PROJECT REDEPLOYMENT: A FINANCIAL INNOVATION

A CASE STUDY OF LTV

THESIS

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By

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The purpose of this study was to examine the aspects of redeployment in general terms, and then to present a case study of a specific redeployment program to analyze its effectiveness as a corporate financial tool.

The first four chapters discuss the general and financial definitions of redeployment, as well as the objectives, benefits, and alternate methods of the operational asset form of redeployment.

The specific redeployment program analyzed is the case study of Ling-Temco-Vought's use of the operational asset form of redeployment. The purpose of the case study was to determine if Ling-Temco-Vought achieved their stated objectives. An analysis of these objectives shows that redeployment was a success.
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CHAPTER I

REDEPLOYMENT DEFINITIONS AND CONCEPTS

A General Definition

The financial interpretation of the concept of the redeployment of corporate assets is highly complex in nature. In order to obtain a better understanding of its financial aspects, a general definition is presented first.

The term deploy is most often thought of in conjunction with military tactics and maneuvers, and is used in this context to spread out or arrange forces in the most strategic manner. With this in mind, redeployment in general terms can be defined as the continual rearranging of the factors under consideration so that optimum combinations are in existence at all times.

Concept Applied to the Financial Environment

Redeployment can generally be defined in the financial context as the "optimum utilization of either corporate assets or corporate liabilities in any given or existing economic environment . . . the end result of which would greatly increase the corporation's financial or operational well-being" (3, p. 1).
This concept of redeployment can be broken down into systematic programs which are designed to achieve this optimum utilization of assets and liabilities which maximizes benefits to the shareholders. These redeployment methodologies take many forms and can "manifest themselves into identifiable programs, with eclectic variations, and exponentially oriented variables" (3, p. 2).

These identifiable programs can be classified into two basic areas: (a) Programs that reduce the number of outstanding shares and (b) Programs that reduce the outstanding debt.

The particular redeployment methodology this study is concerned with can have the effect of reducing outstanding capital shares, or reducing outstanding debt, or both, and thus involves both assets and liabilities. The other methodologies possible are beyond the scope of this study and will only be briefly discussed in the last section of this chapter.

Redeployment Method Analyzed in This Study

This section presents the redeployment method which is to be analyzed throughout this study and which is the basis for the case study presented in Chapter V. This method has a general form with many variations, depending on the particular corporation employing it and the prevailing economic environment.
This particular redeployment program is known as Operational Asset Redeployment (OAR), and can be defined as the restructuring of an operational unit within a corporation into a corporate form enabling the parent company to create a new corporation and trade certain assets to the new corporation for its common or preferred shares and then:

(a) the common or preferred securities of the new corporation are exchanged for the outstanding discounted debt (debt selling below par) of the parent corporation, or

(b) the common or preferred securities of the new corporation are exchanged for the preferred shares of the parent company (3, p. 3), or

(c) cash and/or securities in the new corporation are exchanged for the outstanding shares and/or debt of the parent corporation.

In essence, this is taking an operational unit, such as a division of a company, and restructuring it into a corporation, and at the same time reducing the parent company's common stock and/or outstanding debt.

An Analogy of the Redeployment Process

A simple analogy at this point should give a better understanding of this redeployment process. In his book, Ling, The Rise, Fall and Return of a Texas Titan, which was the result of numerous sessions with Ling, Stanley Brown produced the following example which best describes the process:

Assume that LTV has an asset on its books worth $100 . . . Now assume that a corporation called
LTV-XYZ is set up with $100 worth of common stock. Then LTV, the parent, trades the $100 asset for the $100 of common stock in LTV-XYZ. Next, it offers shareholders of LTV a swap: turn in $10 of LTV stock and get $10 worth of LTV-XYZ (1, p. 118).

This, in essence, is the process which creates public ownership in the new corporation, LTV-XYZ in this case. But the effects of this process are far-reaching, and will be examined throughout much of the rest of this study. As an example, Brown presents the following immediate results of his previous illustration:

Suppose also that LTV is selling at ten times its earnings, not a very large multiple. But here is this new LTV-XYZ, a company in an industry most of whose companies are selling at twenty times their earnings. Now, as the $10 worth of LTV-XYZ begins trading, its price rises to reflect the multiple of the other companies in the industry it has entered by being separated from its more diverse and less valued parent. Suppose it rises to $20. The parent, which retained 90 percent or $90 worth of the subsidiary stock, now has marketable securities worth $180 (1, p. 119).

The immediate benefits in this example can be seen as (a) The securities owned by the parent company increased from $90 to $180, which although shown on the books at the original figure, does represent an increase in collateral value; (b) The cost of that increase to LTV was negligible, it gave out $10 worth of its stock in the new subsidiary, but in return received $10 worth of its own shares and decreased outstanding common stock; (c) In this case, the parent can, for reporting purposes, consider the subsidiary's earnings, less minority interests, as its own (1, p. 119).
This brief analogy gives a basic view of the redeployment process, and some of the immediate effects and benefits that occur. The many other effects, advantages, and disadvantages will be discussed in subsequent chapters.

Other Comparisons and Interpretations

In analyzing this particular redeployment mode of financial restructuring, several different philosophical evaluations have evolved. For example, this process of redeployment has been compared by some to the biological reproduction of cells, which is "multiplication through division, with each offspring a complete and viable, if smaller replica of the parent" (4, p. 7).

Redeployment also relates to the idea that the sum of the parts is greater than the whole, in this instance dividing companies into several distinct autonomous units the value of which, after the division, is greater than the previously existing financial structure (2, p. 40). Thus in the end the newly created subsidiaries command higher market prices individually than collectively (4, p. 7).

Finally, redeployment is often said to create new values, that is, create something out of nothing. However, it takes a combination of a high degree of financial skills and economic awareness to identify asset value, break it down into its components, and put individual evaluations on each component. This process can be compared to the science of
engineering, where certain fixed and known factors are brought together to solve a problem and achieve the desired results. Redeploying an asset then, is a form of financial engineering, where the fixed and variable factors are identified and brought together in an econometric model to develop a financial engineering plan that is feasible.

The other redeployment methods lend themselves to the reduction of outstanding debt. Assuming a corporation has a substantial amount of discounted debt due to various economic factors such as high prime interest rates, economic uncertainties of the issuer, etc., there are several redeployment programs which can fully maximize liabilities, in order to maximize benefits to the shareholder (3, p. 2).

One such method would be the "utilization of a small cash payment in conjunction with a high yield note, the combination of which would provide a decent premium over the existing market value to the seller" (3, p. 3). For example, assume XYZ Corporation has outstanding 5 percent interest bonds due in twelve years, which are selling at $400. The current yield would then be 12.5 percent. Now assume XYZ offers to its 5 percent bondholders an exchange wherein they would receive $150 cash, plus a $300 principle amount, 10 percent note due in six years for each 5 percent bond held. There are three favorable effects that can be seen from this form of redeployment. First, the 5 percent holder receives a $450 value for his bond which is currently priced at $400 in the
market. He also receives a bond with half the maturity. Second, the corporation will be reducing its cash flow since the coupon payments on each $1000 bond will be replaced by $30 payments on the $300 notes. Finally, the equity of the corporation will be increased since it is retiring $1000 bonds for $450. In summary, the end result of this transaction would be to reduce the amount of debt outstanding, with a corollary savings in cash flow, and an increase in the equity of the corporation (3, p. 3).

Another form of redeployment would be to exchange a small amount of cash with low or medium price earnings (P.E.) ratio shares for the outstanding discounted debt (3, p. 3). This too would reduce outstanding debt, increase cash flow and net equity. For instance, assume XYZ's common stock is selling for $12, and has a book value of $6. If XYZ exchanges forty of these shares for one of the 5 percent twelve year bonds which are selling at $400, they have given up $240 of book value for $1000 of debt. The bondholder would be getting $480 worth of stock for a bond which is priced at $400. The corporation would improve their cash flow if the dividends on the 40 shares were less than the coupon payments. Furthermore, the net effect of this transaction would result in "having exchanged or sold a low or medium P.E. ratio security at a substantial premium" (3, p. 3). Stated differently, the corporation has in effect become its own
underwriter in utilizing a "small amount of cash and securities to retire deep discounted indebtedness" (3, p. 4).

Thus, it can be seen that redeployment can take many forms, and as stated earlier has many variations that are exponentially oriented. This brief discussion, therefore, is not intended to be all inclusive of the many possible variations. This study is concerned only with the redeployment of operational assets as a form of the general concept of redeployment.
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CHAPTER II

OBJECTIVES OF OPERATIONAL ASSET REDEPLOYMENT

The objectives of OAR are numerous and are aimed at the organizational, financial, and operational aspects of corporate structure. The general objectives of redeployment are to deploy assets or liabilities in such a way as to benefit shareholders, customers, and employees, and to achieve greater efficiency, economy, flexibility, and growth (11, p. 4).

Specific objectives of the OAR method are to create independent subsidiaries with public participation; to increase values; to finance expansion; to reduce outstanding stock and/or debt; to diversify; and to develop a management philosophy for a large, diversified corporation. Each of these objectives will be presented and examined in more detail.

Creating Independent Subsidiaries with Public Participation

This objective is bilateral in nature because it can be divided into two areas which are interdependently related. The first area, that of creating independent subsidiaries, can be thought of as the process of segregation with specialization. It is possible for a corporation to become too big to be efficient, and thus if the components of the corporation were segregated into specialized areas, the corporation would take on a more amenable form (10, p. I-6).
For instance, assume XYZ company reorganizes itself into four independent units which consist of a parent-operating company and three operating, wholly-owned subsidiaries. In the operational asset form of redeployment, these three subsidiaries would be composed of previously operating divisions within the XYZ company which had similar product lines, common customer lists, and common technologies and overall capabilities (10, p. I-7).

This segregation and specialization process then, should enable the newly formed subsidiaries to "render better services and products at a lower cost to their customers" (10, p. I-6).

The process of segregation with specialization can be extended into specialization with recognition. This specialization with recognition concept means the creation of public ownership in the subsidiaries, which is the second part of this objective.

Under the OAR method, the introduction of public ownership to the newly created subsidiary, enables it to move from an unrecognized operating unit into an "independent, quasi-autonomous operation" (6, p. 2). The subsidiary would then have direct access to the public marketplace for its individual, specific lines of credit related directly to the subsidiary's needs (6, p. 2). Each subsidiary would have its own profit and technological centers, as well as its own separate market (7, p. 2). Also, public participation in the form of the previously discussed methods of exchanging stock
in the subsidiary for stock in the parent, enables the common shareholders of the parent "to participate directly in the ownership of the subsidiaries and gain the probable benefits of investment recognition" (10, p. I-8).

In summary, the first objective, creating independent subsidiaries with public participation, encompasses the process of segregation with specialization with recognition. Obtaining this objective provides a "means by which a large and diverse business can be operated with the flexibility and motivation of a smaller enterprise" (9, p. 3).

Increasing Values

In analyzing OAR it can be seen that the parent company, by trading assets on its books to a newly organized subsidiary for its stock, and then trading a portion of that stock to the public, has in effect, converted those assets into marketable securities.

The possibility of increased values through OAR rests on the premise that "the investing public often tends to attach greater value to the assets of companies than accountants do" (2, p. 172). Thus, if the shares in the newly formed subsidiary are put on the market, they would "command higher market prices for their stock as separate companies than they would under the existing organization" (13, p. 179). Theoretically then, the shares of the subsidiaries would "settle at market prices far above their former book value" (1, p. 22).
As an example, assume a corporation has several divisions which can be redeployed into two subsidiaries, one in the aerospace industry, and one in the electronics industry. If investors feel that companies in the aerospace and electronics industries may be worth more individually than a company that owns both (collectively), the parent company has increased the value of its assets. This is because the market value of its holdings of the subsidiaries' stocks has risen (3, p. 118). Stated differently, if the parent sells at a multiple of ten, and redeploy operational units into industries that sell at considerably higher price-earnings ratios, it has increased the value of the shares it retains in the subsidiaries. Thus, if electronic companies for instance, were regarded as popular and glamorous by investors, they might value them at higher multiples. It would make sense then, when the factors for OAR are right, for a corporation to redeploy a hidden electronics division, and bring the investor's attention to it in the public marketplace so it too can take advantage of the high multiples.

In summary, OAR strives to increase corporate values since the new subsidiaries will command higher market prices as individual units for several reasons: investor psychology; taking advantage of higher price-earnings ratios; increased efficiency by the segregated and specialized units; and the fact that the new subsidiaries' earnings are made visible
because they are not obscured by the other corporate divisions' lower profits or losses, or by the parent company's problems.

Financing Expansion

OAR can be used to magnify a corporation's capital resources as a basis for further expansion (5, p. 42). This can be accomplished in several ways. First, when the operating units are redeployed into individual subsidiaries, the corporation can raise money by selling part of its securities holdings in those subsidiaries. Also, one or more of the newly formed companies could be more easily sold off as a means of raising funds. Thus, the corporation has several means of raising cash to finance future acquisitions. Second, the shares in the subsidiaries that are retained by the parent company will provide increased leverage. For instance, if the shares increase in value, as previously discussed, the parent company's holdings also increase in value. As the parent's holdings increase, so does its borrowing power, since the shares will be representing higher collateral values. Thus, the corporation can borrow cash to finance acquisitions by using the subsidiaries' shares as collateral. It can be seen then, that the corporation can raise money by "selling part of its holdings to the public, while increasing the value of the parts retained for itself" (14, p. 249).
Finally, the total process by which redeployment can be used to finance corporate growth can be thought of as the "redeployment cycle." This cycle consists of several stages.

The first stage involves the use of leverage. Here the corporation could borrow long to "buy companies that hopefully will earn money to pay off the debt and interest, and in addition provide some loose change for the bottom line" (4, p. 40). The second stage involves splitting the companies into smaller and more efficient, autonomous units. The final stage is public participation in these newly created units. After taking the unit public, the corporation can use "the cash from the sale of stock to help pay off the original long-term debt and to buy still more companies" (4, p. 40). It is here that the process could begin all over again; and the corporation, by raising cash and increasing borrowing power, has developed a philosophy for corporate growth.

Reducing Outstanding Shares or Debt

As stated in Chapter I, redeployment methodologies can be classified into programs that reduce the number of outstanding shares, and/or programs that reduce the outstanding debt. Under the operational asset form of redeployment, the reduction of outstanding shares, or debt, takes place when the parent company exchanges securities in the newly formed corporations for the parents' outstanding securities.
There are many reasons why a corporation would want to reduce its number of outstanding shares. For instance, the shares brought in could be used for acquisitions, employee stock ownership plans, or stock options. Also, the corporation could improve its price-earnings ratio, and at the same time improve its cash flow through reduction in dividends, providing the reduction in dividends exceeds the earnings that will be lost. Finally, the shares could be used to "offset potential dilutions resulting from exercise of options or conversion of convertible debentures" (12, p. 2).

Reducing the corporation's outstanding debt can also have many benefits, especially if the debt is discounted in the marketplace. Reducing a substantial amount of the principal debt outstanding, can increase the equity, or net worth, of the corporation. Also, because of lower fixed payments, there will be a corollary cash flow savings. The improved financial position of the company then, should allow them to borrow at relatively lower interest costs in the future.

Achieving Diversification

OAR can provide the corporation with a means of diversification through both internal and external development.

Internal diversification occurs because each newly formed subsidiary is insulated from the others. In fact, their only common tie is their relationship with the parent
corporation. Thus, a catastrophe or adverse business conditions in one subsidiary would not be contagious to the other subsidiaries after redeployment occurs (8, p. 11). Also, internal diversification could be achieved in part by "urging the subsidiary companies developed as a part of redeployment to continue and expand their internal investment in research and development, facilities, market development, and to seek diversification in new areas" (10, p. I-16).

OAR can achieve external diversification through acquisitions as well. Using redeployment as a means of financing acquisitions into new industries can protect the company against cyclical downturns in industries already invested in.

Developing A Management Philosophy for A Large Corporation

When a corporation grows rapidly there exists the danger that it will become too big to be efficient. OAR provides a managerial philosophy that can be applied to large diversified corporations which allows them to operate with the "flexibility and motivation of a smaller enterprise" (9, p. 3).

This philosophy, which divides up the responsibilities of the specialized units and the parent, can be thought of as centralization of control with decentralization of authority (10, p. I-6). In this framework centralization of control occurs because the parent retains a majority interest in each of the subsidiaries. So even though each redeployed subsidiary has its own corporate officers and board of
directors, and can engage in its own financing and operating activities, the parent company, which is the majority holder, is always present for guidance, advice, and consent (3, p. 119).

The decentralization process centers responsibility and accountability in the hands of the management of the redeployed subsidiaries. This is because in addition to each subsidiary becoming its own technological, operating, and financial centers with its own market, it has now also become its own management motivation center (7, p. 3). There are two reasons for this: (a) even though the management is responsible to the parent company, it has a chance to prove itself based on its own independent performance; (b) executives of the new subsidiaries would receive their stock options in the shares of their own subsidiaries and thus their incentives would be based on the performance of their company alone without being affected by the other subsidiaries' performances (3, p. 120).

Finally, this decentralization of management authority and responsibility should occur at the lowest workable level. James Ling, in a speech before the American Bar Association, put it this way:

Profit responsibility should be isolated and matured at the smallest sustainable level which can be defined logically in business and technological terms, and the management of such operations should be inculcated with entrepreneurial motivation and provided with the visibility to apply discipline to their responsibilities (7, p. 2).
In summary, OAR offers six basic objectives, or goals, that can be obtained through redeployment. Any, or all of these could be obtained through a redeployment process. However, some corporations might concentrate on diversification, some on growth, while others might seek to simply reorganize their management system.


CHAPTER III

ALTERNATE METHODS OF OPERATIONAL ASSET REDEPLOYMENT

There are several methods by which a corporation may achieve operational asset redeployment, or the creation of independent subsidiaries with public ownership.

First there is the exchange method in which public ownership is created by exchanging securities in the parent company for securities in the new subsidiaries. This method is considered superior to the others for reasons presented later in this chapter. In addition, it is the method used in the discussion of redeployment in Chapters I and II, and also the method used by LTV in the case study presented in Chapter V.

However, there are several other viable methods by which public ownership can be introduced into the redeployed subsidiaries. These methods are dividend spin offs, rights offerings, underwritings, and mergers. The following sections provide an explanation of these methods and their relative effectiveness in achieving the objectives of OAR.

Dividend Spin-Offs

Under this method the parent company would distribute to its shareholders a stock dividend in each of the new
subsidiaries. This would achieve the objective of creating a market in the shares of the newly formed subsidiaries; however, the parent company receives nothing in return, and thus many of the objectives of redeployment, reducing shares, increasing value (as discussed in Chapter II), and financing growth and expansion, are lost. In addition, there would be an ordinary income tax exposure to the parent company's stockholders, since each stock dividend is taxable.

Thus, while this method is probably the simplest and least costly form of achieving redeployment, its disadvantages will generally prevent its use.

Rights Offering

A rights offering could be made to the shareholders of the parent company. The shareholders would have the opportunity to buy a predetermined number of shares of common stock in the new subsidiaries at a "price set to be consistent with the earnings of each subsidiary and the price-earnings multiple typical of the industries" (1, p. 62).

One problem with this approach is the difficulty of establishing a fair and equitable price. However, assuming an adequate value could be arrived at, the rights offering would have the advantage of generating cash for the parent company (1, p. 62).

Thus, the additional advantage that this method has over the dividend spin-off is that it generates cash for
the parent company. This cash could then be used for further
growth or expansion.

However, there are several disadvantages that should be
considered. First of all, it does not reduce the outstanding
securities, or increase values, as does the exchange
method. Second, the rights offering would be taxable to the
parent company if the income received from the rights offer-
ing exceeded the tax basis of the company. The parent thus
would be taxed on the gain. Finally, there is no assurance
that a rights offering would be successful.

Underwriting of a Public
Offering

The parent company could set aside a predetermined number
of shares of common stock in each of the redeployed subsidi-
aries that could be offered to the public through an under-
writer.

This method has basically the same benefits and draw-
backs as the rights offering. It generates cash for the
parent company and it offers the possibility of increased
values on the shares it returns, but it, too, does not offer
the possibility of reducing the outstanding securities. In
addition: (a) underwriting is a taxable transaction to the
parent company if the income received from the underwriting
exceeds the tax basis of the company; and (b) it might be
difficult to attain underwriter participation in a redeploy-
ment program, since a difference of opinion between the
underwriter and parent company might arise over the market value of the new subsidiaries' shares.

Mergers

A final method of achieving operational asset redeployment would be through mergers of the subsidiaries with publicly held companies. The basic requirement for this method is that the subsidiaries would have to be compatible with the merging company from a standpoint of products, customers, technologies, and management (1, p. 62).

The major difficulties in this approach are: (a) finding a suitable merger, and (b) "the difficulty of establishing values of the stock of the new subsidiaries to be used in trade" (1, p. 62).

This method has one additional advantage over the previous methods in that it has the possibilities for increased values, or leverage, depending on the stock received. However, the concept of centralization of authority with decentralization of management is less applicable.

Summary

All of the methods discussed achieve public ownership and diversification. The rights offering and underwriting return cash back to the parent company, which could be used for growth or expansion. The merger offers the possibility of increased values or leverage power, depending on the stock received. However, only the exchange offer, the method
used by LTV in project redeployment, has the ability to achieve all the objectives of redeployment as discussed in Chapter II.
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CHAPTER IV

ADVANTAGES AND DISADVANTAGES OF OPERATIONAL ASSET REDEPLOYMENT

This chapter examines the effects of redeployment on five different groups: the shareholders, the parent company, the subsidiaries, the employees, and the customers. The benefits of redeployment to each one of these groups will be discussed to present an overall effect of a redeployment program. The closing section will then present the drawbacks of a redeployment program.

Benefits to the Shareholders

Implementation of an operational asset redeployment program will give the parent company shareholders who tender their shares in an exchange offering several direct benefits.

Assume, for example, that the parent company redeploys three new subsidiaries, each of which is in a separate industry. Because of the increasing value concept, those who tender their shares will receive a package with a potentially higher value than the stock they exchange. Furthermore, the shareholders will receive ownership interest in three new companies in different industries, each with its own separate record of growth and profitability under the parent company. The shareholders also achieve a form of diversification in
that each subsidiary is in a different and separate industry, which isolates it from adverse business conditions that may affect the parent company or one of its remaining divisions (6, p. 75).

This form of redeployment gives the investor in the parent company several investment options as well. For instance, if cash, in addition to the subsidiaries stock, is used in the exchange the investor will "have the opportunity with the cash resulting from the offer to make further investments in one or all of the subsidiaries or in the parent" (6, p. 75). The investor could also choose to tender a portion of his shares to invest in the subsidiaries while maintaining an investment in the parent company. A final option would be not to partake in the exchange offer and to retain the parent company shares, for this action too, could result in several benefits for the investor. For example, the investor may realize a higher value on his stock due to the reduction in the number of shares outstanding in the parent after the exchange. Also, he will have a chance to take part in the further growth and acquisition programs that the parent company will be able to make as a result of the redeployment program.

Finally, the investor benefits from the disclosure requirements made on the redeployed subsidiaries. These require each subsidiary to issue quarterly and annual reports and subjects them to the reporting requirements of the
Securities and Exchange Commission (5, I-7). Since the parent company must make full disclosures about operating subsidiaries which were once obscure under the wing of the parent company, the investor will have better information to make his investment decisions. This is supported by the fact that LTV, after project redeployment, was described as being "very close to . . . number one in the visibility sweepstakes" (7, p. 249).

Benefits to the Parent Company

There are five advantages that may accrue to the parent company which has achieved operational asset redeployment.

First, because of the "increasing value" concept, the parent company common stock received in the exchange should become more valuable for future growth and acquisitions (6, p. 77). In addition, the subsidiary stock retained by the parent will add further to the borrowing and growth ability of the parent company.

Second, the parent could assign all or part of its bank debt to the subsidiary which is best able to assume it. This would make the parent essentially debt free, and would enable it to have correspondingly higher cash flows.

The third advantage to the parent company would be its ability to reduce the number of stock options it sets aside. This is accomplished by cancelling the stock options of
personnel who move from the parent company management to managerial positions in the new subsidiaries.

Better control is the fourth advantage to the parent company. Since the redeployed subsidiaries are more independent (each its own center), the management of the parent company can devote less time to the daily operations of those companies, and "can give more attention to the problems of the remaining . . . divisions" (6, p. 78). This could result in an improved record for those divisions in the future.

The final advantage to be discussed is the parent company's ability to become its own financial and credit center, separate from its subsidiaries. James Ling, in a speech before the Bank Administration Institute, discussed this concept as it related to LTV after project redeployment:

In severing the financial umbilical cord with the subsidiaries we, in turn . . . as a result of no downstream guarantees to our subsidiaries . . . have segregated LTV, the parent company, into a separate financial and credit center, just as is the case with the subsidiaries. As a result of being financially strong, we, therefore, have a financial quick-reaction capability second to no other business in this country (2, p. 7).

Since the parent company then, is its own center, it can use its resources to support any or all of its subsidiaries on a selective basis.

Benefits to the Subsidiaries

As a result of operational asset redeployment the newly formed subsidiaries, which were once operating divisions,
will receive several benefits with the end result being a strengthening of the subsidiaries.

The first such benefit is that each subsidiary becomes "its own profit center, technological center, market center, credit center, and most important, its own management motivation center" (3, p. 7). In addition, since each subsidiary is now publicly owned, it can undertake its own financing in the private and public financial markets through borrowing, private placements, or equities, and thus can build its own line of credit. The subsidiaries, then, have their own sources "for independent financing of their own plans for growth and acquisition" (6, p. 77).

All of these factors enable the subsidiaries to become increasingly more self-sufficient. Furthermore, this increased self-sufficiency enables them to better specialize in their own particular operations, which leads to closer contact and better service for the customers of each particular subsidiary.

Another benefit which accrues to the newly formed subsidiaries is their independence. Since the only common tie between the subsidiaries is the parent company's ownership in each of them, a business downturn or catastrophe in one subsidiary will not effect the other redepolyed subsidiaries. Such castrophes could include contract cancellations, operational losses, or cutbacks in those subsidiaries or divisions.
The third benefit to the redeployed subsidiary is the fact that management becomes more self-sufficient. Truly, each subsidiary becomes a management motivation center. This is because after redeployment occurs, the subsidiary executives are not merely employees of the parent company, but "are officers and directors of a separately organized and managed subsidiary with stockholdings and stock options in their company" (4, p. 4). In addition, these executives' salaries and incentives are now based on their company's performance, regardless of what the other subsidiaries or parent company may do. Finally, the executives are not only accountable to the parent company's majority shareholders, but to the minority shareholders as well.

In summary, "The combination of majority shareholder responsibility and accountability to public minority ownership makes for a highly motivated, innovative and more mature subsidiary management" (4, p. 4).

A final benefit to the subsidiary that warrants mentioning is that once the market value for the common shares of the subsidiary is established, it "might be in a position to make attractive acquisitions through the exchange of stock" (6, p. 77).

Benefits to the Employees

As previously discussed, the management of the redeployed subsidiaries will have a higher degree of motivation, with
their reward based on their company's performance. But beyond that, management "will have the opportunity to devote their full attention to the specialized problems of their subsidiaries" (6, p. 76). Since each subsidiary will have different products, technology, customers, and operations, the management will acquire a higher degree of managerial skills.

The nonmanagement employees of the subsidiary should be considered as well. They too should be better motivated since their performance will have a more direct relationship to the performance of their company. In addition, these employees can "look forward to increased opportunities for advancement as their subsidiary grows through internal expansion and/or acquisitions" (6, p. 76).

Benefits to the Customers

There are many advantages to the customers of a redeployed subsidiary. Since each subsidiary now specializes in a particular industry, the customer will now have a better understanding of what constitutes the particular business entity with which he is dealing (6, p. 73). This should lead to a minimizing of misunderstandings, and the "lines of communication should be shorter and sharper" (6, p. 73).

Another advantage to the customer stems from the fact that each subsidiary is composed of product specialization.
Because of this specialization, the customer can expect "more efficient operations, better control of program progress, better and more direct control of overheads, and an overall better rapport with the contractor--in effect, more product quality for his dollar" (6, p. 73). In other words, improved operating efficiencies should lead to a reduction of costs to the customers.

Finally, because of the more direct lines of communication into the subsidiaries, customers can expect "rapid management action in response to their wishes" (6, p. 76).

Disadvantages of a Redeployment Program

There are several potential problems which could arise if OAR is employed. The first of these problems is the conflicts of interests which might arise between the parent and the subsidiary companies. For instance, since the parent company controls the subsidiaries, it could force them to move into business enterprises which they may not wish to engage in. Further conflicts could arise over the payment of dividends. This is because the parent, which was once allowed to take cash in and out of the divisions as they wished, are no longer allowed to do so when the divisions become publicly owned subsidiaries. Although the parent can now report the subsidiaries' earnings, less the minority interests, as its own, the earnings can only be transferred as dividends on the subsidiary stock held by
the parent. For example, the parent company, because of its financial position, may not want the subsidiary to pay a dividend. The public, however, may want dividends, or the subsidiary may wish to pay a dividend to enhance the value of its stock. On the other hand, the parent may need money desperately, and may choose to have the subsidiary pay out a dividend, even though such a payment may not be to the subsidiary's best financial interests.

These conflicts of interest can be negated, however, through proper policy formulations and implementations. For example, the dividend problem could be solved by having two classes of stock. If the parent wanted to conserve subsidiary cash and still pay dividends to the public and not receive any themselves, they could convert their shares into nondividend-paying shares (1, p. 121).

A second problem, which results from the structural relationship between the parent company and the subsidiaries after OAR, is that the parent company has the disadvantage of not being able to move cash around as freely as before redeployment took place. This could lead to cash flow problems for the parent company. In addition, the parent company would no longer be able to bury the operating losses of these divisions, as it could have done before. However, this is an advantage to the investing public since more disclosure is being made.
Another potential problem area involves the owning of securities in the subsidiaries by officers and directors of the parent company. Again, the problem here is the conflicts of interests which might arise between the interested parties. Clearly, some policy governing such transactions should be set forth.

The final problem discussed is more theoretical than real. However, it does warrant consideration. This problem is the effect of the parent company's holdings of the subsidiary stock on the rest of the market for those shares. Since the parent could retain as much as 90 percent or more, with the public owning only 10 percent, the parent's large block of outstanding shares could have a negative effect on the market for those shares. This large block overhanging the market could depress prices, since the investor might worry about the parent company's future actions concerning their holdings. It seems doubtful though, that the parent, which owns the overwhelming majority of the stock, would do anything that might depress its price.

Summary

It appears that the advantages to be gained from OAR outweigh the disadvantages to the shareholders, parent, subsidiary, employees, and customers. However, the conditions to implement an OAR program must be feasible. These conditions include: that the corporation have one or more
relatively strong and mature operating divisions which could be redeployed; that the earnings outlook for these divisions is for continued growth; that there is potential market acceptance for shares of the newly-formed subsidiary; and that economic conditions are such that an OAR program would bring the desired results. If the corporation feels an OAR program is feasible, and that it can help them achieve their objectives, then the main disadvantages can be negated.
CHAPTER BIBLIOGRAPHY


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CHAPTER V

CASE STUDY: PROJECT REDEPLOYMENT

Brief History of LTV Up To Project Redeployment

The history of LTV before project redeployment can be divided into two periods: the acquisition period, 1959-1961; and the assimilation and consolidation period, which lasted from 1961 until project redeployment in 1965.

The Acquisition Period

The original predecessor company of LTV was Ling Electronics, Inc., which was organized in 1953 as a California corporation. From 1953 through 1959 there were few external acquisitions, and the company relied mainly on internal growth through research and development. However, the years 1959 through 1961 marked a period of rapid growth through several major acquisitions and mergers. This rapid growth is evidenced by the fact that sales grew from $6.9 million in 1958 to $192.8 million in 1961, as shown in Table I. The reason for this rapid growth can best be shown by examining each of the acquisitions or mergers that took place during this time period.

The first acquisition took place in March and April of 1959 when Ling Electronics acquired on a share-for-share
### TABLE I

THREE YEARS OF GROWTH*

<table>
<thead>
<tr>
<th></th>
<th>1959</th>
<th>1960</th>
<th>1961</th>
</tr>
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<tbody>
<tr>
<td>Sales</td>
<td>$48,086,765</td>
<td>$148,447,484</td>
<td>$192,847,111</td>
</tr>
<tr>
<td>Earnings (loss)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before taxes</td>
<td>3,139,639</td>
<td>5,737,132</td>
<td>(14,526,897)</td>
</tr>
<tr>
<td>After taxes</td>
<td>1,866,466</td>
<td>3,051,172</td>
<td>(13,158,591)</td>
</tr>
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<td>Stockholders' equity</td>
<td>9,792,609</td>
<td>28,532,956</td>
<td>17,916,594</td>
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<tr>
<td>Employment--total</td>
<td>2,500</td>
<td>10,303</td>
<td>18,729</td>
</tr>
<tr>
<td>Employment--engineers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and scientists</td>
<td>180</td>
<td>1,040</td>
<td>2,700</td>
</tr>
<tr>
<td>Shares outstanding</td>
<td>1,610,762</td>
<td>2,553,040</td>
<td>2,775,185</td>
</tr>
<tr>
<td>Per common share</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings (loss)</td>
<td>$1.13</td>
<td>$1.20</td>
<td>$(4.74)</td>
</tr>
<tr>
<td>Book value</td>
<td>6.06</td>
<td>8.95</td>
<td>4.79</td>
</tr>
</tbody>
</table>

*Source: James J. Ling, "LTV Chief Executive Officer's Special Report to the Board of Directors," Dallas, Texas, 1965.
basis virtually all of the 335,000 outstanding shares of Altec Companies, Incorporated. After this transaction, the company's name was changed to Ling Altec Electronics, Incorporated.

On September 9, 1959, several months after the Altec acquisition, Ling Altec Electronics, Inc., acquired all of the stock of Continental Electronics Manufacturing Company for $3,250,000 cash plus 10,000 shares of Ling Altec common stock and $125,000 principal amount of the Ling Altec's 5.5 percent notes.

As a result of these transactions and internal growth, Ling Electronics had increased its sales into the $40 million range by the end of 1959, and had established itself in the electronics industry by winning a $50 million prime systems contract from the defense department against such giants as General Electric and Radio Corporation of America.

In July of 1960, the company made a major acquisition by purchasing all of the assets of Temco Aircraft Corporation for 817,953 shares of Ling Altec common stock, and 204,488 shares of Ling Altec preferred. In addition, the company assumed all of Temco's liabilities. This merger enabled Ling Electronics to triple its net worth, add substantially to its profits, and to increase its physical production capacity by one and a half million square feet. In addition, it gave the company over 1,200 new engineers (1, p. 6).
Consequently the new company, Ling-Temco Electronics, had a "better chance to compete in the prime systems area against some of the largest electronics and aerospace companies in America" (3, p. 9).

After several minor acquisitions, the company made its biggest move up to that time when it acquired all of the assets of Chance Vought Corporation in a complicated exchange offering. In exchange for Vought's common shares, Ling-Temco issued to Vought (a) $44,452,200 5.5 percent debentures, (b) warrants to purchase 204,378 shares of common stock at $300, (c) warrants to purchase the same amount of shares at $400. It was after this merger that the company became Ling-Temco-Vought, Incorporated.

Soon after the Chance Vought merger however, Ling-Temco-Vought discovered that as a result of contract cancellations, Chance Vought had "gone into a very ill-advised and random diversification effort" (1, p. 8). Even though at the time of the merger Ling-Temco knew Chance Vought had problems, they soon found out they had under estimated the size and magnitude of those problems. Chance Vought's random diversification effort had "resulted in operational and non-recurring charges, never previously disclosed, of some $25 million" (4, p. 11). As a result of the merger, LTV had $35 million in write-offs, a substantial amount of diversified activities that they wanted no part of, and had a "net worth of $13 million and long and short term debt of $112 million
as of December 31, 1961" (1, p. 8). It was estimated by LTV's management that it would take the rest of their corporate productive lives to pay off the enormous debt, assuming a $3 million to $5 million range for annual earnings. It was then decided by LTV management that the next several years would be devoted to restructuring LTV, with little emphasis on acquisitions.

The Assimilation and Consolidation Period

LTV devoted the next three years after the Chance Vought merger to restructuring itself by organizing divisions according to technologies and by disposing of divisions not compatible with LTV's future goals.

Before the restructuring took place, LTV disposed of its "red-ink" and non-compatible acquisitions, thus raising cash in the process. Specifically, LTV sold four divisions or subsidiaries for approximately $28 million in cash and securities (2, p. I-4).

Once these dispositions were complete, LTV streamlined its organizational structure from twenty divisions to eleven divisions operating in three technological fields--commercial electronics, military electronics, and aerospace products. In addition, LTV initiated a high degree of centralized management control and cost control programs.

The end result of this restructuring was that LTV "achieved a much better balance of business in the three
areas of technologies, products, and customers" (6, p. 3). This was reflected in LTV's balance sheet, which shows $29 million in equity and $60 million in short- and long-term indebtedness as of December 31, 1964. These figures show a 50 percent reduction in debt and a 123 percent increase in equity for the three-year assimilation and consolidation period (4, p. 13).

As a result of these dispositions and restructuring, by 1965 LTV had been rearranged and regrouped creating a more solid, and financially stronger, organization. At that time the major divisions of the corporation were sufficiently mature "in organization, technical capability, and business backlog to warrant consideration of granting them a measure of operational autonomy" (2, p. I-5). In short, it was time for project redeployment.

Project Redeployment Plan

Factors That Led to Project Redeployment

There were several factors that motivated LTV to initiate project redeployment. First of all, the company desired to insulate some of its parts from defense contract cancellations in other areas. In other words, LTV wished to achieve greater diversification. Second, there was the desire to develop a management philosophy for a now much larger corporation since, as seen in Table I, LTV had just
experienced a period of rapid growth. Finally, LTV recognized that several divisions were mature enough to be granted a measure of operational autonomy. To more fully understand why LTV chose to redeploy, the most important of these reasons, the need for diversification, will be discussed in more detail.

The Need for Diversification.--By examining the profile of LTV and the status of the industries they operated in at the time of redeployment, LTV's need for diversification becomes apparent. Figure 1 shows that LTV's sales were about equally divided between the electronics, space, and aeronautics industries. However, it can be seen that the government accounted for over 90 percent of their business primarily through defense contracts. Thus LTV, at the time of project redeployment, held a strong position within the defense industry. They had two major aircraft development programs: an Army battlefield missile and a program to develop two special purpose surface vehicles; significant airborne reconnaissance and surveillance programs; and programs in space maneuvering units, launch vehicles, radar, and communications.

As for commercial operations, which accounted for the other 10 percent of their sales, LTV had capabilities in vibration test equipment, sound components, radio communications equipment, and other various sound systems.
1964 PROFILE OF LING-TEMCO-VOUGHT

ELECTRONICS/COMMUNICATIONS, CONTROL

SALES . . . . . . . $103.3 MIL
EMPLOYEES . . . . . . 6,832
ENGINEERING/TECHNICAL . . 1,909
NON-TECHNICAL . . . . . 4,923
FACILITIES . . . 1.7 MIL SQ FT

MISSILES/SPACE

SALES . . . . . . . $93.3 MIL
EMPLOYEES . . . . . . 2,708
ENGINEERING/TECHNICAL . . 1,195
NON-TECHNICAL . . . . . 1,513
FACILITIES . . . 1.4 MIL SQ FT

CUSTOMERS

ARMY 15%
AIR FORCE 35%
NAVY 30%
OTHER 10%
NASA 5%

SALES

ELECTRONICS/COMMUNICATIONS CONTROL 32%
MISSILES/SPACE 29%
AERONAUTICS 38%
OTHER 1%

TECHNOLOGY

AERONAUTICS

SALES . . . . . . . $122.0 MIL
EMPLOYEES . . . . . . 6,543
ENGINEERING/TECHNICAL . . 1,464
NON-TECHNICAL . . . . . 5,079
FACILITIES . . . 3.2 MIL SQ FT

TOTALS

TOTAL SALES . . . $322.8 MIL
TOTAL EMPLOYEES . . 16,372
ENGINEERING/TECHNICAL . . 4,568
NON-TECHNICAL . . . . . 11,804
TOTAL FACILITIES 6.5 MIL SQ FT

Source: James J. Ling, "LTV Chief Executive Officer's Special Report to the Board of Directors," Dallas, Texas, 1965.

Fig. 1--1964 Profile of Ling-Temco-Vought
Since LTV was primarily a defense contractor, management was naturally concerned with the action of the government regarding defense spending. This is because the defense market cannot be enlarged through marketing programs or by new products to increase demand. Rather, the size of the defense and space market depends on the size of the defense and space budgets.

The outlook for the defense industry in 1964 was that defense spending would be declining for the foreseeable future. The government, in fact, advised all major defense contractors to start diversifying if they wished to survive. This position was made clear through the attitudes and statements of key people in the government. President Johnson had made it clear that it was his objective to reduce defense spending. Assistant Secretary of Defense Roswell Gilpatrick warned that "annual defense expenditures might be cut 25 percent by 1970" (3, p. 32). Gardner Ackley, then Chairman of the President's Council of Economic Advisers, as pointed out by James J. Ling, assessed the defense industry and the status of the corporations within that industry this way:

It is probably correct to say that our national goals do not include or even imply the preservation of particular (defense oriented) companies. If defense firms can successfully diversify or convert the productive resources they presently employ to civilian production whenever the demand for their defense products declines, these firms can and should maintain their present scale of operations or continue to grow (3, pp. 32-33).
In addition to the poor outlook for the defense industry, LTV was also concerned with contract cancellations by the government since when the budget is cut entire programs are often cancelled. LTV, in fact, had prior experiences with defense contract cancellations. In 1958, two of Chance Vought's defense contracts were cancelled. Two months later 21 percent of Chance Vought's labor force had been terminated, and another 14 percent reduction occurred eight months later. Sales were off 24 percent, and profits dropped 45 percent for the following year (2, p. I-13). In 1960, Ling-Temco's $400 million Corvus Missle program was cancelled. This program alone represented four years of sales that were lost.

These contract cancellations and the instability that they produced in the defense industry caused James J. Ling, Chairman of LTV to comment:

I made a vow that never again would any company for which I was responsible, be dependent upon one market, any one product, or any one technology. Our concept would be that we would continually and on a sustained basis seek diversification (1, p. 14).

It can be seen then that LTV, because of projected declining government spending and slower growth in the defense industry, and because of vulnerability to contract cancellations, decided to reduce its dependence on the defense market by diversification. Redeployment seemed to be the answer.
Development and Description of the Redeployment Plan

Development of the Plan

The major steps taken during the assimilation and consolidation period brought LTV to maturity as a corporation. Despite the pressures of the changes in the defense and space industries, LTV's operating divisions learned how to function as parts of a larger corporate entity. LTV recognized though that changes in the defense industry were going to continue and that defense spending was on a declining trend. It was believed then, under these conditions, that it was time to make adjustments in the corporation that would "ensure the continued health of and accrual of long-term benefits to LTV and its operating units" (3, p. vii).

In developing a plan to make these adjustments, several possible redeployment concepts were considered for strengthening the corporate structure. The guiding premise in examining the different approaches of redeployment was the "need to strengthen the company's capability for doing business with the government in the defense and space market, and for expanding and strengthening its commercial operations" (3, p. 60). LTV believed the best solution would be to pull together the parts that could be closely identified by related products, technologies, and customers, and give a higher degree of independence to those operations to enable
them to "make their own way as lean, flexible, hard-hitting competitors in the defense and space industries" (3, p. 61).

The most attractive method of pulling together these parts was to adopt a form of subsidiary organization for the closely related groups within the LTV corporate structure. It was decided by LTV that these subsidiaries would be an aerospace corporation, an electronics corporation, and a commercial electronics corporation.

The aerospace corporation would operate primarily as a contractor for missiles and aircraft. The electronics corporation would provide sophisticated electronics systems for the governmental agencies, while the commercial electronics corporation would consist primarily of manufacturing high quality environmental and sound systems.

These subsidiary corporations were to be formed from certain operating divisions within LTV which had "reached the necessary stage of maturity and profitability and were able to stand on their own feet were to be given subsidiary status" (3, p. 61). The weaker divisions would remain under the control of the parent company management until they were able to make it on their own.

The public acceptance of these subsidiaries was a key to the development of the program since once they were formed, they would be offered to the public through one of the redeployment methods, as discussed in Chapter III. LTV believed that with the electronics companies, public acceptance would
be good since the outlook for this industry was optimistic (see Appendix, United Investment Report, "Electronics Issues Will Come Back"). Thus, "there were grounds for substantial hope for obtaining overall . . . acceptance of LTV securities in the marketplace" (3, p. 61).

After considering several methods of introducing public ownership to the newly-formed corporations, it was decided by LTV that an exchange method would be the best, even though each method had its advantages. A subsequent section presents a brief description of LTV's consideration of these other methods.

**Description of the Exchange Offer Plan**

Project redeployment consisted of three steps. Under the first step, LTV reorganized itself into four units: a parent company and three operating subsidiaries, which were wholly owned. These subsidiaries were organized according to product lines, customer lists, technologies, and capabilities into the three separate industries.

The second step involved transferring to the subsidiaries the assets and business of eight of the operating divisions in the following manner:

(A) LTV Aerospace Corporation was made up of:

1. LTV Vought Aeronautics Division
2. LTV Astronautics Division
3. LTV Michigan Division
4. LTV Range Systems Division
5. Kentron Hawaii, LTD.
(B) LTV Electrosystems, Inc., was made up of:
   (1) LTV Temco Aerosystems Division
(C) LTV Ling Altec, Inc., was made up of:
   (1) LTV Altec Division
   (2) LTV Altec Ling Electronics Division.

The third step was to offer the exchange of the common shares of each of the new subsidiaries plus cash to shareholders of LTV in exchange for the common shares of LTV. The terms of the exchange were for each LTV common share tendered, the shareholder received $9.00 cash plus one-half share in each of the three subsidiaries. Each of the subsidiaries would be capitalized with 1,200,000 shares of common and 650,000 shares of $20 par value, 4 percent cumulative convertible preferred, convertible into ten shares of subsidiary common stock.

The redeployment plan resulted in substantial structural changes within LTV. The operational, structural, and personnel changes can be seen by comparing Figures 2 and 3. Figure 2 depicts the constitution of LTV after redeployment, while Figure 3 shows the LTV organization as it existed before redeployment. The complete affects of this structural change, as well as the other aspects of project redeployment, will be analyzed in a later section.
Fig. 2--Pro-Forma Constitution of LTV and Subsidiaries After Project Redeployment
LTV's Consideration of Other Operational Asset Redeployment Methods

LTV chose the exchange method of OAR because they felt it was the best way to introduce ownership into the newly-formed subsidiaries. The purpose of this section is to (a) examine the reasons why LTV chose the exchange method, (b) look into why they decided against other OAR methods, and (c) examine LTV's consideration of organizational adjustment possibilities to achieve better operational efficiency without going to the extreme of a redeployment program.

As pointed out in Chapter III, there are four other ways to achieve OAR: through dividend spin-offs, rights offerings, underwritings, and mergers. LTV considered each of these methods and found that, even though each method had its own advantages and disadvantages, the exchange method contained substantially more advantages than the other four methods.

The dividend spin-off (for description of how each of these methods works, refer to Chapter III) offered an economical and easy method of introducing ownership into the new subsidiaries, but LTV realized it would receive nothing in return, and that its shareholders would be subject to an ordinary income tax on the shares received.

The rights offering would have generated cash for LTV, but establishing a fair price for which to offer the shares in the subsidiaries would have been difficult to establish,
and if not done accurately, could have resulted in a low public acceptance of the new subsidiaries. In addition, LTV's outstanding common shares would not be reduced, and the rights offering would be a taxable transaction to LTV.

LTV considered the underwriting of a public offering in each of the three subsidiaries and approached Lehman Brothers to inquire if their firm would have any interest in underwriting such an offering (3, p. 62). However, Lehman stated that they had no interest in such an underwriting. After contacting several other investment bankers, LTV decided that it was very doubtful that they would be able to obtain any interest in the underwriting of their subsidiaries, perhaps because the investing professionals felt the redeployment concept, being a new idea, would not work or be publicly acceptable. In addition, the proceeds of the underwriting could have been a taxable transaction to LTV (as explained in Chapter III).

LTV seriously considered using mergers to accomplish the spinning off of the subsidiaries. LTV felt OAR could be achieved by offering shares in the new subsidiaries in exchange for shares in the corporations they chose to merge with. The merging corporations, of course, had to be compatible in all aspects of their operations, such as common customers and technologies. LTV also would require that it retain 70 to 80 percent of the shares after the merger. However, LTV found that developing a suitable
merger was a difficult process, since establishing a value for the shares of the subsidiaries to be used in the merger was a difficulty. LTV approached two corporations they felt met the requirements, but both turned down the merger offer (3, p. 65).

In this end it was decided by LTV that the exchange method offered the most advantages and fewest disadvantages of all the methods considered. In review, the major advantages of the exchange method of OAR are

(a) it reduces the potential dilution of LTV stock,
(b) it establishes a market for the subsidiary stock,
(c) increases management specialization,
(d) creates motivation for management,
(e) customers will gain rapid and flexible response to inquiries and reduced costs on contracts,
(f) the new subsidiaries will have their own access to capital markets and credit sources, and
(g) it provides additional shares of LTV common stock for possible future acquisitions (3, p. viii).

In addition to these OAR methods, LTV also considered organizational adjustment possibilities. LTV examined "possible organizational readjustments that might be made to improve the operating efficiency of LTV divisions without going so far as to split them out into subsidiaries" (3, p. 64). After examining these possibilities, all of which consisted of consolidating divisions that would be compatible in order to improve efficiency, they found none that would
achieve any degree of improved operating efficiency, or that
could match the advantages that could be gained from forming
new subsidiaries. The following example which was one of
several pursued by LTV illustrates this point.

LTV Vought Aeronautics and LTV Astronautics
might have been combined, since in many respects
their technologies are similar and they are
located in adjoining facilities in Grand Prairie
which would have made the combination physically
easy to achieve. There were good reasons, how-
ever, for maintaining a division devoted to the
pursuit of space business separate from the
division devoted to the military aircraft and
missle business. That is the fundamental reason
for the original formation of LTV Astronautics,
and it is still a sound and logical argument
for not combining these two" (3, p. 64).

In other cases where it might have been logical to combine
two divisions to improve operating efficiency, LTV faced
other problems such as geographical location, legal prob-
lems and uneconomic duplication of facilities and research
and development programs, among others.

LTV's Objectives of Project Redeployment

After deciding upon the exchange method of OAR, LTV
set forth nine objectives they wished to accomplish by
carrying out project redeployment:

(a) To create a separate public market for the
securities of LTV Aerospace, LTV Electro-
systems, and LTV Ling Altec.

(b) To initially eliminate the existing bank debt
of LTV, and correspondingly have substantial
cash balances.
(c) To increase pre-tax earnings in the parent and subsidiaries over the next two to five years by a factor of two and one-half times.

(d) To increase the net asset value of LTV from approximately $30 million to $80 million within the next two years.

(e) To initially eliminate 25 percent of LTV's outstanding equity capitalization.

(f) A substantial number of shares currently reserved for stock options will be cancelled at LTV. Off-setting this, additional new shares will be reserved for a highly restrictive stock option program in the underlying companies.

(g) To stimulate future growth and achieve diversification (a) internally, within the defense industry on a selected basis by the newly formed subsidiaries; (b) externally, through possible acquisitions or investments in industries not associated with the defense industry.

(h) The individual companies, once publicly held, will have an opportunity to seek additional financing on their own in the capital and equity markets.

(i) To offer optimum motivation to the underlying managements of the newly-formed subsidiaries (7, pp. 1-3).

These, then, were the objectives; how well LTV achieved these objectives by carrying out project redeployment will be analyzed in a subsequent section.

Analysis of Project Redeployment

Relationship Between LTV and the Subsidiaries
After Redeployment

This section examines the role of LTV as a parent company once the divisions were redeployed as subsidiaries.
The important aspect of the relationship between LTV and its newly formed subsidiaries was how much control LTV exercised over the subsidiaries, and what functions it provided. LTV felt that "there would always be a need for some checks and balances and controls over all organizations that had financial connections with the parent" (3, p. 74). Thus, LTV provided the functions at the parent level that were necessary to ensure that control and careful guidance were maintained. However, this parent company control was not as tight as it was before project redeployment, since the operating units that were redeployed had reached a higher degree of maturity than those divisions which LTV felt had not yet matured enough for redeployment.

It was decided by LTV then, that functions such as controllership, planning, public relations, and others would remain with them, but on a lesser scale. This enabled LTV to provide the subsidiaries with the broad functions that they would not economically provide for themselves, and at the same time let them keep the "checks and balances necessary for a large corporation to detect and correct any deficiencies that might go unnoticed too long by the people who are in the midst of day-to-day operations" (3, p. 74).

LTV soon found though, that it was the "nature of growing and evolving corporate organizations that the relationships between the parts change over a period of time" (2, II-14). For instance, during the period shortly
following project redeployment, when the newly formed subsidiaries were just "testing their wings," naturally they needed more guidance and support from LTV. However, the subsidiaries grew during the ensuing years and "developed increasing degrees of skill and capability in many management functions required for the successful operations of their businesses" (2, p. II-14). Consequently, the subsidiaries were able to assume more and more responsibility for the functions that had previously been provided them by LTV. This changing relationship can best be depicted by examining the seven major functions provided by LTV, and how these functions changed as the subsidiaries matured.

**Public relations.**--During the first couple of years following project redeployment, the LTV Public Relations Office provided for the subsidiaries the major public relation services such as assistance in the preparation and distribution of financial press releases, planning of advertising campaigns, and preparation of financial reports. However, after the subsidiaries established themselves LTV did not involve itself in their public relations, except for broad guidance and advice.

**Technical assistance.**--LTV provided the subsidiaries technical assistance in three different areas: undertaking basic research and development, patent administration, and "general assistance to the defense and space oriented
subsidiaries in planning technical approaches to winning research and development contract awards" (2, p. II-16).

In the early years of the subsidiaries existence, LTV performed essentially all of their patent administration through a staff of patent attorneys at LTV's office of Technical Director. Later on though, LTV transferred these attorneys to the subsidiaries to perform the detailed patent operations such as patent applications. LTV then maintained only a single patent attorney who administered only to LTV's patents, and did not involve himself in any of the subsidiaries patent administration.

LTV assisted the subsidiaries in technical approaches for the purpose of winning government contracts in the early years after redeployment, and continued to do so in the later years, but on a somewhat lesser scale. This assistance consisted of evaluating government program technical requirements and planning technical approaches to satisfy those requirements.

Finally, LTV, throughout the existence of these subsidiaries, has continued the function of providing the basic research and development function for the subsidiaries through its Research Center. Thus, this is one function for which the responsibility has not been shifted to the subsidiaries.
Controller.--The LTV controller started out performing most of the financial functions for the subsidiaries. For instance, the LTV controller reviewed and approved the pricing terms of all major government contracts. The LTV controller also carried out much of the internal auditing required, and in fact, performed the general accounting functions for the subsidiaries. After several years of development, the subsidiaries began to assume these functions. Each subsidiary developed its own pricing on its programs, performed its own internal auditing, and assumed the duty of the general accounting functions. LTV then did nothing more than monitor the subsidiaries to assure their auditing and accounting procedures were generally satisfactory.

Treasurer.--For the first four years after redeployment, the LTV treasurer performed the handling of funds, making deposits, making payments, cash transfers, and other cash management functions. These programs were then shifted to the subsidiaries.

Legal functions.--This is probably the one function that has remained the most centralized since redeployment. LTV has continually provided the subsidiaries with most of the legal services required, although the subsidiaries maintained legal staffs to deal with the day-to-day operating legal problems. Some of the legal functions LTV provided its subsidiaries are: coordinating subsidiary relations with
the Securities Exchange Commission and the stock exchanges, and making the required reporting to them; conducting much of the litigation for the subsidiaries; reviewing legal aspects of acquisitions made by subsidiaries; conducting antitrust legal matters; carrying out the legal work involved in major financings; and performing trademark work for the subsidiaries (2, p. II-19).

**Industrial relations.**—For the first three years, LTV assumed the responsibility for negotiating union contracts. LTV's Industrial Relations Office directly negotiated the contracts for the subsidiaries. Then the subsidiaries handled this function on their own.

The Industrial Relations Office also handled and continued to do so, security matters for the subsidiaries such as theft problems and special investigations. The subsidiaries, however, maintained their own plant security forces.

There are several other areas in which LTV has continued to provide industrial relation services since redeployment. LTV's Personnel Office assists "the subsidiaries in arranging transfers between companies to ease the impact of worker layoffs, and to fill the need for highly skilled employees" (2, p. II-20). In addition, LTV consolidates all the subsidiaries' reports for the Equal
Employment Opportunities Office, and deals directly for them with that agency.

**Planning.**—The task of developing long-range planning procedures for the subsidiaries was the responsibility of LTV in the years immediately following redeployment. The planning procedures that were supplied to the subsidiaries included: a philosophy for planning, techniques for complete five-year business planning, planning instructions for the subsidiaries, and background information on the economic environment to assist the subsidiaries in long-range planning. After several years, however, the subsidiaries built their own planning staffs and were able to assume the planning function.

**Summary.**—It is clear that as each new subsidiary matured LTV shifted more and more responsibility for these functions to the subsidiaries. This allowed LTV to devote more time and resources to the other divisions which had not been deployed. It is also in keeping with the OAR concept of "centering as much responsibility in the hands of the operating managements of subsidiary companies as they can effectively assume, in the conviction that the most efficient management results when responsibilities are delegated to the lowest practical level" (2, p. II-23).
Was Project Redeployment A Success?

To determine objectively if project redeployment was a success, the objectives as stated by LTV will be analyzed to see if they were actually realized and to what degree.

The first objective stated by LTV was to create a separate public market for the securities of LTV Aerospace, Electrosystems and Altec. LTV considered a tender of 630,000 of its own shares as a 100 percent success, as shown in Table II.

**TABLE II**

**LTV'S EXPECTED RESULTS OF THE EXCHANGE***

<table>
<thead>
<tr>
<th></th>
<th>100% Success</th>
<th>63.5% Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTV Common Outstanding</td>
<td>1,850,000</td>
<td>1,850,000</td>
</tr>
<tr>
<td>Received in Exchange</td>
<td>630,000</td>
<td>400,000</td>
</tr>
<tr>
<td>Pro Forma Outstanding</td>
<td>1,220,000</td>
<td>1,450,000</td>
</tr>
<tr>
<td>Cash Paid ($9 per LTV share Tendered)</td>
<td>5,670,000</td>
<td>3,600,000</td>
</tr>
<tr>
<td>Shares Each Subsidiary Distributed on Exchange</td>
<td>315,000</td>
<td>200,000</td>
</tr>
<tr>
<td>(1/2 for each LTV Share tendered)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Outstanding distributed (based on initial capitalization of 1,200,000 shares for each subsidiary)</td>
<td>26.25%</td>
<td>16.67%</td>
</tr>
</tbody>
</table>


Table II shows that, if LTV achieved a 100 percent success, its shares outstanding would be reduced by 34 percent, from
1,850,000 to 1,222,000. This would cost LTV $5,670,000 in cash, plus 315,000 shares in each subsidiary, and would create a strong public market for the shares of the subsidiaries since the public would initially own 26.25 percent.

The actual number of shares tendered, however, was considerably less than the desired 630,000 shares. After extending the exchange offer for several weeks, the final number of shares tendered was 245,140 (8, p. 1729). Thus, it can be said that the exchange was only a 28.9 percent success, in terms of the total number of shares LTV desired to take in. Initially, LTV distributed a little more than 10 percent of each subsidiaries' outstanding stock. The cost to LTV was 122,570 shares in each subsidiary, and $2,206,260 in cash plus assets totaling about $11.3 million in the subsidiaries. It appears that even though LTV did create a public market in each of the subsidiaries, it was to a much lesser degree than originally desired.

There is a further aspect of this exchange that should be analyzed to determine its relative success, and that is the position of the LTV shareholders who tendered their shares. Theoretically, as pointed out in Chapter IV, the shareholder who tendered his stock should have received a package with a higher value after the exchange. Table III shows LTV's projected value for the shareholder who tendered his shares, determined by the cash received and the value of
the subsidiaries' shares based on expected earnings and price-earnings ratios.

**TABLE III**

**LTV'S ESTIMATE OF THE VALUE FOR THOSE WHO TENDER THEIR SHARES**

<table>
<thead>
<tr>
<th>For Each Share:</th>
<th>Earnings Range</th>
<th>Est. Market Minimum</th>
<th>Value Most Likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>$9.00 Cash</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2 Share Aerospace Common</td>
<td>$3.00-6.00</td>
<td>$10.00</td>
<td>$14.00</td>
</tr>
<tr>
<td>1/2 Share Electrosystems Common</td>
<td>1.25-1.65</td>
<td>4.50</td>
<td>6.50</td>
</tr>
<tr>
<td>1/2 Share Ling-Altec Common</td>
<td>.40-.80</td>
<td>3.00</td>
<td>5.00</td>
</tr>
<tr>
<td>CASH</td>
<td></td>
<td>$17.50</td>
<td>$25.50</td>
</tr>
<tr>
<td>Value Range for Each Share Tendered</td>
<td>$26.50</td>
<td>$34.50</td>
<td></td>
</tr>
</tbody>
</table>


For example, if a shareholder tendered two shares of LTV common, he would receive $18 cash, plus one share in each of the three subsidiaries. Using the value most likely, their shares would be worth $28, $13, and $10. Thus his total value received would be $69.

On June 3, the first day of trading for the three subsidiaries' common shares, the average over-the-counter share values were: LTV Aerospace--$20 per share; LTV
Electrosystems--$10.75 per share; and LTV Ling-Altec--$2.50 per share (2, p. I-8). LTV at the time was selling at $22.37 per share (2, p. I-8). The value expected by LTV for each subsidiaries' share was $28 for Aerospace, $13 for Electrosystems, and $10 for Altec. It can be seen by looking at the opening day prices for each subsidiary's shares that the public valued the shares considerably less than did LTV, which probably accounts for the small number of shares tendered. For each share tendered, the shareholder received $9 cash, plus 1/2 share of Aerospace worth $10, 1/2 share of Electrosystems worth $5.38, and 1/2 share of Altec worth $1.25. Thus, his total value was $25.63, or a 14.57 percent premium over the $22.37 he would have invested in his LTV common. It appears that the investor who exchanged his shares did immediately receive the advantage of a package with a higher value, in addition to investment diversification since he owned stock in three different subsidiaries.

The second objective of LTV was to initially eliminate its existing bank debt and to correspondingly have higher cash balances. LTV's bank debt as of December 31, 1964, was $21.7 million. However, after OAR, the parent is able to assign all or part of its bank debt to the subsidiary which can best assume it. Thus, when Aerospace was formed, in exchange for the assets transferred to Aerospace, LTV in addition to receiving 1.2 million in common shares and 650,000 in preferred shares, had Aerospace assume this
$21.7 million liability (2, p. I-8). This transaction initially fulfilled this objective. LTV's cash flow benefited too, since Aerospace also assumed the interest payment on the bank debt. From then on, the subsidiaries became their own financing and credit centers, and LTV's bank debts were strictly related to the parent company's operations.

The third LTV objective was to increase pre-tax earnings by a factor of 2.5 within the next two to five years. Table IV shows that this objective was accomplished with a high degree of success for the three subsidiaries within three years.

### TABLE IV

<table>
<thead>
<tr>
<th>Subsidiary</th>
<th>1964**</th>
<th>Pre-tax Income 1968</th>
<th>Percent Increased</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTV Aerospace</td>
<td>$8,600,000***</td>
<td>$29,500,000</td>
<td>243</td>
</tr>
<tr>
<td>LTV Electrosystems</td>
<td>500,000***</td>
<td>6,700,000</td>
<td>1,240</td>
</tr>
<tr>
<td>LTV Ling-Altec</td>
<td>$200,000***</td>
<td>5,600,000</td>
<td>2,700</td>
</tr>
</tbody>
</table>


**Before minority interests, extraordinary items, and restatement for original discount.

***Pro-forma based on results of predecessor companies and divisions.
Objective four was to increase net asset value for LTV from $30 to $80 million within two years following redeployment. In 1964, the year preceding redeployment, LTV had a net asset value of $28 million. In two years its net asset value rose 436 percent to $122 million, and thereby far exceeding their goal of $80 million.

LTV's fifth objective was to initially eliminate 25 percent of its outstanding equity capitalization, or in other words, to reduce its shares outstanding by that amount. At the time of project redeployment, LTV had outstanding 1,849,982 common shares. Since the initial reduction in shares after the exchange was 245,140, LTV decreased its outstanding shares to 1,604,842, which represented a 13.25 percent reduction. This means LTV achieved only slightly more than half of its desired objective.

The sixth objective was to reduce the number of shares reserved for stock options on LTV common shares. LTV hoped this would be achieved by cancelling the stock options of personnel who would be moving from the parent company management to management in the subsidiaries. Table V shows the stock options in LTV and its three subsidiaries from 1964 through 1967. It is quite evident from Table V that LTV succeeded in achieving this particular objective. LTV cut its own stock options in half, while increasing the amount in the subsidiaries.
TABLE V

SHIFT IN RESERVE FOR STOCK OPTIONS 1964 TO 1966*

<table>
<thead>
<tr>
<th>Reserve for Stock Options</th>
<th>1964</th>
<th>1965</th>
<th>1966</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTV</td>
<td>247,768</td>
<td>156,336</td>
<td>123,751</td>
</tr>
<tr>
<td>Aerospace</td>
<td>0</td>
<td>262,504</td>
<td>196,702</td>
</tr>
<tr>
<td>Electrosystems</td>
<td>0</td>
<td>127,286</td>
<td>167,775</td>
</tr>
<tr>
<td>Altec</td>
<td>0</td>
<td>96,609</td>
<td>100,000</td>
</tr>
</tbody>
</table>


The seventh objective to be discussed is divided into two parts: one, to stimulate growth internally within the defense industry, and two, to diversify and grow externally through acquisitions or investments in nondefense companies. Since LTV's need for diversification was the prime consideration in deciding to initiate project redeployment, this objective is the most important one, and consequently, it will be discussed in more detail.

First, the role of redeployment in achieving internal growth and external growth and diversification through acquisitions will be discussed. Then an attempt is made to determine if project redeployment enabled LTV and its subsidiaries to accomplish these objectives.

Internal growth under an OAR program is "stimulated through the more specialized use of research and development
funds, with each subsidiary bearing only the cost of its own program" (3, p. 74). Prior to redeployment, it was possible that some divisions may have carried more than their proportionate share of research and development costs. However, with "more funds to spend on the specific projects and spent in a more specialized manner, the opportunities for internal growth will be enhanced" (3, p. 74).

External growth and diversification can be achieved through acquisitions, and redeployment can play an important part here, too. The parent company can raise money for future acquisitions by selling part of its security holdings in the subsidiaries. Alternately the parent could use those shares as collateral to finance acquisitions; the subsidiaries could make acquisitions with their own shares, since they now have a public market; or they could arrange their own financing of acquisitions, independent of the parent.

It is apparent from Table VI that redeployment allowed the subsidiaries to enjoy a high percentage of internal growth as measured by sales. The fact that redeployment played a role in this rapid internal growth is further supported by the research and development spending by LTV. From 1962 through 1964, the years preceding redeployment, LTV spent $53 million dollars in these areas. However, after redeployment through 1968, "LTV and its subsidiaries invested in excess of $254 million in these same two areas" (2, p. III-26).
It can also be seen in Table VI that acquisitions played an important part in the growth of Electrosystems and Altec, while Aerospace relied solely on internal growth. Electrosystems started out primarily as an aircraft overhaul and modification operation, and as a contractor on aircraft electronic systems. About a year and six months after redeployment, Electrosystems acquired Memcor, which is a quantity producer of tactical radio systems for the United States Army. Prior to this acquisition Electrosystems' principal customer was the United States Air Force, but "by 1968 the customer base within the Department of Defense was substantially broadened, and significant business with other United States Government agencies was developed" (2, p. III-35). Thus, Electrosystems achieved both growth and
diversification through this acquisition which was made possible by Electrosystems issuing both common and preferred shares in exchange for Memcor's stock.

Altec relied even more heavily on acquisitions for growth than did Electrosystems, as shown in Table VI. Prior to project redeployment, the operations that ultimately became Altec had "an annual sales volume of $23 million and little real growth" (2, p. III-42). After redeployment, when Altec became a separate company, its sales growth rate approximated 10 percent a year for the first two years. However, there were no acquisitions, and little diversification effort. The company's "products and services continued to be primarily directed at the consumer and commercial sound equipment and environmental test equipment markets (2, p. III-42). In 1967, though, Altec acquired Allied Radio, a well-known consumer electronics firm, and thus made its first major move to diversify. In early 1968, Altec made its second major diversification move when it acquired Escon, Inc. This company's products and services ranged from plastic bowling balls to electronic components, electronic equipment, seismic exploration services, and aircraft repair services. These acquisitions, along with several minor ones, helped Altec achieve growth and diversification externally, and in each case shares in Altec were used in exchange for shares in each of these companies to take control.
LTV's eighth objective was that its subsidiaries would be able, once redeployed, to seek additional financing in the equity and capital markets on their own. Table VII, which shows a summary of each of the three subsidiaries' financing for three years after redeployment, indicates that this objective was achieved.

Objective nine, which was to create management motivation in the subsidiaries, can only be analyzed in general terms. It appears, however, that the incentives for better management motivation were enhanced. As pointed out in Table VII, the stock options offered to the management of its subsidiaries increased. In addition, the management of the new subsidiaries had a public company with direct responsibilities to the shareholders, and their performance was based on each subsidiary's record alone.
<table>
<thead>
<tr>
<th>Subsidiary</th>
<th>Securities Offered</th>
<th>Date</th>
<th>Proceeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTV Aerospace Corp.</td>
<td>400,000 Common Shares</td>
<td>3-18-66</td>
<td>12,000,000</td>
</tr>
<tr>
<td></td>
<td>6 1/2 Conv. Sub. Debs.</td>
<td>10-18-66</td>
<td>25,000,000</td>
</tr>
<tr>
<td></td>
<td>6 3/4% Sub. Debs. and Warrants</td>
<td>2-8-68</td>
<td>40,000,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>77,000,000</strong></td>
</tr>
<tr>
<td>LTV ElectroSystems, Inc.</td>
<td>400,000 Common Shares</td>
<td>4-27-66</td>
<td>5,900,000</td>
</tr>
<tr>
<td></td>
<td>4 1/2% Conv. Sub. Debs.</td>
<td>5-3-67</td>
<td>20,000,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>25,900,000</strong></td>
</tr>
<tr>
<td>LTV Ling-Altec, Inc.</td>
<td>6 3/4% Sub. Deb. and Warrants</td>
<td>5-14-68</td>
<td>15,000,000</td>
</tr>
</tbody>
</table>


3. ____________, "LTV Chief Executive Officer's Special Report to the Board of Directors," Dallas, Texas, 1965.


CHAPTER VI

SUMMARY AND CONCLUSIONS

The purpose of this study was to first examine the aspects of redeployment in general terms, and then to present a case study of a specific redeployment program to analyze its effectiveness as a corporate financial tool.

Chapter I presented both a general and financial definition of redeployment, in addition to showing several examples of how the different redeployment processes work.

Chapter II focused on the general objectives of the operational asset method of redeployment. These objectives were creating independent subsidiaries with public participation, increasing values, financing expansion, reducing outstanding shares or debt, achieving diversification and developing a management philosophy for a large corporation.

The third chapter presented the alternate methods of operational asset redeployment: the exchange method, dividend spin-offs, rights offerings, underwritings, and mergers. It was concluded that the exchange method offered more advantages and fewer disadvantages than the other methods.

The advantages and disadvantages of operational asset redeployment were discussed in Chapter IV. This chapter
showed that if the conditions were feasible to implement an operational asset program, then the advantages to the shareholders, the parent company, the subsidiaries, the employees, and the customers, outweighed the disadvantages. Methods of overcoming the main disadvantages in an operational asset program were also presented.

Chapter V presented a case study of Ling-Temco-Vought's project redeployment. First, a brief history of LTV up to the time of project redeployment was presented. This was followed by an examination of the factors that caused LTV to employ operational asset redeployment. The development and description of LTV's project redeployment plan was then given, followed by LTV's consideration of the other operational asset redeployment methods and why they were not picked over the exchange method. LTV's objectives of the project redeployment plan were then discussed.

The final section of Chapter V analyzes project redeployment. The relationship between LTV and its subsidiaries after redeployment was presented. This included the discussion of the functions LTV provided for the subsidiaries after redeployment. It was determined that as each subsidiary matured and became more independent, LTV provided fewer services and the subsidiaries began to assume more responsibility for their services.
The final section of Chapter V determined if LTV achieved the stated objectives of project redeployment. The first objective, to create a public market for the subsidiaries was a success, but to a lesser degree than LTV had hoped for. Objective two, initial elimination of LTV's bank debt, was accomplished by shifting its $21.7 million bank debt to Aerospace during the first year. Objectives three and four, increasing pre-tax earnings by two and one half times and increasing net asset value from $30 to $80 million were both accomplished with a high degree of success. The fifth objective was the only objective which was not met. This objective called for an initial elimination of 25 percent of its outstanding equity capitalization after the exchange, and slightly more than half of that amount was obtained. Objective six was to cancel a substantial number of stock options at LTV, and this was easily accomplished, with the number of options cut in half in two years after redeployment. Objective seven, achieving growth and diversification was the most important objective and was, in fact, the main reason LTV initiated project redeployment. It was shown that this objective was achieved with a high degree of success, and accomplishing this rapid growth and diversification alone justified LTV's project redeployment. The eighth objective was to enable the subsidiaries, once publicly owned, to engage in their own financing in the capital and equity markets, independent of each other and
the parent company. This objective was accomplished as was shown by the financing activities of the subsidiaries for three years following redeployment. The final objective, to offer management motivation to the subsidiaries, was accomplished. This is because LTV made the incentives available; whether or not these incentives created better management though, cannot be objectively proven.

It can be concluded, then, because of LTV achieving its primary objectives of diversification and growth, as well as eight of the nine objectives being met, that project redeployment was a success.
APPENDIX
Electronics Issues Will Come Back

After several years of declining prices and little investor favor, it appears that interest in electronics stocks is now reviving. We believe this shift in attitude is justified, for during the past few years many changes have occurred in the industry. Weak companies have gone out of business or been acquired by other concerns. Most of those remaining are now stronger in terms of earning power, plants, products, and management, and they are less vulnerable to the uncertainties of Government procurement.

Growth Pace Slowing Down

The latest figures compiled by the Electronic Industries Association indicate that the industry continued to grow in 1964. However, the growth rate slowed down, largely because of the changes taking place in the Government market. On the other hand, industrial electronic sales (which include data processing, communications, medical and scientific equipment, etc.) continued to grow at a very rapid rate. The table below indicates how general demand has increased and how the market breaks down:

<table>
<thead>
<tr>
<th>Year</th>
<th>Consumer</th>
<th>Industrial</th>
<th>Government</th>
<th>Replacement</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>$1,500</td>
<td>$350</td>
<td>$655</td>
<td>$200</td>
<td>$2,705</td>
</tr>
<tr>
<td>1955</td>
<td>1,500</td>
<td>750</td>
<td>3,322</td>
<td>525</td>
<td>6,107</td>
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<td>1960</td>
<td>2,101</td>
<td>1,900</td>
<td>6,124</td>
<td>555</td>
<td>10,780</td>
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<td>1961</td>
<td>2,147</td>
<td>2,385</td>
<td>7,190</td>
<td>580</td>
<td>12,302</td>
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<td>1962</td>
<td>2,407</td>
<td>2,710</td>
<td>8,000</td>
<td>620</td>
<td>13,817</td>
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<tr>
<td>1963</td>
<td>2,535</td>
<td>3,060</td>
<td>8,540</td>
<td>590</td>
<td>15,125</td>
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<tr>
<td>1964 Est.</td>
<td>2,800</td>
<td>3,400</td>
<td>9,300</td>
<td>620</td>
<td>16,120</td>
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</table>

Source: Electronic Industries Association.

A total market of about $17 billion is projected for 1965, reflecting a further slowdown in the over-all growth rate. The industrial portion, however, should continue to expand rapidly, and long term investor interest is likely to be concentrated in that area.

The pace of technological development continues to be fast. The transistor, which was one of the most outstanding developments after World War II, was both the making and the breaking of numerous companies. Transistor prices have been cut sharply and still are somewhat weak. Volume is rising, however, and most manufacturers still in the business have now been able to return operations to a paying basis.

Much interest has transferred to the microelectronic area, also termed microcircuitry, integrated circuitry, molecular electronics, etc. This is the creation of tiny, complete circuits and continues the trend toward miniaturization. Progress has been more rapid than earlier anticipated and, as a result, prices for these circuits are easing. Further, many companies now produce for their own needs and, in effect, compete with the specialized manufacturers. Unit volume is rising so rapidly, however, that total dollar value is up sharply. Factory sales in 1962 were about $110 million, increasing to $155 million in 1963, and rose further to around $225 million this year.

While there has been no drop in use of microwave tubes and equipment, the bottom fell out of the market when the Government discovered a huge inventory and slashed purchases. Prices were also sharply cut. There are now some signs of improvement.

In other areas, infrared holds much future promise. Stocks of companies in this field had a brief fling in the fall of 1963 on publicity given to the Barnes Engineering device for medical diagnosis. Many other uses are being developed for the employment of heat detection equipment, both military and industrial. The area of medical instrumentation is also growing at a good pace, stimulated by new discoveries and developments. The rising population, the desire for improved medical care, and increased medical insurance coverage, all are putting great pressure on hospitals and clinics for development of more efficient and effective ways of treating patients.

One of the most active fields of electronic research is that of lasers and masers. Many companies are doing work in the area, but few are actually selling laser instruments. The potentials for the use of these concentrated beams are great in the fields of communication, navigation, data processing, medicine, metal working, and as a research tool. As with any new development, much needs to be learned about the capabilities and shortcomings of lasers and masers, but in due course we shall be hearing more and more about their practical application in day-to-day uses.

While some electronics stocks are selling at fairly generous price-earnings ratios, most are now priced at relatively low multiples and some are attractive speculative buys. Specific comments and recommendations on 50 stocks are presented on pages 512 and 521 of this Report.
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