

PROFIT AS A MOTIVATIONAL TOOL: FACT OR FICTION(U) NAVAL 1/1
POSTGRADUATE SCHOOL MONTEREY CA T E WIGHT AUG 84

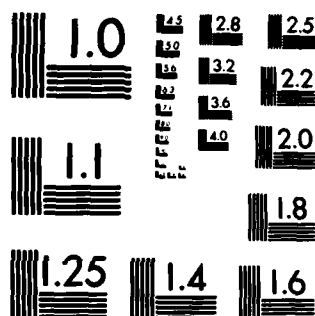
F/G 15/5

NL

END

LIMITED

12110



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Profit as a Motivational Tool: Fact or Fiction?		5. TYPE OF REPORT & PERIOD COVERED Research paper; August 1984
7. AUTHOR(s) Terry E. Wight		6. PERFORMING ORG. REPORT NUMBER
PERFORMING ORGANIZATION NAME AND ADDRESS Naval Postgraduate School Monterey, California 93943		8. CONTRACT OR GRANT NUMBER(s)
CONTROLLING OFFICE NAME AND ADDRESS Naval Postgraduate School Monterey, California 93943		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE August 1984
		13. NUMBER OF PAGES 34
		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Acquisition	Contracts
Armed forces procurement	Profit
Contract administration	Project management
Incentives	

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The paper examines the Government's profit policy as a motivating factor in Government procurement contracts; specifically those contracts which involve military weapons acquisition. The evolution of contract types and negotiation guidelines developed in recent decades which contain profit policy statements is presented. Following the first formal policy statement of the Armed Services Procurement Act of 1947, the Armed Services Procurement Regulation, subsequent revisions, and the last major policy study "Profit 76",

DD FORM 1473 JAN 73 EDITION OF 1 NOV 65 IS OBSOLETE
S/N 0102-LF-014-6601

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

85 02 05 013

AD-A150 596

DTIC FILE COPY

DTIC
ELECTE
S FEB 21 1985
A

4x 1475h
UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

#20 - Abstract (cont.)

are assessed for their ability to motivate greater productivity on the part of Defense contractors. The results of the survey show that profit as a motivating force has been inadequately understood. There exists a divergence of opinion between government and industry as to the weight of influence of the various contract motivators which employ profit.

The author suggests that profit as short-term monetary gain may not be an appropriate motivator in Defense contracting. Upon identification of the various circumstances in which other factors such as survival, growth, market share and prestige may weigh heavily as important incentives, it is recommended that profit be less highly rated as a motivational factor. Incentives must be applied that recognize long-term profit objectives rather than short-term objectives are more highly rated. *Research directed*

*Administration, procurement, contract administration,
and Project management.*

S/N 0102- LF- 014- 6601

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

INSTRUCTIONS FOR PREPARATION OF REPORT DOCUMENTATION PAGE

RESPONSIBILITY. The controlling DoD office will be responsible for completion of the Report Documentation Page, DD Form 1473, in all technical reports prepared by or for DoD organizations.

CLASSIFICATION. Since this Report Documentation Page, DD Form 1473, is used in preparing announcements, bibliographies, and data banks, it should be unclassified if possible. If a classification is required, identify the classified items on the page by the appropriate symbol.

COMPLETION GUIDE

General. Make Blocks 1, 4, 5, 6, 7, 11, 13, 15, and 16 agree with the corresponding information on the report cover. Leave Blocks 2 and 3 blank.

Block 1. Report Number. Enter the unique alphanumeric report number shown on the cover.

Block 2. Government Accession No. Leave Blank. This space is for use by the Defense Documentation Center.

Block 3. Recipient's Catalog Number. Leave blank. This space is for the use of the report recipient to assist in future retrieval of the document.

Block 4. Title and Subtitle. Enter the title in all capital letters exactly as it appears on the publication. Titles should be unclassified whenever possible. Write out the English equivalent for Greek letters and mathematical symbols in the title (see "Abstracting Scientific and Technical Reports of Defense-sponsored RDT/E," AD-667 000). If the report has a subtitle, this subtitle should follow the main title, be separated by a comma or semicolon if appropriate, and be initially capitalized. If a publication has a title in a foreign language, translate the title into English and follow the English translation with the title in the original language. Make every effort to simplify the title before publication.

Block 5. Type of Report and Period Covered. Indicate here whether report is interim, final, etc., and, if applicable, inclusive dates of period covered, such as the life of a contract covered in a final contractor report.

Block 6. Performing Organization Report Number. Only numbers other than the official report number shown in Block 1, such as series numbers for in-house reports or a contractor/grantee number assigned by him, will be placed in this space. If no such numbers are used, leave this space blank.

Block 7. Author(s). Include corresponding information from the report cover. Give the name(s) of the author(s) in conventional order (for example, John R. Doe or, if author prefers, J. Robert Doe). In addition, list the affiliation of an author if it differs from that of the performing organization.

Block 8. Contract or Grant Number(s). For a contractor or grantee report, enter the complete contract or grant number(s) under which the work reported was accomplished. Leave blank in in-house reports.

Block 9. Performing Organization Name and Address. For in-house reports enter the name and address, including office symbol, of the performing activity. For contractor or grantee reports enter the name and address of the contractor or grantee who prepared the report and identify the appropriate corporate division, school, laboratory, etc., of the author. List city, state, and ZIP Code.

Block 10. Program Element, Project, Task Area, and Work Unit Numbers. Enter here the number code from the applicable Department of Defense form, such as the DD Form 1498, "Research and Technology Work Unit Summary" or the DD Form 1634, "Research and Development Planning Summary," which identifies the program element, project, task area, and work unit or equivalent under which the work was authorized.

Block 11. Controlling Office Name and Address. Enter the full, official name and address, including office symbol, of the controlling office. (Equates to funding/sponsoring agency. For definition see DoD Directive 5200.20, "Distribution Statements on Technical Documents.")

Block 12. Report Date. Enter here the day, month, and year or month and year as shown on the cover.

Block 13. Number of Pages. Enter the total number of pages.

Block 14. Monitoring Agency Name and Address (if different from Controlling Office). For use when the controlling or funding office does not directly administer a project, contract, or grant, but delegates the administrative responsibility to another organization.

Blocks 15 & 15a. Security Classification of the Report: Declassification/Downgrading Schedule of the Report. Enter in 15 the highest classification of the report. If appropriate, enter in 15a the declassification/downgrading schedule of the report, using the abbreviations for declassification/downgrading schedules listed in paragraph 4-207 of DoD 5200.1-R.

Block 16. Distribution Statement of the Report. Insert here the applicable distribution statement of the report from DoD Directive 5200.20, "Distribution Statements on Technical Documents."

Block 17. Distribution Statement (of the abstract entered in Block 20, if different from the distribution statement of the report). Insert here the applicable distribution statement of the abstract from DoD Directive 5200.20, "Distribution Statements on Technical Documents."

Block 18. Supplementary Notes. Enter information not included elsewhere but useful, such as: Prepared in cooperation with . . . Translation of (or by) . . . Presented at conference of . . . To be published in . . .

Block 19. Key Words. Select terms or short phrases that identify the principal subjects covered in the report, and are sufficiently specific and precise to be used as index entries for cataloging, conforming to standard terminology. The DoD "Thesaurus of Engineering and Scientific Terms" (TEST), AD-672 000, can be helpful.

Block 20. Abstract. The abstract should be a brief (not to exceed 200 words) factual summary of the most significant information contained in the report. If possible, the abstract of a classified report should be unclassified and the abstract to an unclassified report should consist of publicly-releasable information. If the report contains a significant bibliography or literature survey, mention it here. For information on preparing abstracts see "Abstracting Scientific and Technical Reports of Defense-Sponsored RDT&E," AD-667 000.

1

NAVAL POSTGRADUATE SCHOOL

Monterey, California



DTIC
ELECTE
FEB 21 1985
S A D

PROFIT AS A MOTIVATIONAL TOOL:
FACT OR FICTION?

by

Terry E. Wight

August 1984

Approved for public release; distribution unlimited.

PROFIT AS A MOTIVATIONAL TOOL:
FACT OR FICTION?

Terry E. Wight

MN 4301

U.S. Naval Postgraduate School

Monterey, California 93943

31 August 1984

Accession For	
MAIN GRA&I	☒
TAB	☐
Unannounced	☐
Classification	
Distribution/	
Availability Code	
Avail and/or	
Dist	Serial
A1	



This paper was submitted in partial completion of the requirements for MN 4301 (Contracting for Major Systems). The views expressed in this paper are those of the author who is a student in the Acquisition and Contracting Management (815) Curriculum at the Naval Postgraduate School. Course professor: CDR D. V. Lamm, SC, USN.

85 02 05 016

1. INTRODUCTION

The below paragraphs represent the Government's profit policy as it currently exists in the Federal Acquisition Regulation (FAR):

It is in the Government's interest to offer contractors opportunities for financial rewards sufficient to (1) stimulate efficient contract performance, (2) attract the best capabilities of qualified large and small business concerns to Government contracts, and (3) maintain a viable industrial base.

Both the Government and contractors should be concerned with profit as a motivator of efficient and effective contract performance. Negotiations aimed merely at reducing prices by reducing profit, without proper recognition of the function of profit, are not in the Government's interests. Negotiation of extremely low profits, use of historical averages, or automatic application of predetermined percentages of total estimated costs do not provide proper motivation for optimum contract performance. With the exception of statutory ceilings on profit and fee, agencies shall not (1) establish administrative ceilings or (2) create administrative procedures that could be represented to contractors as de facto ceilings. [15.901 (b) - (c)]

This policy statement is supplemented with a Department of Defense (DOD) statement as indicated below:

Furthermore, low average profit rates on defense contracts overall are detrimental to the public interest. Effective national defense in a free enterprise economy requires that the best industrial capabilities be attracted to defense contracts. These capabilities will be driven away from the defense market if defense contracts are characterized by low profit opportunities. Con-

sequently, negotiations aimed merely at reducing prices by reducing profits, with no realization of the function of profit, cannot be condoned. For each contract in which profit is negotiated as a separate element of the contract price, the aim of negotiation should be to employ the profit motive so as to impel effective contract performance by which overall costs are economically controlled. To this end, the profit objective must be fitted to the circumstances of the particular acquisition, giving due weight to each of the effort, risk, facilities investment, and special factors set forth (in weighted guidelines). This will result in a wider range of profits which, in many cases, will be significantly higher than previous norms. [2: 15.901]

The above policy statements indicate that it is the Government's belief that profit is the basic motivating force behind the contractor. There is an implied assumption on the part of the Government that the contractor will be properly motivated if given the opportunity to increase his profits. The contractor, by accepting the contract, appears to be agreeing with the Government.

Brigadier General Bernard L. Weiss, USAP, recently indicated that large corporate DOD contractors should be treated as "public utilities" and implied that these corporate giants have a monopoly over the supply of their unique defense product while the consumer (DOD) has little if any power over the contractor to refuse the product at the contractor's price once Congress has authorized the program and ap-

propriated funds. Furthermore, General Weiss indicated that corporate profit goals are to attain adequate levels, not adequate rates. [3]

Herein lies the dilemma. Are contractors strictly motivated by the "profit motive" as the Government's profit policy implies, or are the contractors motivated by some other forces? Clearly, it is the belief of Government and DOD policy makers that profit maximization is the prime industry motivator for improved performance. Additionally, it is clear that it is DOD's intention to use profits to motivate contractor performance. The purpose of this paper is to explore the profit motive and examine those forces which act to motivate and influence contractor's performance.

To gain a better understanding of the present profit policy, it would be helpful to briefly examine the historical development of this policy.

2. HISTORICAL PERSPECTIVE

Historically, purchasing by the Government has been on the basis of price competition and as such negated any need for a profit policy. It was felt that the competition in the market place among independent contractors would result

in the Government receiving a fair and reasonable price.

[4: 27]

Cost-plus-percentage-of-cost (CPPC) contracts were used regularly during the 1930's. A general lack of competition resulted in an increase in the number of contracts negotiated on either expected or actual costs. [5: 18] In a CPPC contract, the profit or fee is determined by applying a fixed percentage to the costs incurred. Therefore, as costs increased, so did profits. If costs decreased, profits also fell. The contractor was therefore motivated to actually increase his costs! Responding to public pressure, Congress passed numerous legislative actions designed to control abuses such as CPPC contracts. For example, the Vinson-Trammell Act of 1934 limited profits to ten percent on Navy ships and aircraft and required audits and inspections of contractor records. [6: 22]

The potential for contractor fraud, waste and abuse surfaced again during World War II with a shortage of supplier capacity, resulting in the Renegotiation Act of 1942. This Act called for the renegotiation of both prime and sub contracts in excess of \$100,000 and made possible the recovery of excessive profits along with unallowable costs. The Re-

negotiation Board also established profit as a percentage of sales on individual contracts as the measure of profitability.

2.1 Initial Policy Statement

The first formalized policy statement addressing profit appears to have been included in the Armed Services Procurement Act of 1947 which states that for negotiated contracts:

The fee for performing a cost-plus-a-fixed-fee contract for experimental, developmental, or research work may not be more than 15% of the estimated cost of the contract, not including the fee. The fee for performing a cost-plus-a-fixed-fee contract for architectural or engineering services for a public work or utility plus the cost of these services to the contractor may not be more than 6% of the estimated cost of that work or project, not including the fee. The fee for performing any other cost-plus-a-fixed-fee contract may not be more than 10% of the estimated cost of the contract, not including the fee. [7: 25]

There were no statutory limits placed on profits under fixed price contracts, except as those which may have been considered as "excessive" by the Renegotiation Act.

A more general profit policy statement also appeared in the Armed Services Procurement Regulation (ASPR) in 1947 as:

The Department of Defense must apply contracting policies and methods designed to create an environment in which industry can realize profits on defense business which are high enough to give reasonable assurance of long term availability to DOD industrial support by the best companies and

to enable those defense contractors to attract sufficient equity and borrowed capital. [8: 25]

During the 1950's, the profit policy outlined in ASPR developed into a narrative form which lacked specific guidance on the relationship between profit elements to be considered when arriving at the appropriate profit level for negotiated contracts. Nine profit elements were identified as:

1. Effective competition;
2. Degree of risk;
3. Nature of work to be performed;
4. Extent of Government assistance;
5. Extent of contractor's investments;
6. Character of contractor's business;
7. Contractor performance;
8. Subcontracting; and
9. Unrealistic estimates. [4: 30]

The varied nature of these nine profit elements and amount of subjectivity inherent in evaluating each element without specific guidelines, made the contracting personnel's task more difficult than was necessary. The predominant factor was the "historical rate" established on previous contracts. The contracting officers used the above nine profit elements

only to adjust profit rates to fit specific procurement situations. [8: 27]

Inadequacies in a formalized profit policy continued and became visible in the early 1960's. The Senate Committee on Government Operations (also known as the McClellan Committee), while investigating a DOD missile program, found that prime and sub contractors were pyramiding profits and thus were being paid unearned profits. [4: 30] The results of this investigation and subsequent publicity resulted in the Logistics Management Institute (LMI) being tasked to study DOD's profit policy. The objective of this study was to:

Develop a rational, workable, uniform and equitable approach to target profits which will result in a wider range of profits. The study aims to develop specific guidelines to assist contracting personnel in arriving at appropriate profit rates to further national and departmental interests utilizing the profit motive of DOD contractors. [4: 31]

2.2 Weighted Guidelines

In August 1963, the Department of Defense implemented for the first time the "weighted guidelines" approach by revising the Armed Services Procurement Regulation. [7: 252] Weighted guidelines were a direct result of the first LMI study. [8: 27] The guidelines were intended to ensure con-

sideration was made of the relative value of appropriate factors in initial establishment of a profit or fee objective. The evaluation factors to be considered were:

1. Contractor input to total performance;
2. Contractual assumption of contract cost risk (type of contract, reasonableness of cost estimates, difficulty of contract task);
3. Record of contractor performance;
4. Selected factors (source of resources, special achievement);
5. Special profit consideration (development of military items without Government assistance). [7: 252]

Although weighted guidelines was considered an improvement over prior methods and represented a new method to determine profit, three characteristics basic to the old system remained intact. First, assignment of the basic fee rate was based on the personal judgement of the contracting officer. Second, the fee rate was based on the estimated cost of the contract. Finally, the fee rates failed to consider the contractor investment in plant equipment or work-

ing capital. [5: 19-20] Additionally, ASPR was again revised to reflect the new profit policy:

It is the policy of the Department of Defense to utilize profit to stimulate efficient contract performance.... Negotiation of very low profits, the use of historical averages or the automatic application of a predetermined percentage to the total estimated cost of a product, does not provide the motivation to accomplish such performance..... The profit objectives must be fitted to the circumstances of the particular procurement, giving due weight to each of the performance, risk, and other factors. [7: 252]

Weighted guidelines drew mixed reactions and was the subject of a great deal of study during the 1960's and 1970's. Concern existed over declining profits, low productivity within defense industries and an eroding industrial base. In analyzing the results and impact of weighted guidelines, a RAND Corporation study in 1969 concluded that:

1. Most firms had higher target fee rates after introduction of the weighted guidelines approach, but average realized fee rates ("coming-out" rates) appear to have remained about the same.
2. The weighted guidelines method resulted in spreading the distribution of going-in target fee rates.

3. The objective was achieved, if the goal if the method was to increase profit opportunities, regardless of whether or not they were achieved, by providing higher levels of target fees.
4. The goal was achieved, if the goal was to provide a wider distribution of average fees.
5. The goal was not achieved, if the goal was to increase actual fees, rather than target fees.
6. Results appear to have been mixed and on the whole unsuccessful, if the goal was to raise the profitability of defense investment. [7: 256-257]

It appears clear from the above discussion, in the author's opinion, that the purpose and goals of the weighted guidelines approach were not fully understood.

2.3 Profit 76 (DPC 76-3)

The last significant study concerning profit and profit policy was called "Profit '76". Chartered in May 1975 by the Assistant Secretary of Defense for Installations, William P. Clements, and chaired by Brigadier General James W. Stansberry, the goal was to "develop any policy revisions considered necessary to encourage private investment in equipment and the associated reductions in cost." [4: 37] This appears to be another way of saying "reduce DOD acquisition costs." The study eventually led to a change in DOD regulations entitled Defense Procurement Circular 76-3 (DPC 76-3). [5: 20]

Assistant Secretary Clements and Brigadier General Stansberry recognized a need to conduct research to analyze earnings and capital investments, determine contractors' profitability in both defense and non-defense industries, analyze contractor motivations leading to investments designed to increase productivity and lower cost, and finally, develop profit objectives designed to stop the apparent defense industrial base erosion. [8: 28-29] The results of the study and DPC 76-3 made two major changes to DOD's profit policy in the hopes of raising the level of contractor facility in-

vestments for the defense industry. The first modification allowed the level of facility investment to be recognized by the Government contracting officer in reaching a prenegotiation profit objective. Secondly, it permitted the imputed interest cost of the contractor's facility capital investment, as measured in accordance with Cost Accounting Standard 414, to be used as an allowable cost on most negotiated contracts. [8: 29-31]

In the author's opinion, DPC 76-3 appears to be the ground work for the weighted guidelines in use today. While there have been additional changes made throughout the years, they have all been designed to adjust (increase or decrease) weights assigned to various criteria used in determining profit (i.e., DAC 76-23).

The same concerns which existed in the 1960's and 1970's continue to exist today. As RADM J. S. Sansone, Jr., SC, USN, indicated on 12 July 1984, recent research studies have verified:

1. An eroding defense industrial base;
2. A limited surge/mobilization capability;
3. Capital investment in the Defense segment is low;

4. Productivity growth has been very limited;
5. Profit policy (DAC 76-23) has not motivated contractors to make significant capital investments;
6. There are general misunderstandings of the DOD finance policy, both within Government and the private sector. [9]

According to RADM Sansone, the harsh realities experienced by the U.S. industry is that operating profits have declined while cost of capital has dramatically increased. [9] It is obvious that, in the author's opinion, the current profit policy is not as effective as originally intended.

3. CONTRACTOR MOTIVATION

Profit continued to be the driving force in contractor motivation. The Defense Acquisition Regulation (DAR) states:

It is the policy of the Department of Defense to utilize profit to stimulate efficient contract performance. Profit generally is the basic motive of business enterprise. The Government and defense contractors should be concerned with harnessing this motive to work for more effective and economical contract performance. [A: 3-808.1]

3.1 Profit Maximization

In addition to DOD's profit policy, there appears to be a great deal more support to indicate that profit maximization is the single most motivating factor for defense industries. Most undergraduate and graduate level economics, finance and business courses are structured around the principle that a firm's desire is to maximize profit. As Gerald T. Nielsen indicated, "most business oriented decision makers today have been so ingrained with the principles of profit maximization that the concept seems almost intuitively obvious" [5: 22].

Under the classical "profit maximization" assumption, contractors are expected to shun lower fee effort in favor of an arrangement that permits higher profit potential [11: 5]. Dr. Peter Drucker, a strong advocate of the classical profit motive, indicates:

Production for profit is the principle of rationality and efficiency on which the corporation must base itself..... And the demand that some criterion other than profitability be used as a determinant of economic actions rests on a misunderstanding of the nature of the economic process..... [12: 231-232].

In addition, Julius Jones and Russell Pierre, in an Air Force Institute of Technology (AFIT) thesis found profit to

be the prime industry motivator. Profit maximization stood out as the single most important factor motivating the fifty defense industry firms surveyed, with sales maximization, firm perpetuation, and attainment of certain socioeconomic goals identified as additional sub-goals [13].

Finally, the DOD and National Aeronautics and Space Administration (NASA) Incentive Contracting Guide states:

The profit motive is the essence of incentive contracting. Incentive contracts utilize the drive for financial gain under risk conditions 'by rewarding the contractor through increased profit for attaining cost (and sometimes performance and schedule) levels more beneficial for the Government than expected and by penalizing him through reduced profit for less than expected levels [14: 1-2].

3.2 Extracontractual Motives

Contractors do not necessarily seek maximum profit on every contract. There do exist other motivational forces, such as concerns for follow-on business, growth opportunities, or improvement of corporate image. These are often called "extracontractual motivators" [7: 195]. The U.S. Commission on Government Procurement indicated that "sometimes extracontractual influences may operate in a countervailing manner with the contractual objectives specified in

the contract. Government agencies generally accept the concept that these extracontractual motivaters are often beyond the control of the Government" [7: 195]. But are they really beyond our control? What exactly are these extracontractual motivating factors and cannot the Government, once identified, use them to their own advantage?

A study conducted by the Logistics Management Institute (LMI) indicated that:

There is virtually unanimous agreement among managers and analysts who have studied overall contractor motivation that, in the short run, contractor management does sacrifice short run profit on defense business in favor of achieving:

1. company growth,
2. increased share of the industry market,
3. a better public image,
4. organizational prestige,
5. carry-over benefits to commercial business (commercial spinoffs),
6. greater opportunity for follow-on business, or
7. greater shareholder expectations for future growth and profit [15: 8].

Furthermore, the LMI study indicated that a company will be willing to accept a loss (or lower profit or fee) if doing so will provide an opportunity to:

1. gain competitive advantage by engaging in developmental effort in areas of potential future business,
2. acquire or retain competent personnel in scarce disciplines,
3. spread fixed costs over a substantially broader base, or
4. prevent a potential competitor from gaining entry to the market [15: 8].

In summary, the IMI study states:

Whether management is operating in the company's interest or for its own personal gain, it does not attempt to maximize profit or fee on individual contracts. It attempts to optimize among many objectives, placing particular stress on those which contribute most to maintaining or improving market position and assuring the future strength of the firm. The drive for profit is not absent, but is constrained by aims which ultimately are more consequential [15: 9].

Firms do indeed have more objectives than just profit. On any given contract, a contractor could have any of a number of objectives in mind. All other things being equal, a firm would tend to perform well on a contract it had just

signed. However, as Dr. Robert F. Williams pointed out in a recent article entitled "So What Does the Defense Contractor Really Want?", a firm has, as a higher order, its own set of objectives and is first motivated to maximize its own benefit-cost ratio [16: 24]. A firm may for example, find this ratio higher for the performance of one contract than for a second contract in its plant at the expense of the second, or it may find that completing a Government contract could threaten its survival.

Dr. Williams' study indicated that Government personnel perceive the order of importance of defense industrial contractor objectives to be (in the order indicated) profit on sales, company survival, improved cash flow, development of dominant industry position, and return on investment. These objectives were followed by company growth, providing a good product, and finally public image [16: 25].

On the other hand, industry beliefs about its objectives were quite different. Industry personnel felt that providing a good product was by far the most important objective, followed by maintaining a long term continuing business relationship, improved cash flow, profit, and development of new capabilities. These were followed by public image and finally the use of excess capacity [16: 25].

The author believes that there should be more weight given to the concept of public image as a motivational tool than either the Government or contractors are willing to accept. Quality has been neglected in American industry over the years. Both Government and industry are just now waking up to the need to improve quality. There are a number of reasons for this, including: An increased awareness for the critical need to improve reliability; to be able to compete with foreign manufacturers; and the eventual cost savings through improved quality by reduced rework time and less scrap. This idea of improving the "corporate public image" through improved quality is also evidenced by Ford Motor Company's theme of "Quality is Job 1" and the introduction of "Quality Circles" into many of the nation's industries.

Additionally, the author believes that corporate prestige as a motivational tool should also be given increased consideration, particularly when dealing with award fee contracts. One senior Navy Department policy-maker suggested that "corporate management views the Fee Determination Official findings more as a report card than what the award fee contributed to the bottom line." Another corporate officer for a large Navy contractor confirmed this view, with some

reservations, indicating that "the score, or grade, is important to us; but I can't say that it's more important than the size of the award from the (award fee) pool."

In their thesis, An Assessment of Factors Which Motivate Navy Contractors, Michael Jaggard and Howard Cartwright indicated that contractor objectives can be divided into contractual objectives and long term corporate goals [17: 14]. They indicate that the two categories are related in that the collective objectives of performing all Government contracts must reflect the overall long term corporate strategy. In addition, the following primary contractual objectives of the Government contractor have all been cited as prime business objectives: Company growth, provide a good product, develop new skills, market share, guarantee of follow on work, "mastery (a desire to control one's own destiny), risk aversion, safeguard proprietary interests, utilize excess capacity, flexibility to customer, and improved cash flow [17: 14-15].

Jaggard and Cartwright also identified three methods to determine the contractual objectives of a contractor for a specific contract. First, a post performance review of contractual outcomes and associated benefits to the contractor

can be conducted. Inherent in this approach is the necessity to wait until performance is completed to conduct the review. Second, a list of possible contractual objectives can be provided to the contractor who can be requested to rate the relative importance of each objective as it pertained to performance on recent contracts. This "shopping list" approach may lead to biased responses. The third method is simply to ask the contractor to list the top three objectives that a firm hoped to attain by performing the contract (17: 15-16). The author suspects that a weakness in this approach may occur if the contractor attempts to play "mind games" by providing those objectives the contractors think the Government wants to hear.

The author would also like to propose a fourth method to determine contractor objectives. This method involves evaluating the contractor in terms of his strengths and weaknesses, the economic environment, the competitive environment the contractor operates in, as well as the size and maturity of the contractor. Each of these factors may shed some light on the contractors objectives in terms of profit. For example, if the basic economy is in a recession with relatively high unemployment in the industry, a contractor

may be willing to accept a lower profit and put increased emphasis on corporate survival and maintaining his labor force. Conversely, periods of economic growth may see defense contractors willing to accept additional risks in the hopes of achieving higher profits. Firms involved with research and development activities may see the development of new capabilities, maintaining a long term business relationship and establishing a dominant industry position as more important motivators than profit. Smaller firms may be concerned with company survival rather than profit. Growing firms, on the other hand, may be more concerned with profit and return on investment than rapidly growing or mature firms. Finally, organizations with technically competent or "state of the art" contracts may see obtaining a dominant market position as more important than profit.

As Professors Greer and Liao pointed out in their paper "Contractor Hungriness and the Relative Profitability of DOD Business," it is well known that when the economy weakens, resulting in a growth of excess manufacturing capacity, real prices tend to decline with weakened profit margins. As a result, when demand falls, firms tend to engage in vigorous price competition. The amount of profit reduction contrac-

tors are willing to accept should therefore be inversely related to the decline in capacity utilization. Because the Government is a powerful buyer, contracting officers should be able to take advantage of situations where excess capacity exists to drive "hard bargains" and buy weapons systems at lower profit margins. On the other hand, when the economy is strong and there is sufficient commercial and Government business to utilize full capacity, the Government must be willing to pay the contractors a profit rate which at least reaches parity with the commercial sector. Otherwise, industry would have no incentive to accept Government contracts. [18: 275].

Dr. Richard P. DeMong and Dr. Daniel E. Strayer propose that firms are primarily profit oriented only under economic conditions of pure competition and then only when there is owner control of the firm. They are proponents of other motivating forces such as sales, production or firm perpetuation over shadowing maximum profits as a motivating force [19: 10-5].

DeMong and Strayer contend that the drive to maximize profits is diluted by the separation of owner and manager. The goals of the decision making managers may be quite dif-

different from the goals of the owners. While the owners may indeed be more concerned with maximizing their return on investment, profit maximization has been replaced among the managers by "profit satisficing," or the desire to obtain satisfactory profits. Managers are held accountable for more than just profits; they are also held responsible for company production, sales, firm perpetuation, employee morale, etc. Because managers cannot devote their full time to profit maximization, to the exclusion of all other goals, they are forced to ensure profits reach an acceptably satisfactory level, then concentrate on the other competing goals (19: 10-3 through 10-13).

Phillip E. Oppedahl has developed a hierarchy of needs for a corporation which parallels Maslow's hierarchy of individual needs. Just as Maslow proposed that individuals seek to satisfy the most basic human needs first (physiological needs, safety and security needs, love and belonging needs) and then seek satisfaction of higher needs (esteem, self actualization, the need to know and understand, and aesthetic needs), Oppedahl proposes that a corporation seeks to satisfy the needs of survival, profit, growth, market share, and prestige (in that order).

Survival is the most basic need. Once the need to be a "going concern" has been satisfied, the profit motive becomes the primary motivator for the corporation. However, just as DeMong and Strayer discussed the concept of "profit satisficing," Oppehlant contends that profit does not always equate to profit maximization. Rather, the concept of "adequate profit" suffices"

In terms of Government contracts, growth is associated with more contracts and larger target costs. Note that with the profit need satisfied, greater size contracts become the driving motive. This will tend to explain why some firms will spend to target cost and beyond at the expense of a share ratio loss of profit. The other aspect of growth, namely technical capability, is also very important to a defense contractor. Most DOD contracts are labor intensive and highly technical in scope. Highly educated and qualified personnel are very important to the growth of a DOD contractor, therefore, sacrificing profit share may be attractive to a contractor relative to maintaining and increasing technical competence [20: 35].

While the DOD and NASA Incentive Contracting Guide recognizes the profit motive as the "essence of incentive contracting," it also recognizes that other extracontractual factors can be significant motivators to the Defense contractor. These factors include growth, new product improvement, prestige, improved public image, social approval, national defense goals, potential for follow on business,

commercial application, excess capacities, increased profits on other contracts through shared overhead, and excelling for the sake of excellence. In addition, DOD "recognizes that contractors will, generally, optimize, not maximize, profit" [17: Appendix B].

Finally, in his book Aiming America: How the U.S. Buys Weapons, J. Fox contends that:

Profit is not a defense contractor's only concern when bidding on or conducting a development or production program. Defense contracts are sought to cover payroll and overhead costs, and to provide company personnel with the opportunity to develop technical and managerial skills useful in commercial and defense business. Once a contract is won, a company seeks every opportunity to add work and funds to the program. The need for follow-on work is crucial, since (1) the initial effort to secure a contract involves a large outlay of money, and (2) there is usually a long time lapse between contracts for the same weapon system [21: 467].

4. CONCLUSION

So what's the answer? Is "profit as a motivational tool" fact or fiction? The answer appears to be "a little of both." There is no clear cut answer to the question. While it is clear that profit is not the only motivating force for government contractors, there are times when profit would certainly be the prime motivational tool; such as periods of

strong economic growth as discussed earlier. In addition, it is the author's opinion that the DOD profit policy evolved into what it is today because it is relatively easy for contracting officers to understand; we have been so "ingrained with the principles of profit maximization that the concept seems almost intuitively obvious."

It may be more appropriate to think of profit as a "satisficer" rather than a "motivater." Contractors will certainly not perform without a certain profit level. However, once that level of profit is achieved, they may not increase performance with additional profits alone.

It is incumbent upon the contracting officer to recognize that these extracontractual motivating forces do in fact exist. The contracting officer must examine each contracting situation carefully and attempt to determine which factors (in addition to profit) will stimulate and motivate the contractor to improve his performance. The proper motivational mechanism must then be incorporated into the contract, and the contract properly administered to ensure effective results.

It must be remembered that industry's top rated objectives are to provide a good product and to maintain long

term continuing business relationships. These objectives indicate more concern with long term profit objectives than with short term objectives. In the words of one Defense contractor corporate officer,

They (contractor objectives) are so closely interrelated, it is difficult to rank one above the other or claim to have one objective without the other one.... We're all in this business to make money.... So to say that profit is not a primary objective would be wrong. But it is not the only objective..... Of course we want to survive and grow. But without a good reputation and adequate profits we are out of business. All four, company survival, company growth, promoting the company's reputation, and profit are primary objectives on each and every Government contract. No one objective is more important than the other [17: 38].

REFERENCES

1. Federal Acquisition Regulations, U.S. Government Printing Office, 1984.
2. Department of Defense Supplement to the Federal Acquisition Regulation, U.S. Government Printing Office, 1984.
3. Weiss, Bernard L., Brigadier General, USAF, Speech Delivered to the National Contract Manager's Association Educational Conference, Los Angeles, CA, 12 July 1984.
4. Anderson, Thomas Perry, IV. DCD Profit Policy It's Effectiveness--The Contracting Officer's View. MS Thesis, Naval Postgraduate School, December 1980.
5. Nielsen, Gerald T. AN Analysis of the Effectiveness of the Award Fee Incentive Provisions in the Full-Scale Development Contract of the F/A-18 Naval Strike Fighter Program. MS Thesis, Naval Postgraduate School, December 1981.
6. Hartman, James A., and Tolley, William R., "Vinson-Trammell--An Anachronism." National Contract Management Journal, September 1978.
7. U.S. Commission on Government Procurement, "Negotiations and Subcontracting," Volume I, Study Group No. 8, February 1972.
8. Craig, Michael R., and Ponsardien, Henri J., Weighted Guidelines: AN Empirical Investigation of Research and Development Acquisitions. MS Thesis, Air Force Institute of Technology, September 1982.

9. Sansone, J. S., Jr., EAD4, SC, USN, "DOD Finance and Profit Policies and Capital Investment," Speech delivered to the National Contract Manager's Association Educational Conference, Los Angeles, CA, 12 July 1984.
10. U.S. Department of Defense, Defense Acquisition Regulation, 1976 ed., Washington, D.C., U.S. Government Printing Office, 1976.
11. Runkle, Jack R., "An Assessment of Behavioral Influences on Defense Business Profitability," Defense Logistics Studies Information Exchange, Fort Lee, VA.
12. Drucker, Peter F., Concept of the Organization, New York: The John Day Co., 1972.
13. Jones, Julius E., and Pierre, Russell, Jr., An Analysis of the Effectiveness and Utilization of Incentive Contracts with Respect to Their Intended Purpose. MS Thesis, Air Force Institute of Technology, 1969.
14. U.S. Department of Defense and National Aeronautics and Space Administration, Incentive Contracting Guide, Washington, D.C.: U.S. Government Printing Office, 1969.
15. Logistics Management Institute, "An Examination of the Foundations of Incentive Contracting, LMI Task 66-7." Washington, D.C. 1968.
16. Williams, Robert F., "So What Does the Defense Contractor Really Want?," Program Manager, March-April 1983.
17. Jaggard, Michael F., and Cartwright, Howard, Jr., An Assessment of Factors Which Motivate Navy Contractors, MS Thesis, Naval Postgraduate School, December 1982.
18. Greer, Willis R., Jr., and Liao, Shu S., "Contractor Hungriness and the Relative Profitability of DOD Business," Paper presented at the 1983 Federal Acquisition Research Symposium, Williamsburg, VA, 7-9 December 1983.

19. Lemong, Richard E., and Strayer, Daniel E., "Incentive Contracting: The Underlying Theory," Selected Research Papers, Ninth DOD/FBI Research Symposium, 1980.
20. Coppedahl, Phillip E., Understanding Contractor Motivation and Contract Incentives, Study Project Report, Defense Systems Management College, Fort Belvoir, Virginia, May 1977.
21. Fox, J., Arming America: How the U.S. Buys Weapons, Cambridge: Harvard University Press, 1974.

SELECTED BIBLIOGRAPHY

1. Anthony, Robert N., "The Trouble with Profit Maximization," Harvard Business Review, 38 (November/December 1960), pp. 126-134.
2. Brown, Jerry V., The Award Fee Incentive--Management Considerations Regarding its Application to Research and Development Contracts. Student Project Report 76-2, Defense Systems Management College, Fort Belvoir, Virginia, November 1976.
3. Carter, Shirley H., Effectiveness of Award Fee Provisions in DAECOM Contracts. U.S. Army Procurement Research Office, U.S. Army Logistics Management Center, Fort Lee, Virginia, January 1977.
4. Demaree, Allan T., "Defense Profits: Hidden Issues," Fortune, August 1, 1969, pp. 82-83, 128-131.
5. DeMong, Richard F., "The Effectiveness of Incentive Contracts: What Research Tells US," National Contract Management Journal, 12 December 1979, pp. 12-22.
6. Evans, Charles D., An Inquiry Into the Use of an Award Fee for Motivation of Subcontract Management. Study Project Report PMC 76-1, Defense Systems Management College, Fort Belvoir, Virginia, May, 1976.
7. Hill, William F., and Shepard, Peter A., Effectiveness of Incentive Contracts as Motivators. MS Thesis, Naval Postgraduate School, March 1979.
8. Horne, James C., "Defense Industry Profits--How Much Is Enough," National Contract Management Journal, Fall 1973.

9. Hunt, Raymond G., Extra-Contractual Influences in Government Contracting, Buffalo, NY: State University of New York, NASA Grant No. NGR33-015-061, 1971.
10. Jacobs, J. L., "A Briefing on DOD Profit Policy Revisions Set for January Implementation," Contract Management, January 1980, pp. 10-12.
11. Jensen, Michael C., and Meckling, William H., "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," Journal of Financial Economics, 3 (1976): pp. 305-360.
12. Kaitz, Edward M., Federal Procurement Policy and Profit Theory, Edward M. Kaitz and Associates, Inc., 1979.
13. Lampert, Lauren D., "Defense Industry Profits-- Contractor Capital Employed," National Contract Management Journal, Fall, 1973.
14. Simonson, G. R., "Defense Profit Policy--A Critical Assessment," National Contract Management Journal, Summer 1980, pp. 57-65.
15. U.S. General Accounting Office, Recent Changes in the Defense Department's Profit Policy--Intended Results Not Achieved, PSAD-79-38, Government Printing Office, 8 March 1979.
16. Whittington, Geoffrey, The Prediction of Profitability and Other Studies of Company Behavior, Cambridge University Press, 1971.

END

FILMED

3-85

DTIC