000	150,000
Total Assets	150,000	180,000	220,000	260,000	290,000	320,000	350,000	380,000	400,000	430,000	450,000
Liabilities and Equity											
Current Liabilities	80,000	90,000	100,000	110,000	120,000	130,000	140,000	150,000	160,000	170,000	180,000
Long-Term Liabilities	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000	110,000	120,000
Equity	50,000	60,000	80,000	100,000	110,000	120,000	130,000	140,000	140,000	160,000	150,000
Total Liabilities and Equity	150,000	180,000	220,000	260,000	290,000	320,000	350,000	380,000	400,000	430,000	450,000
Income Statement											
Sales	100,000	120,000	150,000	180,000	200,000	220,000	250,000	280,000	300,000	320,000	350,000
Cost of Sales	(60,000)	(70,000)	(80,000)	(90,000)	(100,000)	(110,000)	(120,000)	(130,000)	(140,000)	(150,000)	(160,000)
Gross Profit	40,000	50,000	70,000	90,000	100,000	110,000	130,000	150,000	160,000	170,000	190,000
Operating Expenses	(20,000)	(25,000)	(30,000)	(35,000)	(40,000)	(45,000)	(50,000)	(55,000)	(60,000)	(65,000)	(70,000)
Income Before Taxes	20,000	25,000	40,000	55,000	60,000	65,000	80,000	95,000	100,000	105,000	120,000
Income Taxes	(5,000)	(6,000)	(8,000)	(10,000)	(11,000)	(12,000)	(15,000)	(18,000)	(19,000)	(20,000)	(22,000)
Net Income	15,000	19,000	32,000	45,000	49,000	53,000	65,000	77,000	81,000	85,000	98,000

	1987	1988	1989	1990	1991	1992	1993	1994	1995
Balance Sheet for ESCO									

(in Thousands)	1987	1988	1989	1990	1991	1992	1993	1994	1995
Accounts Payable & Accruals	\$0	\$863	\$781	\$3,898	\$4,698	\$5,498	\$6,298	\$7,098	\$7,098
Investment Securities	0	0	0	0	69,489	101,177	135,836	175,646	221,538
Accounts Receivable	0	89,813	59,233	52,461	60,115	60,146	60,176	60,206	60,236
Prepaid Expenses & Earn.-Billings, LTC	0	96,558	110,557	126,776	99,597	99,647	99,697	99,747	99,797
Inventory	0	90,788	108,735	113,496	93,371	93,418	93,465	93,512	93,558

Inventory	0	187,346	219,292	240,272	192,969	193,065	193,162	193,258	193,355
Deferred Income Taxes	0	5,528	36,889	43,678	25,682	25,694	25,707	25,720	25,733
Other Current Assets	0	4,159	2,857	1,939	2,671	2,673	2,674	2,675	2,677

Other Current Assets	0	9,687	39,746	45,617	28,353	28,367	28,381	28,395	28,410

Total Current Assets	\$0	\$287,709	\$319,052	\$342,248	\$355,624	\$388,252	\$423,852	\$464,604	\$510,636

Property, Plant & Equip	0	162,727	155,793	162,099	181,764	201,429	221,095	240,760	260,425
Accum. Depreciation	0	69,623	71,213	82,541	110,098	139,180	169,395	202,559	238,673

Property, Plant & Equip	0	93,104	84,580	79,558	71,666	62,249	51,700	38,201	21,752
Goodwill	0	16,442	16,605	14,044	14,044	14,044	14,044	14,044	14,044
Other Intangible Assets	0	193,284	188,415	195,247	190,537	185,827	181,117	176,407	171,697
Other Assets	0	12,567	8,914	19,547	12,238	12,244	12,251	12,257	12,263

Total Assets	\$0	\$603,106	\$617,566	\$650,644	\$644,110	\$662,617	\$682,964	\$705,513	\$730,393
=====									
Accounts Payable & Accruals	\$0	\$99,674	\$85,854	\$97,883	\$84,540	\$84,582	\$84,624	\$84,666	\$84,709
Current Portion LTD	0	316	3,116	7,014	4,515	4,517	4,518	4,521	0
Income Taxes Payable	0	0	0	0	3,568	3,987	4,282	4,606	4,949
Advance Pmts-Long Term Cont.	0	23,237	34,515	19,138	22,936	22,947	22,959	22,970	22,982

Total Current Liabilities	\$0	\$123,227	\$123,485	\$124,035	\$115,558	\$116,033	\$116,383	\$116,764	\$112,640

Debt: Scheduled	0	87,650	33,309	18,071	13,556	9,039	4,521	0	0
Other Liabilities	0	8,439	7,953	25,871	12,607	12,613	12,619	12,626	12,632

Common Stock and Paid-In Cap	0	384,586	452,819	482,667	482,667	482,667	482,667	482,667	482,667
Retained Earnings	0	(796)	0	0	19,722	42,265	66,774	93,456	122,454

Total Liabilities and Equity	\$0	\$603,106	\$617,566	\$650,644	\$644,110	\$662,617	\$682,964	\$705,513	\$730,393
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Debt Capacity (UDC)	\$0	\$65,550	\$144,703	\$167,982	\$182,885	\$196,417	\$210,737	\$225,928	\$242,048
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plus Mkt. Securities	\$0	\$65,550	\$144,703	\$167,982	\$252,374	\$297,593	\$346,573	\$401,575	\$463,586
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Net Assets	\$0	\$65,550	\$144,703	\$167,982	\$252,374	\$297,593	\$346,573	\$401,575	\$463,586
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Debt Capacity	\$0	\$65,550	\$144,703	\$167,982	\$182,885	\$196,417	\$210,737	\$225,928	\$242,048
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Debt Capacity	\$0	\$65,550	\$144,703	\$167,982	\$182,885	\$196,417	\$210,737	\$225,928	\$242,048
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Debt Capacity	\$0	\$65,550	\$144,703	\$167,982	\$182,885	\$196,417	\$210,737	\$225,928	\$242,048
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Income Statement for ESCO

(in Thousands)	1987	1988	1989	1990	1991	1992	1993	1994	1995
Sales	\$598,872	\$606,672	\$599,255	\$538,359	\$538,628	\$538,898	\$539,167	\$539,437	\$539,706
Cost of Goods Sold	471,183	492,861	481,549	428,215	431,426	431,642	431,858	432,073	432,289
Gross Profit	127,689	113,811	117,706	110,144	107,202	107,256	107,309	107,363	107,417
R&D Expense	72,434	80,519	80,601	77,609	69,702	69,737	69,772	69,807	69,842
Amortization of Goodwill	0	0	0	0	4,710	4,710	4,710	4,710	4,710
Operating Profit	\$55,255	\$33,292	\$37,105	\$32,535	\$32,790	\$32,809	\$32,827	\$32,846	\$32,865
Interest Income	0	0	0	0	2,844	6,856	9,512	12,496	15,930
Interest Expense	2,339	4,418	7,957	5,920	1,641	1,172	703	235	0
Special Items	7,263	17,064	14,694	25,662	0	0	0	0	0
Earnings Before Taxes	\$45,653	\$11,810	\$14,454	\$953	\$33,993	\$38,492	\$41,636	\$45,108	\$48,795
Provision for Income Taxes	21,410	9,642	2,445	3,146	14,271	15,950	17,127	18,425	19,797
Net Income	\$24,243	\$2,168	\$12,009	\$(2,193)	\$19,722	\$22,543	\$24,509	\$26,682	\$28,998
Common Dividends	\$0	\$0	\$0	\$20,000	\$0	\$0	\$0	\$0	\$0

Balance Sheet for ESCO

	1987	1988	1989	1990	1991	1992	1993	1994	1995
(of Total Assets)									
Error	0.14%	0.13%	0.60%	0.73%	0.83%	0.92%	1.01%	0.97%	
Investable Securities	Error	0.00	0.00	0.00	10.79	15.27	19.89	24.90	30.33
Accounts Receivable	Error	14.89	9.59	8.06	9.33	9.08	8.81	8.53	8.25
Accounts & Earn.-Billings, LTC	Error	16.01	17.90	19.48	15.46	15.04	14.60	14.14	13.66
Inventories	Error	15.05	17.61	17.44	14.50	14.10	13.69	13.25	12.81
Inventories	Error	31.06	35.51	36.93	29.96	29.14	28.28	27.39	26.47
Deferred Income Taxes	Error	0.92	5.97	6.71	3.99	3.88	3.76	3.65	3.52
Other Current Assets	Error	0.69	0.46	0.30	0.41	0.40	0.39	0.38	0.37
Other Current Assets	Error	1.61	6.44	7.01	4.40	4.28	4.16	4.02	3.89
Total Current Assets	Error	47.70%	51.66%	52.60%	55.21%	58.59%	62.06%	65.85%	69.91%
Land Prop., Plant & Equip	Error	26.98	25.23	24.91	28.22	30.40	32.37	34.13	35.66
Accum. Depreciation	Error	11.54	11.53	12.69	17.09	21.00	24.80	28.71	32.68
Property, Plant & Equip	Error	15.44	13.70	12.23	11.13	9.39	7.57	5.41	2.98
Goodwill	Error	2.73	2.69	2.16	2.18	2.12	2.06	1.99	1.92
Other Assets	Error	32.05	30.51	30.01	29.58	28.04	26.52	25.00	23.51
Other Assets	Error	2.08	1.44	3.00	1.90	1.85	1.79	1.74	1.68
Total Assets	Error	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Accounts Payable & Accruals	Error	16.53%	13.90%	15.04%	13.13%	12.76%	12.39%	12.00%	11.60%
Notes & Current Portion LTD	Error	0.05	0.50	1.08	0.70	0.68	0.66	0.64	0.00
Income Taxes Payable	Error	0.00	0.00	0.00	0.55	0.60	0.63	0.65	0.68
Advance Pmts-Long Term Cont.	Error	3.85	5.59	2.94	3.56	3.46	3.36	3.26	3.15
Total Current Liabilities	Error	20.43%	20.00%	19.06%	17.94%	17.51%	17.04%	16.55%	15.42%
Debt: Scheduled	Error	14.53	5.39	2.78	2.10	1.36	0.66	0.00	0.00
Other Liabilities	Error	1.40	1.29	3.98	1.96	1.90	1.85	1.79	1.73

Income Statement for ESCO

	1987	1988	1989	1990	1991	1992	1993	1994	1995
Sales)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of Goods Sold	78.68	81.24	80.36	79.54	80.10	80.10	80.10	80.10	80.10
Profit	21.32	18.76	19.64	20.46	19.90	19.90	19.90	19.90	19.90
Expense	12.10	13.27	13.45	14.42	12.94	12.94	12.94	12.94	12.94
Amortization of Goodwill	0.00	0.00	0.00	0.00	0.87	0.87	0.87	0.87	0.87
Operating Profit	9.23%	5.49%	6.19%	6.04%	6.09%	6.09%	6.09%	6.09%	6.09%
Interest Income	0.00	0.00	0.00	0.00	0.53	1.27	1.76	2.32	2.95
Interest Expense	0.39	0.73	1.33	1.10	0.30	0.22	0.13	0.04	0.00
Other Items	1.21	2.81	2.45	4.77	0.00	0.00	0.00	0.00	0.00
Income Before Taxes	7.62%	1.95%	2.41%	0.18%	6.31%	7.14%	7.72%	8.36%	9.04%
Provision for Income Taxes	3.58	1.59	0.41	0.58	2.65	2.96	3.18	3.42	3.67
Income	4.05%	0.36%	2.00%	(0.41)%	3.66%	4.18%	4.55%	4.95%	5.37%
Dividends	0.00%	0.00%	0.00%	3.71%	0.00%	0.00%	0.00%	0.00%	0.00%

Funds Flow Statement for ESCO

(Thousands)	1988	1989	1990	1991	1992	1993	1994	1995
Income	\$2,168	\$12,009	\$(2,193)	\$19,722	\$22,543	\$24,509	\$26,682	\$28,998
Exp. excl. Int. Cap.	22,714	22,468	31,159	27,557	29,082	30,214	33,164	36,114
Amortization of Goodwill	0	0	0	4,710	4,710	4,710	4,710	4,710
Change in Other Liabilities	8,439	(486)	17,918	(13,264)	6	6	6	6
Change in Debt: Scheduled	87,650	(54,341)	(15,238)	(4,515)	(4,517)	(4,518)	(4,521)	0
Chg. Value of Ret. Assets	(97,894)	7,822	(6,831)	0	0	0	0	0
Change in Funds Flow Adj: Sources	0	0	22,193	0	0	0	0	0
Change in Accounts Payable	99,674	(13,820)	12,029	(13,343)	42	42	42	42
Change in Notes Payable	316	2,800	3,898	(2,499)	2	1	3	(4,521)
Change in Income Tax Payable	0	0	0	3,568	420	294	325	343
Change in Other Curr Liabs.	23,237	11,278	(15,377)	3,798	11	11	11	11
Proceeds from Sale of Common	384,586	68,233	29,848	0	0	0	0	0
Total Sources of Funds	\$530,890	\$55,963	\$77,406	\$25,733	\$52,300	\$55,271	\$60,423	\$65,704
Capital Investment	\$17,924	\$21,766	\$19,306	\$19,665	\$19,665	\$19,665	\$19,665	\$19,665
Investments to Land	16,442	163	(2,561)	0	0	0	0	0
Investments to Goodwill	193,284	(4,869)	6,832	0	0	0	0	0
Change in Other Assets	12,567	(3,653)	10,633	(7,309)	6	6	6	6
Change in Funds Flow Adj: Uses	2,964	11,213	0	0	0	0	0	0
Change in Cash	863	(82)	3,117	800	800	800	800	0
Change in Mkt Securities	0	0	0	69,489	31,688	34,659	39,811	45,892
Change in Accts Receivable	89,813	(30,580)	(6,772)	7,654	30	30	30	30
Change in C&E LTC	96,558	13,999	16,219	(27,179)	50	50	50	50
Change in Inventories	90,788	17,947	4,761	(20,125)	47	47	47	47
Change in Inventories	187,346	31,946	20,980	(47,303)	96	97	97	97
Change in Def. Inc Tax Curr.	5,528	31,361	6,789	(17,996)	13	13	13	13
Change in Other Curr Assets	4,159	(1,302)	(918)	732	1	1	1	1

Cash Flow Statement for ESCO

Thousands)	1988	1989	1990	1991	1992	1993	1994	1995
of Goods Sold	\$606,672	\$599,255	\$538,359	\$538,628	\$538,898	\$539,167	\$539,437	\$539,706
Profit	492,861	481,549	428,215	431,426	431,642	431,858	432,073	432,289
Expense	113,811	117,706	110,144	107,202	107,256	107,309	107,363	107,417
ization of Goodwill	80,519	80,601	77,609	69,702	69,737	69,772	69,807	69,842
ing Profit	0	0	0	4,710	4,710	4,710	4,710	4,710
ization of Goodwill	33,292	37,105	32,535	32,790	32,809	32,827	32,846	32,865
le Operating Profit	0	0	0	4,710	4,710	4,710	4,710	4,710
Exp. excl. Int. Cap.	33,292	37,105	32,535	37,500	37,519	37,537	37,556	37,575
From Opers. Before Tax	22,714	22,468	31,159	27,557	29,082	30,214	33,164	36,114
Income Taxes	56,006	59,573	63,694	65,057	66,601	67,752	70,720	73,689
From Opers. After Tax	17,723	11,065	15,009	13,875	13,882	13,889	13,896	13,903
m. Working Cap. Invest.	\$38,283	\$48,508	\$48,685	\$51,182	\$52,719	\$53,863	\$56,825	\$59,786
Capital Investment	164,798	33,885	26,544	(50,135)	467	593	562	(256)
ions to Land	17,924	21,766	19,306	19,665	19,665	19,665	19,665	19,665
ions to Goodwill	16,442	163	(2,561)	0	0	0	0	0
eds (af.tax) Asset Sale	193,284	(4,869)	6,832	0	0	0	0	0
	(97,894)	7,822	(6,831)	0	0	0	0	0
Flow from Operations	\$(452,059)	\$5,385	\$(8,267)	\$81,652	\$32,586	\$33,605	\$36,597	\$40,377
Flow from Operations	\$(452,059)	\$5,385	\$(8,267)	\$81,652	\$32,586	\$33,605	\$36,597	\$40,377
est Expense (after tax)	2,651	4,774	3,552	984	703	422	141	0
perating Inc. (af.tax)	(10,750)	(9,257)	(16,167)	1,792	4,319	5,993	7,872	10,036
perating Sources	8,439	(486)	40,111	(13,264)	6	6	6	6
perating Uses	15,531	7,560	10,633	(7,309)	6	6	6	6

	2014	2013	2012	2011	2010	2009	2008	2007
Proceeds From Sale of Common	\$87,966	\$0,255	\$7,545	\$0	\$0	\$0	\$0	\$0
Cash Provided	\$(87,966)	\$51,541	\$31,340	\$76,503	\$36,203	\$39,176	\$44,329	\$50,413
Common Dividends	0	0	20,000	0	0	0	0	0
Ending Surplus/(Deficit)	\$(87,966)	\$51,541	\$11,340	\$76,503	\$36,203	\$39,176	\$44,329	\$50,413
Ending Surplus/(Deficit)	\$(87,966)	\$51,541	\$11,340	\$76,503	\$36,203	\$39,176	\$44,329	\$50,413
Change in Notes Payable	316	2,800	3,898	(2,499)	2	1	3	(4,521)
Change in Debt: Scheduled	87,650	(54,341)	(15,238)	(4,515)	(4,517)	(4,518)	(4,521)	0
Change in Mkt Securities	\$0	\$0	\$0	\$69,489	\$31,688	\$34,659	\$39,811	\$45,892

2011 2010 2009 2008 2007 2006 2005

Assets	10,000	9,500	9,000	8,500	8,000	7,500
Liabilities	4,000	3,800	3,600	3,400	3,200	3,000
Equity	6,000	5,700	5,400	5,100	4,800	4,500

FINANCIAL RATIO

Current Ratio	2.5	2.5	2.5	2.5	2.5	2.5
Debt to Equity	0.67	0.67	0.67	0.67	0.67	0.67
Equity to Assets	0.6	0.6	0.6	0.6	0.6	0.6

Return on Assets	10%	10%	10%	10%	10%	10%
Return on Equity	15%	15%	15%	15%	15%	15%
Profit Margin	20%	20%	20%	20%	20%	20%
Asset Turnover	0.5	0.5	0.5	0.5	0.5	0.5

Financial Ratios for ESCO

	1987	1988	1989	1990	1991	1992	1993	1994	1995
Performance Ratios									
Profit Margin (%)	21.322	18.760	19.642	20.459	19.903	19.903	19.903	19.903	19.903
Change in Net Income (%)	N/A	(91.057)	453.921	(118.261)	(999.317)	14.302	8.724	8.865	8.680
Return on Sales (%)	4.048	0.357	2.004	(0.407)	3.662	4.183	4.546	4.946	5.373
Return on Equity (%)	N/A	0.565	2.652	(0.454)	3.926	4.294	4.461	4.631	4.792
Return on Assets or Inv. (%)	N/A	0.799	2.718	0.209	3.215	3.508	3.650	3.802	3.970
Return on Net Assets (%)	N/A	1.004	3.397	0.258	3.918	4.253	4.400	4.556	4.694
Balance Sheet Ratios									
Equity Ratio (%)	N/A	22.920	8.044	5.197	3.597	2.582	1.645	0.785	0.000
Total Capital (%)	N/A	18.647	7.445	4.940	3.472	2.517	1.619	0.779	0.000
Debt to Equity Ratio (%)	N/A	63.636	73.323	74.183	77.997	79.221	80.449	81.660	82.849
Interest Earned	20.518	3.673	2.817	1.161	21.719	33.840	60.191	193.334	N/A
Efficiency Ratios									
Days in Receivables	N/A	27.018	45.391	37.863	38.144	40.727	40.727	40.727	0.000
Days in Payables	N/A	36.908	70.312	78.306	77.168	71.505	71.505	71.505	0.000
Inventory Turnover	N/A	5.262	2.368	1.864	1.992	2.236	2.236	2.236	2.236
Fixed Asset Turnover	N/A	6.516	7.085	6.767	7.516	8.657	10.429	14.121	24.811
Working Capital Turnover	N/A	1.006	0.970	0.827	0.836	0.813	0.789	0.765	0.739
Productivity Ratios									
Operating Ratio	N/A	0.736	0.486	0.454	1.162	1.438	1.738	2.081	2.565
Plant Ratio	N/A	2.335	2.584	2.759	3.077	3.346	3.642	3.979	4.533
Share Data									
Earnings per Share	N/A	0.19	1.08	(0.20)	1.80	2.06	2.24	2.43	2.64
Change in EPS (%)	N/A	N/A	468.42	(118.52)	(999.32)	14.30	8.72	8.87	8.68
Basic EPS	N/A	0.19	1.08	(0.20)	1.80	2.06	2.24	2.43	2.64
Diluted EPS	N/A	0.19	1.08	(0.20)	1.80	2.06	2.24	2.43	2.64

Dividends per Share	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flow per Share	N/A	(39.62)	0.48	(0.75)	7.45	2.97	3.06	3.34	3.68
Value Per Share	N/A	33.63	404.66	44.02	45.82	47.87	50.11	52.54	55.19

Valuation Ratios

Price to Earnings Ratio (P/E)	N/A	N/A	N/A	N/A	6.50	0.62	0.60	0.68	0.76
Price to Book Value Ratio (P/B)	N/A	N/A	N/A	N/A	15.35	15.98	16.58	17.26	18.02
Price to Cash Flow Ratio (P/CF)	9.227	5.488	6.192	6.043	6.962	6.962	6.962	6.962	6.962
Dividend Yield (%)	N/A	15.075	6.604	7.601	3.810	6.615	6.576	6.462	6.318
Free Cash Yield (%)	N/A	(9.588)	(0.412)	(1.558)	3.152	0.347	0.386	0.500	0.644
Operating Profit Margin (%)	N/A	(281.577)	(51.409)	7.505	1,844.381	6.959	6.962	6.964	6.967
Operating Threshold Margin (%)	N/A	464.128	(84.696)	(6.265)	(4,462.984)	(688.032)	(765.072)	(993.599)	(1,282.404)
Operating Threshold Spread (%)	N/A	(745.705)	33.287	13.770	6,307.366	694.992	772.034	1,000.564	1,289.371

Key Drivers

Operating Growth Rate (G) (%)	N/A	1.30	(1.22)	(10.16)	0.05	0.05	0.05	0.05	0.05
Operating Profit Margin (P) (%)	9.23	5.49	6.19	6.04	6.96	6.96	6.96	6.96	6.96
Fixed Cap. Inv. (F) (%)	N/A	(61.41)	9.46	19.46	(2,931.64)	(3,496.70)	(3,915.27)	(5,007.74)	(6,099.19)

Financial Ratios for ESCO

	1987	1988	1989	1990	1991	1992	1993	1994	1995
Work. Cap. Inv. (W) (%)	N/A	2,112.79	(456.86)	(43.59)	(18,624.57)	173.51	219.97	208.65	(94.82)
Income Tax Rate (Tc)(%)	N/A	53.23	29.82	46.13	37.00	37.00	37.00	37.00	37.00

Unit Rates

Avg. Cost of Capital (%)	15.00
Term Cost of Capital	15.00
Internal Rate of Return (%)	38.80

Avg. Cost of Capital and IRR based on forecast data (1991 to 1995)
 IRR uses Pre-Strat. Resid. Value as investment (\$136647.000 thousand)

Statement of Assets and Liabilities
for the year ended 31/12/75

Particulars

Particulars	Value	Value
Fixed Assets	14,715,427	14,715,427
Current Assets	11,294,792	11,294,792
Current Liabilities	119,312	119,312
Total	26,009,911	26,009,911
Total	26,009,911	26,009,911

SENSITIVITY ANALYSIS

Sensitivity of Shareholder Value
 For ESCO

To Sales Growth Rate (G)

Change in Variable	Value	Change in Value
-4.00% points	(4,573,422)	(4,771,774)
-2.00% points	(2,246,786)	(2,445,138)
0.00% points	198,352	0
2.00% points	2,770,492	2,572,140
4.00% points	5,478,514	5,280,162

Sensitivity of Shareholder Value
 For ESCO

To Operating Profit Margin (P)

Change in Variable	Value	Change in Value
-2.00% points	147,892	(50,460)
-1.00% points	173,122	(25,230)
0.00% points	198,352	0
1.00% points	223,582	25,230
2.00% points	248,812	50,460

Sensitivity of Shareholder Value
 For ESCO

To Cost of Capital (K)

Change in Variable	Value	Change in Value
-1.00% points	212,155	13,803
-0.50% points	205,031	6,679
0.00% points	198,352	0
0.50% points	192,076	(6,276)
1.00% points	186,165	(12,187)

Sensitivity of Shareholder Value
For ESCO

To Increm. Fixed Cap. Invest. (F)

Change in Variable	Value	Change in Value
-10.00% points	198,453	101
-5.00% points	198,402	50
0.00% points	198,352	0
5.00% points	198,302	(50)
10.00% points	198,251	(101)

Sensitivity of Shareholder Value
 For ESCO

To Increm. Working Cap. Invest. (W)

Change in Variable	Value	Change in Value
-10.00% points	198,453	101
-5.00% points	198,402	50
0.00% points	198,352	0
5.00% points	198,302	(50)
10.00% points	198,251	(101)

Sensitivity of Shareholder Value
For ESCO

To Cash Income Tax Rate (Tc)

Change in Variable	Value	Change in Value
4.00% points	203,957	5,605
2.00% points	201,154	2,802
0.00% points	198,352	0
2.00% points	195,550	(2,802)
4.00% points	192,747	(5,605)

Sensitivity of Shareholder Value
 For ESCO

To Residual Value Tax Rate (Tr)

Change in Variable	Value	Change in Value
-4.00% points	203,900	5,548
-2.00% points	201,126	2,774
0.00% points	198,352	0
2.00% points	195,578	(2,774)
4.00% points	192,804	(5,548)

Sensitivity of Shareholder Value
For ESCO

		Sales Growth Rate (G)		
		-2.00 % points	0.00 % points	2.00 % points
Operating Profit Margin (P)	-1.00 % points	(2,270,137)	173,122	2,743,249
	0.00 % points	(2,246,786)	198,352	2,770,492
	1.00 % points	(2,223,435)	223,582	2,797,735

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