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THESIS

**SHOULD INTEREST BE AN ALLOWABLE
EXPENSE ON GOVERNMENT CONTRACTS?**

by

Mark J. Kennedy

December 1987

Thesis Advisor:

David V. Lamm

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Should Interest be an Allowable Expense on Government
Contracts?

by

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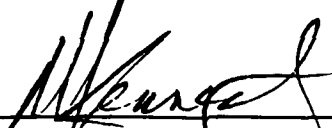
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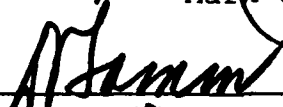
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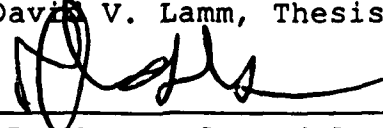


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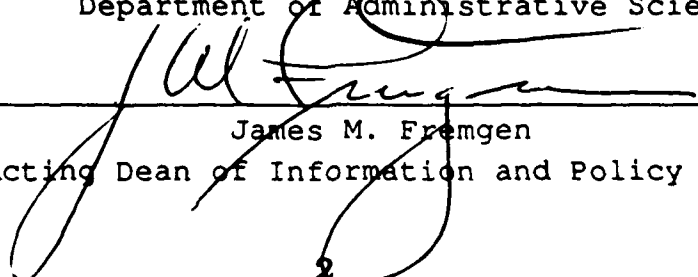
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ABSTRACT

Interest expense is not an allowable cost in government contracts. Interest expense is not reimbursed on cost-type contracts nor is it allowed to be considered when negotiating fixed-price contracts. This has been the government's policy for over 40 years. Contractor interest expense has become the largest unallowable cost. This research examines how contractors view interest expense. Additionally, the reactions of contractors if interest expense were to be allowed is discussed. Interest theory, financial structure, and the history of the government's policies on interest expense are reviewed. The research was conducted through the use of literature search and personal interviews. As a result of the research, it was concluded that interest expense should remain unallowable and the current policy had no direct deleterious impact.

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I. INTRODUCTION

A. BACKGROUND

Interest expense is a significant cost of doing business. Government policy for nearly 50 years has been not to allow this expense to be reimbursed in cost-type contracts. Additionally, this policy is now followed in determining the cost of a negotiated fixed-price contract. In the past decade, interest rates have fluctuated more than they had the entire previous 100 years. Interest expense was already a significant cost to contractors before the prime rate reached nearly 20% in early 1981. As interest rates subsided throughout the 1980s, the stock market flourished. From January 1987 to August 1987, the value of corporate stocks rose by billions of dollars. Debt and equity are the source of a majority of the funds used to finance businesses. The remainder comes from funds "plowed" back into the business from retained earnings. Because equity implies the opportunity cost of investing the same amount of funds into the money market and receiving the going rate of interest, it must provide a greater return to the stockholder than he could obtain in the money market. A common assumption is that equity capital is more expensive than debt capital. Assuming this is true, does the policy of not allowing interest force the contractor to use more equity capital, thereby increasing the overall cost to the government? This thesis attempts to examine ideas such as the one just presented and to try to discover just how a contractor views interest expense under the current policy. Conversely, it

will look at what the contractor might do if interest were to become allowable.

B. OBJECTIVES

The purpose of this thesis is to view the unallowability of interest expense through the contractor's eyes. This research effort examined the effect of this policy on contractor's cost of capital, investment decisions, profit, and any other area where a potential impact might occur.

C. THE RESEARCH QUESTIONS

The primary research question was: Should interest expense be an allowable cost on government contracts?

The subsidiary questions were:

1. Would contractors do anything differently if interest expense were allowable?
2. Why is interest expense unallowable?
3. What does the unallowability of interest force a contractor to do with respect to his investment decisions and procedures?
4. What might be the effect on the debt/equity structure of a firm if interest were to become an allowable expense?
5. Do companies change their finance decision-making process if interest rates are significantly higher than the normal prime rate of 7% to 10%?
6. What are the means by which the Government makes interest expense unallowable?

D. RESEARCH METHODOLOGY

The research data were collected through personal and telephone interviews. The background material for this thesis was obtained by means of a comprehensive search of literature. Interviews were held with key finance, accounting, and contract personnel in the defense industry. Government personnel in key positions involving contract and finance policy were also interviewed. Interviews were non-attributable to facilitate the obtaining of candid and honest answers.

The literature review involved the conduct of computer searches through the Naval Postgraduate School (NPS) library and The Rand Corporation in Santa Monica, California. The databases searched were:

1. The NTIS (National Technical Information Service), consisting of government-sponsored research on technical applications, business procedures, and regulatory matters;
2. The ABI/INFORM database, covering the principal articles appearing in more than 660 business and management periodicals worldwide;
3. The MANAGEMENT CONTENTS database, covering over 90 of the most current management periodicals that contain retrospective information on all aspects of business and management;
4. The Defense Logistics Studies Information Exchange (DLSIE);
and
5. Federal Legal Information Through Electronics (FLITE).

A research of all locally held finance and accounting material in the NPS library applicable to the thesis topic was also conducted. Information was also obtained through the assistance of the thesis advisor and through the recommendations of several interviewees.

The purpose of the interviews was to obtain the viewpoint of federal contractors on the unallowability of interest and to compare and contrast it with the theoretical and background information. The interviewees were a mixture of top management, contracting officers, accountants, finance directors, and business managers.

The interviews were conducted using variants of the subsidiary questions with an emphasis on the financial decision-making impact. Interviewees were allowed to discuss any issue they felt was pertinent to the central theme of interest expense.

The appendix provides a listing of individuals who were interviewed during the research phase of this thesis.

E. SCOPE, LIMITATIONS, AND ASSUMPTIONS

This thesis evaluated, through the use of interviews, the effects of the current policy of not allowing interest as an expense on government contracts. It is not an attempt to empirically examine the relationships of the factors but rather a presentation of facts and the ideas, beliefs, and hypotheses of the individuals interviewed. The individuals contacted were employed at firms doing significant government business. The allowability of interest as it applies to contractor claims for equitable adjustment will not be examined.

It is assumed that the reader has a general background in business and in defense contracting terminology.

F. ORGANIZATION OF THE STUDY

The remainder of this thesis is organized into four chapters. Chapter II presents theoretical explanations of the concept of interest and the financial structure of a typical firm. Presentation of these concepts helps prepare the reader for the discussions in Chapter IV. Chapter III includes an examination of the government's concept of allowability. The purpose of this discussion is to present some of the criteria that would have to be satisfied if interest expense were to be allowed. The chapter continues with a synopsis of the regulations pertaining to interest which have evolved over time. The chapter concludes with a presentation of data from significant works that have specifically addressed the thesis topic.

Chapter IV is a presentation of data from the interviews and an analysis of the comments and ideas presented. The intent is to show the primary issues that concern contractors with respect to interest expense and how it is viewed in that context. Where applicable, the theory and background from the previous two chapters are linked to the issues and comments presented in Chapter IV.

Chapter V provides conclusions and recommendations derived from the research.

II. THEORETICAL FRAMEWORK

A. INTRODUCTION

The intent of this chapter is to present the concept of interest in general and specifically how it will be discussed in this thesis. Additionally, a brief overview will be presented on the differences of debt and equity financing and the capital structure of a typical firm. These concepts will be discussed only in general terms as to assist the reader in assimilating information presented in subsequent chapters.

B. CONCEPTS OF INTEREST

A lot of people have their own ideas of what interest is. It is interesting to note, however, that the earliest concepts of interest probably do not coincide with most personal beliefs.

1. General Concepts

Interest, or "credit" as it is sometimes called, has been with the human race since before recorded history. While sometimes considered "a modern device or even a modern vice," it is only because of its increased popularity in recent times that it is viewed in this light [Ref. 1: p. 3]. The earliest loan may have been of seed corn from one farmer to another. The farmer receiving the corn would be expected to pay back at harvest time what he received plus some additional amount. An example of an early attempt to regulate interest is found in the quotes below:

For example, about 1800 B.C., Hammurabi, a king of the first dynasty of ancient Babylonia, gave his people their earliest known formal code of laws. A number of the chief provisions of this code regulated

the relation of debtor and creditor. The maximum rate of interest was set at 33 1/3% per annum for loans of grain repayable in kind, and at 20% per annum for loans of silver by weight. All loans had to be accompanied by written contracts witnessed before officials. If a higher than legal interest rate was collected by subterfuge, the principal of the debt was cancelled. Land and movables could be pledged for debt and also the person of the creditor, his wife, concubine, children or slaves. However, personal slavery for debt was limited to three years. [Ref. 1: p. 4]

As simple as the idea of interest may sound, early academe examined the concept of interest and brought forth a surprisingly diverse group of theories. In a series of books entitled *Capital and Interest*, Eugen von Böhm-Bawerk (1851-1914) presents a *History and Critique of Interest Theories*. This volume, initially released in 1884, contains extensive presentation and analysis of early interest theories. Böhm-Bawerk describes interest as the revenue which is derived from capital. From this point he explains the difference between gross interest and net interest; gross interest being all revenues and net interest being revenues less funds received for the consumption of capital and any repairs, insurance premiums, and the like. His concern is with net interest only. [Ref. 2: pp. 4-5]

He requires a distinction between *originary interest* and *contract or loan interest*. *Originary interest* is described as:

In the hands of one who uses capital for production, the utility of that capital is demonstrated by the fact that the sum of the products created with its help is regularly of greater value than the sum of the costs of the goods expended in the course of production. The excess value constitutes a certain gain, which we wish to designate as the *originary interest*. [Ref. 2: p. 6]

His explanation of *contract or loan interest* is where someone possessing capital "foregoes earning the originary interest himself.

and prefers to hand over his capital to another for temporary use in return for fixed compensation." When this capital is a durable good, the funds received are classified as rent. For perishable or fungible goods, it is called interest. [Ref. 2: p. 6]

The entire book consists of discussing various pros and cons on different theories about what is ordinary interest. The total disconnection of loan interest and ordinary interest (return on capital) is fundamental throughout. This is a possible flaw in that inherent in ordinary interest is the "opportunity cost" of what return that capital would bring if put in the hands of another individual (rent, *contract*, or *loan interest*). Various theorists examine the aggregate of ordinary interest without considering a link between the two. In one of the chapters of *History and Critique of Interest Theories*, the author quotes the philosopher John Locke: "Money is a barren thing, and produces nothing, but by compact transfers that profit that was the reward of one man's labor into another man's pocket." Locke uses the analogy of land rent and loan interest. When land is employed (rented) it can then produce, through the efforts of the tenant, more income than the amount of rent. Just as when money is employed (loaned), the borrower, through his labors, can produce more than the loan interest [Ref. 2: p.28]. The key to this analogy is that in both cases the owner of the capital must first put it in use to make it profitable. Suffice it to say that a man with \$50,000 in his pocket earns nothing until he either puts it in the bank or acquires capital goods for further

production and resale. Additionally, the banker must then invest the \$50,000 before he is able to generate a profit.

Three important ideas surface in this discussion. First, in profit there is inherent *loan interest* which must be considered before an economic profit is realized. Secondly, since the earliest discussions of interest theories, profit and interest have been interrelated. The final point to be made is that interest or profit from capital is directly tied to the use of that capital. The philosophical arguments and explanations of the causes of profit/interest are too extensive and diverse to examine in this thesis. Fortunately, modern financial and managerial accounting present much more simple concepts concerning interest.

2. Accounting Concepts of Interest

Most financial accounting textbooks have a chapter that presents a discussion on the time value of money. At the beginning of this chapter will be a paragraph presenting the theory or concept of interest. An example of the typical explanation provided is: "Interest (i.e., the time value of money) represents the excess of resources received or paid over the amount of resources lent or borrowed at an earlier date" [Ref. 3: p. 226]. The discussion usually continues with explanations of simple interest, compound interest, present values, future values, and annuities. Managerial accounting is concerned with the same elements but places emphasis on using interest rates to discount future cash flows. Concepts of interest are stated simply and can be expressed mathematically:

$$F_1 = P(1+r)$$

where:

F_1 = the amount to be received in one year

P = the present outlay to be made

r = the interest rate involved [Ref. 4: p.595]

To obtain a more lucid explanation on interest rates and their relationship to capital, a Financial Management textbook must be used. In Financial Management, the emphasis is on interest rates and how they allocate capital in the market place. The level of interest rates is a result of the supply, and demand for, capital funds.

The nominal interest rate on debt is often described using the notation, k . Nominal interest is a compilation of a pure rate of interest, k^* , and premiums that account for inflation and the riskiness of debt. This can be expressed as:

$$k = k^* + IP + DP + LP + MP$$

where:

k^* = pure rate of interest

IP = inflation risk premium

DP = default risk premium

LP = liquidity premium

MP = maturity risk premium [Ref. 5: p.66]

It is apparent that an expected increase in inflation rates, a higher probability of default, instruments with poor liquidity, and

longer debt terms will force a lender to charge a higher rate of interest. There are several theories that explain the term structure of interest rates but they are not critical to this discussion. It should be noted that there are other factors that have an influence on interest levels. The Federal Reserve's policy on the growth of the money supply is one of the most significant direct effects on the supply of capital in the marketplace. If the Fed increases the money supply, all other things remaining constant, short-term interest rates should fall. Higher interest rates reduce corporate profit. This has a downward effect on the prices of corporate stock. There are two reasons for this effect. First, interest is a cost, and as costs increase, profits decline. Second, with higher interest rates, investors will be motivated to move their money from the stock market into the bond market to obtain a better return. The selling of stock by stockholders tends to reduce the price because it reduces demand for the stock. [Ref. 5: p. 78]

C. CAPITAL STRUCTURE THEORY

A firm has two ways to obtain capital for use: internal financing—funds obtained from the issuance of stock, and external financing—funds obtained from outside lenders. The cost of debt received from lenders is easily calculable. Bonds, mortgages, and notes usually have clearly stated rates of interest. The interest is a definitive amount and as an expense is deducted from revenues on the income statement. Stock or internal financing is not recognized as an expense. When a dividend is declared, a liability is created, retained earnings are

reduced, and no expense account is debited. When the liability is liquidated, an asset account, cash, is credited. This illustrates the distinct difference in how the two types of capital are viewed. Debt is like "renting money," with the exception that the interest expense is not applied as a product cost but as a below-the-line expense. The payment of dividends to stockholders is analogous to a sole proprietor removing funds from his business' retained earnings. A debtor's relationship with a firm and a stockholder's relationship with a firm are very different. The cost to the firm for debt and stock are also different. However, once received, a dollar of debt is no different to a firm than a dollar of stock. The use of a firm's capital is not tied to its source.

1. Debt, Equity, and the Weighted Average Cost of Capital

The following is a discussion of the interrelationships of debt and equity financing. General concepts are presented and to the knowledgeable reader some points may appear to be missing. The emphasis is on the general relationships between various factors in the financial structure of a firm and not the precise measurement of those factors or their makeup.

In financial accounting there is no recorded cost of equity capital. Financial managers cannot afford to ignore the cost of equity. The cost of equity to a firm is a function of the current stock price, expected future dividends, and expected growth of the firm. It is expressed as a percentage rate, much like interest rates are stated. The components of a firm's capital structure are typically debt.

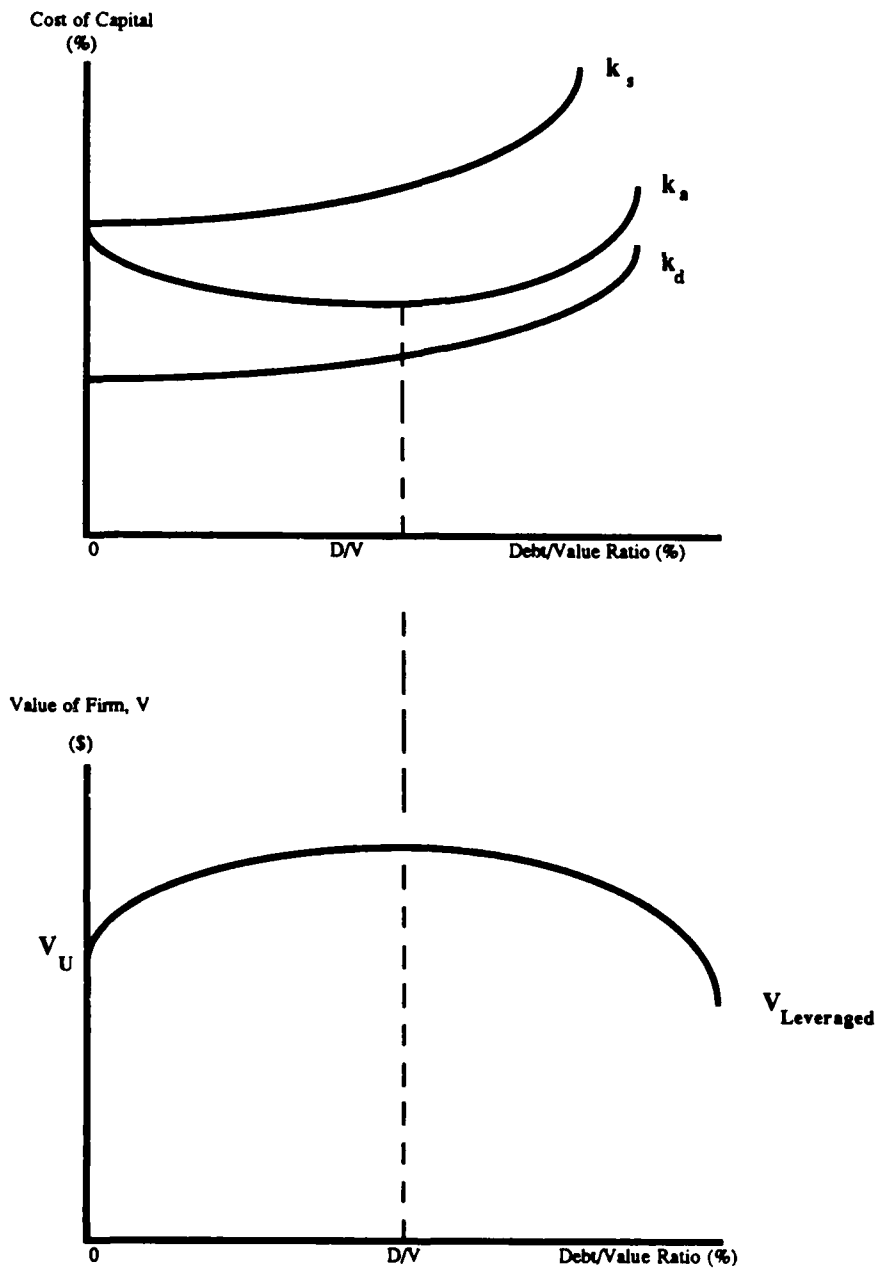
preferred stock, and common stock. When determining the weighted average cost of capital, each of these components is assigned a cost, usually in the form of a percentage rate. Then, each of the component costs is multiplied by its respective weight in the total capital structure. For instance, if the component cost of debt is 7% and debt is 25% of available capital, the weighted cost of debt capital will be 1.75%. This calculation is computed for each component of capital and then the products are totaled to obtain an overall weighted average cost of capital. Most firms will, assuming relative stability between stock prices and interest rates, attempt to maintain the relative proportions of their capital components. Their goal is to achieve the lowest average cost of capital given the current economic environment. If interest rates rise and stock prices fall, the relative proportion of debt to equity must change if the firm's goal is to maintain a low cost of capital. [Ref. 5: pp. 250-259]

2. Financial Leverage and Its Effects

The goal of managers of a firm is to maximize shareholders' wealth. The value of a shareholder's wealth is a function of expected dividends over time, and the appreciation in the value of their stock. Several measures of a firm's profitability exist. One such method, earnings per share, is determined by dividing net income by the number of outstanding shares of common stock. If a firm decides to expand and funds this expansion entirely with an issuance of common stock, then the chances are that earnings per share will drop. This is a result of a percentage increase in the number of shares outstanding

that is greater than the percentage increase in income resulting from the expansion. To avoid this situation, firms will fund expansion with a combination of debt and equity financing. The introduction of debt allows the firm to obtain funds for expansion without diluting earnings per share. In fact, if more funds are obtained through debt than through equity, earnings per share should increase. This effect is commonly called financial leverage. Financial leverage can simultaneously reduce the weighted average cost of capital, increase earnings per share, and increase the value of the firm. This relationship is graphically shown in Figure 2-1. [Ref. 5: pp. 505-509]

As seen in Figure 2-1, the cost of equity, k_s , increases as the firm expands and is usually greater than the interest rate on debt, k_d (a typical scenario). The cost of debt also increases as more debt is assumed. The value of the firm, V , is the total market value of its common stock, S (number of shares outstanding times the price per share) plus the market value of its debt, D . As the amount of debt is increased, the average cost of capital, k_a , declines to its lowest point, at which the firm's value, V , is maximized. This occurs because the cost of capital is a significant factor in the profitability of firm. When a firm uses too much debt, the cost of capital begins to rise. This is primarily caused by the increase of the default risk premium element of the nominal interest rate. Creditors do not like to have more at risk than the stockholders. As this point is approached, interest rates become higher to compensate for the increased risk. The market



Source: Financial Management Theory and Practice by Eugene F. Brigham

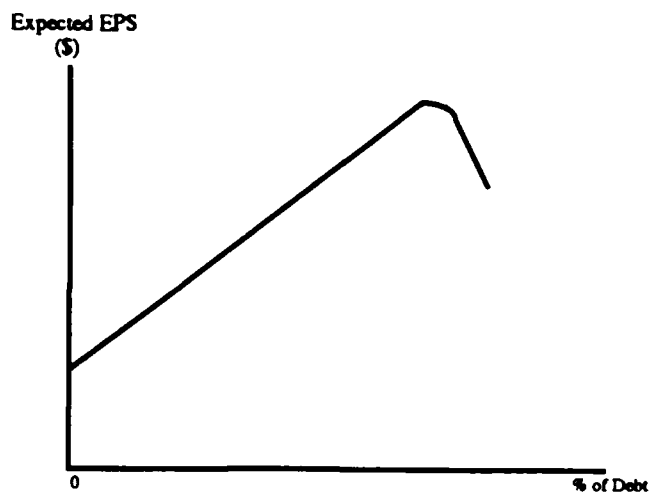
Figure 2.1

Cost of Capital and Value of the Firm

value of previously assumed debt falls because it is providing a level of return not commensurate with the current level of risk. The combination of increased cost and lower value of outstanding debt drives down the value of the firm. The effect of financial leverage on earnings per share is shown in Figure 2-2. Earnings per share continues to increase as more debt is assumed. This increase continues past the point where the value of the firm is maximized. A policy of maximizing earnings per share can be easily accomplished, however, the stockholder's shares decrease in value, and in time the increased earnings per share is more than offset by the decrease in the value of the stock. At some point in time the firm, because of increasing costs of capital, is unable to make interest payments and principal when it is due. When a firm is in default the danger of bankruptcy is very real. Earnings per share for a firm in bankruptcy should be near zero or probably negative because common stockholders have the lowest priority in bankruptcy settlements. This is shown by the downturn in the EPS line as risk of default is imminent. Figure 2-3 is an overlay of the three previous figures that clearly shows the interrelationships of the cost of debt, cost of equity, weighted average cost of capital, value of the firm, and earnings per share. [Ref. 5: pp. 470, 471, 510]

3. Summary

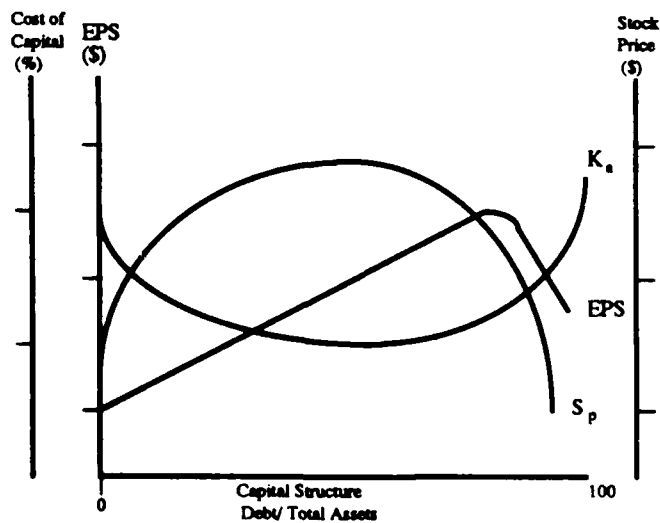
The general relationships described in the preceding paragraphs are accepted in most academic circles. The general effects of using debt and using too much debt are clearly seen. The difficulty



Source: Financial Management Theory and Practice by Eugene F. Brigham

Figure 2.2

Earnings Per Share



Source: Financial Management Theory and Practice by Eugene F. Brigham

Figure 2.3

3-in-1 Overlay

arises in determining the optimal mix of debt and equity for a firm that achieves the lowest weighted average cost of capital and maximizes the value of the firm. The relative "flatness" in the middle of the cost of capital curve in Figure 2.3 suggests that there is not a great impact on the costs to a firm if they are not at the precise point of lowest cost of capital. Empirical tests have been made on these factors in attempt to discover the precise point of optimization but the results were not definitive. Many ideas have been formulated to assist financial managers in determining the optimal financial structure. Through the use of these methods and sound judgment, most financial structures are formulated. [Ref. 5: pp. 472-473]

D. CHAPTER SUMMARY

The purpose of this chapter was to present ideas on how interest is viewed theoretically and financially. The theorists are concerned primarily with what causes interest and how to explain it. The idea that interest is an effect of the use of capital ties in with the time value of money. Use of capital is measured by the value of capital and the amount of time it is in use. Profit is first, then a recovery of interest to the provider of capital, and then a return to the user of that capital. In some cases this provider and user were one and the same, hence the term *originary interest*. The accounting profession has decided not to attempt to record the cost of equity as expense of the company. Despite this decision, financial managers must impute this cost when examining financial choices. The cost of equity capital, debt capital, and the mix of the two are significant factors when making these

decisions. From the explanations presented, it should be clear that there are strong reasons for a firm not to become too financially leveraged.

III. BACKGROUND

A. INTRODUCTION

This chapter provides a discussion of the reasons for costs being determined as either allowable or unallowable. In addition, it presents an overview of the history of regulations and various studies concerning the allowability of interest expense in government contracts.

B. THE GOVERNMENT'S CONCEPT OF ALLOWABILITY

The government, because of its sovereign position, is able to play a large part in the determination of what it will pay when procuring services, supplies, and equipment. One of the primary methods it employs in determining what costs and how much of these costs to pay is through the concept of allowability.

1. Determining Allowability

The Federal Acquisition Regulation (FAR) Part 31, Contract Cost Principles and Procedures, section 31.201-1, states that "The total cost of a contract is the sum of the allowable direct and indirect costs ..." Before a cost may be included in determining the overall cost of a contract it must be "allowable." Some of the conditions that must be considered in determining allowability are:

1. Costs that are not allocable to government contracts.
2. Costs that are construed to have been incurred contrary to public policy.
3. Costs to the extent considered unreasonable in amount.

4. Costs for which recovery was contemplated as part of the contract profit or fee.
5. Costs constituting double screening in respect of government contracts.
6. Costs specifically cited as unrecoverable from the government by statute or regulation.
7. Costs cited in the contract as unallowable. [Ref. 6: p. 93]

a. Allocability

In general, a cost is considered allocable if it is chargeable to a particular cost objective, such as a contract, product, product line, process, or class of customer, in accordance with the relative benefits received or other equitable relationship. A cost is allocable to a government contract if it:

- Is incurred specifically for the contract.
- Benefits both the contract and other work, and can be distributed to them in reasonable proportion to the benefits received.
- Is necessary to the overall operation of the business although a direct relationship to any particular cost objective cannot be shown. [Ref. 7: p. 36]

b. Contrary to Public Policy

This condition is not as specific as the others and can be said to cover items such as bribes, entertaining individuals with the ability to exert influence on the award of contracts, and other obviously inappropriate costs. [Ref. 6: p. 95]

c. Unreasonable Amounts

When determining reasonableness, the prudent business person concept is used. If a prudent business person would incur a like amount in the course of a similar competitive business

arrangement, then the cost may be considered reasonable [Ref. 8: p. 31-8]. There are many things to consider when determining whether a cost is reasonable, but the statement above, if viewed as a general one, is sufficient to cover them all.

d. Recovery in Contract Profit or Fee

When it is not possible for the government and the contractor to arrive at an agreed-upon method for estimating a particular cost, consideration may be provided for that cost to be absorbed in the profit negotiated. Inasmuch as this is an agreement for treatment of the cost, subsequent allowance of the costs would be tantamount to double reimbursement. [Ref. 6: p. 97]

e. Double Screening

In this instance, a contractor may take certain costs that would normally appear in an overhead account and apply them as direct costs to a government contract. There is nothing illegal or undesirable about this practice in the government's view. When the overhead account that the costs were removed from is applied to the government contract, all costs similar to those removed that apply to other contracts are now not allowable for application to the government contract. [Ref. 6: p. 98]

f. Statute or Regulation

The primary document that addresses specific costs that are not allowable is the FAR. Some costs are not allowed in their entirety and others are limited in amount. Many of the unallowable costs that are discussed in the FAR are affected by Cost Accounting

Standards (CAS). The unallowable costs in the FAR apply in the instances stated therein. If the contract is covered by the CAS, then those standards apply to it [Ref. 8: p. 31-8]. The intended purpose of most Cost Accounting Standards is to allow the consistent, fair, and visible treatment of costs on all government contracts to which they apply.

g. Costs Cited in the Contract as Unallowable

In negotiating a contract, the parties may experience difficulty in arriving at an agreeable amount for the cost of a specific line item. During the negotiation, agreement may be reached to allow a cost to accumulate up to a specific amount and all costs incurred in excess of the amount will be unallowable. This arrangement is stated as a contract clause and may take form in something other than a pre-set limit. Specific elements of an individual cost may not be allowed or varying rates of allowability may apply as different levels of cost are attained. [Ref. 6: pp. 100, 101]

2. Accounting for Unallowable Costs

Once a cost is determined to be unallowable, either expressly or by agreement between the two parties, it must be clearly identified and excluded from any billing or proposal. The contractor must have an accounting system that is adequate enough to allow the government visibility of the unallowable costs. Visibility consists of the nature of the amount and the area wherein the cost is accounted. [Ref. 8: p. 31-8]

C. A HISTORY OF INTEREST REGULATION SINCE 1940

1. Treasury Decision (TD) 5000

The first cost principle specifically addressing the allowability of interest is found in Treasury Decision (TD) 5000. This decision, issued in 1940, was an outgrowth of the 1934 Vinson-Trammel Act. The Act was intended to limit the profits on contracts for Navy ships and Army and Navy aircraft. As military forces rapidly expanded before the onset of World War II, competitive contracts for increasingly complex equipment became impractical. At the time, there were no consistent cost principles to apply when negotiating either fixed-price or cost contracts. TD 5000 was the most significant of the decisions made towards these principles. The wording of the policy on interest expense can be found in Section 26.9(g)(4). [Ref. 9: pp. 46-48]

Allowances for interest on invested capital are not allowable as costs of performing a contract or subcontract.... Among the items which shall as a part of the cost of performing a contract or subcontract or considered in determining such costs, are the following: ... interest incurred or earned; bond discount or finance charges ... legal and accounting fees in connection with reorganizations, security issues, capital stock issues ...; taxes and expenses on issues and transfers of capital stock ... [Ref. 9: p. 49]

This decision, which contained many other regulations concerning cost allowability and profits, is often thought of as the birth of the government's cost principles. The accounting profession viewed interest as an element of profit, not an element of cost. This was not as a result of acquisition policy or economic considerations of the time but is felt to be a primary cause of the decision to make interest expense an unallowable cost. [Ref. 10: p. 15]

2. "Explanation of Principles for Determination of Costs Under Government Contracts"

Two years after TD 5000 was issued, a pamphlet was released by the War and Navy Departments with the title "Explanation of Principles for Determination of Costs." Because of the long title and its green cover, this pamphlet was called the Green Book. The Green Book was a supplement to TD 5000 and was the first collection of formal cost principles used in government contracting [Ref. 10: p. 15]. The following quote is found in paragraph 54 of the Green Book:

Among the items which are not admissible for the purpose of computing the cost of performing a Government contract, the following may be named:

- (a) Allowances for interest on invested or borrowed capital, however represented ...
- (n) Bond discounts or finance charges ...
- (p) Special legal and accounting fees incurred in connection with reorganizations, security issues, capital stock issues ... [Ref. 9: p. 49]

3. Armed Services Procurement Regulations (ASPR)

The ASPR, issued in 1949, furthered the unallowability of interest expense with only subtle difference. Whereas in the earlier cost principles interest on invested and borrowed capital was not allowed, the ASPR only mentions borrowed capital.

15-205.17 *Interest and Other Financial Costs (CWAS-NA)* Interest on borrowings (however represented), bond discounts, costs of financing and refinancing capital (net worth plus long term liabilities), legal and professional fees paid in connection with the preparation of prospectuses, costs of preparation and issuance of stock rights, and costs related thereto, are unallowable except for interest assessed by State or local taxing authorities under the conditions set forth in 15-205.41.

The failure to mention interest on invested capital may have been a mere oversight on the part of the writers of the ASPR or it could have been a unique case of foresightedness. This elimination could have opened the door for the imputing of interest on capital in the early 1970s [Ref. 9: p. 50]. The researcher does not believe that the drafters of the original ASPR were clairvoyant and it would be presumptuous to assume that this was a mistake of any proportion. Failure to mention interest on borrowings might have been because often the costs of invested capital are not considered interest. This is purely a difference of semantics. The bulk of the costs of borrowing are clearly stated on the balance sheet as interest expense. Those that are not can be found under such titles as bond premiums and discounts. Likewise the costs of invested capital, fees, dividends and the like are found under accounts other than interest expense. The ASPR covers nearly all of these accounts and those that are not specifically mentioned are covered by the statement, "... costs of preparation and issuance of stock rights and all costs related thereto ..." Further disallowances of these type costs may be found in 15-205.23.

ASPR Revision No. 50

Major revisions to the cost principles were made in this 1959 revision of the ASPR. It was recommended that these principles be used as a guide in costing fixed price contracts [Ref. 10: p. 16]. In 1970, the use of cost principles in the costing of fixed price contracts of a certain value became mandatory.

4. Defense Department Circular (DPC) 107

DPC 107 was the government's first attempt to provide an incentive, through application of profit on the costs of operating and facilities capital, for a contractor to invest in facilities. They were to be accumulated in an overhead pool and subsequently allocated like a normal overhead account. These costs would then be used in determining the profit factors which mirrored the total capital applied to a contract. There were separate computations for operating and facilities capital. The computations were not required and few contractors used the program. After only three contracts were negotiated using the capital computations, the profit policy was abandoned in 1975. The procedures were viewed as too complex and they penalized the contractor with low capital investment or the one that used his capital efficiently. Additionally, the increase in profit was not viewed as sufficient enough to motivate contractors towards increased capital expenditure. [Ref. 10: p. 17]

5. Cost of Money as an Element of the Cost of Facilities Capital

The Cost Accounting Standards Board, in 1976, issued Cost Accounting Standard (CAS) 414. This standard allows the imputed cost of using facilities capital to be treated as a cost and added to final cost objectives much like overhead. Simply stated, the net book value of tangible capital assets is multiplied by the six-month U. S. Treasury rate and then this amount is allowed as a cost of facilities capital [Ref. 10: p. 17]. This CAS standard recognizes all costs of supplying facilities capital, whether they were supplied via debt or equity financing by

using a standard percentage cost. It should be noted, however, that there was no application of this interest factor on the amount of working capital employed. As a result of CAS 414 recognizing the cost of using facilities capital, the argument that interest was an element of profit, not cost, was nearly decided [Ref. 9: p. 54]. Subsequently, profit policy was adjusted to remove implicit consideration for the use of this capital [Ref. 10: p. 17].

6. Department of Defense Federal Acquisition Regulation Supplement: DOD Profit Policy

Effective August 1, 1987, the Defense Acquisition Regulatory Council approved a final rule revision to Subparts 204.6, 215.9, 230.7, and 253.3 of the DOD FAR Supplement. The revision's purpose was to increase the emphasis on contractor risk and amount of facilities capital used, entertain working capital needs, and eliminate profit being applied on individual cost elements [Ref. 11: p. 28706]. Of these initiatives, only the consideration of working capital requirements directly addresses the issue of interest expense. While the application of profit to facilities capital employed may be viewed by some as an attempt to provide an adequate return on the assets employed inclusive of the cost of financing said assets, it was not. The provided return's (i.e., profit) purpose was not to provide an adequate return, but enough of a return to motivate contractors to increase capital investment. On the other hand, the working capital adjustment was an overt attempt to compensate the contractor by varying a portion of profit in concert with the current economic environment.

The maximum value allowed for working capital adjustment is 4% of total contract cost. The adjustment in profit percentage is added to the contract type risk category. The formula used to determine the amount is not intended to be an accurate determination of contractor working capital costs. Its intent is to provide a general recognition of these costs depending on the contract length, financing, and current interest rates [Ref. 11: p. 28711]. The computation is briefly summarized from Vol. 52 of the Federal Register:

- *Contract costs.* All allowable costs, General and Administrative (G&A) overhead, Internal Research and Development (IR&D) Costs, Bid and Proposal (B&P) expenses, less Facilities Cost of Capital Money (FCCM).
- *Amount financed.* The value of the contract not covered by progress payments. For instance, if a contractor were receiving 80% progress payments, then the amount he would have to finance would be 20%.
- *Amount financed times contract costs.* Multiply costs times the amount financed by the contractor.
- *Contract length.* A factor is derived that represents the length of time the contractor has his working capital applied to the contract. This is not the actual length of contract performance but the amount of time substantive work is performed. Periods of inactivity or minimal effort should be excluded.
- *Working Capital Investment.* Multiply the costs financed by the contractor by the contract length factor.
- *Working Capital Adjustment.* Multiply the working capital investment by the same U. S. Treasury rate used to calculate the FCCM.

D. STUDIES INVESTIGATING THE ALLOWABILITY OF INTEREST

The issue of whether or not to allow interest on government contracts has been around for some time. Surprisingly, there are only two

works that this researcher found that directly examine the subject on its own merit. Both provided excellent background material on the subject and are extensively referenced throughout this thesis. Other studies and working groups have examined the question as it relates to other elements, such as profit. The following paragraphs summarize various studies that directly confront the allowability of interest question or provide significant information relating to it.

1. Targeting Unallowable Interest Expense

This article, authored by Brigadier General Joseph H. Connolly, appeared in a Summer 1981 edition of the *National Contract Management Journal*. A general background is provided that includes three important Government studies that deserve mention.

a. Joint DOD and Industry Conference-1958

This was the first major joint conference held on government cost principles. Many proponents for allowing interest expense were present and argued that the policy of not allowing interest expense was in direct opposition to the rulings of the Internal Revenue Service, Renegotiation Board, and the Armed Services Board of Contract Appeals. The government, on the other hand, felt that to allow interest expense would indicate a preference for debt financing. Additionally, there was concern that a contractor might borrow all the funds required to complete a government contract and then invest his own cash in government securities, and thereby draw interest from the government. [Ref. 10: p. 16]

b. Defense Industry Advisory Council (DIAC) Working Group—1965

The primary points of interest in this study were the findings by the Logistics Management Institute (LMI) and a Stanford Research Institute study performed for the Aerospace Industries Association. LMI found that interest expense had grown to \$50-70 million annually. This figure was later found to be closer to \$125 million. The Stanford study stated that interest expense was now the largest single unallowable cost. Despite these findings, the government still concluded that interest should remain unallowable but that better ways must be found to compensate the contractor for these costs. The following are some other conclusions referenced in the Connolly article:

- Disallowance of interest biased contractors towards leasing and away from investment.
- Imputing interest on capital would be burdensome and would further government's intrusion into industry affairs.
- Profit consideration for interest was inadequate and difficult to compute.
- Progress payment rates should be increased.
- The government should be more responsive in paying contractors' bills. [Ref. 10: p. 16]

c. Industry Advisory Council Subcommittee Study—1971

This study was an extensive look at government contract financing. Below are two quotes directly from the study explaining the government's continued policy of not allowing interest expense [Ref. 10: p. 17]:

First allowing interest would introduce a bias toward debt financing during a period when the use of debt financing in defense firms may already be too high.

The second reason ... is that allowing interest focuses government policy on the sources of capital for defense work, rather than the uses of capital.

d. Summary

In stating the case for allowing interest expense, the article includes discussions of whether or not interest is truly a cost or in fact an element of profit. Connolly concludes that, although interest expense is not a product cost in the true accounting sense, it is an expense when determining the amount of tax liability and subsequently net income. He feels that CAS 414, which uses a six-month Treasury rate, is too conservative and does not adjust quickly enough to volatile interest rates. The implicit allowance in profit for interest expense has not kept up with the ever-increasing interest rates of the 1960s and the 1970s.

During this period, negotiated profit rates on firm fixed-price type contracts rose from 11.5% to 12.8%, an overall increase of 11% (actual profit rates depend upon final cost outcome of contract). This was slightly less than the total DOD average profit increase of 14%. During the same period, however, the interest rate on short-term business loans increased from 5.0% to 15.8%, an overall increase of 216%. The prime interest rate rose approximately 230%. [Ref. 10: p. 19-20]

The author feels that, because of the increased financing requirements of the time, increased profits could not have

compensated for the increasing interest expense. The arguments used in support of not allowing interest expense are centered on the difficulty of determining which borrowings were incurred in support of a specific contract, the reasonableness of amounts and rates, the difficulty in computing working capital funds required on a contract, and the relief provided by CAS 414. He also mentions the decline of interest expense as a percentage of sales from the period 1975-1980 as limiting the impact of the unallowability of interest on contractors.

e. Conclusions

Connolly felt that, through the use of CAS 414, government financing, and profit consideration, the government has covered a majority of the contractors' interest expense [Ref. 10: p. 23]. He stated the reasons for not allowing interest expense remained strong and interest expense should be compensated through other means. If necessary, these methods should be adjusted to more equitably reimburse contractors (i.e., higher progress payment rates, special financing, more representative interest rates for CAS 414, and better profit considerations). [Ref. 10: p. 25]

2. Interest and Federal Contracts: A Perspective

This book was authored in 1982 by James W. Booth, a lawyer and jurist. He was commissioned by a "Big Eight" accounting firm, Arthur Andersen & Co., to conduct a study on the history and current affairs of interest expense in government contracting.

a. Summary

This work is an exhaustive and extensive look at interest expense. The author examines the concept of interest from its earliest historical conception to present-day rulings and regulations. Because of his legal background, much of his research is based on precedents set in previous litigation concerning the allowability of interest. He examines the unallowability issue on equitable adjustments from a standpoint of interest "in" a claim and interest "on" a claim. From a historical academic and legal viewpoint, Booth works to state a case for allowing interest expense to be an allowable cost in government contracts in all cases. He feels that precedence, both commercial and governmental, has confirmed that interest expense is a legitimate cost of doing business, and therefore it should be allowed.

b. Conclusions

Booth states that the government's practices for financing and payment on contracts are currently not equitable. While CAS 414, the Interest on Contractors' Claim Clause, and the interest provisions in the Contract Disputes Act of 1978 are a step in the right direction, they are not enough. He clings to the idea that there is an overlying view by the government that interest is not a cost but an element of , and that is why, for the most part, it remains unallowable.

[Ref. 9: pp. 167-169]

3. Cost of Capital

"Cost of Capital" was the title of article by Ken Jackson (Director of Contracts and Procurement, Bolt Beranek and Newman

Inc.) appearing in the Fall 1974 issue of *National Contract Management Journal*.

a. Summary

In this article, Jackson attempts to present a case against explicit recognition and allowability of the cost of contractor capital. The article was written in the time period that the Cost Accounting Standards Board (CASB) was considering a method to recognize some of the contractors' cost of capital. This would eventually take the form of CAS 414 and the calculations for the Facilities Cost of Capital Money (FCCM) that was issued in 1976. Jackson supports his opinion with some of the following statements:

- At the time (1974), federal spending was expected to be reduced, therefore increased capital investment was not required.
- The Fox Report (Report of the Industry Advisory Council Subcommittee on Defense Industry Contract Financing) found that working capital investment on federal contracts was more favorable than on commercial contracts.
- The Comptroller General's Defense Industry Study (B-159896, dated March 17, 1971) indicated that return on investment (ROI) was substantially greater for government contractors when compared to commercial contractors.
- Contractors would not be motivated to invest because there would be a simultaneous reduction in profits. At the same time, Jackson states, there would be guaranteed earnings that would lead to excessive capitalization and trading on the equity. Furthermore, there would be motivation to build up inventories beyond what prudent business practice would dictate. As the discussion continues, the author brings to light the enormous amounts of information required and its variability between contracts and contractors. He thoughtfully presents a "laundry list" of elements that must be considered in determining a firm's overall financing scheme and how they relate to a contract. [Ref. 12: pp. 38-39]

b. Conclusion

In his short concluding statement, Jackson feels that, because of the current economic situation and the complexity of trying to accurately compute the cost of capital, it should not be allowed. He further states:

Proponents of a change in policy must also be prepared to deal with emotional responses to any planned change. By developing the logic of their arguments and being prepared to respond to the arguments of opponents, this important matter may be decided with one group remaining objective and being able to deal with the emotional responses of the other group. [Ref. 12: p. 41]

4. Defense Financial and Investment Review (DFAIR)

The following excerpt is taken directly from the foreword to the Defense Financial and Investment Review (DFAIR):

In December 1983, the Deputy Secretary of Defense established the Defense Financial and Investment Review (DFAIR). The DFAIR is the first DoD study chartered to review the interrelationship of pricing, financing, and markup (profit) policies and to make recommendations to provide for appropriate integration of the policies. [Ref. 13: p. i]

Chapter IV of the DFAIR study concerns contract financing and the Department of Defense's policies specifically about progress payments. DFAIR focused on progress payments because it was felt that other types of financing, guaranteed loans, advance payments, and unusual progress payments were not customary [Ref. 12: p. IV-1].

a. Summary

The chapter on financing begins with a statement of current policies on progress payments and continues with a short history lesson on how those policies evolved. Uniform policies for progress payments were not promulgated until 1952. Initially, there was

concern on what to base the percentage of payment, direct costs or total costs, and then what percentage was adequate. Many studies were conducted in the years to follow that recommended changes in progress payments primarily due to changing policies or interest rates. In 1971, the Defense Industry Advisory Council (DIAC) recommended that progress payments be limited to no more than bi-weekly to preclude the possibility of a contractor having a negative investment in work-in-process inventories. Additionally, items purchased directly for use on a contract had to be paid for by the contractor before billing the government for the item. The results of these changes meant an increase in investment by the contractor. Contracting officers were directed to add a profit factor to counteract this increase in financing costs for the contractor. As the Short Term Commercial Loan Rate rose from 6% in 1968 to 20% in 1979, a need was seen to increase the rate of progress payments from the current level of 80%. As a result of this need, progress payments were first increased to 85% and then to 90%, and a flexible progress payment rate was devised. Progress payments were paid at the 90% level for large businesses until May 1, 1985, when they were again reduced to 80%. Many criticisms were discussed in the DFAIR study about the high level of progress payments (90%) when interest rates fell in the mid-1980s.

[Ref. 13: pp. IV-2-IV-5]

The Grace Commission's Report on Financial Asset Management opined that, by reducing progress payments from 90% to 80%, the Government would save 9.4 billion in cash outlays and \$1.7 billion in interest over the next three years. The outlays would benefit DoD.

and the interest savings would benefit the Treasury Department.
[Ref. 13: p. IV-6]

DOD Inspector General (DOD IG) concurred with these findings although they arrived at slightly different amounts. These findings were based upon a belief that there is no relationship between interest expense, contract financing, and profit. The Congressional Budget Office (CBO) and General Accounting Office (GAO) recognized this interrelationship, as shown in the statements below.

CBO View

The major effect of this [Grace Commission] recommendation would be to slow the flow of cash payments from the government to defense contractors. The commission assumed that the total cost over the life of the contracts would be unchanged. Given the slowing of payments, however, defense contractor profits would be reduced by the added cost of financing a greater portion of the contract. Therefore, negotiated markup and/or fee rates may increase and offset some or all the estimated savings.

GAO View

GAO does not believe that the savings estimated are realistic. This assessment is based on the strong belief that contractors will frequently demand and receive terms of value commensurate with the privilege they are surrendering [progress payments]. Accordingly, if the recommendation were implemented, GAO doubts that savings of the magnitude cited would be achieved. [Ref. 13: p. IV-11]

As stated in the foreword, the primary purpose of DFAIR was to examine the interrelationships of pricing, financing, and profit. The area of financing examined, normal progress payments, is primarily used to assist the contractor in financing his work in progress. In normal business dealings, a contractor must provide his own "working capital" by either debt or equity financing. The DFAIR study examines the amount of contract costs the contractor must finance

over the period of a 40-month "typical" contract. The elements considered in this study are beyond the scope of this thesis. However, it should be noted that efforts were made to examine the following:

- Average float times for contract costs such as direct material, labor, overhead, etc.
- Disbursement and Reimbursement lags (float times) were obtained from the Defense Contract Audit Agency (DCAA).
- Float times were looked at for monthly, bi-weekly, and weekly progress payments.

A computer simulation was run with these variables using the Short Term Commercial Loan Rate of 1984. The final result was a finding that, on a "typical" contract, the investment level for the contractor required a total imputed financing cost of approximately 2% of total costs [Ref. 13: p.IV-15]. The simulation was run using different interest rates but it was determined the relative changes would likely be the same. Further simulations were run to examine the relationship between current interest rates and the percentage of progress payments allowed [Ref. 8: pp. IV-17-IV-20]. The conclusions and recommendations from Chapter IV of the DFAIR report are summarized in the following paragraphs and can be found on pages IV-31 thru IV-34 of that report.

b. Conclusions

1. Interest on Working Capital should remain Unallowable.
2. Alternative methods should continue to compensate contractors for Working Capital Financing.
3. Historically, contractors have absorbed through profit financing costs equating to 2% of total costs.

4. Outlay reductions and interest savings of the magnitude cited by the Grace Commission, CBO, and DOD IG would not be achieved.

c. Recommendations

1. Set requisite level of contractor supplied financing for Working Capital at 2% of contract costs.
2. Establish mechanisms for adjusting markup objectives in situations which may vary substantially from baseline expectations.
3. Retain payment policy of 5 to 10 days for Progress Payments.
4. Establish payment policy of 30 days for Delivery (Invoice) payments.
5. Progress payment frequency should remain on a monthly basis.

E. CHAPTER SUMMARY

This chapter provides an overview of the reasons for costs being unallowable, a history of interest regulations since 1940, and a look at several studies conducted concerning the impact of interest regulations. The policy initially promulgated at the onset of World War II was a result of accounting theory that interest was not a product cost, therefore it was an element of profit. The other reasons for not allowing interest expense still exist, but the government now explicitly recognizes interest expense as a legitimate cost of conducting business. The various studies conducted that examined the allowability issue were a result of the continuing cry from industry that interest is an allowable cost. The passion with which they presented their case was a direct result of their increasing investment and ever-climbing interest rates. Over time, the government has heeded this cry; through CAS 414 and the DFAIR study which gave birth to the

Working Capital adjustment in Weighted Guidelines, the government has attempted to address the concerns of the contractors.

IV. DATA PRESENTATION AND ANALYSIS

A. INTRODUCTION

The purpose of this chapter is to present data obtained from interviews and readings. As the data are presented, an analysis and discussion of the context, emphasis, and supporting information will be provided. With respect to the interviews, questions were asked specifically addressing concerns of the researcher on the subject of the unallowability of interest expense. Interviewees were allowed to discuss any issue they felt had a direct relationship to the question of interest expense. This chapter is organized into six sections corresponding to the six most frequently discussed areas by interviewees as follows: corporate management of interest expense; investment decisions, small business; the DFAIR study; government payment practices; and profit, business cycles, and procurement initiatives.

B. CORPORATE MANAGEMENT OF INTEREST EXPENSE

Corporate structure and organization play the largest role in how a corporation handles its interest expense. Large corporations with many subsidiaries typically conduct all treasury functions at the corporate headquarters. As is the usual accounting practice, interest expense is a "below the line" cost on the income statement. From this, the term "Earnings Before Interest and Taxes" (EBIT) originated. In a multiple-step income statement, this would commonly be called income from primary operations [Ref. 3: p. 114]. The purpose of this separation is to show a distinction between costs that are determined

by, or partially determined by, the production process and costs that are completely independent of the process. Interest expense is a function of the amount of debt held and the rate at which the debt was obtained (the amount is somewhat controllable; the rate is not). Tax rates are set by local, state, and federal governments. Specific rates are not a function of the production process.

With the treasury function of major corporations held at corporate headquarters, how does the corporation allocate corporate interest expense to its various subsidiaries? The responses to this question fell into three areas. The most common response was, "Corporate allocates their interest expense to us as a function of their investment in our division, or asset base." Another interviewee felt that the interest was allocated based on the relative amount of sales of the subsidiaries. All respondents felt the purpose of this was to put a reasonable amount of interest expense on each of the subsidiaries in order to evaluate their performance when burdened with the cost of financing their business. When questioned whether the allocation base was a fair and equitable method of distributing interest expense, most did not think so. Unfortunately, they could not perceive of a better way for it to be accomplished. The reasons for allocating interest expense to a subsidiary relative to its asset base is reasonably clear. It is almost analogous to CAS 414, Facilities Cost of Capital Money (FCCM), which is the standard that allows cost based on the six-month Treasury note rate applied to the book value of certain assets. The company applies interest expense at a rate based on the book value of the assets the

subsidiary holds. The book value of an asset may not be its true value to the firm. Typically, depreciation methods are motivated more by the effects of current tax laws than any other factor. In this sense, the company will allocate interest expense to an asset that, via its extremely high rate of return, may have already paid for its initial capital investment many times over. Vice versa, it is possible to allocate insufficient interest expense to costly assets with low productivity. A manager with highly productive equipment that quickly pays for its initial investment is unlikely to be happy with such an arrangement. For the investment, he is providing a better return to corporate but is saddled with the expense of investment in equipment throughout other divisions that do not provide a comparable return. If all capital was as productive as his, then retained earnings would be greater, less debt would be required, and therefore the amount of interest expense to be allocated to his segment would be less. The researcher feels that this type of allocation can present a distorted picture of a corporation's subsidiaries. A corporation usually obtains funds for routine finance needs through the short-term market and possibly as the result of a cash-flow problem in a particular subsidiary. To allocate this cost to all subsidiaries penalizes all but the one with the working capital shortage and, in fact, rewards it.

One interviewee tried to allocate interest expense to subsidiaries based on what they felt their investment in a particular asset was. "Simply put, we just couldn't do it. The time and effort weren't worth the benefits, if there were any." It was obvious to the researcher that

they had looked long and hard at the problem of allocating interest expense to particular assets and the costs far exceeded any benefits.

If major corporations allocate their interest expense to their subsidiaries in a manner that is less than satisfactory, how can the government ever expect to be able to allocate corporate interest expense to a particular contract? If interest expense were to become allowable, how would the government handle the allocability and reasonableness issues? These questions were posed to all interviewees. The response was unanimous. "The government would say, 'it's my cost and therefore I want to control it.'" It was felt that, with the government making determinations of allocability and reasonableness, it would control the firm's capital structure. This would in effect preempt the decision-making role of the board of directors. The DFAIR study reviewed a previous attempt by the Cost Accounting Standards Board to develop a standard, similar to CAS 414, that would allow cost of money calculations on working capital. Their reasons for not being able to accomplish the task were as follows:

- Identification, measurement, and verification of segment (as opposed to corporate) operating capital items were difficult.
- Many types of operating capital items made it difficult to establish an acceptable surrogate for measurement under varying conditions.
- It was unlikely that individual contract use of operating capital could be accurately determined.
- Contractors should have an incentive to keep operating capital at the minimum necessary level. [Ref. 8: p. IV-10]

There was significant concern expressed by interviewees that the government would over-regulate and err on the side of conservatism if it became involved in these types of determinations. There would be an increase in the number of auditors trained in the calculation and allocation of interest expense to federal contracts. This influx of auditors would delay the acquisition process and, because of the divergence of opinions on the subject of what interest expense was allocable and reasonable, litigation would also increase.

The difficulty in determining the allocation of interest expense is probably more difficult than determining if it is reasonable. Assume, for example, that a large corporation has six major bond issues that were sold over a period of 20 years. The bonds had 30-year maturities and slightly different stated interest rates. These bonds were issued for a variety of different reasons, none of which are applicable to events in the company today. Additionally, the mix of government versus commercial contracts varied with commercial business cycles and the level of the defense budget for the past 20 years. The company is presently incurring interest expense on all six issues and the expense must be allocated to a specific contract. Determining the correct or reasonably correct amount would be a difficult task. A Cost Accounting Standard that could accomplish this would probably be extremely complicated. In all of the interviews and literature research, not one innovative idea was presented that adequately addressed the allocability and reasonableness issue. The researcher

suggests that this is simply because rewards are not large enough to justify the time and expense it would take to find a reasonable formula.

C. INVESTMENT DECISIONS

This section examines the impact of the unallowability of interest on investment decision making. This is an examination of the processes by which companies make investment decisions regarding individual asset procurement and not a general discussion of contractor investment in government contracts. The intent here was to attempt to see if companies adjusted their hurdle rates or cost of capital or took any other actions because interest incurred in an investment could not be recouped as a cost.

Before covering specific methods of investment decision making, it is important to note how companies view interest expense in this context. Comments such as, "It's just an unallowable expense.... Other than the amount, the fact that it's interest is not a concern" were common. "Interest expense just isn't an issue in the decision process" was also a routine response. These comments were stated at the beginning of many interviews and, as the discussion progressed, the reasons for them became clear. These reasons will be presented in this section.

Two methods were principally used by companies to make investment decisions. The first of these was a variant of the pay-back method. The company would conduct an engineering economy study to calculate an expected period within which the asset would pay for itself. Recapture of the initial investment must be made well before

the asset has been fully depreciated. For instance, an asset with a five-year useful life should recapture the initial investment in roughly three years. This method was used in a company where the corporate policy was to operate on a cash basis and debt was not desired. The other method used was to evaluate projects to determine their respective rate of return (expressed as a percentage) and then compare it to a predetermined hurdle rate (also expressed as a percentage). If the rate of return exceeded the hurdle rate, the investment was approved. The hurdle rate usually consisted of the average cost of the firm's capital plus another factor, which together would equal the minimum rate of return necessary for investing in an asset. Subsidiaries were usually provided with a specific rate of return, from corporate headquarters, to use when evaluating capital investments. The following was an explanation of the process:

At the sector level there were unlimited capital funds. We had to pass a hurdle rate that implied a blend of the cost of debt and equity. If an investment's calculated return cleared the hurdle rate the company would continue to borrow at a leverage factor roughly equivalent to what they've always done. The implicit assumption is, the capital structure is optimal for the particular business volume and they would continue to borrow at the same debt to equity ratio. To allow interest, all other things remaining the same, would just increase the return expected. It might make some marginal investments acceptable.

The statement about the leverage position of the firm is supported by the discussion concerning financial structure in Chapter II of this thesis. The quote implies that the cost of capital for the firm is independent of the reimbursement policies of its business partners. It is more a function of the particular financial structure of the firm and is

also influenced by the external financial market place. It is difficult to understand how "unlimited funds" could be obtained. The amount of available funds was inherently limited by the hurdle rate required by corporate headquarters. The factor added to the average cost of capital could be increased if management felt the capital budget needed to be contracted, thereby decreasing the number of projects that would clear the hurdle. Only highly productive assets would clear the hurdle rate. This would increase profitability, retained earnings and minimize the requirement for additional financing. The comment, "To allow interest, all other things remaining the same, would just increase the return you would expect" further emphasizes the lack of a significant relationship between interest expense being recouped directly and factors considered in financing decisions. If interest were allowed, return would increase because the company would be receiving reimbursement it had not previously obtained. This increased return would only happen if policy-makers did not offset profit at the same time they allowed interest expense. The same effect would occur if any previously unallowed expense, such as IR&D expense in excess of the ceiling, was made allowable. The fact is, increasing profits would also have a similar effect. Hence, we come full circle to the statements in the opening paragraph of this section on corporations. Interest expense is viewed much like any other unallowable expense, as a "profit detractor." Whether it is or is not allowed has no direct impact on rates used to determine the worthiness of investing in an asset. These rates are a factor of the financial

marketplace and the overall structure of the firm, not the status of a particular cost element. Under the pay-back method, the controlling variables are the depreciation rate and the time it takes for an asset to pay for itself. As stated earlier, depreciation rates are often predicated on tax considerations. The time it takes for an asset to pay for itself could be decreased if interest expense were to become allowable. However, this same effect would occur if any cost previously unallowed were to become allowable.

From the corporate standpoint, the unallowability of interest has been accommodated for several years. It is viewed primarily as a cost that must be paid out of profits. The reason for routine comments such as, "It's just not an issue" are twofold. First, the cost of corporate capital is not tied to the types of contracts held or the mix of government or commercial business. As discussed in Chapter II, a firm can minimize its cost of capital if it finds the right mixture of debt and equity. The decision concerning how much leverage to use should be left to the board of directors. If they use too little debt, then the price of their stock is below its maximum. If too much debt is used, the firm becomes risky and the cost of debt capital increases, which also depresses stock prices because of its negative effect on profitability. Secondly, the financing decision is separated from the tactical decision of making an investment. One interviewee viewed investment decision making as a two-step process. The decision to invest in a particular asset or project was a tactical decision. He considered it tactical because implicit assumptions of risk were assigned to the

quantitative return of the asset. This risk was usually discussed qualitatively before the decision was made. If a piece of equipment was absolutely necessary to execute the terms of a contract, it might be procured even if it failed to clear the hurdle rate. When procured, it would be financed in the same manner as all other assets that had cleared the hurdle rate. This separation facilitates an understanding of the minimal impact the unallowability of interest has in investment decision making.

D. THE SMALL BUSINESS

It is commonly recognized that a small business faces certain constraints on its ability to compete with larger companies in the market place. These constraints are most critical in the area of finance.

The government recognizes the limited financial capability of the small businessman. Progress payment rates are usually 10% higher for small businesses and they receive preferential treatment in the awarding of contracts. While increased progress payments are a large help, the financial situation for small businesses is still quite difficult. This is especially true for the small business that is trying to expand rapidly. The small business that makes incremental increases in productive capability faces tight working capital problems. For rapidly expanding small firms, these problems can become enormous.

One interviewee, recalling his earlier days as a government contract administrator said,

A small businessman, one that has gone from a business volume of \$0-15 million in seven years, lives and dies risk. Every time he takes on a large contract, he gambles the entire company.

It was stated that the bulk of contractors did not make it. This was always a result of a working capital/cash flow problem. Another interviewee provided this example:

An owner sees a \$2 million contract that he feels is within his capacity to accomplish if he acquires more machines, material, buildings and personnel. After winning a negotiated contract that provides 90% progress payments, he must immediately come up with one million dollars to finance the needed resources. He obtains the capital through his banker at an annual rate of 12% or 1% per month. If the contract and loan term are both for twelve months then he incurs a \$10,000 expense that must be paid every month of the contract and will not be reimbursed. He is incurring costs at about the rate of \$150,000 a month and will not receive the first progress payment until almost six months into the contract and from then on they typically lag sixty days. In month sixth he has paid \$60,000 in interest and then receives a check for \$135,000.

The interviewee's point was that, even though progress payments help, the contractor must still provide substantial amounts of capital funds. It may appear that when the progress payments started to come in the sixth month the situation was no longer critical. However, what will he do in the twelfth month when the contract is completed? The final progress payment has yet to be received, final liquidation and payment will not occur for up to 60 days, and the loan principal amount is due at close of business tomorrow. The negotiated profit was \$200,000. Subtracting approximately \$120,000 in unallowable interest on the original loan leaves an actual profit potential of \$80,000. Sixty days later, the contractor receives \$515,000, which is the \$200,000 negotiated profit, the final progress payment of \$135,000, and the difference between billed costs and progress

payments for the past twelve months. When actual profit is subtracted from this amount, the remainder is \$435,000 that the contractor will have to finance from the end of the contract until final payment is received. This requirement would probably force the contractor to take out another loan. The additional loan is required because of the time lag between the contractor's cash outlays and when reimbursement, in the form of progress payments or final payment, is received from the government. This explanation is simplified in that it ignores the various float times for the payment of invoices by the contractor and reimbursement timing by the government. It does serve to show, in a rudimentary way, that a contractor incurs a significant amount of financing costs even if he receives a high level of progress payments. This is due principally to high start-up investment requirements, the progress payment rate, and the timing of payments from the government.

These financing problems are further complicated by the difficulty small firms have in obtaining large amounts of growth capital. This is even more of a problem with small, disadvantaged businesses, commonly called 8(a) firms. The 8(a) firm has contracts directed to it by the Small Business Administration (SBA) without going through competitive procedures. In order to obtain this status, a firm must be owned (51% of the stock) by a designated minority owner.

We have limited means of raising capital. Because we are a minority company, 8(a), our ability to raise capital is remarkably restricted. The principal of the company or the minority owners have to maintain 51% of the voting stock. We have already given away 49% of the stock. When the company is young and struggling, the only

bargaining chips available are stock in the company and it is given away at a time when the company has little leverage. If the company remains successful, it becomes terribly cash strapped. The bankers will sit on the sideline and say as long as there is a certain amount of equity they will provide debt financing. Once the amount of equity available plateaus, the company becomes very risky, and the banks say, "Wait, no, stop, see this ratio here? We can't loan you any more money." Was that the intention of the program?

This comment provides strong evidence that, even if a firm wanted to, it could not use more debt than good common business judgment would allow. Most bankers, besides raising their interest rates when firms become riskier, will not lend money to firms with very high debt-to-equity ratios. One contractor said that, by allowing interest expense, initial investment and working capital shortages might not be as much of a problem. While this statement has some truth, it only emphasizes the fact that interest expense is not reimbursable. It fails to see this problem as primarily one of timing. To allow interest would probably increase a firm's return. This additional reimbursement would still appear in progress payments that lag behind actual incurrence of the cost. It is possible that, by increasing the return, the contractor will recover most of the additional cost that he has invested in a contract as a result of the delays between cost incurrence and reimbursement.

As discussed in Chapter III, the DFAIR study found that, on a typical contract, a firm will absorb, through profit, additional unreimbursed financing costs of roughly 2% of the total contract cost because of the relationships between the timing of progress payments, delivery payments, profit, and actual cash outlays [Ref. 13: p. IV-32]. The General Accounting Office, in its review of the DFAIR study, found this

cost to be substantially less. The difference is due primarily to the assumptions made when using models to conduct the study. The assumptions made by each are stated below:

DFAIR Study

- 40-month contract
- 90-percent progress payment rate
- 5-day progress payment delay
- 15-day delivery payment delay
- Four delivery payments in the last 7 months of the contract
- 12.02 percent short-term commercial interest rate
- Average float time of 3 days

GAO Study

- 40-month contract
- 85-percent progress payment rate
- 5-day progress payment delay
- 30-day delivery payment delay
- Interim delivery payments—consisting of 10 percent of costs incurred plus profit—beginning 6 months after contract start and made monthly
- 9.75-percent short-term commercial interest rate
- average float time of 3 days [Ref. 14: pp. 47, 48]

It is not the intent of this paper to discuss the relative merits of each assumption and explain why the DFAIR study and GAO reached different percentages for contractor investment in working capital. It is more important to note the categories on which the assumptions

were made. Contractors were asked what they felt had the most impact on their working capital investment. Surprisingly, assumptions regarding government payment evoked the most passionate responses of the interviews. These responses appear in the next section.

E. GOVERNMENT PAYMENT PRACTICES

All interviewees, save one, believed that the government's actual practices of making payment were unsatisfactory. The difference between the GAO and DFAIR assumptions concerning the short-term interest rates would seem to be one of the largest disparities among the assumptions (9.75% versus 12.02%) and therefore generates significant response. However, throughout the interviews, when asked what rate the government should use to compute FCCM or impute an equitable cost of interest expense, the consensus was either the prime rate or the prime plus a point. Most felt that, although the prime rate was not what most companies could obtain in the debt market, "it's conservative but reflective of what interest rates in general are doing." This implies that everyone will be allowed a minimum or lowest rate of interest expense. This keeps the poorly financed company motivated to improve its bond rating in order to lower its financing costs. Because the prime rate is the base rate from which other rates are derived, an increase in the prime causes an increase in other rates and the relative differences in the cost of debt between firms remains the same. Firms felt that the best they could expect was to be treated fairly and equitably.

The issue of payment usually came up when the question was asked, "What are the best reasons you can think of for allowing interest expense?" Invariably, comments were made such as:

To inhibit Congress from coming up with ideas like delaying payments in the last four weeks of the fiscal year until the new fiscal year starts just so they can appear to be doing something about the budget deficit.... To stop the administrative suspension of progress payments by unhappy contracting officers.

Interviewees complained that the payment of invoices was delayed routinely between 60 to 90 days. In one discussion about profit, an interviewee commented,

Something has got to give in the system. They either have to pay us quicker because our working capital is declining, or improve profits.

One interviewee, when asked if the Prompt Payment Act, with its provisions for payment of interest on late payment of invoices, was working, replied:

The problem is that any interest charged for late payment of an invoice is charged to the budget of the payment office. There is no account with special funds. It just comes out of their operating budget. The payment office will tell you that if you want interest it will cause them to miss payroll and they will have to cut staff and then the invoices will be even further delayed.

On the issue of progress payments, comments were not as definitive. Two issues surfaced. First, payment was frequently delayed due to administrative problems, and second, the administrative suspension of progress payments. The delay of receipt of progress payments is similar to delay of any payment. In fact, when commenting on the payment problems, many interviewees discussed late payment of invoices to include late payment of progress payments. Administrative

suspension of progress payments is not contrary to any regulation as long as the contracting officer believes that the contractor is failing to make progress at a reasonable rate. The effect of suspending progress payments is similar to the effect of late payment of an invoice. The contractor incurs a greater cost of the investment in the contract than he originally anticipated. This increase in cost will reduce the amount of profit realized on the contract. As a result of these after-the-fact "renegotiations" of final profit, many contractors feel that suspension of progress payments should be a judicial decision rather than an administrative one. In the sense that it does change the original terms under which profit was negotiated, contractors may have a valid point. However, the right of the contracting officer to suspend progress payments existed at the time of profit negotiation. This issue will eventually be decided in the courts but the effects of it are a very real cost to a contractor.

Looking at the assumptions of the DFAIR and GAO studies, both assumed progress payment delays would be 5 days and delivery payment delays would be 15 and 30 days. From the comments of interviewees, it would seem that these assumptions are not valid. The assumptions of GAO and DFAIR appear to be based on current policy and not actual practice. The provisions of the Prompt Payment Act do not allow classification of an invoice as delinquent unless interest is paid. As discussed earlier, there is great reluctance on the part of some contractors to push their claims for interest on late payments. If the assumptions of the DFAIR study (in 1985) or GAO were to reflect

actual delay times recently experienced, the amount estimated to be financed by contractors might increase.

What do contractors cite as the root cause of the current climate of payment delays? The most common response is the increase in government auditors and audits. This came about as a result of contract fraud and the public outcry of the mid 1980s. Asked to comment on the results of all this, one interviewee responded:

DCAA is getting much more involved in auditing, and the kind of audits they get involved in are not very effective. It slows down the payment process. I can't believe there's value added for the expense incurred. If we could depend on the government paying at exactly 30 days that would be fine. We can't. I'm not crazy about auditors, but I'm particularly abhorrent of auditors who don't know what they're doing. I have to deal with bank auditors or external auditors all the time. Government auditors usually are not as well trained as their counterparts. The irony is, it gives everyone the false sense of comfort that someone is watching the store. The things they are watching are inconsequential. You really have to get into the bowels of an organization to see if the government's concerns are being protected.

This comment covers the general feeling most contractors have about the payment process problems and auditors in general. Contractors admitted that auditors were necessary because of their own previous transgressions but questioned their training and the management of audits and the auditing process.

The idea of allowing interest as a cure to payment problems was put forth by several interviewees. After considering the negative effects of allowing interest expense, they withdrew their proposals. The basic problem is delinquent payment and its resulting effect on the contractor's working capital. Allowing interest would not solve

the problem and, as shown under the Prompt Payment Act, its effect as a deterrent to late payment is questionable. Throughout the interviews, contractors discussed ways in which the government, through the implementation of new policies, was causing the contractor to increase his investment and thereby reduce his return. The unallowability of interest expense was never a direct cause of any of these problems and in the end was found not to be a solution either.

F. PROFIT, BUSINESS CYCLES, AND PROCUREMENT INITIATIVES

Interviewees were allowed to discuss any area they felt was related to the subject of the unallowability of interest expense. One issue felt by all respondents to be most critical to the thesis topic was profit. Recent policy changes by the federal government have had a dramatic effect on how business is conducted in today's defense market. Most of these policy changes have dealt either directly with profit calculation or with the amount of investment a contractor must have in a contract. The reason for these changes are many but they appear to be following a cycle. "We had some good years, now I guess its time for some bad ones." Many contractors feel that the current climate is as much a result of the way business behaves in cycles as it is a necessary correction of past errors. They seem to be saying that, instead of incremental correction of profits that were slightly higher than they should have been, that the pendulum must swing in the opposite direction an equal amount. There is a very real concern that the new Weighted Guidelines, coupled with increasing investment by

contractors, will pose a serious reduction in the return a contractor receives. One contractor said:

The stock market is a look forward at what people are expecting of a business. The stock market is worried about a trend of depressing margins in the defense sector. We were recently in Europe attending a meeting of our stockholders. They had many questions about the pressures they see on the company's margins. We told them our plan on how we intend to mitigate some of these forces but, looking at the price of our stock, the jury's still out.

It is necessary to consider why this is important with respect to the unallowability of interest. As discussed in Chapter II, the concepts of interest and profit are commingled. In Chapter III and this chapter, the premise that interest is a detractor from profit was presented and discussed from several viewpoints. The link between profit and interest is strong and to discuss one without the other would not make good sense. When discussing the economic impact of the government's policy towards profit, one interviewee made the following statement:

If you take the standard economic paradigm of a competitive market on the one hand and the regulated public utility on the other and then compare them to the defense sector there are some significant differences. What I find striking is, in the first two cases the concept of a competitive rate of return on the invested capital is ultimately the regulator of profit. In the competitive market it occurs spontaneously. If a firm is not getting the required rate of return, it goes out of business or shifts out of the market causing the market to shrink, output falls and the adjustment mechanisms take over. It isn't perfect but it works. In that context, regardless of whether the return on capital is called interest, or profits, or whether the individual businessman borrows from the bank or borrows from his grandmother, or saves his own wages; it's all immaterial. If he doesn't get a competitive profit, things happen.

This interviewee went on to discuss how, in the regulated public utility sector, regulators must try to mimic this behavior by examining

the utility's return on invested capital. This invested capital is a function of the utility's asset base. The manner in which profit is determined provides the utility with strong incentives to increase its rate (asset) base. He called this the Averidge-Johnson effect.

That's why they have posh offices and good looking secretaries, because if they do manage to economize on capital their rate base shrinks, and they lose profit. Therefore the utility regulation system is somewhat dysfunctional. Public regulatory bodies can recognize this and not allow such costs.

This is similar to the government's policy of making costs unallowable for the reason that there is no benefit derived from the incurrence of a particular expense.

In the defense sector, profit is hostage to limits set in government regulations such as the Weighted Guidelines. If a contractor should turn out to do something extremely brilliant that saves resources and provides the company with a 50% return, the government would cry foul and renegotiate the contract. This removes a considerable amount of incentive for a contractor to invest in productivity-enhancing equipment. The new Weighted Guidelines have procedures to allow a certain percentage of profit (40%) to be determined based on a contractor's level of investment. The final profit percentage is then applied to the contract cost. With the current Defense Department policies of trying to increase investment by contractors, why was the percentage of profit applicable to investment only 40%? Applying the final profit percentage to contract costs can cause an effect similar to the Averidge-Johnson effect in regulated public utilities. This has always been a problem in defense

contracting. As long as contract cost continues to be a major variable in determining the profit on a defense contract, contractors will have an incentive to keep costs high. In an attempt to find answers to the inconsistencies stated above, interviewees were queried about the current profit and investment policies and their effects.

Comments about the new profit policy were direct and to the point. Comments about investment were a conglomeration of various policies and government actions. These included over-ceiling Independent Research & Development (IR&D), 50% investment requirement for special tooling, increased competition, payment delays (discussed in a previous section), and cost sharing. It is not important to this thesis whether or not these new policies are flawed. However, it should be pointed out that most of these policies to increase contractor investment have been implemented in a short period of time. Simultaneously, new pressures to balance the federal budget have filtered into the acquisition system, causing contracting officers to look for ways to reduce the price they are paying for products. One contractor was upset with the level of his accounts receivables and put the blame on the government's paying procedures. Upon further discussion he admitted that his company had started work on several projects on the basis of a pre-contract cost letter in order to assist DOD customers that were facing funding difficulties. In the area of cost sharing, the Advanced Tactical Fighter (ATF) program is the most glaring example of the impact this kind of policy can have. Both

contractor teams will invest in excess of \$.5 billion of their own capital to fund the R&D effort. An interviewee commented,

The losers of that production contract are in for a long cold winter. I'm not sure the team awarded the contract will make much money. I wouldn't be surprised, in the end, if we don't see some sort of extraordinary contract relief applied to this project.

The additional costs to the government to conduct required phased competition are not available. Contractors are routinely asked to do \$3 million worth of R&D work for \$500,000. One contractor with nearly 100% government business asked the government to narrowly define the scope of such a contract to \$500,000, and it would do the remaining \$2.5 million out of IR&D.

Such comments and actions by contractors highlight the severity of the investment that they are being asked to assume. At the same time, profits are not increasing. Investment assumes risk and increasing risk requires increasing returns. All contractors felt that current profits were inadequate given the risks they were now being asked to assume. The researcher feels that the actual cumulative effect of these policies on investment and profit will not be known until several years from now. At that point, a majority of contracts held will have been negotiated under these conditions. It is quite possible that, if the defense budget continues to fall in terms of adjusted dollars, there could be a major failure of financially troubled firms.

The failure of government policy makers to coordinate and analyze the cumulative effects of the various policies and procedures that

affect a contractor's return can result in catastrophic financial difficulties for some firms. Several interviewees commented that any of the policies standing alone could be dealt with. It is the simultaneous changing of the entire business equation they have worked under for so many years that leaves them with very few options to consider.

Allowing interest as a way to offset this sort of problem would be a poor solution. A contractor stated:

If you're going to keep investment in the defense sector you're going to have to provide them with the going rate of return and how that is done, I won't say is trivial, but there are a rich variety of mechanisms as long as the people administering these things have some flexibility.

To allow interest as one of the mechanisms would increase return but add problems, such as the allocation and reasonableness determination. In a sense, progress would be made in one direction while new problems would crop up elsewhere. It would make better sense to raise profit levels in the specific industry where increased investment was desired.

G. ARGUMENTS FOR AND AGAINST ALLOWING INTEREST

The primary argument presented in support of allowing interest expense is that it is a normal cost of conducting business. This argument has been around for a long time. Several issues for allowing interest were raised during the conduct of the research of this thesis. These are summarized below:

- The difficulty small businesses experience in obtaining growth capital would be reduced if interest were allowable.

- The burden placed on working capital by the slow payment of invoices.
- Increased investment by the contractor as a result of programs such as, cost sharing and 50% investment in special tooling and test equipment.

During interviews, respondents often initially viewed allowing interest expense as a possible solution for these issues and profit reductions. Upon further consideration, they all believed two major things would take place if interest expense were allowed. First, the government administrative burden would increase in an effort to monitor the various amounts of interest expenses incurred by different companies. Secondly, the government would offset the allowability of interest with a reduction in profit. A typical response was:

The question on whether or not interest expense should or should not be allowed is not a particularly important one. Because if it were allowed, the government would reduce profit to a point where the return remained the same.

This statement is supported by the profit offset actions of the government when it implemented CAS 414, Facilities Cost of Capital Money.

In the course of conducting research for this thesis, the researcher found only one source that felt interest expense should be an allowable expense. That source was James W. Booth's work *Interest and Federal Contracts: A Perspective*. His conclusions are for the most part sound, save one. He states:

It seems probable that recognizing that financing costs are costs rather than profit would, in the long run, reduce rather than add to prices the Government ultimately pays for its goods, services and structures. But, even if doing so were to cause an increase in prices paid directly, that increase would be slight, and it would be more

than compensated by savings flowing from reduction in the Government's administrative and enforcement machine. [Ref. 9: pp. 168-169]

This statement runs contrary to all the responses received during interviews and all other material on the subject. The DFAIR study clearly states:

While DoD has agreed that interest is an ordinary and necessary cost of doing business with the Government, the policy was to compensate contractors through alternative means. [Ref. 13: p. IV-9]

It may be argued that the alternative means mentioned are not adequate, but the reasons the government states for not allowing interest are sound.

Most contractors contended that the allocability question was the most troublesome to resolve. DFAIR listed the following reasons for not allowing interest which included all of the reasons presented during this research.

1. Allowable interest created an incentive toward debt financing. It raised the possibility of contractors using available cash for investment and borrowing needed cash to perform contracts.
2. Debt financing can be undertaken for many reasons, several unrelated to the performance of defense contracts (e.g., payment of stockholders dividends, corporate acquisitions, retirement of treasury stock).
3. Reliable cost measurement and allocation methods which show financing costs of defense contracts (aggregate or individual) were not available.
4. Allowing interest gave large businesses, particularly cash rich businesses, a significant competitive advantage over smaller businesses. [Ref. 13: p. IV- 9, IV-10]

Why would a firm want the government to allow interest expense? The only logical reason the researcher could find was to increase the

return on invested assets. Academically speaking, Booth arrives at various benefits that could be realized, but in the final analysis the effect would be an increase in the costs reimbursed for a contractor and therefore higher profits. There is reason to believe, based on the financial structure theory discussed in Chapter II, that the current policy encourages firms to minimize the average cost of corporate capital. This is proper and should be encouraged. If the government were to allow interest, there is a possibility that firms would increase the proportion of debt they hold. This behavior would be mitigated somewhat by the factors at work in financial structure theory. However, based on the behavior exhibited by public utilities and by defense firms when profit is a function of cost, it is possible that debt levels would increase a slight amount because the incurrence of more debt would lead to higher reimbursement.

The increased administrative burden of allocating and making determinations of interest expense reasonableness is cited by many contractors as a primary reason for not allowing interest expense. The present methods for compensating contractors for interest expense are felt to be inadequate. The complaint from contractors is that final negotiated profits are often not high enough to cover unallowable expenses and still provide an adequate return to the shareholders. This problem has been complicated by the government's new policies on profit levels and contractor investment.

H. CHAPTER SUMMARY

This chapter is a presentation of the major issues contractors felt were pertinent to the thesis research question. The literature reviewed supported most of the ideas presented by the interviewees. Most interviewees saw the unallowability of interest as a subsidiary issue to overall problems such as investment and levels of profit. It was clear that allowing interest was not a feasible solution to these problems. Contractors felt the current policy of not allowing interest was sound. They also felt that the mechanisms in place to compensate for the unallowability of interest were not keeping up with the current initiatives in government acquisition.

V. CONCLUSIONS AND RECOMMENDATIONS

As a result of this study, the following conclusions and recommendations are presented.

A. CONCLUSIONS

1. The Fact That Interest Is an Unallowable Expense Is Not a Major Issue With Most Contractors

During the course of discussions, most contractors were unable to respond to direct questions about interest expense without opening up the conversation to include other business problems. When redirected to the primary areas of concern, contractors could not discuss the problem as it related to actual business practices and therefore resorted to an academic analysis of the issue. The unallowability of interest has been government policy for nearly 50 years. Contractors have lived with this fact and have looked towards profit as the primary means of recouping interest expense. Newer policies, such as Facilities Cost of Capital Money (FCCM) CAS 414, determining a percentage of profit to be based on capital investment, and the Working Capital Adjustment, have helped to ease the interest expense burden on profit. Contractors are much less concerned about interest expense being an unallowable cost than they are about profit levels.

2. The Government's Slow Payment of Invoices Is Causing a Drain On Contractors' Working Capital

The most emotional discussions with contractors were on the subject of payment practices of the government. Contractors felt the

excessive delays in payment forced them to assume a greater investment than had been negotiated at the start of the contract. The government's assumptions on the expected timing of payments are based on prescribed policy and not actual occurrence. The delay was felt to be a result of increased auditing of invoices and inadequate staffing of payment offices.

3. **The Issue of Interest as an Unallowable Expense Is Directly Related to Profit Policy, Financing Policy, Investment Policy, and the Timing of Government Payments**

The interrelationships of these elements were reviewed during the DFAIR study. Contractors feel very strongly that these relationships exist but do not feel the government always considers the implications of one policy on another. The DFAIR study was published in 1985. Since that time, several things have taken place that have upset the assumptions of the study. Increased audits have delayed payments to contractors. Cost sharing is forcing contractors to assume larger amounts of initial investment and risk. Defense budget cuts are delaying funds for projects and thereby forcing contractors to provide short-term funding on some projects. The basic business equation assumed in the DFAIR study has been changed. As a result, the current profit policy that was largely influenced by the DFAIR study is probably out of balance.

4. An Equitable Method of Allocating Interest Expense to Government Contracts Does Not Exist and Is the Single Most Important Reason For Not Allowing Interest Expense

Throughout the interviews and review of the literature, the problem of allocating interest expense to a particular contract remained unanswered. Corporate treasuries have difficulty designing methods to allocate corporate interest expense to their various segments. While many corporations do allocate this expense, the managers at the segment level question the equitability of the process. Too often, the reasons for borrowing funds have nothing to do at all with performance on a particular contract. This is most evident in large, cash-rich corporations that aggressively manage corporate working capital.

If a method to accurately allocate interest could not be found, then a pseudo method would have to be devised. This method would probably entail the determination of an overall equitable interest rate and some base over which it would be applied. There is little to be gained from such a method that adjustment to profit levels could not accomplish.

5. There Is Little Evidence That the Current Policy Forces Contractors to Use More "Expensive" Equity Capital Than Debt Capital

Financial structure theory suggests that a firm has an optimal weighted average cost of capital that maximizes the value of the firm while increasing Earnings Per Share (EPS). This was confirmed by interviewees, who felt the allowing of interest expense would probably

not change the way their firm was structured financially. The effects of financial leverage causes most firms to obtain some amount of debt. Without debt, a firm places all financial risk on the stockholder, which depresses stock prices and lowers the value of the firm. With the addition of some reasonable amount of debt, a portion of risk is assumed by lenders and therefore the EPS for stockholders rises. Too much debt is a costly position for a firm and there are controls in the financial market place that inhibit this position.

6. Comparison of Profitability of Commercial Firms Versus Defense Firms For the Same Period Is a Questionable Practice

Commercial firms have their business cycles largely determined by the state of the country's economy. While defense firms are connected to the country's economy, their cycles are more a function of the defense budget. During the period of the late 1970s and the early 1980s, the country's economy was in a recession and the commercial business cycle was in a downturn. However, the defense budget started to increase rapidly. Simply put, there were funds available in the defense sector but money was becoming more scarce in the commercial sector. Competition was still not a major consideration, so contractors were able to obtain a higher margin in the defense sector. This higher margin encouraged new firms to develop and commercial firms to move into the defense sector. The increase in availability of funds and the larger numbers of firms willing to assume defense contracts is a primary cause of increased competition in the defense sector today. Over time, this increase in competition will

cause margins to be depressed and firms to drop out of the defense sector, if they are able. The economic factors at work in this case are far more important than whether commercial work and defense work should pay comparable rates of return. Failure to take these factors into account has the potential to dramatically affect the defense industrial base.

B. RECOMMENDATIONS

1. The Unallowability of Interest Should Not Be Looked At As a Single Issue

Business managers do not view the unallowability of interest without taking into consideration those things that have a direct impact on the incurrence of interest expense. The unallowability of interest expense is a given parameter within which business managers have learned to work. They are much more concerned with areas over which they may exert some control, such as profit, level of investment, financing, and payment cycles.

2. The Areas of Contract Finance, Profit, and Investment Must Only Be Studied as Interrelated Disciplines

The DFAIR study was a giant step in the right direction. The differences between the DFAIR study and GAO's findings should be resolved. Once the methods, models, and assumptions have been resolved, an exhaustive study should be conducted on the defense sector. This study should record both the commercial economic cycles and trends in the defense budget, and then be used as a benchmark from which subsequent studies take place. The result of

the study should be a general profit, investment, and finance policy that achieves the goal of providing quality and lowest possible cost, while simultaneously maintaining or expanding the industrial base.

3. **Individual Agencies or Contracting Officers Should Not Be Allowed to Alter the Basic Balance Achieved Between Interrelated Factors Such as Profits, Investment, and Financing Once They Have Been Properly Established By the Department of Defense**

If a profit policy is promulgated to be used in determining profit on defense contracts, then the terms and conditions under which the profit policy was derived must be present in the contract. Allowing such practices as contract cost sharing to take place and then determining profit based on assumptions that do not include the risk of those costs is inequitable. Before any agency changes procurement policies that require a decrease or increase of investment on the contractor's part, it should evaluate and report how the change will effect the basic assumptions of the study upon which the profit policy is based.

4. **The Current Policy of Not Allowing Interest Expense Should Be Maintained**

The only gain contractors would realize if interest expense became allowable is a slight increase in profit. Contractors view interest expense as a detractor of profit, therefore, if allowed, their profit would increase. This assumes that profit would not be offset if interest were allowable. The government should not be in the business of determining the amount, timing, rate, or type of capital contractors

use. The mechanisms required to monitor contractor interest expense would mandate far greater engagement by the government than is presently the case. For this reason, contractors do not want interest to become an allowable expense.

5. The Government Should Be a Better Business Partner With Respect to the Timing of Progress Payments and Delivery Payments

The government's policies on the timing of payments to contractors are not unreasonable. In actual practice, the government has a reputation for slow payment. An improvement in this area would go a long way towards improving relationships with contractors. A policy of not conducting extensive invoice audits on firms having a good record for submitting proper invoices should be implemented. Prompt payment within 15 days would be reasonable. Firms with a history of invoice problems should be placed in a special category that requires more auditing and therefore more delay. A simple classification system could be developed and firms would be motivated towards obtaining the highest classification.

C. REVIEW OF RESEARCH QUESTIONS

1. Subsidiary Questions

Would contractors do anything differently if interest were an allowable expense? Contractors would not do anything in the short-term with respect to their financial structure. The only effect is that more of the marginal investments would clear existing hurdle rates because of the increased return on government business. In the long

run, it is possible that debt would increase slightly if contractors felt the increase in return would more than offset the increase in the cost of debt. The amount of this increase is believed to be slight because of the limiting forces at work in the financial marketplace.

Why is interest expense unallowable? Originally, interest was unallowable because accounting concepts of the time held that interest was an element of profit and not a true cost. Coinciding with this belief are several that still hold true today. Not allowing interest allows the evaluation of the cost of a contractor's performance without the benefit or hindrance of his cost of capital. This allows equitable treatment of contractors whether they are cash rich or debt loaded. It limits the possibility that a contractor will borrow to complete work on a government contract and then use his own capital to finance commercial work. The difficulty of determining why debt is incurred is another reason. Additionally, measuring and allocating the total debt of a company is too difficult to accomplish.

What does the unallowability of interest expense force a contractor to do with respect to his investment decisions and procedures? The issue of not allowing interest was found not to be a consideration in corporate investment decision making. The procedures used usually involved a corporate cost of capital that was determined by the mixture of debt and equity capital the firm held. In addition to the corporate cost of capital, firms added an additional percentage that, in combination, equals the minimum return an

investment should provide. The unallowability of interest had no impact on the setting of these rates.

What might be the effect on the debt/equity structure of a firm if interest expense were to become an allowable expense? There is strong evidence that the relative proportion of debt to equity would remain the same if interest were to become allowable. A possibility exists that firms that were previously under-leveraged would incur more debt. As long as the increase in debt provided additional return in an amount that exceeded the cost of more debt, this effect is possible. The increasing cost of debt would be allowable. However, as the firm became increasingly levered, the value of its stock would fall and thereby force the firm to reduce the amount of debt it was carrying.

Do companies change their financial decision-making process if interest rates are significantly higher than the normal prime rate of 7% to 10%? The processes by which they make financial decisions would not change. The results of the process might be unique to the situation. However, the actions of the company would not be any different than a firm with 100% commercial business faced with the same situation. Once again, the unallowability of interest is not a factor directly. If profits or government financing policy were not changed to reflect the increase in interest rates, the probability exists that the unallowability issue would become more important.

What are the means by which the government makes interest expense unallowable? The government, because of its sovereign rights, has the power and authority to make any cost unallowable. To

accomplish this, contractors are required to make all interest expense visible to the government. With the costs visible, the job of ensuring that these costs are not reimbursed is much easier. The requirements for providing cost and pricing data for certain dollar value contracts assists in this effort. The ability to see all costs of the contractor facilitates the removal of interest expense from all chargeable accounts.

2. Primary Research Question

Should interest expense be an allowable cost on government contracts? Interest expense should remain unallowable on all government contracts. The reasons for not allowing it are much more convincing than those presented for allowing it. Under conditions where increased investment or delayed payments exist, other mechanisms are available to compensate for the increased financing costs to the contractor. These mechanisms, such as higher profit levels and improved payment procedures are much easier to implement than to allow interest expense.

D. AREAS FOR FURTHER STUDY

Several areas uncovered during this research left unanswered questions that went beyond the scope of this thesis. The areas listed below are possible topics for follow-on thesis or further research.

1. Determine the amount of additional debt a contractor might incur if interest were to become an allowable expense.
2. Conduct an empirical survey to determine actual delays contractors are experiencing in the payment of invoices.

3. Interview contractors in an effort to gauge the long-term effects of current policies in profit and investment.
4. Conduct a survey of all the methods contractors use to allocate interest expense within their corporations and decide which, if any, are equitable and efficient.

APPENDIX

LIST OF INTERVIEWEES

The following is a list of individuals interviewed while conducting research for this thesis.

1. Battershell, Steve M., Property Administration and Accounting, Lockheed Missiles & Space Company, 28 August 1987.
2. Burton, Thomas G., Controller Defense Products, California Microwave, Inc., 27 August 1987.
3. Craddock, James L., Senior Vice-President Corporate Business Development, Infotek Development Inc., 9 September 1987.
4. Heath, Lori, Finance Department, Applied Signal Technology (AST), 27 August 1987.
5. Judson, Bob, Director of Contract Research, The Rand Corporation, 9 September 1987.
6. Kelly, Tom, Hughes Guidance Systems, 9 September 1987.
7. Kinsch, Russ, Director of Finance, ESL a subsidiary of TRW, 28 August 1987.
8. Lum, Gene H., Manager, Government Regulation and Audit, Defense Products, California Microwave, Inc., 27 August 1987.
9. Maas, Alicia, Accounting Department, Applied Signal Technology (AST), 27 August 1987
10. Moseley, Ronald H., Finance Director, Lockheed Corporation, 10 September 1987.
11. Musgrave, Bill, CAPT, SC, USN, Office of the Assistant Secretary of the Navy (ASN), 8 October 1987.
12. Palmer, Victor P., Manager Financial Accounting, Westinghouse Electric Corporation, 27 August 1987.

13. Reynolds, Peter C., Director, Corporate Finance, Lockheed Corporation, 10 September 1987.
14. Silver, A. H., Manager, General Accounting, Lockheed Missiles & Space Company, Inc., 28 August 1987.
15. Stockfish, J. A., Economics Department, The Rand Corporation, 9 September 1987.
16. Stone, Mark, Director of Contracts, Applied Signal Technology (AST), 27 August 1987.
17. Wall, Richard J. LTCOL, USAF, Chairman, DOD Contract Finance Subcommittee, 21 October 1987.
18. Wall, Richard L., Jr., Senior Contract Administrator, Teledyne McCormick Selph, 27 August 1987.
19. Walette, Alonzo V., President, AVW Electronics, 11 September 1987.
20. Wong, Lorrin S. H., Vice President Finance, Chief Financial Officer, Infotek Development Inc., 9 September 1987.
21. Zambo, L., Finance Professor, Naval Postgraduate School, 27 July 1987.

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12. Jackson, Ken, "Cost of Capital," National Contract Management Journal (Fall 1974), 37-41.
13. Department of Defense, Defense Financial and Investment Review, Washington, D. C.: Government Printing Office, 1985.

14. U. S. General Accounting Office, "Assessment of the Study of Defense Contractor Profitability," Government Contracting, GAO/NSIAD-87-50, December 1986, Washington, D.C.: U.S. Government Printing Office.

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