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PROFIT '76 SUMMARY REPORT
REPORT OF THE PROFIT STUDY GROUP

ASSISTANT SECRETARY OF DEFENSE
(INSTALLATIONS AND LOGISTICS), WASHINGTON, D.C.

7 DECEMBER 1976

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OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301

INSTALLATIONS AND LOGISTICS

December 7, 1976

MEMORANDUM FOR DEPUTY SECRETARY OF DEFENSE CLEMENTS

SUBJECT: Profit '76 Summary Report

Your memorandum of May 13, 1975 directed a full scale study effort which was to have as its goal improvements in our profit policy designed to strengthen our competitive industrial base. The study, known as Profit '76, is complete, and a new profit policy became effective on October 1, 1976.

Transmitted herewith is a Summary Report of the Profit '76 Study Team. As you know, the end product of Profit '76 was the work of a number of task groups, some of whom were part of the Study Team, and some of whom were contributors from outside the Department of Defense (DoD). This report summarizes those efforts most pertinent to the new policy. You will note that your own testimony before Senator Proxmire's Joint Committee on Defense Production is included in the prefatory materials as an executive summary of the entire effort.

As study Director, I take great pride in the results we have achieved. They would not have been possible without the fine cooperation and support I have received from the Services, the Defense Supply Agency, the Logistics Management Institute, industry, industry associations and from you and many members of your staff. It has been a great pleasure and very rewarding professionally to serve on this effort. I am convinced that our new policy represents a significant step forward toward increased productivity and lower costs for the vital military hardware needed for national security.

James W. Stansberry
JAMES W. STANSBERRY
Brigadier General, USAF
Director, Profit '76

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FOREWORD

Defense contractors which make up our industrial base are absolutely vital to our national security. Department of Defense (DoD) Managers have suspected that the years recently past have seen an erosion of the industrial base due in part to a low level of capital investment. Stepping up to this problem, Deputy Secretary of Defense William P. Clements, in May 1975, launched a study to determine the level of investment and profitability of defense contractors relative to their commercial counterparts, and to develop needed changes in DoD profit policy.

Directed by Brigadier General James W. Stansberry under the supervision of Assistant Secretary of Defense Frank A. Shrontz and Deputy Assistant Secretary of Defense Dale R. Babione, the Study Team first set out to obtain widespread support and participation on the part of both government and industry. The Military Services became actively involved through the Joint Logistic Commanders, while a high-level steering committee consisting of the Assistant Secretaries of Defense for both Comptroller and Installations and Logistics, as well as the Assistant Secretaries of the Military Departments, exercised guidance and surveillance throughout each phase of the study.

The study team gathered cost and investment data from companies holding defense contracts valued at some \$16 billion, and additional data from more than 200 other companies. Team members virtually blanketed the country, visiting major DoD contractors, and scores of government contracting officers.

The study effort now completed represents one of the most comprehensive efforts of its kind. The work product of the study was in reality a series of separate but carefully integrated studies. Those most pertinent constitute the chapters of this Summary Report. Others of significant importance but not included in this Summary Report due to volume are listed in the Appendix.

The study team wishes to express sincere appreciation to the industry associations and the participating companies without whose cooperation the necessary data would not have been obtained, and to the many individuals in and out of government who gave of their time, experience, and wisdom.

SUMMARY REPORT

PROFIT '76

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TESTIMONY OF
MR. WILLIAM P. CLEMENTS
DEPUTY SECRETARY OF DEFENSE

CLEARED
FOR DISTRIBUTION

NOV 13 1976

Before

The
JOINT COMMITTEE ON DEFENSE PRODUCTION

On

18 NOVEMBER 1976

"DEPARTMENT OF DEFENSE CONTRACT PROFIT POLICY"

Senator Proxmire, I AM PLEASED TO APPEAR BEFORE THIS COMMITTEE TO DISCUSS THE NEW DEPARTMENT OF DEFENSE PROFIT POLICY. THIS POLICY CAME ABOUT AS A RESULT OF A ONE YEAR STUDY ON THE GENERAL SUBJECT OF DEFENSE CONTRACTOR EARNINGS. THE STUDY, KNOWN AS PROFIT '76, WAS CHARTERED BY ME AND WAS LED BY BRIGADIER GENERAL JAMES W. STANSBERRY WHO IS WITH ME THIS MORNING.

WE HAVE BEEN MINDFUL FOR SOME TIME OF THE NEED TO IMPROVE OUR PROFIT POLICY. MANY INFORMED OBSERVERS, INCLUDING MEMBERS OF THIS COMMITTEE, HAVE POINTED OUT WHAT THEY BELIEVED TO BE SHORTCOMINGS. THE PROBLEMS MOST CONSISTENTLY IDENTIFIED WERE OVEREMPHASIS IN OUR WEIGHTED GUIDELINES ON ESTIMATED CONTRACT COST AS A PROFIT FACTOR AND THE ABSENCE OF CONTRACTOR INVESTMENT AS A MEANINGFUL PROFIT DETERMINANT. WE AGREED THAT THESE PROBLEMS MIGHT CONTRIBUTE TO HIGH COST AND LESS THAN OPTIMUM INVESTMENT LEVELS BY DEFENSE CONTRACTORS. THUS, THE OVERALL GOAL OF OUR PROFIT STUDY WAS TO DEVELOP REVISIONS IN POLICY THAT WOULD HELP ACHIEVE PROPER INVESTMENT LEVELS AND ASSOCIATED REDUCTIONS IN COST.

IN ORDER TO COME TO GRIPS WITH THESE ISSUES, WE NEEDED RELIABLE DATA ON ACTUAL DEFENSE CONTRACTOR INVESTMENT LEVELS AND EARNINGS. WE ALSO NEEDED TO DETERMINE HOW THESE CONSIDERATIONS WERE RELATED TO EACH OTHER AND TO COMPARABLE COMMERCIAL ENDEAVORS. DEFENSE CONTRACTOR FINANCIAL AND INVESTMENT DATA WAS COLLECTED AT THE PROFIT CENTER LEVEL OVER A RECENT FIVE YEAR PERIOD AND COMPARED TO FEDERAL TRADE COMMISSION DATA ON COMMERCIAL DURABLE GOODS MANUFACTURERS. WE ALSO SOUGHT INFORMED JUDGMENT ON PROFIT ISSUES ACROSS A WIDE SPECTRUM OF GOVERNMENT AND INDUSTRY. WE MET WITH REPRESENTATIVES OF THE ACCOUNTING PROFESSION, THE ACADEMIC COMMUNITY, THE GENERAL ACCOUNTING OFFICE, THE COST ACCOUNTING STANDARDS BOARD, THE OFFICE OF FEDERAL PROCUREMENT POLICY AND MANY OTHERS. THROUGHOUT THE COURSE OF THE STUDY WE TOOK GREAT CARE TO MAINTAIN A COMPLETELY VISIBLE AND OPEN APPROACH, CULMINATING IN A SPECIAL ADVISORY GROUP REVIEW OF OUR FINDINGS.

I WOULD NOW LIKE TO BRIEFLY HIGHLIGHT WHAT WE HAVE LEARNED. DEFENSE CONTRACTOR PROFITS, WHEN MEASURED ON THE BASIS OF SALES, ARE ON THE AVERAGE LOWER THAN THOSE GENERATED IN COMMERCIAL ENDEAVORS; HOWEVER, WHEN MEASURED ON AN INVESTMENT BASIS THEY

ARE SOMEWHAT HIGHER. THIS RELATIONSHIP IS TRACEABLE TO A MARKEDLY LOW LEVEL OF INVESTMENT BY DEFENSE CONTRACTORS. IN TERMS OF PRODUCTION FACILITIES, FOR EXAMPLE, COMMERCIAL FIRMS, ON THE AVERAGE, INVEST MORE THAN TWICE THE AMOUNT THAT DEFENSE CONTRACTORS DO ON THE BASIS OF SALES DOLLARS. WHILE THERE ARE MANY REASONS FOR THIS LACK OF INVESTMENT, SOME ARE TRACEABLE TO OUR PROCUREMENT APPROACH. IN THE PAST WE HAVE NOT RELATED PROFIT TO INVESTMENT IN A SATISFACTORY WAY; NOR HAVE WE ALLOWED THE COST OF THE CAPITAL REQUIRED FOR INVESTMENT TO BE REIMBURSED AS A COST ON DEFENSE CONTRACTS.

WE HAVE NOW SET FORTH TWO IMPORTANT CHANGES ADDRESSING THIS MATTER. THE FIRST PROVIDES THAT THE AMOUNT OF FACILITIES INVESTMENT WILL BE RECOGNIZED IN THE CONTRACTING OFFICERS PRENEGOTIATION PROFIT OBJECTIVE. THE RELATIVE WEIGHT OF THIS FACTOR IN THE PROFIT OBJECTIVE CALCULATION IS MODEST. IN THE FUTURE IT WILL LIKELY BE INCREASED AFTER INDUSTRY HAS HAD SOME OPPORTUNITY TO ADJUST ITS INVESTMENT PATTERNS. THE SECOND CHANGE PROVIDES THAT THE IMPUTED COST OF CAPITAL OR FACILITY INVESTMENT (MEASURED IN ACCORDANCE WITH COST ACCOUNTING STANDARD 414), THAT IS, THE RISK FREE ELEMENT OF THE TOTAL COST OF CAPITAL WILL BE

CONSIDERED AN ALLOWABLE COST ON NEGOTIATED DEPARTMENT OF DEFENSE CONTRACTS. PROCEDURES HAVE BEEN ESTABLISHED SO THAT ON THE AVERAGE IN OUR NEGOTIATED CONTRACTS, THE PRENEGOTIATION PROFIT OBJECTIVE TAKES INTO ACCOUNT AND OFFSETS THE COST INCREASE ATTRIBUTABLE TO THE IMPUTED COST OF FACILITY CAPITAL. THIS OFFSET PROVISION IS IN LINE WITH THE VIEW EXPRESSED IN SENATOR PROXMIRE'S LETTER TO SECRETARY RUMSFELD OF MAY 27, 1976 ON THIS SUBJECT.

WE HAVE TAKEN SPECIAL CARE IN ASSURING SUCCESSFUL IMPLEMENTATION OF OUR REVISED POLICY. GENERAL STANSBERRY AND HIS TEAM HAVE BRIEFED EACH OF THE SERVICE COMMANDERS CHARGED WITH ACQUISITION, AND DETAILED TRAINING HAS BEEN PROVIDED TO OVER 3,000 GOVERNMENT AND INDUSTRY PERSONNEL.

WE BELIEVE THAT OUR POLICY CHANGES ARE AN IMPORTANT STEP FORWARD IN ACHIEVING OUR GOAL OF ENCOURAGING CONTRACTOR INVESTMENT IN COST REDUCING FACILITIES. OUR NEW POLICY, COMBINED WITH OTHER PROCUREMENT INITIATIVES UNDERWAY SHOULD ACT TO STRENGTHEN THE COMPETITIVE INDUSTRIAL BASE AND REDUCE DEPARTMENT OF DEFENSE ACQUISITION COSTS.

Chapter I

The chapter which follows contains the Profit '76 study plan which was promulgated in mid 1975 as the basic approach to be followed in this effort. While some variations from the plan were implemented during the course of the study, it proved to be a sound approach.

PROFIT '76

STUDY PLAN

A. PURPOSE

The purpose of the Profit Policy Study is to determine defense contractors' profit on both defense and non-defense business and to examine the relation of earnings to capital investment in assets designed to increase productivity and lower costs. The study will recommend to the Secretary of Defense any changes in Department of Defense profit policy required to strengthen our competitive industrial base and reduce the cost of systems and hardware essential to our national security. If it is determined that a change in DoD profit policy is in the national interest, a new profit policy will be promulgated along with the directives necessary for implementation.

B. GENERAL APPROACH

The principal approach to be used will consist of collecting and analyzing data, on earnings, at the profit center level, from a wide and diverse segment of defense industry and comparing that data with overall commercial earning information. This central study effort will be augmented by several corollary tasks as follows:

1. Examining the strength and stability of the defense industrial base.
2. Soliciting the informed opinions of government and industry personnel as to the overall effectiveness of DoD profit policy, and changes needed.

3. Performing a detailed "literature search" to insure that past studies are reviewed and analyzed.
4. Visiting a number of major profit centers (including some commercial companies) and Defense installations to validate data, observe first hand the opportunities for cost reduction investment, discuss required changes in profit policy, and generally provide for full participation in the study by those likely to be affected by the outcome.
5. Analyzing in detail current DoD profit policy, both as promulgated in the ASPR and as practiced at the negotiating table.

Since there are significant time lags in the capital investment process, it may be an extended period of time before we realize the full impact of any profit policy changes emanating from this study. To assure that the desired results are being achieved, a yearly review will be made to track the initial effect of any profit policy changes and an overall judgment should be possible in approximately three years.

C. BACKGROUND INFORMATION

American defense industries are presently the center of controversy. Defense industry spokesmen constantly voice their opinions on the low profitability of defense work. Much of the blame for this is placed upon Government and Department of Defense procurement policies. Many members of Congress and the press appear to focus on the high cost of weapon systems and take the position that defense industry profits are too high and that procurement policies must be tightened. Therefore, Department of Defense procurement authorities are caught in the middle and there are no recent impartial studies or facts evident to indicate which view is correct. In addition, Defense authorities know that the "defense industry" is not a homogeneous industry but is widely diverse in products, technology, size and financial strength, percentage of assets devoted to defense production and dependency upon a sub-contracting base. There also exists the uneasy feeling that the defense industry's production base is shrinking as contractors are attracted to more profitable work in the commercial sector.

During the past few years the Logistics Management Institute, Industry Advisory Council, and the General Accounting Office have conducted studies relating to profits in the defense industry. Each of these studies addressed the adequacy of profits on defense contracts and their relation to capital investment. The focus of interest in this study is centered on those procurement policies followed by Defense which govern or impact the profitability, capital investment policies, and overall financial condition of defense contractors.

D. SCOPE OF STUDY

The scope of the DoD profit policy study will encompass the following tasks. First, the DoD will conduct a study of the financial reports of publicly held defense contractors and of non-defense companies which are in similar lines of business. The results will serve as a baseline to which the profit data gathered from defense contractors can be compared. Subsequently, a survey of the returns on capital and sales earned by defense contractors on the defense portion of their business will be conducted. These data will be gathered and verified for each contractor (at the profit center level) by the CPA firm normally retained by the contractor. This individual company data will be summarized and analyzed confidentially by a consortium of CPA firms. The final results of this summary and analysis will be provided to the DoD.

The plan for data gathering and analysis will be presented to senior officials in the executive branch of the Government with a view toward soliciting comments on methodology and approach. This is planned to include the following principals or their delegates: the Deputy Secretary of Defense, the Secretaries of the Military Departments, the Joint Logistic Commanders, the Comptroller General of the United States, the Director of the Office of Management and Budget, and the Administrator of Federal Procurement Policy.

The Logistics Management Institute (LMI) will conduct a study of the Defense Industrial Base. This study will be designed to provide an assessment of the overall financial strength and stability of the defense industry. In addition, LMI will provide an interim report on its current study of Contractor Financial Capability which deals with contract financing.

The DoD will formulate a questionnaire on which it will ask presidents and chief financial officers of defense companies to respond to questions about the adequacy of current defense profit opportunity, the rates of return necessary to stimulate cost reducing capital investment, and other financial and non-financial policies which can increase the productivity of defense industry. The Joint Logistics Commanders (JLC) have been asked to assist in developing a similar questionnaire which will be sent to the military departments to obtain their comments and suggestions. The questionnaires will be followed up by field team visits to DoD and contractor locations. A number of primary commercial companies will also be visited to obtain their views on the role of profit relative to stability of business base, risk and capital investment.

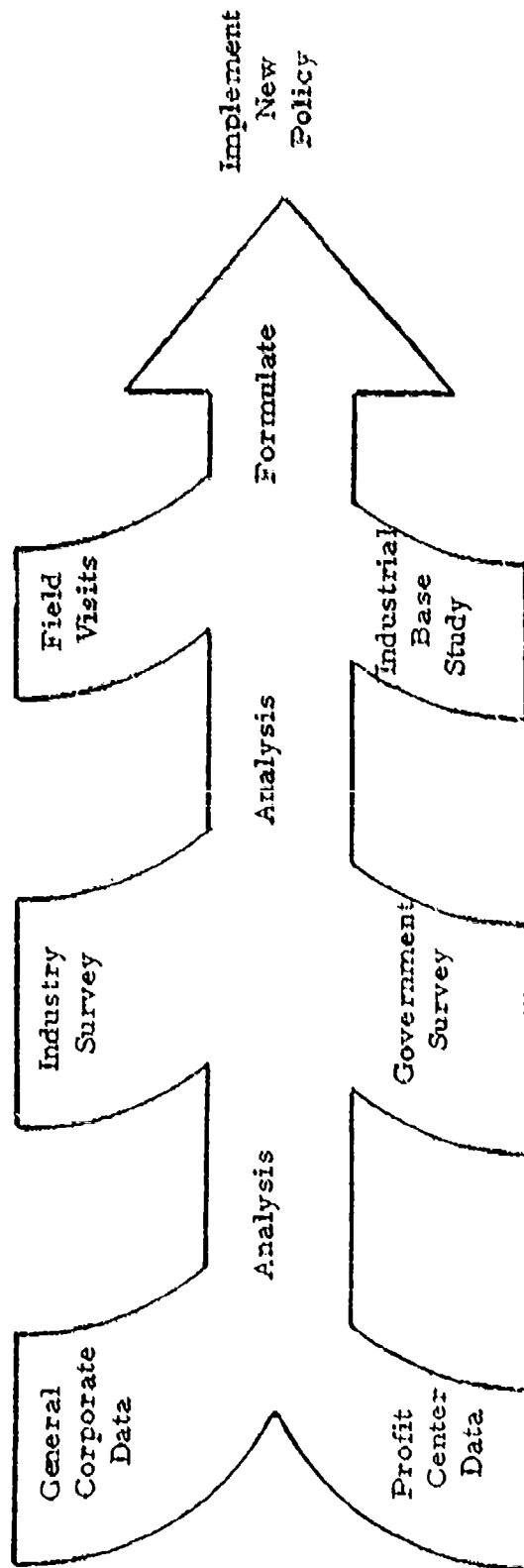
Finally, the conclusions derived from the analysis of the data gathered by the above studies will be used as the basis for a new DoD profit policy. The new policy will aim to adjust the overall level of defense profits in such a manner that the profit opportunity offered to defense contractors is not excessive but still adequate to attract their capital and their best managerial and technical capability to defense work. Further, the new profit policy will

be structured in such a way that contractors will be able to earn sufficient returns on capital committed to a contract, and additional cost reducing investment will be rewarded with adequate profit.

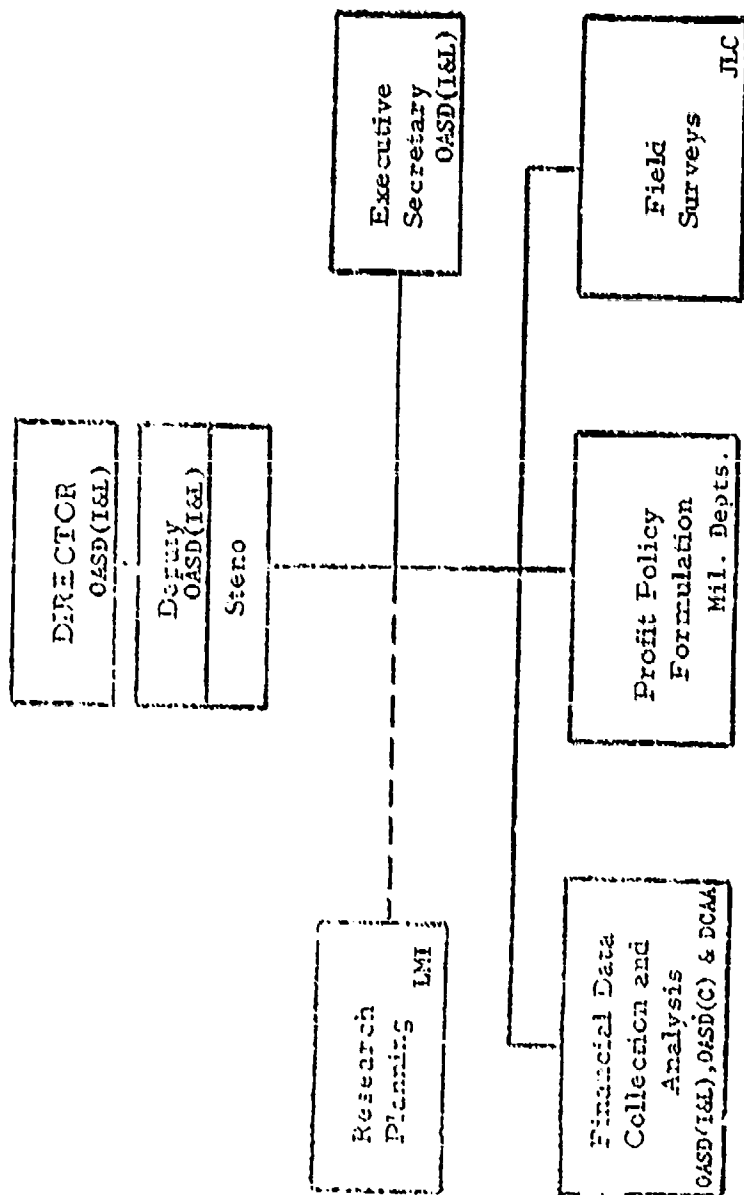
The Defense Profit Study will culminate with the coordination and promulgation of the new profit policy. It is planned that the new policy will be implemented by July 1976.

PROFIT '76

FLOW CHART OF OVERALL PLAN



STUDY GROUP ORGANIZATION



A description of the functions of each of the above organization elements is presented on the following page.

PROFIT '76

PRIMARY FUNCTIONS OF THE STUDY GROUP

Director

Provide overall policy guidance to study group.
Maintain liaison with senior government/industry officials.
Make final recommendations to DepSecDef on profit policy.
Other responsibilities as set forth in study charter.

Deputy Director

Assist Director in performance of his functions and act
for him in his absence.
Maintain day-to-day supervision of all study group activities.

Research Planning

Provide overall planning advice.
Develop industry questionnaires.
Identify data elements.
Perform field visits.

Executive Secretary

Administration.
Central depository for information.
Preparation of final report.
Preparation of necessary briefings.
Assist Deputy Director in discharge of his functions.
In conjunction with LMI, summarize main past profit studies.

Financial Data Collection and Analysis

Liaison with CPA firms.
Develop data collection formats.
Perform field visits.
Establish CPA consortium.
Arrange necessary contractual support.

Profit Policy Formulation

Review Existing Profit Policies.
Analyze CPA consortium data and questionnaires.
Develop required profit policy changes.
Perform field visits.

Field Surveys

Develop government questionnaires.
Set up field visits.
Summarize questionnaire responses.
Perform field visits.



THE DEPUTY SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301

TAB

MAY 13 1975

MEMORANDUM FOR THE SECRETARIES OF THE MILITARY
DEPARTMENTS

SUBJECT: Investment in Defense Contracts

The purpose of this memorandum is to formally constitute a major Defense study of contractor investment and contribution toward increased productivity and reduced costs on Defense contracts. This study is one of the initiatives mentioned in my memorandum of 11 April 1975, subject, "Cost Reduction Initiatives."

There are many indications that Defense contractors contribute from earnings substantially less than desired toward use of modern manufacturing technology and other improvements in efficiency. This has led to obsolescence of plant, expensive labor intensive methods and continued high costs. Whether these outcomes have stemmed from low earnings, improper distribution of profit dollars, instability of defense programs or a combination of these and other factors is not entirely clear. It is apparent however, that unless changes are made we are likely to face continuing increases in Defense equipment costs and erosion of the industrial base upon which our Defense needs ultimately depend.

I am firmly convinced that this is a national problem of serious dimensions. The Commission on Government Procurement, the General Accounting Office, and other agencies both within and external to the Department of Defense have expressed the same concern. Our attempt to cope with the problem through the "return on investment" policy established by DFC 107 failed to attract support, both from industry and our own subordinate echelons. It is time for a new approach.

Accordingly, I now direct that a formal full scale study effort commence immediately which shall have as its goal recommending

required changes in our profit policy. Brigadier General James W. Stansberry is designated Director of the study. General Stansberry shall:

- a) arrange for appropriate representation on the study group from OSD, the Military Departments, and Defense agencies
- b) consult with other Governmental departments and industry as required
- c) personally plan, organize, direct, coordinate and control all aspects of the study effort
- d) provide periodic status reports

In order to accomplish the above, General Stansberry is authorized to:

- a) communicate directly with the Military Departments, Defense agencies, the Office of Federal Procurement Policy, the General Accounting Office, Congressional staffs, contractors, industry associations, and other concerned agencies in and out of Government
- b) originate and approve related Logistics Management Institute tasks
- c) task elements of the Department of Defense for support, in coordination with the Deputy Assistant Secretary of Defense (Administration)
- d) arrange contractual study support, including consultant and temporary Civil Service assistance, within available resources
- e) approve necessary travel

I desire that each of the Military Departments extend full cooperation to General Stansberry in carrying out this study. In addition, each Military Department is requested to nominate one individual to represent his Department in the study effort. Nominations should be furnished to General Stansberry not later than 16 May 1975.

The end result of the study effort must be improvements in our profit policy which will directly and favorably act to strengthen our competitive industrial base. I desire that the new policy be in effect by 30 June 1976.

H. P. Clement



THE DEPUTY SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301

(Letter to Industry Associations)

One of our most important objectives within the Department of Defense is to find ways to reduce the cost of the systems and hardware essential to our national security. Industry has enthusiastically supported many initiatives which we have taken in furtherance of this objective. Much remains to be done however. We see instances of obsolescence of plant, costly labor intensive methods, and high production costs. It is apparent that, unless changes are made, we are likely to face continuing cost increases in Defense procurement, and erosion of the industrial base upon which our national security ultimately depends.

Preliminary analyses of corporate level data indicate that the lack of investment action on the part of the defense contractors may be traceable in part to the adequacy and appropriateness of our profit policy. Accordingly, I have directed a broad scale study effort to commence immediately to examine all aspects of our present policy. 'Our goal is to develop policy revisions needed to motivate defense contractors to make investments which will reduce Defense Department acquisition costs." Brigadier General James W. Stansberry in the Office of the Assistant Secretary of Defense (Installations and Logistics) is charged with directing this study.

The success of this study effort depends in large part on the willingness of your member companies to assist us by furnishing profit center

financial data as well as their thoughtful views on certain critical questions. In recognition of the sensitivity of the profit center financial information, a data acquisition plan has been structured which highly stresses confidentiality. This plan calls for the utilization of the companies' own public accounting firm to collect the required data and analysis by another independent public accounting group. The Department of Defense would be furnished data only in aggregated form along with the statistical results of the analyses. A list of the companies we plan to contact to assist us in this effort is attached. I propose to furnish our data requirements directly to corporate presidents. Any comments or suggestions you have with respect to our data collection effort or other aspects of the study would be most welcome.

As you are probably aware, the recently established Cost Accounting Standards Board action on CAS No. 409 could work a hardship on Defense contractors unless profit factors are adjusted accordingly. In view of the high sense of urgency with which both the defense contractor community and the Department of Defense regard this investment/cost reduction issue, I solicit your wholehearted assistance in assuring the success of our efforts.

Sincerely,

H. P. Clements

Attachment
a/s



ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

INSTALLATIONS AND LOGISTICS

9 JUN 1975


MEMORANDUM FOR JOINT LOGISTICS COMMANDERS

SUBJECT: Profit Policy Study

At our meeting on May 6, 1975, we discussed the forthcoming Department of Defense profit policy study and I solicited your support and assistance in this important effort. I am pleased to report that we are beginning to make some progress and early indications are that industry will cooperate fully.

In my view, if the study is to be a success, we must take positive steps to ensure that the Commands responsible for the hardware support of our operational forces have a full and complete opportunity to assist in the formulation of any revisions to existing profit policy. Accordingly, I suggest that a member of your command be appointed to the study group to serve as a point of contact and to assist in the collection of input from the field. Each of the Service Secretaries has already designated a Service representative to examine and recommend policy alternatives. I visualize the primary job of the Joint Logistics Commanders' representative to be one of ensuring that operational data and viewpoints be made available. Further, I believe that your representatives can contribute greatly toward engendering support for this study from the profit center levels of corporations with whom you do business.

Provided that you agree, I ask that Brigadier General James W. Stansberry (Pentagon ext. 77909), the study director, be furnished the name of your representative as soon as convenient.


JOHN J. BENNETT
Acting Assistant Secretary of Defense
(Installations and Logistics)

Chapter II

DATA COLLECTION AND ANALYSIS

Background. The collection and analysis of reliable data that indicated the relative profitability of defense and commercial business was necessary in the development of a new profit policy. The Profit '76 study group, with help from the Defense Contract Audit Agency (DCAA), the General Accounting Office (GAO), the Logistics Management Institute (LMI), Coopers & Lybrand (C&L), industry associations and defense contractors developed a data package to provide information on the financial condition of defense contractors. The data package was used to gather sales, cost, investment, and other financial information. The data from the participating defense contractors was reviewed by the company's CPA firm prior to submittal to C&L. C&L was the lead firm in a consortium of CPA firms that reviewed and aggregated the data before it was reported to the DOD. This procedure was followed in order to protect the confidentiality of the data and to assure that the data would be reasonable to use in measuring profitability.

Organization of Report. This chapter is a summary of key charts that indicate the findings of the data collection and analysis effort of the profit study.

DESCRIPTION OF DATA BASE

- **PROFIT '76 DATA**
- **FTC/SEC DATA**
- **IMS DATA**
- **DIB DATA**
- **COMPUSTAT DATA**
- **RENEGOTIATION BOARD DATA**
- **LMI STUDIES**
- **GAO STUDY**
- **ASD COMPTROLLER REPORTS**

Description of Data Base. The study utilized a large data base from many sources. The attached chart lists the sources of the data that was used. Information on each source is as follows:

Profit '76 Data. This data was collected specifically for the Profit '76 study, and consists of financial information from 64 defense contractors with 168 profit centers. A profit center is the smallest business unit with a balance sheet and income statement, usually a division. Data was aggregated by product group and by type of contract. Data from government oriented profit centers was used as the primary source of defense profitability. Additional data was collected on commercial business within the defense profit center and at commercially oriented profit centers. Because of the limited sample of commercial profit centers, the data was not used as the primary source of commercial profitability.

FTC Data. Quarterly financial reports on the durable goods manufacturers published by the Federal Trade Commission (FTC) were used as the primary source of data to determine commercial profitability. The FTC data base contains approximately 5,000 companies with annual sales in the \$450 billion range. It is the most comprehensive data base for measuring commercial profitability that is available.

IMS Data. Investor's Management Sciences (IMS), a division of Standard and Poor's, maintains a data base containing financial information from published financial reports of the companies that are traded on the stock exchanges. A corporate level analysis of profitability of defense contractors was attempted using this data base. The results indicated that there was a great amount of variability of profits by industry and the earnings of the non-defense elements in the corporation could make any conclusions suspect. The analysis clearly indicated the weakness of attempting to determine defense profits using corporate level financial data.

DIB Data. LMI conducted a study of the defense industrial base (DIB) to try to determine, using corporate level financial data and opinion surveys, if the DIB was eroding. The opinions were considered in the development of the profit policy and the overall financial data was reviewed as a secondary source of information.

COMPUSTAT Data. The COMPUSTAT data base is maintained by IMS and was used to aggregate the published financial reports of the companies that provided profit center data. This aggregated data was reviewed to see if the Profit '76 results were consistent with the published financial data. The analysis of key financial ratios indicates that the two data bases are comparable.

Renegotiation Board Data. A review of data reported to the Renegotiation Board was made to determine if the data was comparable to the aggregated profit center data. After the Renegotiation Board data was converted from a tax basis to a published financial basis, the data was comparable.

LMI Studies. A review was made of the prior LMI profit studies to note the data elements reported, the methods used to measure investment, and the results. The results of the Profit '76 data are comparable with the LMI data analysis.

GAO Study. A review was made of the GAO profit study to determine the same type of information that was noted in the review of the LMI studies.

ASD Comptroller Reports. The data sources listed above all deal with realized profits. The ASD Comptroller report provides data on the negotiated profits.

PROFIT '76

DESCRIPTION OF DATA BASE PROFIT '76 DATA COVERAGE

\$ MILLIONS

TOTAL FY '74 PROCUREMENT		\$ 36,408
FORMALLY ADVERTISED	(-)	<u>3,089</u>
NEGOTIATED		33,339
NON-DURABLE GOODS PRODUCERS	(-)	<u>17,540</u>
DURABLE GOODS PRODUCERS		15,799
R & D PROCUREMENT		<u>5,368</u>
TOTAL (100%)		21,157
PROFIT '76 NON PARTICIPATING (27%)	(-)	<u>5,675</u>
PROFIT '76 PARTICIPATING (73%)		<u><u>15,482</u></u>

Profit '76 Data Coverage. The degree of statistical coverage that the sample of 64 defense contractors aggregated with respect to the total universe of negotiated durable goods production and R & D contracts was a major concern during the data collection and analysis effort. The chart indicates the statistical coverage, with notations on the entries as follows:

Total FY '74 Procurement. The FY '74 contract awards using the procurement budget of \$36.4 billion was the procurement baseline selected for the study.

Formally Advertised. Since the new profit policy will apply only to negotiated procurements, the formally advertised amount of \$3.0 billion was subtracted from the universe.

Negotiated. The negotiated amount of \$33.3 billion procurement dollars for FY '74.

Non-Durable Goods Producers. Since the profit policy is primarily directed toward durable goods contracts, the non-durable goods volume was excluded from the universe. The non-durable goods procurement of \$17.5 billion includes contracts for services, transportation, subsistence, POL, etc.

Durable Goods Producers. The negotiated durable goods amount of \$15.8 billion for FY '74.

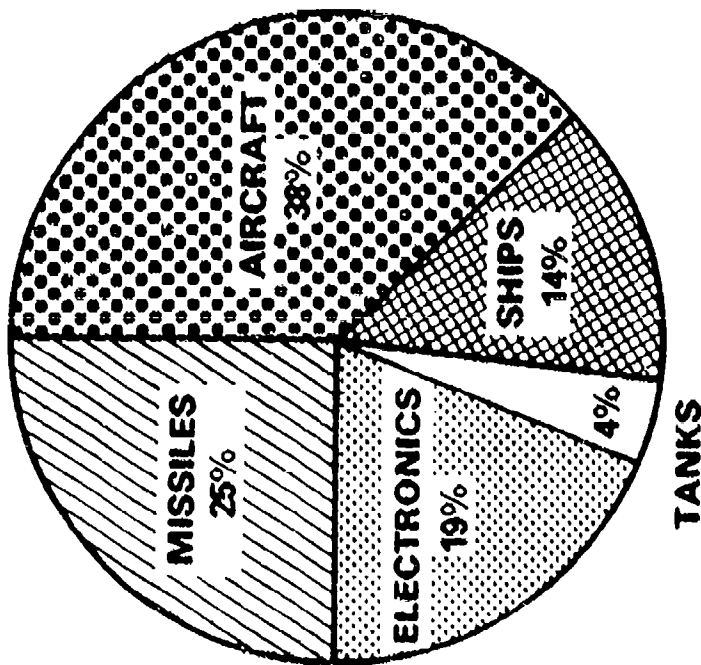
R & D Procurement. Since the data collected from the profit centers included programs that were funded by both production and R & D funds, an amount of \$5.4 billion was added to cover the R & D contract awards of over \$5.0 million each.

Total Universe. The durable goods universe of \$21.2 billion for FY '74.

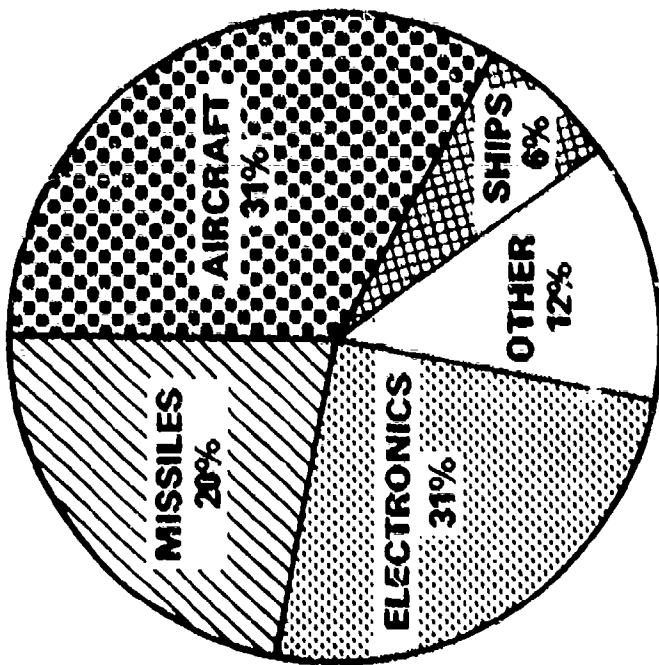
Profit '76 Participating. The sales data collected from the sample of 64 participating defense contractors averaged \$15.5 billion, or 73% of the universe, which is considered to be good statistical coverage.

**DESCRIPTION OF DATA BASE
DISTRIBUTION OF PROFIT '76 DATA
(AVERAGE 1970 - 1974)**

DOD PROCUREMENT BUDGET



PROFIT '76 DATA



Distribution of Profit '76 Data. The chart shows a comparison of the distribution of the DOD procurement budget by product group and the Profit '76 data distribution covering an average of the five year period included in the sample. The data is roughly comparable. The Profit '76 data included a product group for "other", which included tanks, aircraft engines, chemicals, ferrous/nonferrous metals, turbines, and general purpose computers. These product types were consolidated into one group in order to preserve confidentiality and to simplify the report.

DESCRIPTION OF DATA BASE
DATA QUALITY ASSURANCE

	NO.	COMPANIES
ACCEPTABLE DATA	61	
QUALIFIED DATA	3	
UNUSABLE DATA	4	
DISCLAIMED DATA	8	
INADEQUATE CPA REVIEW	4	
DATA NOT REASONABLE	2	
DATA NOT VERIFIABLE	2	

Data Quality Assurance. Part of the strategy of the profit study was to gather data that would stand up under attack. Consequently, the quality of the data that was used in the study was very important. To assure that only high quality data would be relied upon, an extensive review of the data by the participating company's CPA firm was conducted. C&L, with the help of Touche, Ross, developed a CPA review program in order to assure that the data submitted would be useful and would allow the study group to make reasonable inferences about the profitability of various segments of the defense industry. C&L performed further reviews of the data before it was aggregated. The chart shows a summary of the classifications of the data, which are explained below:

Acceptable Data. This classification means that nothing came to the attention of the CPA firms that led them to believe that the participating company's data was not consistent with the instructions in the data package. Acceptable data was submitted by 61 companies with average annual sales of \$12.9 billion. This data was used as the primary source of profitability for government oriented profit centers.

Qualified Data. This classification means that the participating company's data was consistent with the instructions proscribed in the data package except for one or more items. These exceptions include the following:

The value to be realized from certain receivables and inventories was uncertain. The ultimate disposition of these items could affect the profit recognized during the years reported on in this study.

The outcome of certain claims and unsettled matters was uncertain.

Certain matters were being investigated and it was impossible to estimate the impact on the data reported in the study.

As indicated, these qualifications relate to the outcome of future events. While the CPA firm believed the data was consistent with the instructions, subject to the outcome of future uncertainties, C&L felt that the qualified data did not have the same degree of assurance as the acceptable data. The qualified data was reviewed by the study group and it was decided that the acceptable data was a more reliable indicator of the profitability of the government oriented profit centers. The average annual sales of the profit centers with qualified data was \$2.6 billion.

Unusable Data. This classification means that the participating company's data was not consistent with the instructions prescribed in the data package and was not usable. This data and the identification of these companies were not included in the report from C&L.

Disclaimed Data. This classification means that the data is not, or may not be, consistent with the instructions in the data package. The reasons for the data being disclaimed are noted on the chart. This data and the identification of these companies were not included in the report from C&L.

Profit '76 Participating Companies. The chart shows a list of the participating companies. These companies are large DOD contractors. Small companies were not solicited for the study because the administrative cost of compliance with the data form instructions would have been relatively high. Further, the low dollar volume of small companies would have had an insignificant result on the overall findings. Consequently, only large DOD contractors were solicited for the study.

DESCRIPTION OF DATA BASE

PROFIT '76 DATA

PARTICIPATING COMPANIES

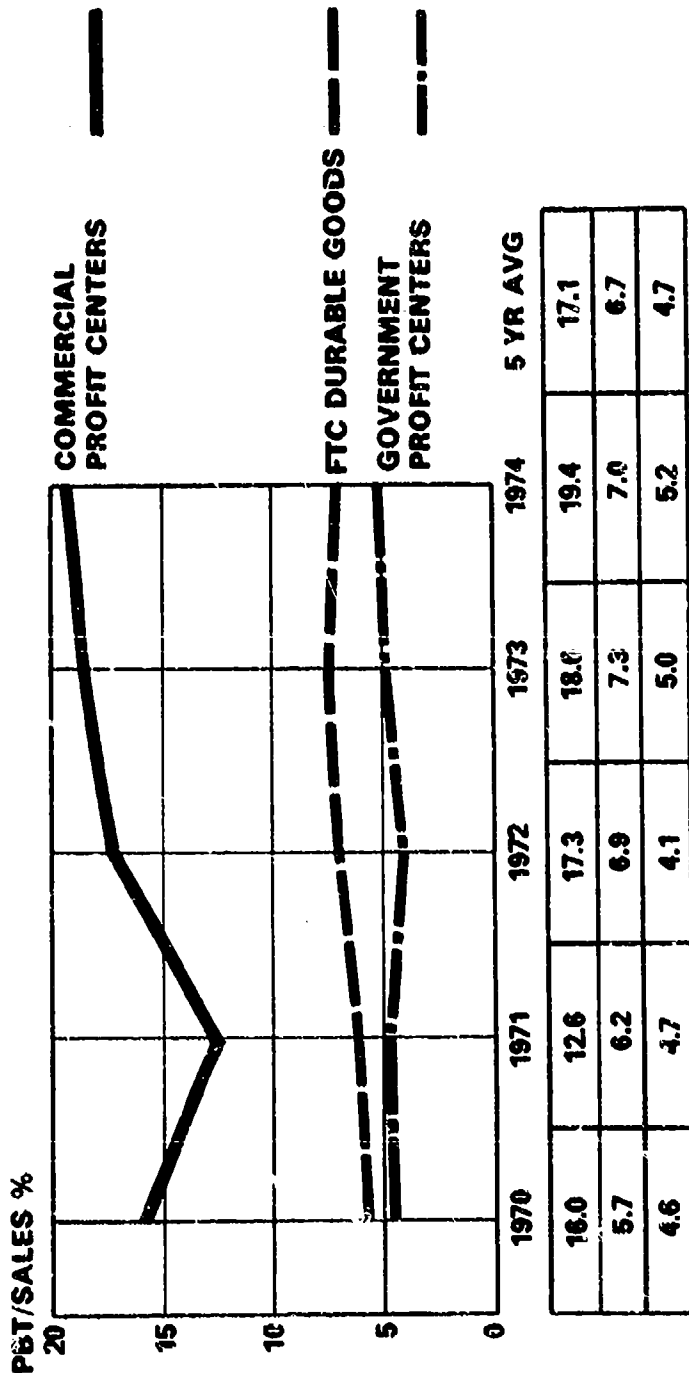
AEROJET GENERAL	HOFFMAN ELECTRONICS	NORTHROP
ATLANTIC RESEARCH	HONEYWELL	PARKER HANNIFIN
AVCO CORP	HUGHES AIRCRAFT	PERKIN ELMER
BENDIX CORP	I T T	ROCKWELL INTERNATIONAL
BOEING COMPANY	I B M	SANDERS ASSOCIATES
BUNKER RAMO CORP	ITEK CORP	SINGER
CHRYSLER CORP	KAMAN AEROSPACE	SPARTON CORP
COLT INC	WALTER KIDDE	SPERRY RAND
CONRAC	L T V AEROSPACE CORP	SUMMA CORP
CUTLER HAMMER INC	LEAR SIEGLER CORP	T R W INC
ESL	LITTON INDUSTRIES	TALLEY IND
E SYSTEMS INC	LOCKHEED AIRCRAFT	TELEDYNE
EMERSON ELECTRIC	LORAL CORP	TEXAS INST
FAIRCHILD INDUSTRIES	MAGNAVOX	TEXTRON INC
FORD	MARTIN MARIETTA CORP	THIokol CORP
G T E SYLVANIA	MAREMONT	UNITED STATES STEEL
GARRETT CORP	MCDONNELL DOUGLAS	UNITED TECHNOLOGY
GENERAL DYNAMICS CORP	MENASCO MFG	VARIAN
GRUMMAN AEROSPACE CORP	MOTOROLA	WESTERN ELECTRIC
HARRIS CORP	NEWPORT NEWS	WESTINGHOUSE ELECTRIC
HARSCO CORP	NORFOLK SHIPBUILDING	WILLIAMS RESEARCH CORP
		TRACOR

Profit Before Taxes/Sales. The chart shows the time trends of profit before taxes/sales for commercial and government profit centers and for the FTC Durable Goods producers. As noted on the chart, the commercial profit centers reported a five year average of 17.1%, which is roughly 2½ times the FTC Durable Goods average of 6.7%. Based on the very large FTC sample and the large difference in reported profitability, the study group felt that the use of the FTC sample was a better indicator of overall commercial profitability. Because of the differences in data collection methods between the profit study and the FTC, an adjustment was made to the FTC data as follows:

Starting in 1974, the FTC provided a more detailed breakdown of the balance sheet and income statement. For 1974, it was possible to identify the income before taxes of foreign branches and the equity in earnings of domestic and foreign non-consolidated entities and investments. The balance sheet identified the non-current assets that generated the earnings. The profit center data did not include the earnings or the balance sheet amounts for non-current assets. After comparison of the data, the study group concluded that it was appropriate to adjust the FTC data for the years prior to 1974 in order to make the results more comparable. This adjustment had the effect of slightly reducing the FTC return on sales and slightly increasing the FTC return on investment.

The five year average of the government oriented profit centers was 4.7%, which is 2.0% below the FTC average. This relationship of lower earnings on sales was also noted in the LMI and GAO studies.

PROFITABILITY - RETURN ON SALES PROFIT BEFORE TAXES/SALES



SOURCES: C&L
FTC

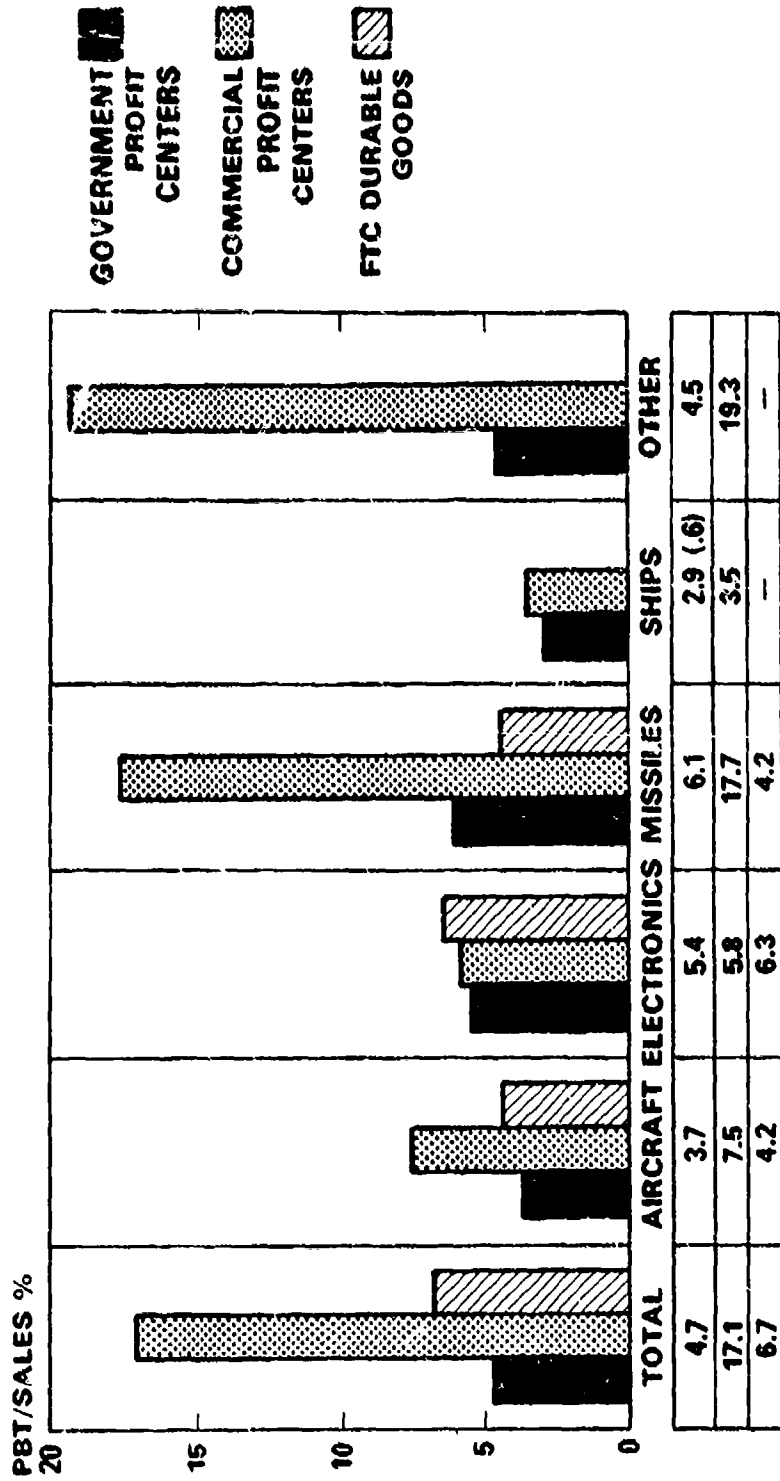
Profit Before Taxes/Sales by Product Group. The chart shows the five year averages of profitability by product group for the sources of data as follows:

Government Profit Centers. Missile manufacturers reported the highest profits, with an average of 6.1%. Since many of the missile programs reported in the data are for tactical missiles with high production rates, the relatively high profitability can be explained as a result of productivity improvements during the period of contract performance. The least profitable group reported was the shipbuilders, with an average of 2.9% for profit centers with "acceptable" data and .6% if "qualified" data is included. The profitability of the other product groups fell in between these two extremes.

Commercial Profit Centers. The highest profitability was reported for the "other" product group, which includes commercial general purpose computers. This product group generated over 82% of the sales reported for commercial profit centers and dominated the overall average, with a 19.3% average. The next most profitable commercial product group was missiles, with an average of 17.7%. However, the dollars in this product group are insignificant. Commercial aircraft profit centers reported an average of 7.5%, which is about twice the average of 3.5% reported for the government profit centers. Shipbuilders were the least profitable product group, with an average of 3.5%.

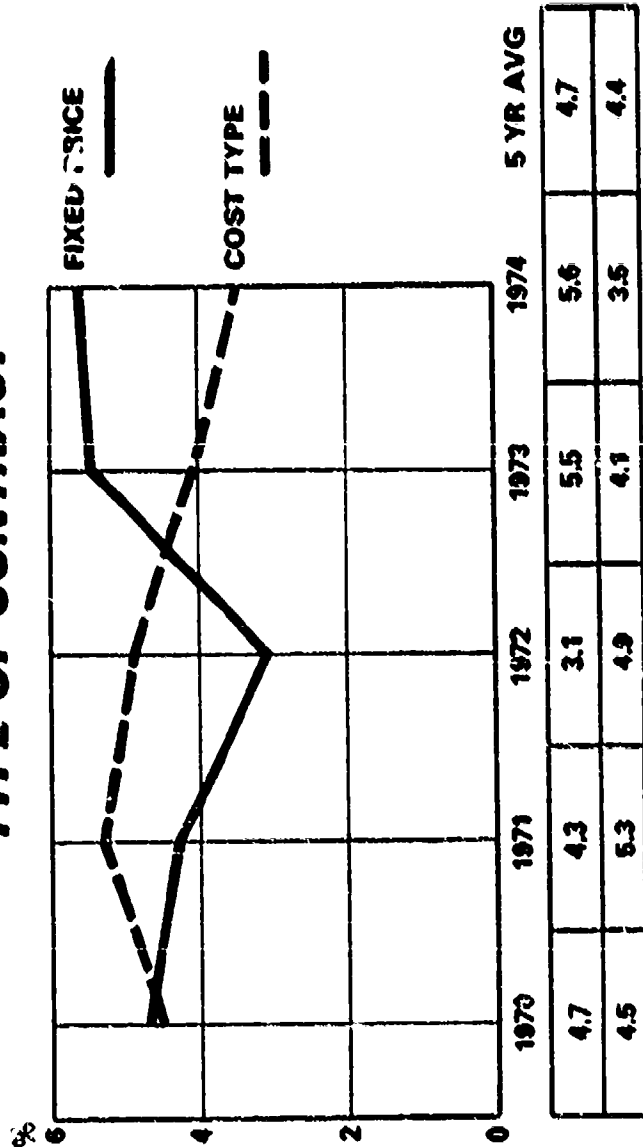
FTC Durable Goods. The analysis of profitability by product group is limited to the two groups: aircraft and missiles, and electronics. Aircraft and missiles averaged 4.2%, which is between the government and commercial aircraft averages. This is logical since most of the dollars are probably reported for aircraft. The electronics product group average of 6.3% is higher than than the averages reported in the profit centers, probably because the FTC sample includes consumer oriented companies whereas the profit center data came from defense oriented companies. No data is available from the FTC for ships or the "other" product group.

**PROFITABILITY -- RETURN ON SALES
PROFIT BEFORE TAXES/SALES
5 YEAR AVERAGE BY PRODUCT GROUP**



Profit Before Taxes/Sales by Type of Contract. The attached chart shows the time trends of profitability by type of government contract. The fixed price type of contract, which includes fixed price incentive, averaged 4.7% over the five year period. The cost type contract five year average was 4.4%, which is only .3% lower than the fixed price average. The survey of contracting officers indicated that there should be more discrimination in the risk ranges for each type of contract. The data supports the contracting officer's opinion that there should be a greater spread between cost type and fixed price contracts, and this has been addressed in the new profit policy. Note that the fixed price data indicates a significant reduction in profitability in 1972. This reduced profitability was caused by a large write-off of losses on a total package procurement. Proper selection of contract type is essential in order to improve the spread in realized profits between cost type and fixed price contracts.

**PROFITABILITY - RETURN ON SALES
PROFIT BEFORE TAXES/SALES BY
TYPE OF CONTRACT**



SOURCE: C&I

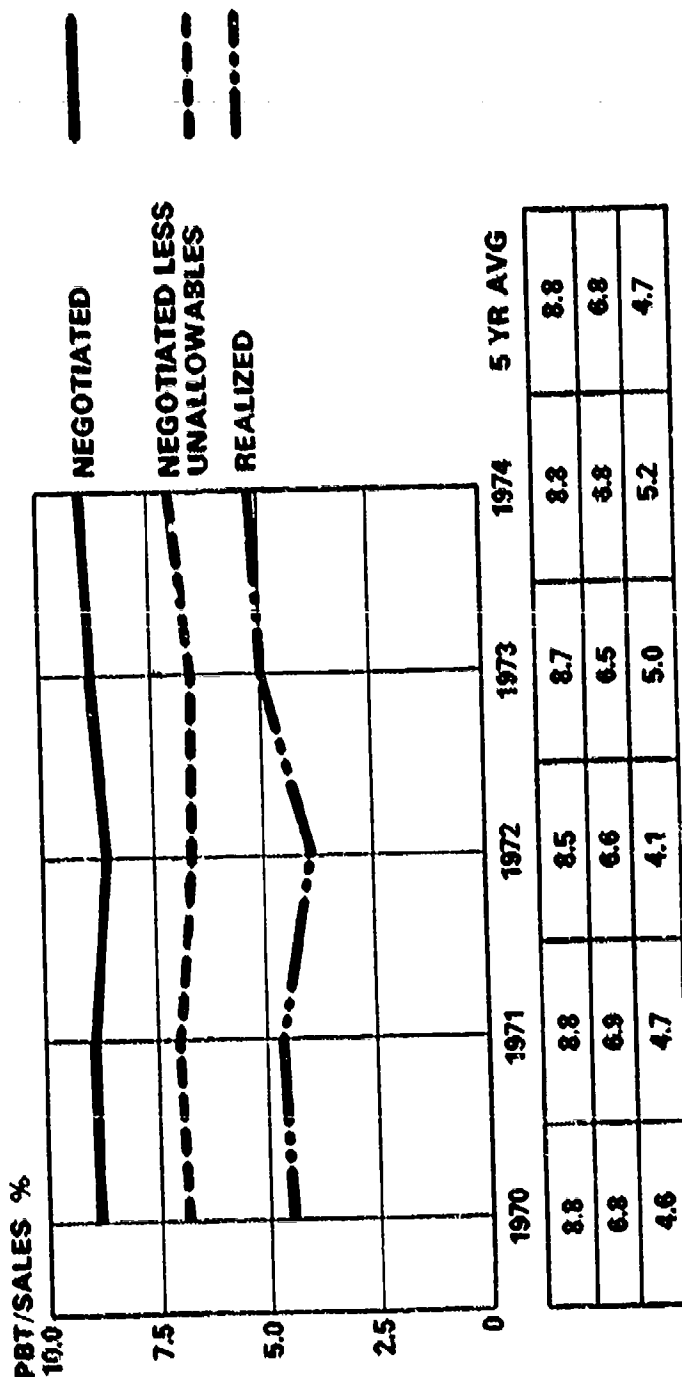
Profit Before Taxes/Sales - Negotiated vs Realized. The chart shows the negotiated vs realized profits for the five years covered in the study, with the following explanations:

Negotiated. The average negotiated profit for all types of contracts as reported by the ASD Comptroller. The five year average is 8.8%.

Negotiated less Unallowables. One of the objectives of the profit study was to determine the impact of unallowables on earnings. The data indicated that unallowables average about 2.0% of sales; consequently, if defense contractors could realize the negotiated profit rate less unallowables, the earnings of 6.8% would be very close to the FTC average of 6.7%.

Realized. The average realized profit rate is 4.7%. This average includes cost type contracts, fixed price type contracts, FMS contracts, subcontracts under government procurement regulations, and other government contracts. There is a substantial erosion of the profit rate during contract performance. This problem cannot be solved by the new profit policy but must be addressed by the contractors in the initial pricing of the contract and by government procurement offices in their negotiation and contract administration actions. Improved cost control by the contractors could decrease the difference between the negotiated less unallowables profit rate and the realized profit rate.

**PROFITABILITY - RETURN ON SALES
 PROFIT BEFORE TAXES/SALES
 NEGOTIATED VS REALIZED**



Measures of Return on Investment. A major task of the study group was to select a realistic measure of return on investment. The chart lists several measures, which are discussed below:

Return on Equity Capital. This is a traditional measure of investment but was not available at the profit center level.

Return on Equity Plus Long Term Debt. This is another traditional measure of investment that was not available at the profit center level.

Return on Operating Capital and Facilities Capital. The study group considered using this measure, which was based on the definition of investment in Defense Procurement Circular (DPC) 107 and was in an early version of Cost Accounting Standard (CAS) 414. It was not used as the measure of investment because the CAS Board dropped operating capital from CAS 414.

Return on Total Assets. The study group considered this measure of investment but did not use it because of the profit center reporting of progress payments. The contractors could either report total inventories less progress payments or a net inventory amount that has been reduced by the progress payments received. Most profit centers reported on the net inventory method; consequently, a reliable amount for total assets was not available.

Return on Total Assets less Progress and Advance Payments. The study group used this method to measure return on investment because reliable data was available at the profit center level. Further, progress payments (and cost reimbursements on cost type contracts which were reported as progress payments for the purposes of the study) represent an investment of the government, not the contractor. Any advance payments by the government were treated as progress payments for the purposes of the study. This is a conservative definition of investment but one that fairly portrays the relative levels of investment made by defense and commercial contractors. It is also the best approximation that can be made to compare with the equity plus long term debt definition of investment.

RETURN ON INVESTMENT

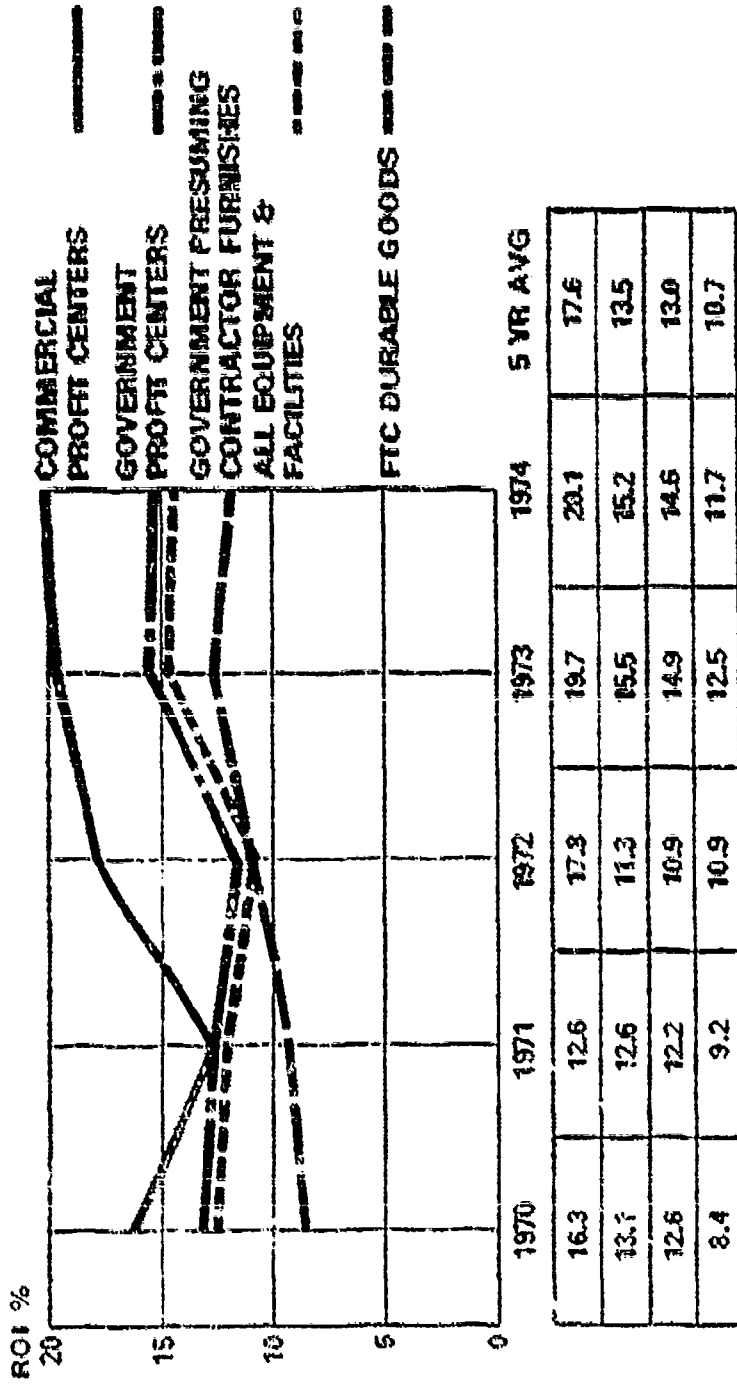
HOW TO MEASURE?

- **RETURN ON EQUITY CAPITAL?**
- **RETURN ON EQUITY PLUS LONG TERM DEBT?**
- **RETURN ON OPERATING CAPITAL AND FACILITIES CAPITAL?**
- **RETURN ON TOTAL ASSETS?**
- **RETURN ON TOTAL ASSETS LESS PROGRESS AND ADVANCE PAYMENTS?**

Return on Investment. The chart shows the time trends of profit before taxes/total assets (less progress and advance payments) for commercial and government profit centers, government profit centers presuming the contractor furnished all equipment and facilities, and for the FTC Durable Goods producers. Commercial profit centers averaged 17.6% for the five year period, which is not much above the 17.1% return on sales. Government profit centers averaged 13.5%, which is 2.9 times the return on sales. FTC Durable Goods producers averaged 10.7% for the five years, which is 1.6 times the return on sales. Although government profit centers indicated a lower return on sales than the FTC sample, the government profit center return on investment is higher than the FTC sample. This relationship has been found in prior profit studies and was no surprise to the study group. The amount of government owned facilities was thought to be the explanation for the relatively high return on investment for government profit centers. To assess the impact of these facilities, data was collected on the gross and net book value of land, buildings, and equipment that was owned by the contractor. Further, the weighted average age of the facilities was collected. This data enabled the study group to determine the rates of depreciation that were applied by the contractor. Additional data was collected on the acquisition cost and weighted average age of government owned facilities. This data enabled the study group to impute depreciation for the government owned facilities.

Consequently, net book value amounts for government owned facilities were computed that approximated the amounts that the contractors would carry on their books if they owned the government facilities. Inclusion of government owned facilities at a depreciated value would decrease the return on investment for government profit centers from 13.5% to 13.0%. Prior comparisons have been made using the acquisition cost of government owned facilities; however, that data would not be comparable with the published financial data that is used as the basis for most of the FTC sample. In conclusion, the return on investment for government profit centers is higher than the FTC data, and inclusion of the depreciated value of government owned facilities makes little difference in the rate of return.

**PROFITABILITY — RETURN ON INVESTMENT
PROFIT BEFORE TAXES/TOTAL ASSETS
(Less Progress and Advance Payments)**



SOURCES: C&I
FTC

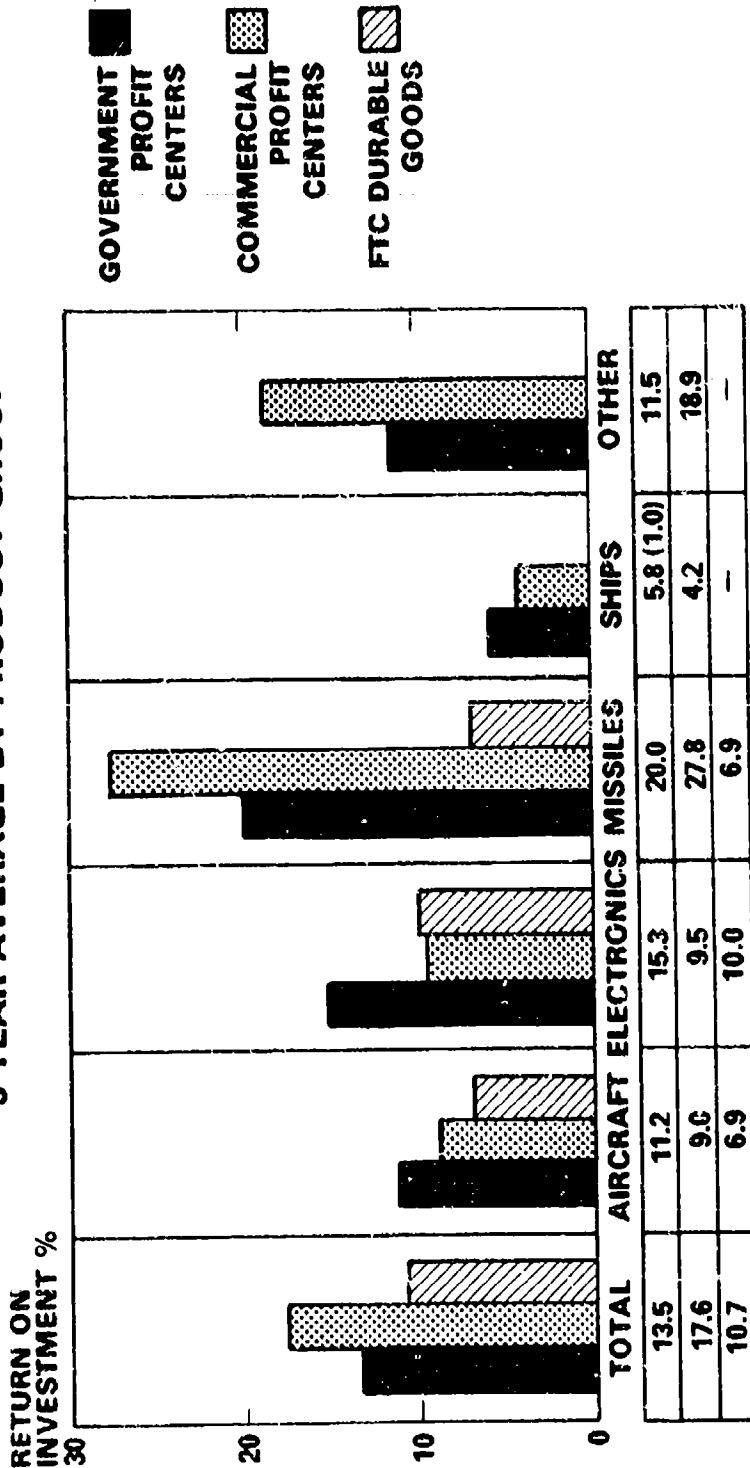
Return on Investment by Product Group. The chart shows the five year averages of profitability by product group for the sources of data as follows:

Government Profit Centers. The return on investment pattern for government profit centers is the same as the return on sales pattern. Missile manufacturers reported the highest return on investment, with an average of 20.0%. The lowest return on investment was reported by shipbuilders, with an average of 5.8%. If "qualified" data is considered, the industry average for shipbuilders is 1.0%. The profitability of the other product groups fell in between these two extremes.

Commercial Profit Centers. The highest return on investment was reported for the missile manufacturers, with an average of 27.8%; however, the dollars in this product group are insignificant. The next most profitable product group is "other", which is primarily composed of aircraft engines and general purpose computers. A more interesting comparison of return on investment can be made with the aircraft product group. The reported return on investment for the commercial profit centers for aircraft is 9.0%, which is below the 11.2% reported for the government profit centers. However, on a return on sales basis, commercial profit centers for aircraft reported an average of 7.5%, which is above the average reported for the government profit centers. The reason that commercial profit centers for aircraft have reported a lower return on investment than government profit centers is the higher amount of investment in the commercial profit centers.

FTC Durable Goods. Electronics averages 10.0%, which is below the government profit center average of 15.3%. Aircraft and missiles averaged 6.9%, which is below both the government and commercial profit center averages. No data is available from the FTC for ships or the "other" product group.

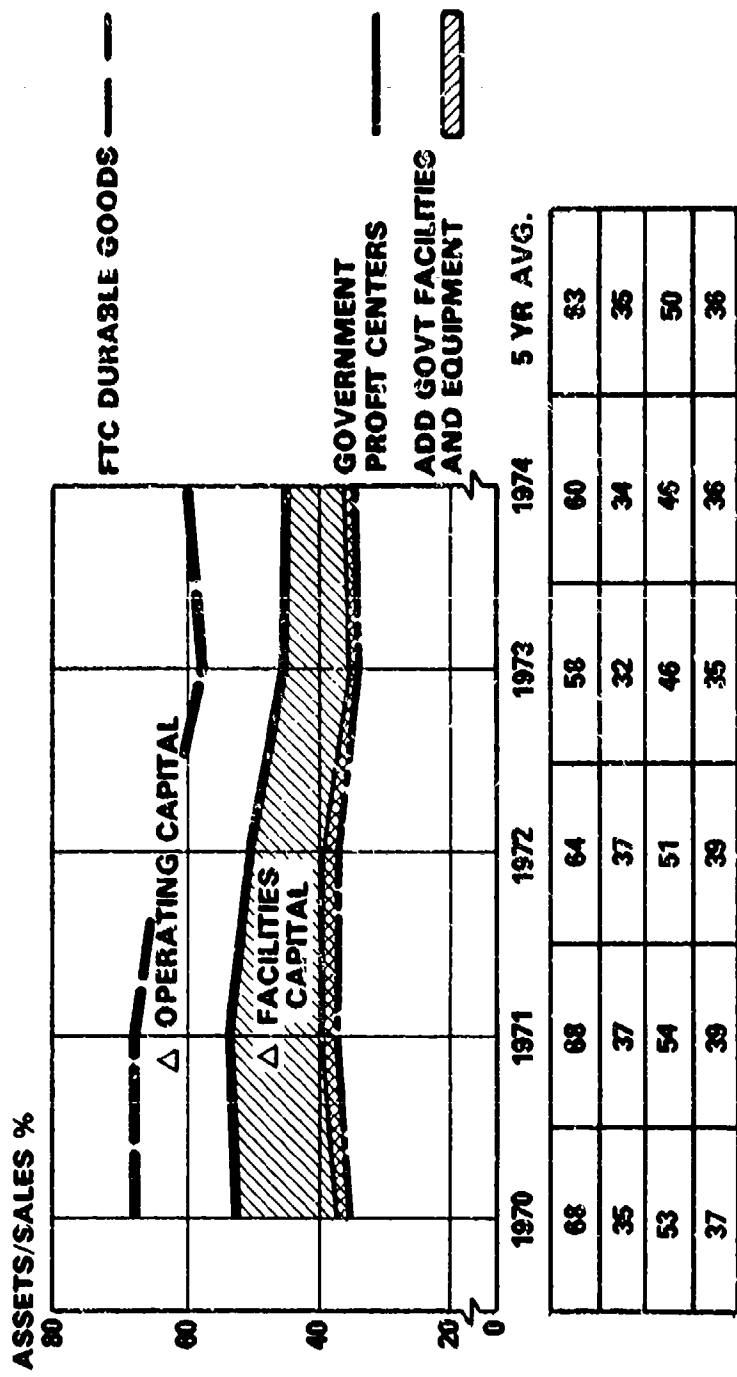
**PROFITABILITY — RETURN ON INVESTMENT
 PROFIT BEFORE TAXES/TOTAL ASSETS
 (Less Progress and Advance Payments)
 5 YEAR AVERAGE BY PRODUCT GROUP**



SOURCES: C&L
 FTC

Assets/Sales. The chart shows the time trends of assets (defined as total assets less progress and advance payments)/sales for the FTC Durable Goods producers, government profit centers, and government profit centers with additional investment in facilities. The FTC data indicates that commercial contractors invest an average of 63¢ for every dollar of sales. Government contractors, on the other hand, invest an average of 35¢ for every dollar of sales. This is a significant difference. To examine the reasons for this difference, the investment was divided in terms of facilities capital (net book value of land, buildings, and equipment) and operating capital (current assets less progress and advance payments). It was found that the investment by government contractors would increase to 50¢ on the sales dollar if government contractors invested in facilities to the same degree of capital intensity as commercial contractors. This is noted on the chart as the "delta" for facilities capital. The difference between the government investment of 50¢ and the FTC average of 63¢ is the "delta" for operating capital, which is caused by the different financing of government and commercial contracts. If the net book value based on imputed depreciation for government owned facilities was added to the government contractor investment, the overall investment would increase from 35¢ to 36¢. Thinking in terms of a profit policy that would stimulate investment, the lower limit would be around the 36¢ level and the upper limit would be around the 50¢ level.

PROFITABILITY - RETURN ON INVESTMENT ASSETS/SALES



SOURCES: FTC
C&L

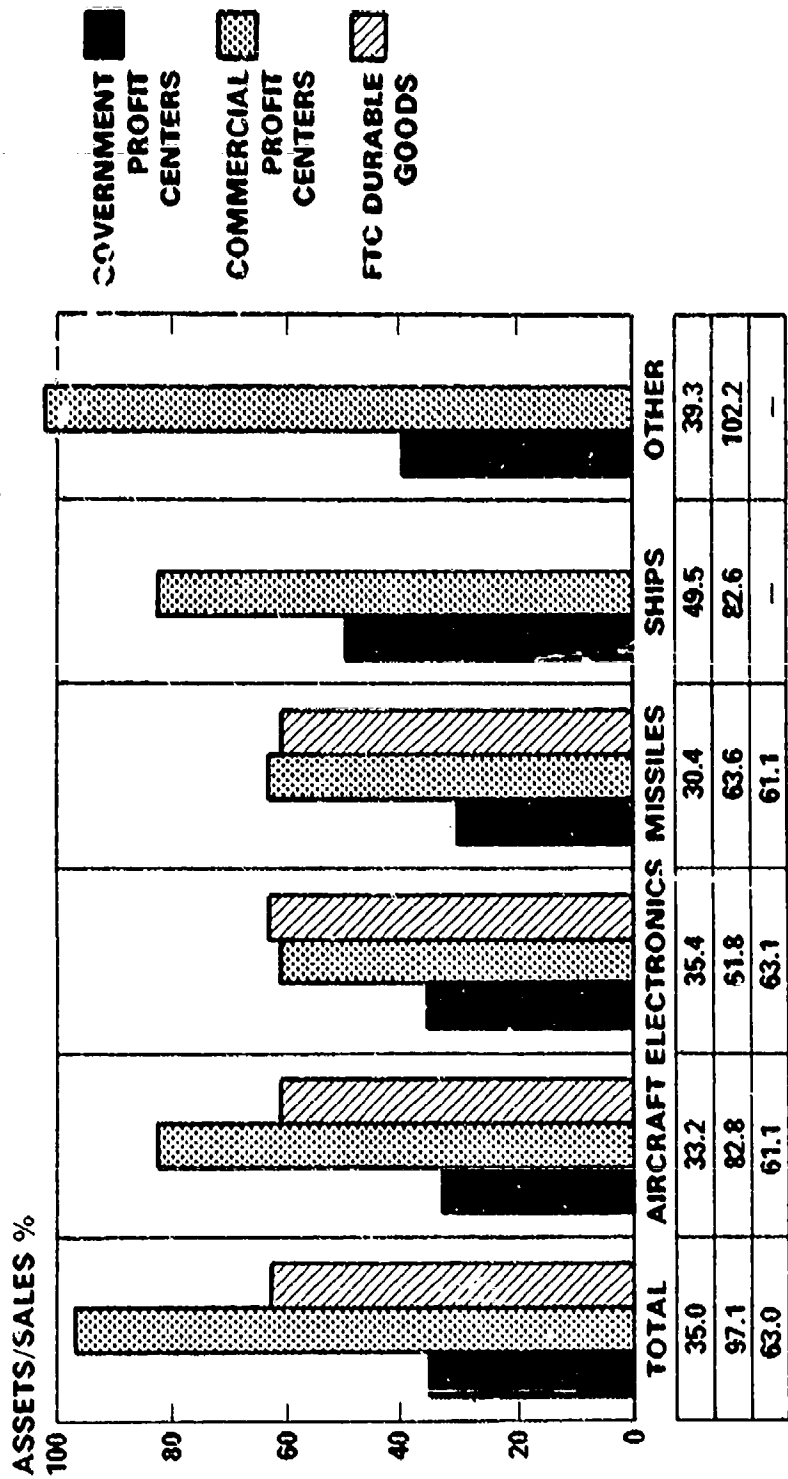
Assets/Sales by Product Group. The chart shows the five year averages of investment to sales by product group for the sources of data as follows:

Government Profit Centers. The amount of investment required to support a dollars worth of sales for the government profit centers shows an inverse pattern to the return on investment averages by product group. Shipbuilders averaged the highest investment, at 49.5%, of the product groups. Shipbuilders also reported the lowest return on investment of any product group. Missile manufacturers reported the lowest amount of investment, at 30.4%, of any product group. Missile manufacturers also reported the highest return on investment. The other product groups fell in between these extremes.

Commercial Profit Centers. On an average basis, commercial profit centers reported almost three times the amount of investment that was reported for government profit centers (97.1% commercial vs 35.0% government). One of the concerns of the study group was that the defense contractors would have a tendency to understate the investment for commercial profit centers, which would overstate the return on investment. However, the data indicates that this did not occur. The study group feels that the discipline imposed on the participating contractors by the CPA review contributed to more realistic reporting of investment data.

FTC Durable Goods. On an average basis, the FTC data indicated more investment than the government profit centers but less investment than the commercial profit centers.

PROFITABILITY - RETURN ON INVESTMENT
ASSETS/SALES
5 YEAR AVERAGE BY PRODUCT GROUP



SOURCES C&L
 FTC

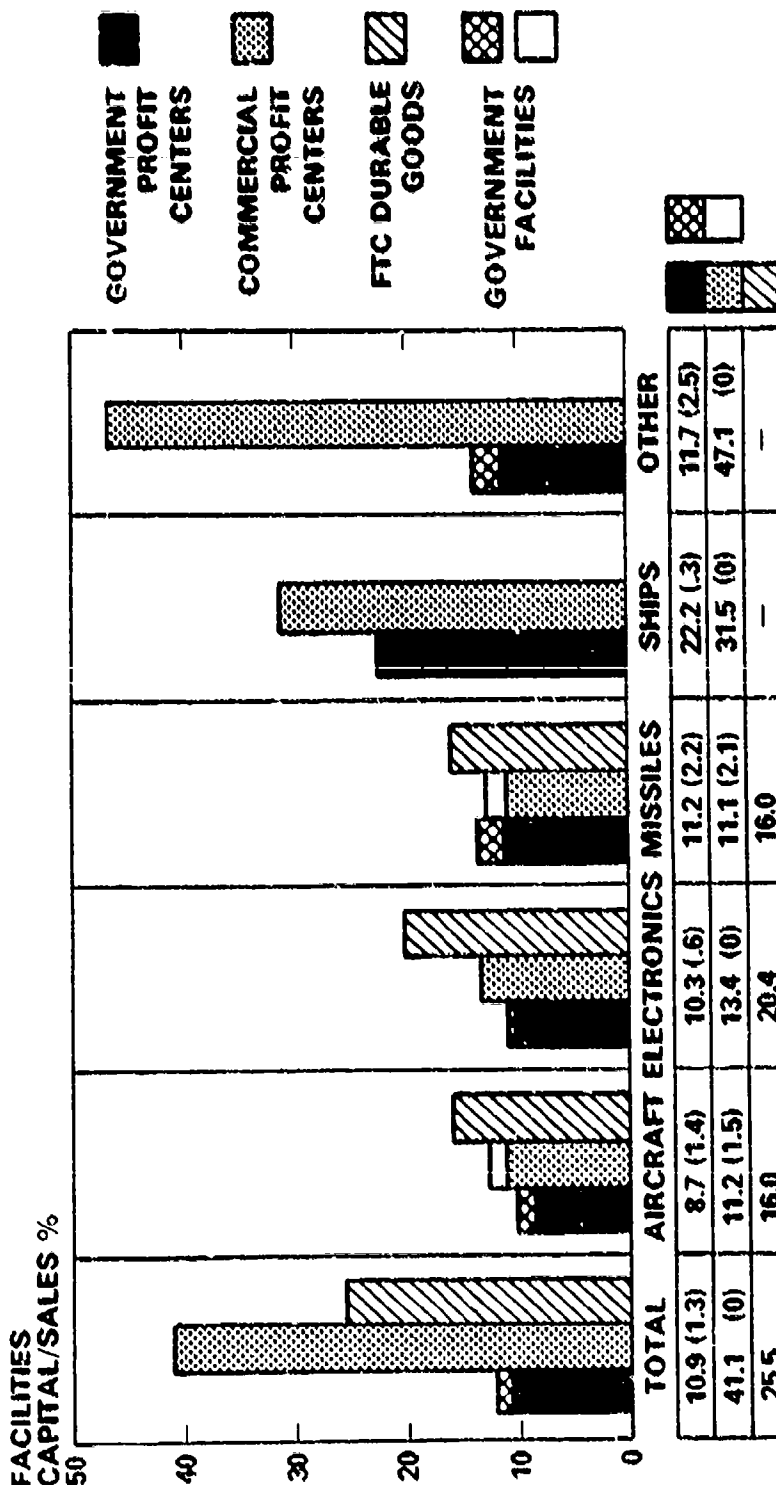
Facilities Capital/Sales by Product Group. The chart shows the five year averages of facilities capital (net book value of land, buildings, and equipment)/sales by product group for the sources of data as follows:

Government Profit Centers. On an average basis, government profit centers indicated an investment of 10.9¢ in facilities to support a dollar's worth of sales. If the value of government owned facilities on an imputed depreciation basis was added to the investment, an additional 1.3¢ in investment (the data in parenthesis) would be reported. Shipbuilders reported 22.2% investment, which is the highest of any product group. Aircraft manufacturers reported 8.7% investment, which is the lowest of any product group. The other product groups fell in between these extremes.

Commercial Profit Centers. On an average basis, commercial profit centers reported about four times as much investment in facilities as was reported for the government profit centers (41.1% commercial vs 10.9% government). However, most of this difference is in the "other" product group.

FTC Durable Goods. On an average basis, the FTC data indicated an investment of about 2½ times as much as the government profit centers (25.5% FTC vs 10.9% government). The investment for the aircraft and missiles product group @ 16.0% is greater than the profit center investment. This is probably because the FTC sample includes smaller companies that generate a greater percentage of sales from in-house work than the companies included in the profit center sample. The electronics product group @20.4% is higher than the profit center data, probably for the same reason the aircraft product group is higher.

**PROFITABILITY — RETURN ON INVESTMENT
FACILITIES CAPITAL/SALES
5 YEAR AVERAGE BY PRODUCT GROUP**



SOURCES: C&L
FTC

Interaction Between Facilities Capital Investment and Return

On Sales. The chart shows facilities capital/sales percentages on the left axis and the profit before taxes/sales on the bottom axis. The purpose of the chart is to explain the interaction between the amount of investment a contractor is willing to make in facilities and the return on sales. An explanation of each source of data is as follows:

Government Profit Centers. Defense contractors averaged 4.7% return on sales and 10.9% investment in facilities.

FTC Durable Goods. The FTC contractors averaged 6.7% return on sales and 25.5% investment in facilities.

Commercial Profit Centers. Commercial profit centers averaged 17.1% return on sales and 41.1% investment in facilities.

Note that the investment in commercial profit centers is about 3.7 times the investment in government profit centers. Further, note that the return on sales for the commercial profit centers is about 3.6 times the return on sales for the government profit centers. There is a rough correlation between the amount of investment a company is willing to make and the amount of profit dollars that the company can expect to realize. Investment in facilities takes money, and the amount of money that will be invested is somewhat dependent on the margin of profit dollars that will flow to retained earnings. Looking at this problem another way, an examination of the sources of funds for investment would reveal the following:

Equity Funds. One source of funds for investment would be to issue stock. The Conference Board, in their survey of opinions from the financial community, indicated that investors view the defense industry as too high a risk for the rate of return; consequently, the equity market is effectively closed to defense contractors.

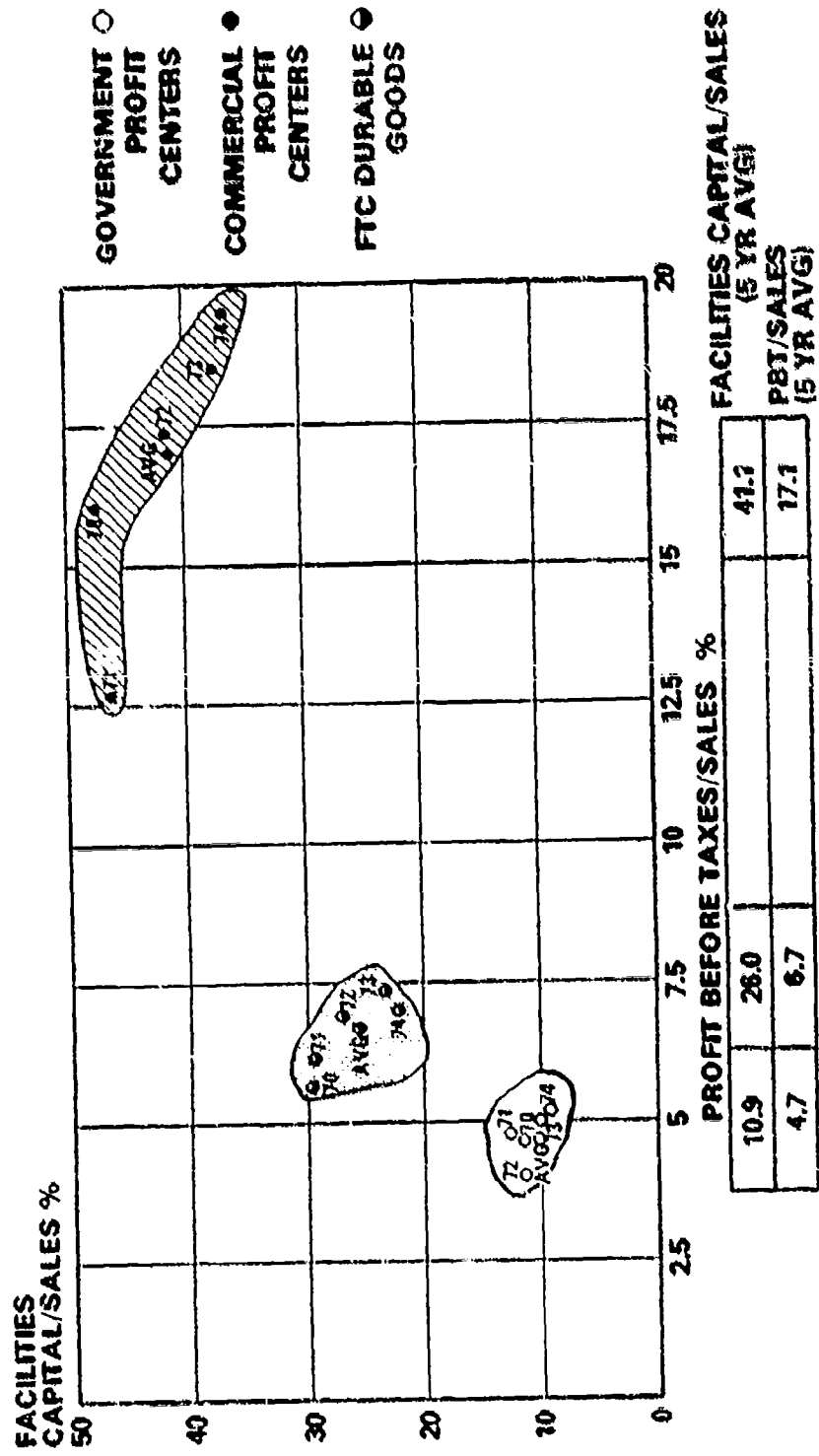
Debt Funds. A business can borrow money for investment in facilities. Reviewing general corporate data, it has been noted that debt/equity ratios have gone up over the past several years and that defense contractors' earnings represent a smaller multiple of times interest earned than they did a few years ago.

Depreciation. Depreciation is a source of funds that is being reinvested. General corporate data indicates that defense contractors are investing at an amount about equal to their annual depreciation. Because of the inflated replacement cost of capital goods, defense contractors cannot stay even if they only invest the dollars generated through depreciation.

Retained Earnings. Investment funds can be made available from retained earnings. The amount of retained earnings is dependent on the amount of dollars of profit the business unit generates. Another name of the dollars of profit is margin, which equates to return on sales.

In summary, increased return on sales will help stimulate investment. If it is efficient in the commercial marketplace for the FTC Durable Goods producers to employ about 2½ times the amount of facilities per dollar of sales, then there are probably productivity gains that could be made if defense contractors increased their investment. This increase in investment should decrease the production cost and the price to the government.

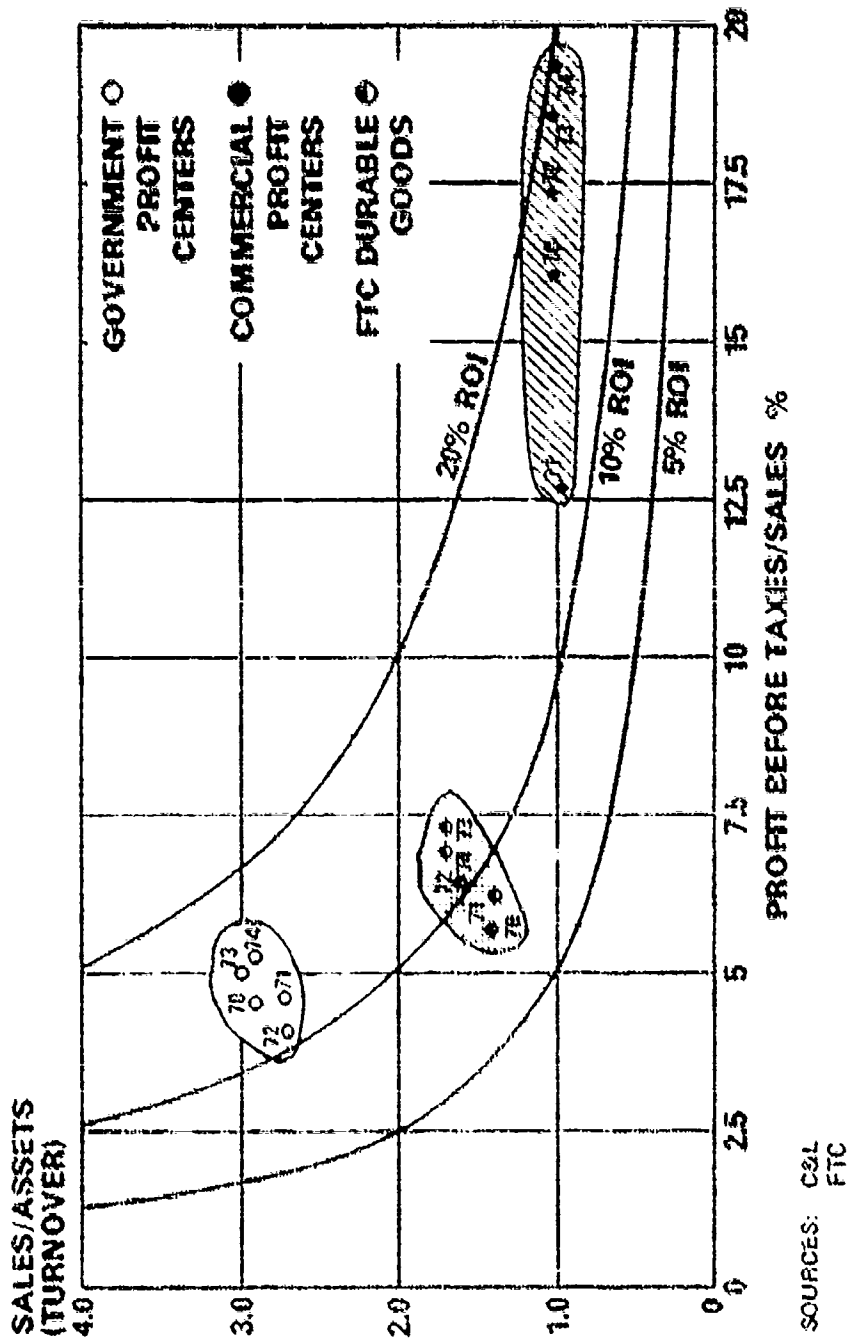
INTERACTION BETWEEN FACILITIES CAPITAL INVESTMENT AND RETURN ON SALES



SOURCES: C&L
FTC

Interaction Between Asset Turnover and Profit on Sales. The chart shows the sales/asset turnover on the left axis and the profit before taxes/sales on the bottom axis. Turnover refers to the amount of sales generated by a given amount of investment. A turnover rate of one indicates that there is one dollar's worth of investment supporting a dollar in sales. A turnover rate of two indicates that there is 50¢ worth of investment supporting a dollar in sales. A turnover rate of four indicates that there is 25¢ in investment supporting a dollar in sales. The multiple of the turnover rate times the return on sales is the return on investment. Government contractors are able to maintain their return on investment on a low profit margin by keeping their investment low. The new profit policy should allow the return on sales to move upward as the amount of investment in facilities moves upward. If investment increased, the return on sales would go up and the return on investment would go down, which would more closely align the government profit centers to the FTC Durable Goods producers. The net result of this action should be a lower price to the government.

INTERACTION BETWEEN ASSET TURNOVER AND PROFIT ON SALES



Chapter III

GOVERNMENT PROCUREMENT PERSONNEL OPINION SURVEY

I. BACKGROUND AND TASK OBJECTIVE

This chapter discusses the Government Procurement Personnel Opinion Survey which is one of the several corollary studies undertaken in support of the overall Profit '76 Study. The objective was to (1) survey and obtain a valid representation of Armed Services procurement personnel attitudes, and (2) provide a vehicle for communicating honest opinions in strict confidence. Replies were submitted directly without review at supervisory levels to Coopers & Lybrand, an accounting and management consulting firm. Anonymity of respondents was maintained. To the best of our knowledge this is the first time that a survey of this type has been conducted.

It was considered that soliciting the informal opinion of government procurement personnel as to the overall effectiveness of DOD profit policy, and changes needed would add depth and perspective to the final determinations of the Profit '76 Study Group. The survey task was performed under the guidance and direction of the Joint Logistics Commanders (JLC) representatives. CAPT Stuart F. Platt, SC, USN was tasked by the Director, Profit '76 Study to be Chairman of the JLC Committee and to direct this "in-house" opinion survey. Coopers & Lybrand was retained to design and conduct the survey in such a manner as to guarantee anonymity to the respondents. From inception to completion of the

survey entailed approximately a six months effort. More than 300 questionnaires containing 58 questions, were mailed out and over 200 replies were received. The typical respondent was a civil servant having over 15 years procurement experience. Of the respondents, 46% currently hold contracting officer authority. Approximately 84% of those surveyed were civilians and the balance military personnel.

II. METHODOLOGY

A two-step approach was developed including (1) a pilot study, and (2) the final survey. The approach submitted by Coopers & Lybrand and approved by the JLC Committee (Ex. 1) involved the following four sequential actions:

- (1) Designing the questionnaire
- (2) Pilot study and questionnaire finalization
- (3) Questionnaire distribution, return and processing
- (4) Analysis

(a) Design

In the development of the design of the questionnaire various DOD documents were reviewed including the Profit '76 Study Plan and relevant sections of the Armed Services Procurement Regulation. The JLC representatives contributed questions, suggestions and topic coverages and Coopers & Lybrand developed from them a rough questionnaire. The material was then

analyzed in detail, identified, categorized and evaluated as to its utility towards an emerging set of objectives.

Major issues became discernable and particular survey questions appeared first dimly, and then with more clarity. It became evident that every nuance could not be accommodated, thus priorities were established. Problems of ambiguity and overlap were difficult, and required particular awareness, logic, considerable application of "dictionary" sources of definition, and some spirit of compromise to resolve. Gradually a trial questionnaire was developed, and after five weeks of effort, formulated for test.

(b) Pilot Study and Questionnaire Finalization

The JLC Committee selected 28 individuals in procurement assignments to be recipients of the Pilot Study questionnaire. These individuals were asked to:

- (1) Complete the questionnaire as an ordinary participant, and
- (2) Review it again, and critique content, format, and wording.

Fourteen completed test questionnaires were returned with comments, suggestions and criticisms. The replies were used to reform the questionnaire resulting in revised, added, and eliminated questions.

The final survey questionnaire was developed incorporating the experience evolving from the pilot test. Four "Major Issues", designated earlier by the JLC Committee for particular attention were specifically organized for "in-depth" analysis. These "Major Issues" are:

- (1) DPC 107 and the return-on-investment concept
- (2) Changes in the competitive base
- (3) Application and effectiveness of Weighted Guidelines
- (4) Interest as an allowable cost

Each of these major issues is discussed in detail in subsequent portions of this chapter.

(c) Questionnaire distribution, return and processing

For this third phase of the task, the JLC Committee developed a list of 312 names from a somewhat larger list, representative of the personnel in the board procurement spectrum of all three Military Departments. After verification of addresses the list of 312 names was delivered to Coopers & Lybrand for distribution of questionnaires.

The guarantee of confidentiality became the paramount objective associated with the handling accorded the questionnaires as they were mailed, returned and processed. Respondents names did not appear on returned

questionnaires, and no correlation of replies to the mailing list was attempted nor possible in a practical sense. The Coopers & Lybrand Washington office was used as the single point for mailing and return of the questionnaires.

Of the 312 questionnaires mailed, a total of 219 were completed and returned to Coopers & Lybrand. Of these, 19 were received past the cut-off date, and too late for inclusion in the data base used for analysis. Thus, 200 completed survey questionnaires comprise the sample, and form the basis for the findings. An analysis and review of returns against personal characteristic data (not individual identity) of the initial mailing list indicates that a reasonable cross section of the nominated group was achieved.

The personal background data and specific responses to the 58 questions, by the 200 respondents were extracted from the completed questionnaires received and reduced to computer input. Explanatory comments were separated from specific question responses, accumulated by question, and topic, and recorded verbatim. To ensure absolute confidentiality questionnaire responses were then destroyed.

Computer printouts were produced tabulating responses in four ways, i.e. the survey group as a whole, and three sub-sets to identify replies from Shipbuilding (18), Aircraft (85), and Missile (68) programs respondents separately. Most respondents identified themselves to more than one commodity or functional area (average of 2). The data was carefully analyzed, and reviewed against the explanatory comments, question by question. The tabulations and comments thus derived are the retained data base for the report findings and interpretations that are discussed in this chapter. The 58 survey questions and the statistical distribution of answers from the 200 respondents are appended to the Chapter as Exhibit II.

III. SURVEY FINDINGS

An analysis of the responses revealed several general attitudes worth noting:

- (1) The procurement community desires some policy changes.
- (2) They have strongly held feelings regarding many matters in the procurement process.
- (3) It is difficult to implement changes in the procurement community
- (4) The increased number of negotiated procurements and the reduced competition base are perceived to be caused by the increasingly technical and complex nature of procurements.
- (5) Industry is viewed as an adversary.

- (6) Keeping profits down is viewed as a policy objective.
- (7) Contractor investment should receive more consideration.
- (8) Allowability of an interest expense factor is highly acceptable.

A review of the explanatory comments further revealed that improved policies, better performance, and a more open relationship with industry emerged as sincere and unanimous objectives.

Each of the 58 questions provided a choice of five possible responses:

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree
- (5) Strongly agree

The percentage response to disagree and agree only, are shown in the text, however, Exhibit II reflects the five categories for each question.

Two observations, worthy of note, are evident from the statistical survey itself:

- (1) Sixty-eight percent of the respondents agreed that the survey was worthwhile.
- (2) There are deep divisions of opinion on the issues. In 26 of 58 questions (45%), more respondents both agreed and disagreed then checked the "neither agree or disagree" choice.

When asked about profits the respondents gave these opinions:

	<u>DISAGREE</u>	<u>AGREE</u>
- The system puts much pressure on contracting officers to keep profits down. (Q.23)	26%	59%
- Profits should be allowed on escalation under economic price adjustment clauses (Q.25)	57%	32%
- Profits and defense business should be less than on commercial business. (Q.22)	49%	30%

Plainly, these questions and corollary comments reveal that procurement personnel see themselves in a system whose goal is the control and/or reduction of negotiated profit. Many comments indicate that this is justified because public funds are involved.

Several questions led to answers revealing broad attitudes of procurement personnel towards the industry segments they are confronting regularly:

	<u>DISAGREE</u>	<u>AGREE</u>
- Profits of defense contractors are too low. (Q.15)	40%	26%
- (Regarding DPC 107) Contractors would not cooperate with contracting officials to make this program successful. (Q.32)	5%	45%
- Contractors include a 'fudge factor' in their proposals to allow the government to negotiate the price downward. (Q.39)	7%	74%
- Contracting officers frequently see proposals that are obvious "buy-ins." (Q.41)	20%	49%

	<u>DISAGREE</u>	<u>AGREE</u>
- As part of long range marketing strategy, contractors bid low on competitive procurements knowing they will lose money in the short run. (Q.40)	12%	60%

Obviously the respondents regard defense contractors as adversaries to be managed and/or controlled at the bargaining table. These attitudes are deeply ingrained, and may present problems in attempts to reshape procurement policies to new or different objectives.

Equally strong opinions surfaced concerning some correct policies and present practices:

	<u>DISAGREE</u>	<u>AGREE</u>
- There are frequently unnecessary technical or administrative requirements placed in the contract that increase cost. (Q.37)	8%	82%
- The current extent of government supervision and control tends to reduce contractor efficiency. (Q.50)	27%	59%

These views (and those on DPC 107) suggest that the current state of complex safeguards and regulation amounts to overcontrol. Comments reinforcing the majority position pin-pointed "social objectives" and "gold plated specs" as root causes of difficulty.

A few questions yielded surprisingly equal but opposite opinion spreads, as if to further emphasize the complexity of the subject.

	<u>DISAGREE</u>	<u>AGREE</u>
- Progress payments should primarily be based on incurred costs...rather than on actual physical progress. (Q.6)	43%	42%

	<u>DISAGREE</u>	<u>AGREE</u>
- There is little direct relationship between quality or performance of product and levels of profit. (Q.20)	37%	50%
- In-plant government personnel frequently increase the cost of contract performance unnecessarily. (Q.36)	37%	43%
- No matter how acceptable a contractor's initial proposal, in practice, government efforts are made to negotiate the price downward. (Q.38)	43%	48%
- The type of contract used in weapons acquisition is frequently not the most appropriate one for the particular type of procurement (Q.42)	37%	34%
- It isn't really possible to measure accurately the efficiency of a contractor. (Q.46)	44%	44%

It appears that experienced workers in the procurement field simply can't agree on the causative factors affecting many details of the procurement function. This lack of agreement supports, with some emphasis, the thesis that "Procurement is an art, not a science", and poses distinct problems in the development and application of uniform policy rules. The 'why' behind the conflicting opinions seems to indicate the need for considerable sophisticated analysis.

OPINIONS ON MAJOR ISSUES

This section briefs the survey results on the four major procurement issues.

DPC 107

Defense Procurement Circular No. 107 was issued as a means of recognizing the return on investment concept. The concept of this Circular gives recognition to the fact that business managers make investment decisions on the basis of the return they expect to receive. DPC 107 has had limited implementation and little apparent success to date. The results of this survey are:

- Question 28 asks whether the return-on-investment concept is a valid approach to achieving increased contractor investment. There is substantial disagreement, with 26% considering it valid and 29% disagreeing. The largest proportion of people, 42%, neither agreed nor disagreed. The explanatory comments reveal that many people have little understanding and/or experience with DPC 107.
- Survey participants had an opportunity to indicate what the major problems were in implementing DPC 107 (Questions 31 through 35). Again, a high percentage of respondents, ranging from 25% to 59%, were not able to agree or disagree. Nevertheless, the following reasons given, in order of importance, are revealing:

	<u>DISAGREE</u>	<u>AGREE</u>
- DPC 107 was too complicated to implement at the working level. (Q.31)	13%	60%
- The directive was optional rather than mandatory. (Q.35)	10%	53%
- Contractors would not cooperate with contracting officials to make this program successful. (Q.32)	5%	45%
- DPC 107 would have an adverse profit impact on major segments of industry. (Q.33)	17%	36%

	<u>DISAGREE</u>	<u>AGREE</u>
- DPC 107 was typically resisted by firms having heavily depreciated plants and equipment. (Q.34)	3%	35%

A careful reading of the explanatory comments to Questions 31 through 35 provides interesting insights into why participants responded as they did. Lack of success is attributed to: (1) the optional nature of the approach, (2) procedural complexity, (3) failure to "sell" the concept, and (4) the lack of incentive to contractors with heavily depreciated plants or largely government-owned facilities to participate.

Changes in Competitive Base

The need to maintain an effective technological production base is fundamental to defense procurement policy. The opinions from this survey show that procurement personnel consider that there is a growing problem in this area. Fifty-one percent of the respondents indicated that they believe that there has been a significant decline in the number of competitor contractors (Q.51); 21% disagreed and 26% neither agreed nor disagreed. In addition, 55% expect continued erosion of capacity among producers with only 23% disagreeing. (Q.57).

Assuming a decline in competition, respondents give the following, in order of importance, as the major reasons:

	<u>DISAGREE</u>	<u>AGREE</u>
- Fewer but more technically complex equipment procurements. (Q.53)	10%	84%
- Contractors view defense business to be a higher risk than commercial business. (Q.54)	17%	68%
- Smaller contractors are dropping out because they are unable to compete. (Q.55)	15%	68%
- Weighted Guideline profit limitations are a major reason for the decline in competition. (Q.52)	64%	13%

Consensus of the group is quite clear: The increasingly technical and complex nature of procurements is the major contributor to decreasing competition, however, WGL profit limitations were considered to have little to do with the decrease.

It is also important to note that survey participants believe that there are other important reasons for this decrease. (Q.56). A reading of the explanatory comments to Question 56 reveals a variety of reasons, including the following:

- . Complexity of dealing with government; delay in payment; red tape, controls.
- . Overall reduction in defense business.
- . Lack of understanding and trust in government contract terms and conditions.
- . Multitude of burdensome legal and reporting requirements.
- . Commercial business less bothersome and more profitable.
- . Emphasis on sole source procurement.

Weighted Guidelines

Weighted Guidelines (WGL) are a structured approach to the determination of profit in negotiated contracts. They require consideration of a contractors' financial requirements, performance record, technical and program risks, and other factors such as source of funds, capital investment and special achievements. These guidelines have been in effect for some time and the survey attempted to measure their value in the eyes of the procurement personnel.

Several questions dealt with Weighted Guidelines, how they are administered, and how they affect the procurement process.

Following, in order of the strength of the opinion, are the responses to these questions:

	<u>DISAGREE</u>	<u>AGREE</u>
- The current Weighted Guidelines approach is sufficiently flexible to provide adequate profits to the majority of contractors. (Q.21)	23%	67%
- Most DOD personnel who negotiate profit or fee have a good understanding of WGL. (Q.3)	18%	66%
- Weighted Guidelines profit limitations are a major reason for the decline in competition. (Q.52)	64%	13%
- Contractors would sometimes accept lower profits if it were not for Weighted Guidelines policies. (Q.24)	64%	15%
- Contractor capital investment should be more significantly rewarded under the Weighted Guidelines. (Q.30)	13%	60%

	<u>DISAGREE</u>	<u>AGREE</u>
- The Weighted Guidelines tend to depress negotiated contractor profits. (Q.17)	56%	25%
- Contractors generally tend to question the same areas of WGL computations (Q.4)	19%	51%
- The Weighted Guidelines are used more as a crutch to justify the final negotiated price, rather than as a tool to develop an appropriate profit. (Q.2)	46%	45%

Overall, and with particular recollection of past controversy, Weighted Guidelines get a high report card.

INTEREST ON AN ALLOWABLE COST

In the last several years, the cost of money has risen considerably. There has been increasing pressure and agitation towards an adjustment in government policy to recognize interest as an allowable cost of doing business.

Fifty-nine percent of the group indicated that they believe that interest expense should be an allowable cost; 31% disagreed. (Q.9). Based on the explanatory comments, many of those who disagreed would be inclined to agree under certain circumstances and/or with qualifications and restrictions, for example:

"Interest expense could be allowed if subject to a ceiling based on a ratio (to be determined) of long term liabilities to equity. This would reduce or stifle any attempt to overborrow or build up interest expense between related companies."

On the subject of imputed interest on investment as an allowable cost, there is no clearcut opinion. (Q.10) 38% agree and 31% disagree. A relatively large number, 30%, had no opinion. There were very few explanatory comments on this subject. It is possible that many people do not fully understand the concept or its significance. However, those that did responded strongly.

Comments on questions 9 and 10 are cited to fully flavor this issue:

Q.9 DOD policy should permit interest expense to be an allowable cost.

Agree

"It is a real cost of doing business."

"A contractor who must borrow money and pay interest should be allowed to recover this cost on government contracts."

"Interest expense is a fact of life."

Disagree

"If interest was an allowable cost, it would appear that contractors could develop a non-cautious attitude toward the cost of borrowing money, since the government would pay for it."

"These items are legitimate expenses, but would be misused if a change was made."

"A greater profit should be allowed if necessary... but a company should reap a greater reward on its own capital than on borrowed capital."

Neither Agree nor Disagree

"Only necessary and reasonable interest costs should be allowed."

"Without opening another area to the bureaucratic circus, it seems some easily workable solution to this should be possible."

Q.10 DOD policy should permit a factor for imputed interest investment to be an allowable cost.

Agree

"Or some method of measuring and considering return on investment."

"As an alternative to making interest an allowable cost."

"The imputed rate of the contractor's investment of his assets is a legitimate cost of doing business. It is not an element of profit but rather an element of cost....."

Disagree

"See Q.9. This kind of interest is akin to dividends in reverse and should not be allowed."

"I don't object to actual interest, but can't buy imputed interest."

"This sounds good, but I can't believe it could be made to work."

Neither Agree nor Disagree

"Yes, provided one can settle on what imputed interest is."

"The question has too many ramifications and is part of the larger issue posed in Q.9."

"If the government really desires contractors to finance some portion of.....performance, why should the government...stand the expense..?"

While general agreement seems to exist as to the cost validity of interest, mistrust of method is everywhere.

RESPONSE VARIATION BY COMMODITY

The tabulation and comparison of responses from personnel engaged in Ships, Aircraft, and Missile procurement areas was marked by its consistency when compared with the norm. In 55 of 58 question response correlations were well above statistical expectation. Three responses show interesting differences of shipbuilding sub-group thought and opinion from aircraft and missile program sub-groups.

To the questions:

The Weighted Guidelines are used more as a crutch to justify the final negotiated price, rather than as a tool to develop an appropriate profit. (Q.2.)

Only 27% of Ships respondents agreed as contrasted to 52% and 48% of Aircraft and Missiles respondents respectively.

Normally, no attempt is made to track the profit objective to the profit negotiated and, finally, to the actual profit. (Q.12).

16% of Ships respondents agreed, compared to 34% (Aircraft) and 45% (Missiles).

The system puts much pressure on contracting offices to keep profits down. (Q.23).

Only 32% of ships procurement personnel agreed, compared to 64% and 53% in the Aircraft and Missile program areas.

While the above statistical exceptions are too sketchy for reliable conclusion, they may signify different procedural approaches and "cultural backgrounds" inherent in certain industry segments that are worthy of further investigation. The case is partly made that "Shipbuilding is different", but "Why it should be" is not disclosed.

IV. INTERNAL SURVEY OF DOD PROCUREMENT PERSONNEL

Survey Interpretation

It should be understood that this survey and its analysis are based upon opinions of professional procurement personnel and their personal viewpoints of the process. As such, these views may or may not relate directly to present procurement policy objectives, or any specific facts as known. They are, however, representative of the respondent's experience and training, and indicative of current attitudes in dealing with defense contractors. These survey findings represent the base from which any policy development affecting the people who will apply it must proceed.

While the survey participants were set forth earlier in this chapter, it is worthwhile to reiterate the sample. 312 procurement personnel were selected; over 219 responded; and an even 200 detailed replies were processed as the opinion base. These personnel represent a good cross section of the individuals who are the practitioners and implementors of Defense procurement policy. The typical respondent was a career civil servant in his mid-to-late forties with more than 15 years procurement experience.

Several general attitudes were revealed in the responses:

- (1) The procurement community desires some policy changes.
- (2) They hold strong feelings concerning many matters in the procurement process.

- (3) It is difficult to bring about constructive change and they are aware of this.
- (4) They perceive through experience various undesirable trends resulting from a continued growth in complexity of technical and administrative requirements. These include a reduction in the competitive base, an increasing ratio of negotiated procurements, and resultant unnecessary cost increases.

Interpretation of the responses to the four high-lighted Major Issue areas revealed significant facts and emphasis of great interest to further policy development.

By Issue topic the following points are worthy of note:

Defense Procurement Circular 107

- (1) The effort to increase consideration of contractors' return-on-investment failed, perhaps for the wrong reasons, but failed nevertheless.
- (2) "Too complicated to use" was cited as the principal reason for non-acceptance, but no real rationale invalidating the concept surfaced.
- (3) The policy was optional as to application, and neither government nor contractor personnel were motivated sufficiently to take the trouble to use it. Comments indicated little understanding of the intent or mechanics.

Lesson Learned

Education and training are key to any further attempts to implement this or any other policy. This requirement varies directly with the complexity of new concepts and procedures.

Competitive Base

- (1) Respondents saw a worsening trend in Defense's ability to maintain the current level of competitive awards.
- (2) Principal cause cited was "fewer and technically more complex" procurements, the "only game in town" syndrome.

- (3) In addition to the high cost and risks involved, industry complaints reported by respondents included:
- Bothersome, sometimes arbitrary, administrative procedures.
 - Defense business, contrasted with commercial business, is too risky and unprofitable.
 - From smaller contractors, inability to contend with the volume and velocity of reports and other requirements.

Weighted Guidelines

- (1) From working level procurement people, Weighted Guidelines are adjudged to be an effective and satisfactory way to structure and determine profit in negotiated contracts.
- (2) The only significant weakness cited is the failure to reward contractors' capital investment more substantially.

Interest as an Allowable Cost

- (1) There was (surprising) support for the concept of allowing a cost factor for interest expense.
- (2) Even those who opposed the allowance did so on the basis of possible procedural abuses, rather than opposing the concept itself.
- (3) The allowance of imputed interest yielded no clear cut opinion, and appeared to be not understood, or misunderstood, by many respondents.

CONCLUSIONS:

From the multitude of survey responses reviewed, it was most evident that the procurement community felt strongly about many things, were split in even these strong opinions, and were able to articulate their opinions. Their responses are useful, though clear-cut conclusions do not necessarily follow. These, however, are evident:

- (1) The DOD procurement professionals view industry as an adversary.
- (2) These practitioners consider the reduction of profits to be a basic directive.
- (3) Subject to the above, the work force believes in "Quality products, delivered on time, at reasonable prices".

Whether these attitudes and underlying motivations are indicative of the most desirable state of affairs is largely a question of "How refined an assessment of policy is required?" A strong case can be made, backed credibly by the results of this survey, that the DOD procurement professional came by his attitudes honestly, and by persevering attention to his trade, with full awareness of the complex web of laws, regulations and administrative instructions provided for his conduct. If a change in his priorities or basic attitudes is necessary, the parameters of the task are quite apparent. Successful reorientation, however slight, will require a careful refinement of policy objectives and recognition of the considerable training and education lead times involved.

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PROCUREMENT PERSONNEL OPINION SURVEY
TABULATION OF RESPONSES

RESPONSE DISTRIBUTION

Question	Total Group (200 respondents)					Ships (18 respondents)					Aircraft (85 respondents)					Missiles (68 respondents)				
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. The DOD should substantially revise its profit policies.	3	23	20	42	11	0	16	22	61	0	1	24	23	40	10	2	23	22	41	10
2. The Weighted Guidelines (WGL) are used more as a crutch to justify the final negotiated price, rather than as a tool to develop an appropriate profit.	8	38	8	31	14	0	27	11	50	11	8	44	8	23	15	7	41	5	29	14
3. Most DOD personnel who negotiate profit or fee have a good understanding of WGL.	2	16	14	57	9	0	16	22	44	16	2	13	11	67	4	0	20	8	64	5
4. Contractors generally tend to question the same areas in the WGL computations.	2	17	28	46	5	0	22	38	33	5	3	15	26	50	4	1	20	32	40	4
5. There should be a revision in the methods of measuring progress for progress payments.	0	14	32	37	15	0	11	33	27	27	1	13	39	36	9	1	12	25	34	25
6. Progress payments should primarily be based on incurred costs in relation to estimate to complete, rather than on actual physical progress.	11	32	13	38	4	27	22	16	33	0	9	28	18	38	4	16	33	13	30	6
7. Report of Individual Profit Plan (DD Form 1495) and Report of Contract Completion (DD Form 1500) do not accurately reflect actual or current circumstances.	1	17	42	32	6	0	22	55	22	0	2	20	43	29	3	0	22	37	33	6

Question

1. The DOD should substantially revise its profit policies.
2. The Weighted Guidelines (WGL) are used more as a crutch to justify the final negotiated price, rather than as a tool to develop an appropriate profit.
3. Most DOD personnel who negotiate profit or fee have a good understanding of WGL.
4. Contractors generally tend to question the same areas in the WGL computations.
5. There should be a revision in the methods of measuring progress for progress payments.
6. Progress payments should primarily be based on incurred costs in relation to estimate to complete, rather than on actual physical progress.
7. Report of Individual Profit Plan (DD Form 1495) and Report of Contract Completion (DD Form 1500) do not accurately reflect actual or current circumstances.

Note
Response percentages for each question may not equal 100% due to rounding.

PROCUREMENT PERSONNEL OPINION SURVEY

TABULATION OF RESPONSES

Question

RESPONSE DISTRIBUTION

Question	Total Group (200 respondents)					Ships (18 respondents)					Personnel Involved in Procurement of: Aircraft (85 respondents)					Missiles (68 respondents)				
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
8. The weight ranges in the Input to Performance section of the WJL do not properly reflect the contribution to contract performance of the various cost elements.	2	24	21	37	3	0	33	27	38	0	0	42	23	29	3	2	31	20	40	4
9. DOD policy should permit interest expense to be an allowable cost.	9	22	8	45	13	11	11	5	55	16	9	20	7	48	14	5	20	8	47	16
10. DOD policy should permit a factor for imputed interest investment to be an allowable cost.	8	23	30	33	5	11	16	22	44	5	9	21	34	28	6	10	26	29	28	4
11. Prior years' profit histories of the Renegotiation Board are taken into consideration when negotiating profit for current procurements.	20	51	17	10	1	0	61	33	5	0	21	52	14	10	1	25	52	11	10	0
12. Normally, no attempt is made to track the profit objective to the profit negotiated and finally to the actual profit.	4	27	10	50	8	0	16	38	38	5	4	30	8	45	10	1	44	5	37	10
13. Profits should be negotiated on a contract-by-contract basis, with attention given to the peculiar characteristics and status of each situation.	1	5	1	50	41	0	11	0	38	50	2	7	0	55	34	2	2	0	46	47
14. Increased profits to contractors will tend to result in decreased production costs.	17	39	23	17	2	11	55	16	11	5	19	40	22	15	2	13	38	26	17	2

Note

Response percentages for each question may not equal 100% due to rounding.

PROFIT %S

PROCUREMENT PERSONNEL OPINION SURVEY

TABULATION OF RESPONSES

Question

Question	RESPONSE DISTRIBUTION																			
	Total Group (200 respondents)			Ships (18 respondents)				Aircraft (85 respondents)				Missiles (127 respondents)								
	Strongly Disagree	Disagree	Agree	Strongly Disagree	Disagree	Agree	Strongly Disagree	Disagree	Agree	Strongly Disagree	Disagree	Agree	Strongly Disagree	Disagree	Agree					
15. Profits of defense contractors are too low.	5	35	32	23	3	0	38	22	33	5	7	33	36	20	2	7	34	34	23	0
16. It is practically impossible to obtain accurate data from contractor records that will reflect true profits on defense business as compared to profits on commercial business.	2	18	15	50	13	11	27	16	27	16	1	16	14	48	19	3	21	21	42	12
17. The weighted Guidelines tend to depress negotiated contractor profits.	10	46	17	24	1	11	50	27	5	5	7	47	19	25	1	17	47	13	20	0
18. Contractors generally earn more profit on RFP contracts than cost type contracts.	1	10	12	54	14	0	16	27	38	16	2	9	11	65	10	1	7	17	61	11
19. There is a direct relationship between contractor management efficiency (cost control, cost savings) and levels of profit.	4	11	11	54	18	5	11	5	55	22	2	11	8	58	19	4	11	10	44	28
20. There is little direct relationship between quality of performance of product and levels of profit.	5	32	11	42	8	0	33	5	38	22	7	27	14	41	9	5	23	17	41	10
21. The current weighted Guidelines approach is sufficiently flexible to provide adequate profits to the majority of contractors.	2	21	7	63	4	0	22	11	66	0	3	20	10	60	4	1	13	9	69	6
22. Profit on defense business should be less than profit on commercial business.	5	40	18	26	4	11	61	11	16	0	9	38	15	33	4	7	37	20	29	4
23. The system puts much pressure on contracting officers to keep profits down.	4	22	13	45	14	16	32	11	16	16	2	17	14	51	13	6	22	17	41	12

Notes

Response percentages for each question may not equal 100% due to rounding.

PROFIT '76

PROCUREMENT PERSONNEL OPINION SURVEY

TABULATION OF RESPONSES

Question

Question	RESPONSE DISTRIBUTION																			
	Total Group (200 respondents)			Ships (18 respondents)			Aircraft (25 respondents)			Missiles (68 respondents)										
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Strongly Disagree	Disagree	Neither Agree nor Disagree								
24. Contractors would sometimes accept lower profits if it were not for weighted cost/price policies.	10	54	18	15	0	0	38	44	16	0	11	64	11	11	0	35	52	13	16	1
25. Profit should be allowed on escalation under economic price adjustment clauses.	19	38	9	29	5	11	52	5	17	11	19	32	10	33	4	26	40	10	21	1
26. Because of CPI, contractors are out for a specific profit return on each item.	2	13	9	57	18	0	11	5	77	5	1	14	8	55	20	1	9	12	52	24
27. Requests for advance payments, or other special relief, are usually justified.	2	17	37	41	1	0	22	27	50	0	1	35	35	46	1	4	10	43	30	1
28. The return on investment concept (MC 107) is a valid approach to achieving increased contractor investment and should be revitalized.	8	21	42	24	2	0	29	41	29	0	10	22	43	20	3	8	19	40	29	3
29. There are things that could be done, procedural or other, that could gain a more positive contractor response to the return on investment concept.	2	4	39	48	4	0	0	38	61	0	3	5	41	45	5	3	3	38	49	6
30. Contractor capital investment should be more significantly rewarded under the Weighted Outdelina.	1	12	25	51	9	0	16	38	44	0	1	12	21	54	10	4	15	18	58	10

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Response percentages for each question may not equal 100% due to rounding.

PROFIT '76

PROCUREMENT PERFORMANCE OPINION SURVEY

TABLETION OF RESPONSES

Question

Question	RESPONSE DISTRIBUTION																			
	Total Group (200 respondents)				Ships (18 respondents)				Personnel Involved in Procurement of: Aircraft (85 respondents)				Missiles (85 respondents)							
	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree					
31. DPC 107 was too complicated to implement at the working level.	0	13	25	50	10	0	17	35	47	0	1	14	29	45	9	1	16	26	47	9
32. Contractors would not cooperate with contracting officials to make this program successful.	0	5	47	39	6	0	0	68	31	0	0	4	50	36	8	0	1	40	46	11
33. DPC 107 could have an adverse effect on major segments of industry.	0	17	45	30	3	0	16	36	33	11	0	14	45	38	1	0	16	35	42	5
34. DPC 107 was typically resisted by firms having heavy depreciated equipment and plants.	0	3	59	4	1	0	0	58	41	0	1	1	56	38	1	1	3	45	45	3
35. The directive was optional rather than mandatory.	0	10	36	49	4	0	17	52	29	0	0	10	36	48	4	0	16	36	45	1
36. Inherent government personnel frequently increase the cost unnecessarily of contract performance.	4	33	19	37	6	5	44	11	33	5	5	34	20	35	4	1	27	22	41	7
37. There are frequently unnecessary technical or administrative requirements placed in the contract that increase costs.	0	4	8	65	17	0	16	5	55	22	0	3	5	68	17	0	5	2	79	11

- 31. DPC 107 was too complicated to implement at the working level.
- 32. Contractors would not cooperate with contracting officials to make this program successful.
- 33. DPC 107 could have an adverse effect on major segments of industry.
- 34. DPC 107 was typically resisted by firms having heavy depreciated equipment and plants.
- 35. The directive was optional rather than mandatory.
- 36. Inherent government personnel frequently increase the cost unnecessarily of contract performance.
- 37. There are frequently unnecessary technical or administrative requirements placed in the contract that increase costs.

Note:
Response percentages for each question may not equal 100% due to rounding.

PROFIT 76

PROCUREMENT PERFORMANCE OPINION SURVEY

TABULATION OF RESPONSES

Question

PERSONNEL DISTRIBUTION

	Total Group (200 respondents)					Ships (18 respondents)					Aircraft (55 respondents)					Missiles (68 respondents)				
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
14. Is better low acceptable a contractor's bid proposal, in practice, government officials are able to negotiate the price downward.	10	33	8	43	5	16	38	11	27	5	8	28	8	49	5	11	36	7	38	5
15. The majority of contractors include a "fudge factor" in their proposal to allow the government to negotiate the price downward.	0	7	17	61	13	0	16	11	66	5	0	8	22	56	12	0	7	19	54	19
16. As part of a cost-reduce marketing strategy, contractors will bid low on competitive procurements, knowing that they will lose money on the short run.	1	11	20	61	7	0	16	27	55	0	1	5	18	65	8	0	8	17	61	11
17. Contracting officers frequently see proposals that are obvious "bids."	2	24	23	44	5	0	44	27	27	0	1	19	25	48	5	3	27	27	34	7
18. The type of contract used in weapons acquisition is frequently not the most appropriate one for the particular type of procurement.	2	35	28	25	5	0	44	33	11	11	2	34	32	26	4	0	32	26	32	7
19. Contract options for additional amounts of the item under procurement are frequently unforted unfairly.	5	53	19	19	1	5	66	11	16	0	5	54	16	21	1	4	54	12	27	1

Answers in brackets for each question may not equal 100% due to rounding.

PROCUREMENT PERSONNEL OPINION SURVEY
TABULATION OF RESPONSES

Question	RESPONSE DISTRIBUTION																			
	Total Group (200 respondents)			Ships (18 respondents)			Aircraft (82 respondents)			Missiles (68 respondents)										
	Strongly Disagree	Disagree	Neither	Disagree nor	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither	Disagree nor	Agree	Strongly Agree								
44. In negotiating contracts, the potential effect of that contact on total company business and sales is usually taken into consideration.	2	21	9	63	2	0	22	16	55	5	2	15	4	73	3	0	20	8	68	1
45. Contractors apply at least comparable management and technical talent and production equipment to defense work as they do to commercial work.	2	13	18	65	0	0	11	16	72	0	3	10	15	70	0	4	13	22	59	0
46. It isn't really possible to measure accurately the efficiency of a contractor.	1	43	10	42	2	0	50	11	38	0	2	45	8	41	2	2	44	11	39	1
47. Many contractors set up organizational units within their companies just to be responsive to and maintain good relations with Government counterparts.	0	4	8	72	14	0	11	16	66	5	1	7	7	70	14	0	5	10	63	20
48. Generally speaking, management talent is better in defense companies than in commercial companies.	3	30	51	14	0	0	22	77	0	0	4	25	58	10	0	4	29	54	11	0
49. Generally speaking, worker idleness is a major problem of defense companies.	1	27	36	33	1	0	22	44	33	0	2	27	40	28	1	1	25	40	29	2
50. The current extent of Government supervision and controls tend to reduce overall contractor efficiency.	0	27	13	52	7	0	38	5	50	5	1	23	14	55	5	1	20	11	58	7

Note
Response percentages for each question may not equal 100% due to rounding.

PROFIT '76

PROCUREMENT PERSONNEL OPINION SURVEY

TABULATION OF RESPONSES

Question

RESPONSE DISTRIBUTION

Question	Total Group (200 respondents)					Ships Personnel Involved in Procurement of: (18 respondents)					Aircraft (25 respondents)					Missiles (68 respondents)				
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
51. There has been a significant decline in the number of competitive contractors.	1	21	26	44	7	0	22	11	55	11	1	24	29	36	8	0	23	32	35	8
52. Weighted Guideline profit limitations.	11	53	19	12	1	14	28	42	14	0	18	46	22	10	1	11	62	16	6	2
53. Fewer but more technically complex equipment procurements.	0	10	5	79	5	0	18	12	62	6	0	6	10	79	3	0	14	4	76	4
54. Contractors view defense business to be a higher risk than commercial business.	1	16	12	59	9	5	11	11	64	5	1	19	14	56	7	2	16	18	59	4
55. Smaller contractors are dropping out because they are unable to compete.	1	14	15	63	5	0	13	20	66	0	3	0	15	65	6	0	18	11	65	4
56. Reason other than those stated in numbers 52, 53, 54 and 55.	0	4	23	53	19	0	0	16	83	0	0	4	30	43	21	0	6	20	53	20
57. There is a threat of continued erosion of capacity among the producers of items you procure.	1	22	20	51	4	0	27	11	55	5	2	22	25	48	1	0	25	20	48	4
58. A survey of this type is worthwhile in soliciting opinion and developing policies.	1	7	21	54	14	0	16	22	38	22	3	7	20	56	12	1	9	23	50	15

Note

Response Percentages for each question may not equal 100% due to rounding.

The Defense Industry: Some Perspectives from The Financial Community

By James K. Brown
and George S. Stothoff

Recognizing that the ability of contractors to undertake capital investment often depends upon the availability of credit funding, and sources of it, the Study Director of Profit '76 invited the Conference Board to participate in the study, under the guidance of the Logistics Management Institute, to look at the attitudes and perspectives of commercial lenders as regards defense contractors. This is the Conference Board's report. The Study Team wishes to express its appreciation to the Board for permission to reprint and incorporate their report herewith.

*A Research Report from The Conference Board's
Division of Management Research
Harold Stieglitz, Vice President*

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Foreword

SOMETIMES, IN looking at economic trends, we forget that behind all those neat figures, charts and graphs are live men and women negotiating with one another, making choices, reaching decisions, and completing transactions. In the business world, the actors make their choices and reach their decisions for the most part with an eye to the economic consequences of their acts - investment risks, effect on sales, cost results, and profit outcomes. While the economic bases of business decisions are well understood, the actual process by which economic factors are weighed and decisions reached is not. What information do business executives regard as important? How do they go about obtaining that information? How do they weigh the evidence? To what extent are they guided by a kind of collective wisdom which emerges in various segments of the business community?

The Conference Board has been interested for some time in undertaking studies of the decision process in business. It was, therefore, with considerable favor that the Board received a request from the Logistics Management Institute of Washington, D.C., a consulting organization that is associated with the Office of the Secretary of Defense, to launch a study on the decision making of bankers and others in the financial world with respect to the financing of prime contractors and subcontractors for the Department of Defense.

The study proposed by the Logistics Management Institute fitted into a larger study undertaken by the Department of Defense of its profit policy and changes required in this policy to strengthen defense contractors and reduce the cost of systems and hardware essential to national defense. The Conference Board's portion of the larger study was aimed at determining the perspectives of commercial bankers, investment bankers, corporate lending officers of life insurance companies, rating service analysts, and public accountants toward

defense contractors. More specifically, how do the bankers and others weigh various factors in reaching decisions about financing these firms? What is the relative availability of capital in the financial community to them compared with commercially-oriented enterprises? What changes in Department of Defense policies and regulations would, in the opinion of financial institution executives, make financing more available to defense contractors?

While the Logistics Management Institute supported this study financially and participated in its initial planning, The Conference Board was solely responsible for the choice of respondents, the conduct of interviews, the analysis of information gathered, and the preparation of the report. The opinions expressed in these pages, however, are those of the study participants. In accordance with its traditional policy, The Conference Board does not advocate specific policy positions.

We wish to express our appreciation to the 56 study participants for their thoughtful comments and for the time they made available for this inquiry. We are particularly indebted to 10 of them who reviewed earlier drafts of the manuscript. Because the interviews were all off-the-record, the participants cannot be identified here.

We also wish to thank the Logistics Management Institute for its financial support and initial encouragement to undertake the study.

The survey was carried out and the report written by James K. Brown, Director, Management Planning and Systems Research, and George S. Stothoff, Senior Research Associate. Other members of the Board's Management Research Division who participated at various stages were Rochelle O'Connor, David I. Fisher, Patrick J. Dacey, and Vincent G. Massaro.

DAVID G. MOORE
Acting President

FOREWORD

Defense Contractor Defined

By agreement with the Logistics Management Institute (LMI), a defense contractor in this survey is understood to mean a prime contractor or subcontractor that (1) manufactures hardware and systems, or components thereof, that are of crucial importance to the Department of Defense, on a negotiated contract basis, and (2) has such a substantial proportion of its facilities and expertise dedicated to the defense market that its fortunes are significantly affected by DoD procurement policies and practices. By the second criterion the General Electric Company, for example, is not a defense contractor, though it stood fifth in dollar volume of business with DoD in 1974, because

only about 10 percent of its business is with DoD.

In the context of this survey there are two other salient characteristics of subcontractors. They are firms that (1) are significantly smaller than major primes, and (2) are not themselves engaged in prime contracting. Excluding large companies like Northrop that act as primes on some contracts, and sub on others, this refinement in definition has been adopted in order to test the apprehension voiced by some DoD officials that it is the smaller second- and third-tier companies in the defense industry base that are particularly vulnerable to financial distress, indeed even to failure.

Findings in Brief and Design of the Survey

THE SUPPLIERS of funds to defense contractors that bid on and fulfill negotiated contracts for the production of military systems and hardware are worried about this vital segment of the defense industry. This is the fundamental message emerging from interviews with 56 financial-institution executives conducted by The Conference Board. In brief, the chief problems affecting these defense contractors, as seen by executives in major commercial banks, life insurance companies, investment banking firms, rating services, and a public accounting firm, are:

1. As compared with the profits of industries oriented to commercial markets, defense-contractor profits are too low for the risks defense contractors face and for their long-term viability. (The figures in Table 1 on page 3 offer rough confirmation of this point for the aerospace industry vis-à-vis 425 industrial concerns for the period 1965-1974—rough because the aerospace industry, like other segments of the defense industry, is composed of companies that also participate, to a greater or lesser extent, in domestic commercial markets and in foreign markets.)

2. Uncertainty is the principal risk perceived by the survey participants—uncertainty pertaining both to the fulfillment of present contracts and the winning of future contracts.

3. Other negatives associated with defense contractors by those surveyed include:

- Limited product lines and overreliance on a single customer.
- Past behavior of some contractors—specifically, their propensity to “buy in,” and poor management practices.
- Certain Department of Defense (DoD) policies, procurement regulations and tactics, and administrative practices that have untoward effects on defense contractors—for example, excessive management and policy changes, a propensity to alter specifications in mid-

contract, adoption of an adversary posture toward suppliers.

- The perhaps inevitable but nonetheless deplorable injection of politics into defense contracting.

4. Subcontractors (subs) are thought to be in more parlous circumstances than the major prime contractors (primes).

Unless these problems can be reduced, if not eliminated, the defense industry is likely to find it increasingly difficult to secure both the short-term and long-term financing it requires especially if, as some respondents believe, the U.S. economy encounters a severe shortage of capital in the next decade.

Remedies Suggested by Financial Executives

There are a number of corrective steps DoD can take, either on its own or through recommendations to Congress for legislation, that would bolster defense contractors' stature in the eyes of financial-institution executives. Two such steps, of course, would be to make sure that the industry is adequately rewarded and that a better balance between risks and rewards is struck in defense contracting. More specific recommendations:

1. Better procurement planning by DoD.
2. A more benign and realistic contracting posture by DoD.
3. Replacement of annual funding of defense programs by longer-term commitments.
4. Prompter and more equitable resolutions of disputes over claims for excess costs incurred in the fulfillment of contracts.
5. Inclusion of interest costs in the computation of contractor costs.

If these steps are not taken, or prove to be ineffective, the consensus of those interviewed was that the government may have to provide equipment and/or financing to defense contractors in the future.

Capital Shortage

On this issue the views of the study participants cover a broad spectrum. But there was a consensus that can be put in the form of a syllogism:

1. Whenever capital is scarce, less desirable credit risks have a tough time in securing outside financing.
2. Defense contractors are perceived as less attractive risks among the corporate clients of banks and other financial institutions.
3. Therefore, defense contractors will find it hard to raise money if a capital shortage develops or if they can raise it, it will be at high cost.

The Study Participants

The tabulation below shows the number and distribution by types of institution of executives interviewed during this investigation.

<i>Institution</i>	<i>Number Participating</i>	<i>Number of Executives Interviewed</i>
Commercial banks .	22	34
Life insurance companies	5	11
Investment banking firms	4	4
Rating services . . .	2	5
Public accounting firms	$\frac{1}{34}$	$\frac{2}{56}$

The 22 commercial banks are headquartered in New York City, Philadelphia, Chicago, St. Louis, Dallas, Fort Worth, Los Angeles, and the San Francisco Bay area. The geographical distribution of these institutions was in consonance with the LMI's and The Conference Board's agreement that it would be desirable to have represented in the study a mix of leading banks that are headquartered in several major financial centers, and whose defense-contractor financing

is concentrated among the biggest primes, and banks in other areas, notably Los Angeles and Dallas-Fort Worth, which are involved in financing subcontractors as well as, in almost all cases, primes. Interviews were arranged with officers at the executive vice-presidential, senior vice-presidential, or vice-presidential levels. Some of these primary respondents asked colleagues to participate in the interviews.

The life insurance companies, investment banking firms, and rating services all are headquartered in the New York City area, and at their headquarters offices the interviews took place. The public accounting firm has offices in a number of major cities; one interview was conducted with a New York City-based partner and the other with a Los Angeles-based partner.

The five insurance companies represented in the survey are among the largest, in terms of assets, in the United States. As the discussion of these concerns in the section on life insurance indicates, it is the major companies that do the bulk of the industry's corporate financing. The executives whose views were solicited all were of vice-presidential rank. Again, some had colleagues join the interviews.

The investment banking firms included four of the top nine as measured by 1974 dollar volume of underwritings. Vice presidents or partners with responsibility for corporate financing were the core respondent group.

Soon after the field work began, it became evident that the survey base ought to be broadened to include two of the recognized rating services and a public accounting firm with a number of clients heavily engaged in defense work. At each of the rating services the survey participants included a vice president with responsibilities for debt financing issues, plus one or more junior colleagues. The two partners of the accounting firm were persons suggested by a banker.

Substance of the Interviews

The interviews were conducted from mid-September through December, 1975 - most of them in the six weeks from mid-October until

Table 1: Comparative Financial Data: 425 Industrials and the Aerospace Industry, 1965-1974

A. Profit Margins on Sales¹

Composite Data²

	425 Industrials	Aerospace
1974	15.4	7.1
1973	15.8	6.9
1972	15.0	6.6
1971	14.6	5.2
1970	14.5	5.1
1969	15.4	6.5
1968	15.8	6.4
1967	15.6	6.1
1966	16.4	6.6
1965	16.2	7.7

C. Price/Earnings Ratios

Composite Data²

	425 Industrials		Aerospace		Aerospace P/E as Percent of Industrials P/E	
	High	Low	High	Low	High	Low
1974	11.6	7.2	5.5	3.9	47.4	54.0
1973	15.1	11.6	8.1	4.8	53.6	41.0
1972	19.6	16.5	15.6	13.2	79.6	80.0
1971	19.4	16.6	21.9	15.8	112.9	95.0
1970	19.0	14.0	20.3	11.3	106.8	80.0
1969	19.0	16.0	24.1	13.0	126.8	81.0
1968	19.2	15.4	15.9	13.2	82.8	85.0
1967	18.9	15.2	22.3	15.4	118.0	101.0
1966	17.1	13.3	18.5	12.0	108.2	90.0
1965	17.9	15.7	16.1	9.1	84.4	58.0

B. Net Income (as a percentage of sales)

Composite Data²

	425 Industrials	Aerospace
1974	5.3	2.5
1973	6.0	2.6
1972	5.3	1.8
1971	5.0	1.1
1970	5.0	1.0
1969	5.7	1.5
1968	6.1	2.4
1967	6.1	2.2
1966	6.6	2.7
1965	6.8	3.1

¹ Operating income is usually the balance left from sales after deducting operating costs, selling, general and administrative expenses, local and state taxes, provision for bad debts and pensions; but before other income and before deducting depreciation charges, debt service charges if any, federal taxes and any special reserves.

² Based on Standard & Poor's Industry Group Stock Price Indexes.

Source: Adapted from Standard & Poor's *Industry Survey: Aerospace*, October 30, 1975, pp. A-33, A-34, and A-31. Copyright, 1975, Standard & Poor's Corporation. The 42 industrials include the 8 firms that make up the aerospace industry in this comparison.

the end of November. Although they were predicated on a number of broad questions, most of them were fairly unstructured in the sense that no written questionnaire was used and that the respondents were encouraged to discuss what they considered to be the key issues and problems regarding defense contractors and their relationship with the Department of Defense. The last interviews, though, focused on points that earlier interviews had shown to need clarification and amplification.

The interviews with the accounting firm partners naturally concentrated on accounting-oriented topics. The interviews with the representatives of banks, life insurance companies,

investment banking firms, and rating service generally followed this pattern:

- The institution's involvement in corporate financing in general and defense-contractor financing in particular (forms of financing, internal organization, participation in consortia, etc.)
- The basic criteria used to appraise candidates for corporate financing.
- Defense contractors' standing with respect to these criteria (if relevant, a comparison of current opinion with that of several years ago was obtained).
- Specific problems associated with defense contractors.

FINDINGS IN BRIEF AND DESIGN OF THE SURVEY

- Suggested solutions to these problems.
- The significance of a capital shortage for the financing of defense contractors.

Where it was appropriate, the respondents' experiences with and perceptions of subcontractors, as well as major primes, were sought.

Commercial Banks

BANK EXECUTIVES have proved to be the core respondent group for this study. For one thing, banks are the key institutions for financing defense contractors — the only realistic private outside funding source for them, according to virtually all the executives surveyed both within and outside this fraternity. Defense-contractor financing needs are typically oriented toward working capital — to finance inventories and, to a lesser extent, accounts receivable — and fulfilling these needs is the venerable function of banks, which, in line with the character of their obligations, have a relatively short-term lending horizon. Furthermore, insurance companies and investment banking firms are chary about providing or arranging longer-term debt financing or equity financing for defense contractors, as will be explained later; this reluctance has added to the burden of defense-contractor financing that has fallen on banks.

The second reason that bank executives occupy a central place in the study grows out of the first. Quite apart from defense industry experience some of them have brought to their present posts, this group of respondents is, as a whole, very knowledgeable about the industry (although several insisted that a good many bankers do not understand defense contracting). It is not just a matter of learning the salient details of its negotiated contracts in evaluating a financing proposal by a defense contractor. Practically every banker respondent has gained added familiarity with the intricacies of these contracts as a result of one client or another running into difficulties in fulfilling them. ("The best training for a loan officer," one banker remarked, "is a loan in trouble.") Since much financing of the largest defense contractors is done in consortium, furthermore, there is considerable exchange of information among the officers of various banks who work with clients that have organized these consortia. Thus as bankers discuss their experience with and out-

look for defense contractors, they allude to specific problems their clients have encountered, to specific provisions of the Armed Services Procurement Regulations, and sometimes to specific negotiations involving themselves, their clients, and DoD procurement officials.

Bank Financing and How It Is Organized

Historically, when in need of bank financing, top-quality corporations have usually relied on the unsecured line of credit, which provides for "takedowns," normally in the form of 90-day notes, in amounts and at times to suit the borrowing corporation's convenience. A bank can cancel a line of credit if it so desires, although in practice this rarely happens. On the other hand, a 90-day note under a credit line can be "rolled over" or extended — and often is (hence the term "evergreen" credit).

Less credit-worthy companies, as well as prime-risk corporations with heavy financing requirements, often formalize their bank credit lines through revolving credit agreements. These agreements — or noncancellable contracts — are typically entered into for two- or three-year periods. The client pays a commitment fee for a revolving credit, and, if it is not a prime risk, it may also pledge its receivables and/or inventories as security.

In addition to credit lines and revolving credit agreements, banks also extend financing under structured term loans. Generally, such loans (1) extend for seven or eight years, (2) entail the borrower's drawing down the full amount at the outset, and (3) provide for repayment at stipulated intervals. In many instances, revolving credit agreements are combined with or can be converted into term loans.

Banks approve loans of credit on a company-by-company, situation-by-situation basis, although often this is done in the context of an overall design. As one banker explained it, "Each lending unit has a series of objectives and

within this framework the head of the unit is free to seek business from clients he determines offer the least risk." Though one does not encounter explicit policies setting defense-contractor financing as a not-to-be-exceeded portion of a bank's total loan portfolio, each bank typically seeks a varied mix of businesses in its clientele and sets a ceiling on the dollar amount it will lend to a single customer. In taking on a corporate client, a bank, of course, hopes to develop a favorable long-term relationship with that client. A corollary point made by several bankers is that a bank has to be willing to stand by a client during its periods of adversity as well as its periods of prosperity — providing, of course, the bank retains confidence in the client's management and believes it is adequately informed about the client's affairs.

The usual bank organizational arrangement for corporate lending is geographic. Thus one often finds metropolitan, national and international lending divisions in a bank. For an East Coast bank, for example, the national division (or its western sub-unit) would be responsible for California-based aerospace firms. Some of the largest banks, however, have developed special lending units for complex industries with heavy financing demands — e.g., aerospace and airlines utilities, retail establishments, and energy companies. At least one such bank has organized its entire corporate lending program on an industry basis.

It is true that there is pronounced concentration of major prime contractor financing among the biggest banks. One respondent estimates that 15 banks in New York City, Chicago and California do 90 percent of such financing. The reasons for this concentration:

1. Until after World War II only the largest banks were significantly engaged in corporate financing.
2. As a result, the big banks have long-standing relationships with major companies, including defense contractors. (Other banks, though, have been developing such relationships.)

As already suggested, consortium financing by

banks is the rule, not the exception, for the biggest defense contractors, as well as for very large companies in other industries. This is a product of evolution over time. Like other major corporate borrowers, defense contractors have wanted to deal with several banks for safety's sake and to promote competition beneficial to them among their banks. As the financing requirements of defense contractors grew over the years, arrangements for financing became more formal. Typically a defense contractor would designate an agent or lead bank whose function would be to work out a financing package with the defense contractor, form a consortium of banks to participate in the package, and help market the package. Participants would include a number of major money-market banks and regional banks serving areas where the contractor has production facilities. But consortia are formed today, as always, at the initiative of the borrower. For the contractor, designating an agent bank is likely to be efficient. Only one set of bank lawyers is involved in drafting the loan agreement; the contractor does not have to spend as much time lining up participating banks as it would if it did so alone; the agent bank can act as spokesman for the contractor with other banks and for the other banks with the contractor; and the contractor can simplify the otherwise complex arrangements in drawing down its loan.

The consortium arrangement is also advantageous to the participating banks. Individual loans extended to major defense contractors today are so large that if they do not always exceed the legal restrictions on the amount a leading bank can lend to a single customer — 10 percent of the bank's invested capital — prudence on the part of bank management would dictate sharing the risk of these big loans. Several study participants made the point that the informal ceiling of their respective banks for a single loan is well beneath the banks' legal lending limits.

Subcontractor Financing

Among the 22 banks interviewed, one finds no clearly predominant pattern in the partici-

pation of, or organizational arrangements for, subcontractor financing. Here are the principal practices encountered.

- With one exception, the large New York and Chicago banks participating in the survey do little or no financing of subs (as defined in this report), for one or another of these reasons: There are very few subs nearby; financing subs is not thought to be appropriate business for banks of this stature; subs are considered too risky.

- In southern California, where there is a heavy concentration of subs, two of the largest banks have traditionally dominated subcontractor financing. Other major banks have much more modest stakes in this market; it has been only in the last few years that they either have expanded from their northern California headquarters area or have aggressively pursued corporate clients. Lending to subs may be done by a specialized industry unit that also finances primes; or by branch offices that look to a specialized industry unit for guidance; or by a Los Angeles regional office that handles various kinds of corporate business.

- For the surveyed banks in the San Francisco Bay Area, the Dallas-Fort Worth area, and St. Louis, a corporate financing unit preeminent in its interests relates to subs. (Some of these banks have a "piece of the action" with large primes; others do not.)

Criteria for Granting Loans

One gains the impression that the basic criteria for granting loans are essentially the same for all customers. "A company is credit worthy or it is not, and this has nothing to do with the industry it is involved in," one banker observed. The bank's primary concern is with repayment, with the safety of its principal. Should this be in doubt, no interest rate, however high, will be sufficient. Two consequences follow:

1. Banks are cash-flow and asset lenders. Whether a customer's profits are high or low is of lesser moment to the bank so long as the

profit will be sufficient, along with other sources of cash, to guarantee repayment of the loan. This sufficiency, however, should include a margin to serve as protection in the not uncommon event that the contractor encounters unforeseen costs over the life of the contract. (By contrast, handsome profit margins are of crucial importance to investment bankers in their assessment of corporations seeking equity funds.)

2. Uncertainty is abhorrent to bankers. One of the things that worries them about defense-contractor financing is that a contract that looks absolutely sound today can be in shambles two years hence.

The present availability of funds to his institution, however, is always on a banker's mind. As one study participant put it: "If we're under-loaned, we'll take risks we might not regard as appropriate in a lender's market." And, of course, the opposite is true in a period when loan demand is heavy and/or funds for lending are in short supply.

There are a number of conventional analyses a banker makes of a proposed financing: the client's balance sheet, its prior performance, its capital structure, the stability of its markets and customers, the acceptance of its products, and the competence of its management. Also, close attention is paid to cash forecasts indicating sources and applications (including scheduled liquidation of fixed charges) of funds over the life of the loan.

Sheer financial strength of a client is bound to weigh in its favor. So, too, is diversification for companies that are involved significantly in defense contracting. In appraising a corporate loan candidate, the banker looks at the entire company, and not just at a particular contract or, in the case of a diversified company, not just at the particular division(s) engaged in defense work.

In judging the credit worthiness of defense contractors, the questions asked by two bankers seem to be typical of those asked by other members of this fraternity, in addition to the more general considerations listed above.

The first banker's questions:

1. What DoD contracts are involved? Which of these is firm, and what are the possibilities for follow-up work in later years?
2. What are the types of contracts: fixed price, cost with incentives, cost-plus? (This banker, in common with others, views the last two as far less risky than the first.)
3. What is the current stage of each contract?
4. For each contract, what experience has the company had in producing this product or system, where does it stand on the "learning curve"?

The second banker's questions:

1. Has the contractor insisted on an adequate profit?
2. What is the risk of change orders?
3. What protection is there in the contract against inflation over the life of the contract?

In deciding whether or not to finance a sub, a bank is, of course, guided by its appraisal of the sub's credit worthiness. In addition, other more specific tests were mentioned by the bankers interviewed:

- The number and quality of the prime contracts which the sub has business; the products made or services performed by the sub (as a rule, the more the merrier).
- The details about cancellation clauses in the sub's contract(s) with its prime(s).
- The steadiness of orders, the continuity of work.
- The propensity and effectiveness of the sub's management in insisting on cost-plus as against fixed price contracts with the prime.
- The relationship between the nature of the work the sub is doing and its management's experience and competence in that field of work.

For reasons that will be set forth later, most banks look upon subs as less desirable credit risks than primes. But a number of subs evidently benefit from two factors not applicable to large primes. First, some of them are small enough (annual sales of less than \$15

million) to get 90 percent guarantees of bank loans up to \$350,000 from the Small Business Administration; this makes them more attractive to banks as clients than they would be otherwise. Second, some small banks -- none of them participants in this study -- are said to have extended financing to subs on the basis of lending officers' personal acquaintance with the subs' managements or the willingness of the owner-managers to sign personal notes for the loans they negotiate.

Bankers' Perspectives on Major Primes

It is not without hazard to present a summary at once concise and accurate of the surveyed bankers' experience with, and outlook for, financing major prime contractors. But most of them would lend their support to the following view articulated in interviews with members of the Fellowship:

Just as a banker cannot classify risks by industry in making loan decisions, so he finds it difficult to generalize about defense contractors as a whole or about defense contracting. Some firms have consistently done well -- several very well -- in defense contracts; others, of course, have not. Similarly, in each of a few very large firms that have met with critical problems on specific contracts, one or more individual operating units have a fine record in terms of both performance and apparent profitability on the contracts they have executed.

There is sharp variation in the records of the individual armed services and, within them, individual procurement groups and even individual procurement officers in negotiating contracts and resolving problems that occur in their fulfillment. Bankers are virtually unanimous in condemning the Navy for mishandling claims that have arisen in a number of shipbuilding contracts. With a few egregious exceptions, the Air Force, by contrast, gets pretty high marks for its understanding of, and readiness to help solve problems that develop in contract fulfillment. On a more specific level, one banker was fulsome in his praise of the

Navy's Special Projects Office and the Air Force's Space and Missiles Systems Office. Both agencies, he maintained, have given contractors strong performance incentives and also have recognized and dealt fairly with contractor risk.

In some respects, major primes have a better aura than they did several years ago. The concept of Total Package Procurement (TPP) has been abandoned in favor of the more realistic concept of phased contracting. One finds in recent contracts price escalation clauses aimed at offsetting the effect of inflation on contractor costs. There appears to be less "buying in" by contractors than there used to be.¹ The decision to launch the Profit '76 study, and the possibility of beneficial changes in DoD profit policy and contracting procedures emanating from this study, are seen by some bankers as favorable developments. The growing trend of major firms' acting as primary contractors on some contracts and as subcontractors on others is a healthy one because this should increase the continuity of their business. And the consummation, in the last year or so, of several very large contracts for the sale of military hardware to foreign governments should enhance the profitability of the manufacturers involved.

The important aerospace segment of the defense industry is in worrisome condition today not because of defense business but because of the current plight of, and bleak outlook for, its major commercial market: the U.S. airline industry.

On the whole, banks' experience with major prime contractors has been tolerable so far. But virtually all of them have run into significant difficulties with at least one contract apiece,

¹"Buying in" is the practice, pursued by some contractors aggressively seeking business to utilize facilities and staff that would be otherwise idle, of submitting unrealistically low bids on contracts in the hope that, if they win the bids, they can later secure upward price adjustments.

which is disturbing to their bankers. Furthermore, the Lockheed and Grumman problems have cast a pall over the industry. *For these and other, more specific reasons to be set forth below, the bankers participating in this study are, as a whole, in a pessimistic frame of mind about the major primes. Some reported that their banks have recently turned down financial proposals from primes (and subs as well). Others wish they had less defense-oriented business than they have. And a good number expressed the belief that unless the prospects of the defense industry improve, bank participation in its financing will be selectively reduced - particularly if, as some expect, there will be a growing number of attractive alternative business opportunities for banks in years to come.*

Inadequate Profits

There seems to be fairly common agreement that profits of defense contractors have not been adequate over the years, nor do they show signs of improvement in the future. During the course of the interviews several respondents either referred to, or actually displayed, published analyses, like the one reproduced earlier (see Table 1), showing that return on investment and profit margins of the aerospace industry have consistently and substantially lagged behind the corresponding figures for U.S. manufacturers as a whole. Although, as noted, banks are essentially cash-flow and asset lenders, as also noted, they do look to client profits as a cushion of protection against unexpected cost increases, which have occurred more than occasionally in the fulfillment of major defense contracts. In other words, as a good many of the surveyed bankers see it, profits have not been commensurate with the risks to which defense contractors are exposed; other things being equal, a bank prefers a relatively high-profit, low-risk client to a low-profit, high-risk client. Finally, the relatively poor profit performance of defense contractors has made it difficult, if not impossible, for them to raise equity funds and long-term debt financing, when needed and appropriate, causing banks to become essentially

the sole source of outside financing for these firms.²

Several causes of the industry's inadequate profits were cited.

Inflation is not adequately provided for in escalation clauses, as evident in the Grumman experience with the F-14. (Inflation has also, several bankers pointed out, sharply increased the financing requirements of defense contractors.)

Progress payments, some bankers think, are not adequate in the sense that the allowed percentage of payment against costs incurred is not high enough — especially in view of significantly higher interest rates contractors have had to pay in the last two or three years, a cost for which they are not reimbursed. Additionally, several bankers maintained that progress payments should be extended to cover disputed costs which, as matters stand, tie up the contractor's working capital for too long a time. For disputes resolved in favor of DoD, a simple procedure for restitution could and should be developed, according to these respondents.

One of them went so far as to assert that because of disputed costs and change orders, progress payments covering all working capital needs should be financed entirely by the Department of Defense; these needs should be met neither by the contractor nor by the banks. Most bankers, however, think that it is proper for contractors themselves to fund some of their working-capital needs. This gives DoD needed control over contractor efficiency. If, for example, progress payments were set at 100 percent, the contractor would have little incentive to hold its inventories to minimum levels. More generally, the contractor should be

²A recurrent point made by bankers and others interviewed was that ROI can be a misleading indication of financial health. A company that has old assets that have been largely depreciated for tax purposes and is not replacing these assets typically has a low equity base. In this situation the return on the company's equity can well look favorable. But if a company of this character is not a healthy one by other tests, it most probably cannot raise more equity funds.

exposed to a normal business risk in a negotiated contract, just as it is in a commercial contract.

Delay in settling differences, arising out of cost overruns or change orders or both, has had deleterious financial consequences for a number of contractors. A frequently voiced complaint is that the settlement of these contractor-DoD differences is anything but businesslike. The DoD tends to take an unduly hard, if not unreasonable, line. And in the case of cost overruns, these become a matter of acrimonious public dispute as the news media report them, and Congressmen and Senators disposed to look critically at the so-called military-industrial complex, or simply disposed to be opportunistic in gaining publicity, issue accusatory, provocative statements that make reasonable settlement even more difficult. Several bank officials contrasted this environment of resolving buyer-seller differences with that commonly found in the commercial sector. If a supplier of a commercial concern runs into difficulty in fulfilling a contract, representatives of the seller and buyer work things out in private and in a constructive atmosphere, so that the ensuing change is fair to both sides and protects the long-term viability of the supplier — which, of course, is very much in the buyer's interest.

Demands for unneeded capability by the DoD also increase contractor costs — particularly when the demands are insisted upon after the original contract has been formally concluded and production has commenced. The DoD should take a cost-benefit approach to these demands, bankers believe. In each case it should ask itself: Is the incremental performance capability or extra capacity of the product in question worth the added cost?

The exclusion of interest from the contractor's cost base has hurt contractor profits, particularly in the last few years. It is widely conceded that some implicit recognition of the contractor's interest cost is given in working out permitted margins under the weighted guidelines formula. But with the sharply rising interest rates of recent years, it is more than ever imperative that interest costs be explicitly taken

into account in the cost base. As one respondent observed, it makes all the difference as to whether a contract will produce a profit or a loss for a manufacturer if the interest rate is 5 percent or 15 percent. The exclusion of interest further inflates a contractor's costs if there is a prolonged dispute over claims for additional funding; while the dispute goes on, the interest meter is running without interruption. And in a period of inflation, there is even more justification for allowing interest in the cost base.

Several bankers, however, made the point that the allowance of interest is not an open-and-shut case. Would its allowance, one of them mused, encourage a contractor in a strong cash position to borrow money it did not need in order to claim interest on the loan as an expense? Furthermore, the allowance of interest might compromise the Defense Department's proper concern for sound financial controls by its suppliers. A contractor could, for instance, be fairly reckless in building up its inventories, secure that it would be compensated for the interest cost of any attendant borrowing. But, according to a respondent who raised these points, interest should be allowed because of delays in making final payments and in settling claims by the DoD, and because of the sharp escalation of interest rates of the last few years. These delays and this escalation have badly hurt a number of contractors. He acknowledges that it would be tough to develop an equitable formula for the allowance of interest, but claims this can be done and ought in justice to be done.³

The prospect of inadequate depreciation charges is a future threat to defense-industry profitability which worries a number of bankers.

³On December 5, 1975, the Cost Accounting Standards Board issued a draft standard on the cost of money as an element of the cost of capital. This draft standard treats cost of money as an "allocable contract cost." The draft was distributed for consideration by "those who have expressed a desire to assist the Board's staff in its research," and comments were requested by February 2, 1976. The draft has *not* been approved by the Cost Accounting Standards Board.

They were referring, of course, to the Cost Accounting Standards Board's ruling, to be implemented after a one-year grace period now in effect, that will permit companies to depreciate equipment used in fulfilling defense contracts only at a rate corresponding to the equipment's natural life (as against the accelerated rates the Internal Revenue Service permits). The effect of this ruling will be to reduce a contractor's cost base on which its profit margin is computed.

Uncertainty

As already indicated, bankers dislike uncertainty in the prospects of their clients. As bankers see it, there is uncertainty aplenty in defense contracting. This is variously illustrated by such statements as:

- With annual funding by Congress, it is doubtful that any contract will be completed as originally planned.

- The probability of cancellation is great enough to warrant concern.

- There is a lack of continuity in contracting.

- Far too many blockbuster events take place in the execution of defense contracts.

- The prospect of delays, change orders, and the like cause uncertainty if not actual financial loss.

Formerly the government could be counted on to bail out a contractor if its contract was cancelled. This is no longer so.

- With the increasing complexity of military hardware has come much longer development and production periods than used to prevail.

In one important respect, however, there has been a diminution of uncertainty in defense contracting. This is the abandonment of the TPP concept and its replacement by the "fly before buy" approach. According to several bankers, the net effect has been to limit contractor risk by breaking procurement into more manageable and more certain bits.

Other Industry Problems

There are factors other than low profitability and uncertainty that cause bankers to look

askance at the defense industry. These include:

- Concern about DoD senior officials and procurement personnel. This concern was expressed in a number of ways. The high turnover of senior DoD personnel has contributed to a lack of continuity, since top civilians in DoD tend to be men of strong views about military procurement, but these views are far from identical among the successive incumbents in these positions. A related problem is the apparent and unnecessary dispersion of authority. The DoD representatives, who people on the contractor side think can reach a decision, too often turn out not to be able to make the decision. One banker spoke of an egregious failure on the part of DoD personnel to coordinate various programs involved in a large and very complicated contract his bank helped to finance. Another respondent maintained that DoD technical people have been guilty more than once of poorly drafting the initial specifications of a military system. Finally, the DoD representatives have been scored for their naivete regarding the financial health of defense contractors. A banker cited, by way of illustration, a remark one procurement officer made before a group of bankers that if a major contractor should lose \$300 million on contracts it was fulfilling, that was but a modest sum amounting in total to only 10 percent of the value of the contracts. Such a loss, this banker insisted, would have damaged the company grievously if not fatally.

- Market weakness, distorted financial structure. In general, bankers prefer not to have a client overwhelmingly dependent upon a single customer. Even though there is no question about Uncle Sam's being able to pay his bills, his representatives in a sense have defense contractors at their mercy. As for financial structure, the point here is that many contractors (like many firms in other industries) appear to bankers to have excessively high debt/equity ratios.

- Contractor management shortcomings. It is widely accepted in the banking community that difficulties a number of defense contractors have

become enmeshed in have been in some measure of their own making. Cited in this respect are the proclivity of some managements to buy into defense contracts; lack of care in or controls over the expenditure of money; and, in certain engineer-dominated (as opposed to business-man-dominated) firms, a preoccupation with, as one banker phrased it, "making things rather than money." Two adverse consequences of these shortcomings were cited. First, the financial community recognizes them, which, among other things, makes it difficult for these firms to get public debt or equity financing. Second, too often excessive costs are incurred in military contracts. These excessive costs, in turn, can cause a reduction in the originally contemplated volume of product or system, to keep total costs in line. Such reductions, one banker asserted, have been one of the causes of excess capacity in the aerospace industry.⁴

Incidentally, it is such management characteristics as these that cause some bankers to believe that diversification into highly competitive commercial markets is not a promising step for defense contractors to take.

- The special problem of the aerospace industry. It is the view of several bankers that the aerospace industry needs both military and commercial business for survival and stability; neither one alone is sufficient for the viability of these firms and, further, given the fluctuating demands in both markets, it is desirable, even necessary, for the firms to participate actively in one market while the other is in a period of lax demand. But the outlook is that, with the abandonment of U.S. government sponsorship of an SST, and with commercial airlines in a very shaky state because of rising costs and diminished demand for travel, it is not likely that the aerospace firms will be called upon to

⁴A notable exception to these managerial shortcomings is found in the management of a major aircraft producer, according to one banker. This firm has placed great emphasis on production planning and on controlling production costs, playing down technological innovation in fulfilling its contracts. The financial community is said to look favorably on this firm.

build a new generation of commercial aircraft until the mid-1980's - indeed, it is doubtful whether the latest generation, the wide-bodied jets, will be delivered in anywhere near the numbers anticipated only a few years ago. And it is also doubtful whether there will be enough defense work in the next decade completely to fill this wide gap in the commercial market. So the prospects for the important aerospace segment of the defense industry base strike bankers as gloomy.

* The politics of defense contracting. Congress must, of course, exercise controls over defense contracts, as it must over other activities of the Executive Branch, a number of respondents stated. But individual Congressmen and Senators have gone too far on occasion. Efforts to gain political capital by castigating the defense industry and DoD for cost overruns have already been noted. But people on the Hill have been guilty of other sins, in the eyes of bankers. One of these is the pressure brought on the DoD to see that defense contracts are won by firms doing business in the districts or states of influential Congressmen and Senators. In several instances this has led to contracts being awarded to the far from most efficient supplier.

On a more general level, defense contracting has evolved into a badly flawed system in which all three major parties - the contractors, DoD, and Congress - are at fault. Here is how one bank executive explained it: "DoD is reluctant to tell Congress at the outset what a weapon system will cost, fearing that Congress may veto the whole project at the beginning on the grounds of excessive expenditure. In a sense, then, DoD is guilty of duplicity so far as realistic pricing is concerned. Everyone plays the game. Contracts are let at artificially low prices, with the contractor, DoD, and members of Congress understanding that through change orders and other similar devices costs will be inflated to a realistic level over the life of the contract. It is a deplorable system, but everyone seems locked into it. One must not ignore the distaste many in Congress feel for the defense industry, perhaps reflecting the views of important constituencies,

or at least Congressmen's or Senators' perception of these views. Thus if a major contractor runs into unexpected costs because of inflation, there is a body of Congressional and public opinion that says in effect: 'Too bad for the company, let it hang.' This does not warm the cockles of the hearts of those who lend to that firm."

Bank-Centered Problems

Yet another negative for defense contractors arises from problems affecting the banks themselves. One, discerned by a few respondents, has to do with the attitudes of their top managements. These senior officers do not understand the intricacies of fulfilling a technically complex defense contract, nor are they familiar with the details and implications of the Armed Services Procurement Regulations. But they do read news accounts of DoD-contractor disputes and DoD-congressional disputes. Some of them have asked their aerospace and other defense-industry lending officers: Why should we be entangled in this political thicket? Who needs this kind of business?

A second bank-centered problem is the number of loans that have been adversely classified by national bank examiners - loans the repayment of which is so uncertain that the banks have had to adjust their capital positions by establishing reserves on their balance sheets. A consequence of these classified loans, one banker remarked, has been that several of the nation's largest banks have had proposed acquisitions turned down by the Federal Reserve Board because it did not consider their capital positions strong enough. So the banks affected are anxious to solve their classified loan problem (the banker just cited said he would be a "hero" if he contributed to this end), and furthermore, no bank wants to take on a client if there is a reasonable chance the loan might become classified.

A third problem for bankers, closely related to the second, has received much comment in the business and financial press. Banks have had to write off, in whole or in part, a number of nondefense industry loans - to Penn Central, to

W. T. Grant, and to a large number of REIT's. Furthermore, they may yet suffer losses from their holdings of New York City debt obligations and their loans to underdeveloped countries. This, of course, has been very unsettling and is causing banks to adopt a more cautious outlook toward borrowers in general.

Subs Look Less Attractive

If banks have a less than sanguine view of major defense contractors, their assessment of subs is even more pessimistic. To put it another way, they share the apprehension of those DoD officials who believe that it is the smaller firms at the second and third tier of the defense industry base whose stability and survival are tenuous. Indeed, a number of bankers refer to subs they have financed that have failed, leaving their banks with uncollected loans. Thus far none of the major primes has succumbed to this fate.

Here is a brief catalog of the special problems of subs as bankers see them:

- Many subs find it impossible to get needed nonbank financing. The equity market is closed to them and the situation with respect to public debt financing is hardly better. (One banker who formerly was associated with an investment banking firm remarked that during the last year only about half a dozen BAA debt offerings have come to market, none of them issued by a subcontractor.) And subs, as defined here, tend to be too small for insurance companies to consider for privately placed long-term loans.

- Many subs are tied to a single prime contractor, and produce but a single product or component — a pair of characteristics the bankers consider risky for any firm, no matter what its market.

- The continuity of a sub's work often is in doubt; it is likely to face alternate cycles of "feast or famine." A large prime may be involved in several defense contracts simultaneously, whereas a sub may have to commit itself to only one contract at a time and so is severely affected by stretchouts and delays, not

to mention cancellations. "Losses on one order can be disastrous," one respondent remarked. Moreover, subs run the risk that in slack periods their prime will pull back work from them. (As one banker described it, what happens is that as the volume of product a prime orders from a sub goes down, the sub raises its price to cover overhead. Eventually the prime concludes that it can make the product in question in-house at a lower cost than the price the sub charges for it.)

- Subs typically are thin in management talent. Some are run by owner-inventors — persons who are strong in scientific or technical skills, but weak in business acumen. Others, recently started by persons with neither technical nor business backgrounds under the auspices of federal programs to stimulate minority-group enterprise, have won business from primes by dint of government pressure; but they have proved unable to make products of acceptable quality, to control costs, or to meet delivery schedules.

It is the impression of a number of bankers that beyond their own client subs that have failed, there has been considerable attrition of subcontractors. Thus in their estimation DoD's concern that this portion of the defense base is eroding is well-founded.

One must take note of a few silver linings in the clouds overhanging subs. Consider, for example, the comments of a senior officer at a bank on the San Francisco Peninsula. Most of the subs this bank has as clients are engaged in the manufacture of electronic products and components, and there is typically a marked degree of similarity in the technologies of those made for military uses and those made for commercial uses. By and large these firms have adequate equity bases that have been furnished by one or another of the venture-capital firms that flourish in this area. The venture-capital firms moreover provide the manufacturers with financial expertise, since at least one partner of the firm typically sits on the board of each manufacturer in which the firm has a stake.

This bank, which has been actively engaged in business lending for only a couple of years, seeks

relationships with subs "that have considerable growth potential." Most of its loans to subs are secured by the subs' accounts receivable. Others have 90 percent SBA guarantees. Every two or three months the bank's internal auditors examine each sub's books. Thus the bank is well-posted on the affairs of its subcontractor clientele.

The bank has friendly relationships with several finance companies. When a sub encounters a cash-flow problem, the bank tries to arrange factoring from one of these concerns while retaining the deposit balances. After the problem has been straightened out, the bank can resume regular financing. This respondent made the point that a small bank like his always has to be careful not to lose needlessly a client through being excessively tough when the client faces rough slodding. For bank competition for commercial clients is very keen in that area (as it is, so the comments of other respondents indicated, elsewhere in California).

Another banker described a sub that formerly obtained four-fifths of its business by acting as a subcontractor to large aerospace firms. Despite great technical expertise and superb management, this firm got "burned badly" on a major contract. Thereupon it embarked on a program of diversification so that now aerospace business accounts for only one-fifth of its volume. Furthermore, management has decided, and because of the quality of company products can make its decision stick, that the company will be an aerospace subcontractor only if it is compensated on a cost-plus basis; and that if changes are required in a contract, a financial agreement covering these changes will be negotiated before it does any work related to them. In this banker's opinion, this firm is an admirable example of how subcontractors should comport themselves. In subcontracting it is limiting itself to a proper risk - its performance - and is not exposed to financial reverses not of its own making.

More generally, the shakeout of subs mentioned earlier may produce stronger companies among the survivors. One respondent gave an illustration of this point: A component for

aircraft was formerly made by three firms in fierce competition with one another. One of these firms has withdrawn from the business and a second is no longer a significant factor, having encountered severe management and financial problems. The survivor pretty well has the field to itself, which has given it significant leverage with its airframe manufacturer customers as well as enhanced financial stature.

Suggested Solutions

The bankers participating in this investigation offered a great many suggestions as to what could be done to make defense contractors more attractive in the eyes of the financial community. Some of these solutions were admittedly more a matter of wishful thinking than recommendations for action. For example:

Congressmen and Senators should stop berating DoD and defense contractors for publicity purposes; other members of those bodies should desist from exerting pressure on DoD to award contracts to firms in their respective districts or states; the turnover of DoD military personnel in the various procurement agencies should be reduced, so that such personnel could gain deeper and more sympathetic understanding of contractor problems; the "game" that contractors, DoD officials, and Congress play, as described on page 13, should be terminated once and for all. While each of these changes would appear to be desirable, none seems likely to transpire and, except for personnel turnover, none seems to fall within the ability of DoD to effect.

In the realm of the possible, however, there are a number of things DoD can do, either on its own through existing authority, or, where legislation is required, through the submission of appropriate recommendations to Congress. Some of these changes have been implied in the earlier discussion of the problems bankers perceive with defense contractors and in defense contracting. But it is well to draw together these changes and others that have not been touched upon for explicit consideration. It must be pointed out that there is some overlapping

among these recommendations, and some are not entirely consistent with others. Those caveats made, here is the list.

- In very general terms, DoD should enlarge its vision of defense contracting beyond its preoccupation with particular contracts and the performance of individual contractors in fulfilling them. It should do what it can to remove what a number of bankers perceive as the unnecessarily adversary relationship between it and its suppliers. In assessing the capabilities of individual suppliers, it should look at each one. One respondent said, "the way a banker does": by tracing the interaction and dependencies of the firm's different units and markets, by examining the firm's overall financial strengths and weaknesses. More fundamentally, DoD should decide what sort of defense industry base is desirable and what steps it or Congress should take to achieve and sustain this base - e.g., make an explicit policy decision whether or to what extent foreign sales should be relied upon to assure the financial vitality of contractors.

- DoD should see that compensation to defense contractors is adequate, that they earn a decent rate of return. (A couple of respondents stressed the similarity of the presently bleak outlook for contractors with the current plight of the domestic airlines.) A better rate of return is essential if contractors are to invest in the kind of modern equipment DoD would like to see them invest in, and to gain the long-term funds necessary for this purpose. Moreover better profits might attract more firms into the defense base, which might be desirable from DoD's viewpoint.

- DoD should seek a better balance between risks and rewards; the balance is presently out of kilter, too inclined toward risk and away from reward. More incentives should be provided for contractors that perform better than expected. Perhaps there are some risks now borne entirely by the contractor that the DoD should assume or share. Of course, where contractor risk is small, its opportunity for reward should be correspondingly modest.

- For certain negotiated contracts it may well

be desirable to shift from a cost basis to a return-on-investment basis. But to the extent that the cost basis is continued, interest should be allowed as a component of the contractor's cost base, even though it would be difficult to devise a formula that would result in proper allocation of interest to a specific contract.

- Annual funding of defense contracts should be replaced by longer-term commitments so as to reduce uncertainty for the contractor and its financing agencies.

- The top officials of DoD should insist on more commonality in weapon systems (e.g., fighter planes) of the individual armed services. The ensuing rationalization of production should benefit both DoD and the defense industry.

- DoD procurement agencies should avoid pressing for "best and final offers" and should desist from the practice of "technical leveling"; and contractor efforts to win contracts by "buying in" should be recognized and steadfastly resisted. Buying in is neither in the long-run interests of the contractors nor of DoD. (For definitions of "best and final offers" and "technical leveling," see the box on page 17.)

- DoD should not press for systems, components and so forth that have greater capabilities than are realistically needed, especially when these systems and components call for the development of technology well beyond the state of the art and the type of contract does not take this into account. Too often the contractor or the DoD, or both, have paid too heavy a price for supercapability.

- DoD should force the services to curtail their excessive propensity to change their minds about specifications in mid-contract; such changes inevitably cost the contractors money even if they eventually gain some restitution for them.

- DoD should delegate much more authority to local contracting officers in order to provide for timely resolution of problems that inevitably arise over the course of long, complex contracts.

- Disputes about cost claims should be settled promptly and fairly. The Navy, it bears repeating, is thought to be especially deficient in

this regard. A procedure for binding arbitration should be established to deal with contractor claims. Such arbitration should be quickly accomplished, as contrasted with the long delays that now attend the settlement of these disputes.

More dialogue is needed between the DoD and the banking community. Two specific suggestions were voiced. DoD representatives should attend state and national banking conventions; explain their problems with, and views about, negotiated contracts; and learn how these contracts and the companies that fulfill them appear from the banker's perspective. Or perhaps DoD could sponsor one-to-two-day seminars for bank lending officers aimed at a similar interchange.

If in the years ahead private-institution financing should become inadequate for the defense industry, Congress may have to enable DoD to engage in financing going well beyond progress payments or to provide a significant portion of the equipment and facilities defense contractors need, according to quite a number of bankers. Naturally they would be reluctant to see either alternative come to pass, but one or the other may have to be adopted if their perception of the defense industry, and the perceptions of other groups in the financial community, become more pessimistic than they are now.

Contractor Reluctance to Invest in Modern Equipment

The bankers interviewed did not evince strong feelings about the alleged reluctance of defense contractors to invest in modern equipment that would produce cost savings or increased efficiency. This seems quite natural, since banks are chiefly concerned with short- or intermediate-term financing for working capital purposes. Furthermore, several bankers volunteered the information that once they have acquired detailed forecasts of the sources and uses of funds and the contractor's cash flow over the life of a defense contractor's loan, they do not monitor closely the uses to which the funds

"Best and final offers" stem from the requirement that contract negotiations conducted by the DoD must terminate on a common cutoff date. When the deadline for a particular negotiation approaches, DoD requests a bidder to make a best and final offer in terms of price and/or technical approach. This offer not uncommonly is lower than the price the contractor has theretofore been suggesting; and it is not unheard of for the DoD later to ask for yet another offer when for some reason discussions are to be continued beyond the cutoff date. Because an experienced contractor understands the ritualistic character of the best and final offer, it may well include in its earlier price ample fat so that it can make a lower best and final offer; indeed, there may still be enough fat in that offer so that it can submit a still lower, post-best-and-final-offer offer.

"Technical leveling" is said to have arisen on occasion when two or more contractors are making proposals to DoD which are intended to lead to a negotiated contract. As DoD procurement officials discuss proposal shortcomings with individual contractors one by one, these shortcomings are redressed. In the end the competing proposals are quite similar to one another in technical respects. Contractors complain that technical leveling causes them to lose their respective technical advantages. DoD procurement officials are wont to claim that they do not engage in this practice.

In this connection it is pertinent to record an observation made by a former executive of an automobile manufacturer. His responsibilities at the automobile company were in the field of market research, and from time to time his unit would survey company suppliers, asking them what they liked and disliked about doing business with it. One of the most pervasive dislikes was the practice, by company procurement people, of letting the proprietary techniques and information of one supplier get into the hands of other suppliers. It should be noted that DoD procurement regulations specifically prohibit the "leaking" of such information.

are actually put — and certainly not in a large diversified company. And they do not really care, so long as they are repaid.

This group of respondents nevertheless offered a number of specific comments about this question, which are summarized below:

- For the aerospace industry in particular the question is academic, since this industry currently has abundant idle capacity.

- In the view of some bankers, the question rests on a false premise. A number of defense contractors have acquired modern, efficient equipment. One banker spoke of "spanking new numerical control machines" and efficient automatic riveting machines owned and used by several of his bank's defense-contractor clients. Another banker pointed out that some contractors that are operating apparently old machinery have rebuilt this machinery, making it very efficient.

- To the extent there is truth in the premise, and on the assumption that contractors can finance investments in modern equipment, their reluctance basically stems from low profits on defense work or, perhaps more precisely, expectations of low profits. The anticipated cost-benefit ratios, the ROI, simply are not enough.

- Some contractors might buy more efficient or effective equipment if contracts were completed more rapidly than they traditionally have been. This seems to be essentially an economy-of-scale concept.

- Other factors that discourage investment are: change orders; the risk of cancellations; the annual funding process and attendant uncertainty; delays in negotiating cost changes; inability to write equipment off over the life of the contract; uncertainty of total production runs or whether the contractor will actually produce its originally planned portion of the run (a contractor will not buy a machine that would be attractive for making a thousand units of a product if there is a substantial risk in the end that only 200-300 units will be produced); slowdowns of production runs, causing expensive equipment to stand idle or be operated well under capacity; the inability to use highly specialized equipment for other purposes; the lack of commonality in fighter planes and other hardware ordered by the individual armed

services; and, of course, the possibility of having profits on a contract challenged by the Renegotiation Board.⁵

How lack of commonality can inhibit capital investment can be explained by means of a hypothetical example suggested by one banker. Company A has won a contract to build a fighter plane for the Air Force which might serve the Navy's needs as well. But instead the Navy opts for a slightly different version of the plane, and awards the contract to Company B which, hungry for business, has encouraged the Navy to press for a unique aircraft. Had Company A been able to build the plane for the Navy as well as the Air Force, it might have invested in equipment that would produce significant cost savings, but with only the Air Force contract, the investment looks unattractive.

Impact of a Capital Shortage

There is a broad range of opinion among the surveyed bankers, as among executives in other financial institutions, as to whether a severe capital shortage is in prospect for the U.S. economy. Nevertheless one finds fairly widespread support for the view that financing opportunities for banks and other institutions will increase, and that this will adversely affect defense contractors' ability to secure funds from external sources. The most desirable credit risks, on the other hand, should be able to get the funds they need at reasonable cost.

Here are some individual comments made by bankers.

- One banker foresees "burgeoning needs for financing" in the future. In assessing and choosing among prospective borrowers, this bank must be guided by the interest of its shareholders, its depositors (and safety is the

⁵The Renegotiation Board was created by the Renegotiation Act of 1951. The purpose of the Act is the elimination of excessive profits (as determined by the Board) on defined types of defense and space contracts and related subcontracts contracted by defined government agencies (including the Department of Defense).

watchword here), and its concept of the public weal. A defense contractor would probably be able to get financing under the last criterion – but this is a poor third in the listing.

- Defense contractors will stand toward the end of a line during periods of tight money.

- Only low-risk businesses have been able to get public long-term debt and equity financing recently, and defense contractors are not included in this group. As new low-risk opportunities for lending develop, defense contractors will have an even harder time raising funds.

- Banks have had “tremendous pressure” in the absence of long-term debt and equity financing for defense contractors. As there are increasing demands from more attractive clients, the defense contractors may find it even more difficult to get all the bank financing they want.

- Commercial business is preferable to defense business whenever a bank has to allocate funds.

The consensus among bankers participating in this inquiry is that on the whole subs will have a more difficult time than major primes in securing financing if a capital shortage materializes.⁶

⁶It may be useful to distinguish between “crowding out” and a capital shortage. “Crowding out” refers to the expectation held by some economists, government officials, and businessmen that to finance its current deficit and the deficits foreseen for at least another year or two, the Federal Government will absorb funds that would otherwise be available to private borrowers. The capital shortage numerous people fear – including spokesmen for the New York Stock Exchange – is a longer-term phenomenon. Their argument is that over the next decade the capital needs of the private and public sectors of the United States will greatly outstrip what appears to be the likely savings potential of the economy, thus leading to curtailed growth and higher unemployment. A capital shortage in this sense can be avoided if there are substantial changes in the tax laws and federal economic policy. But even these changes, the doomsayers maintain, may not increase savings enough.

The issue of the adequacy of capital investment in the United States is examined by Albert T. Sommers, chief economist of The Conference Board, in a paper entitled “Capital Formation, Inflation and Growth,” The Conference Board, 1975.

If the majority view that it will be tougher for defense contractors to obtain outside financing than it has been heretofore proves accurate, there are likely to be two significant consequences for many of them. First, they will not be able to make normal replacement of their present machinery and equipment, let alone acquire special equipment that would help them fulfill future contracts more efficiently. Second, they may be forestalled from undertaking programs of diversification – a development some (but by no means all) bankers, and executives in other financial institutions as well, believe would be in the defense industry’s interest.

Diversification – and Preservation of the Defense Base

Two other questions brought up by the bankers interviewed are pertinent to the major issues of this inquiry. One has to do with the possibilities of diversification by defense contractors so as to reduce excessive reliance on the military market. There is a body of banker opinion that doubts whether this is an achievable, or even desirable, goal. Many years would elapse before a diversification-from-within program could make a substantial contribution to the results of a major defense contractor. And if diversification were pursued by acquisitions, it is doubtful whether more than a very few major contractors could either mount such a program from internally generated funds or raise outside financing, at least in the foreseeable future.⁷ Furthermore, as indicated earlier, it is the opinion of some bankers that defense-contractor managements would not be comfortable doing business in commercial markets. Thus even if they had funds to diversify, their outlook for success is not promising. In support of this argument, several bankers spoke of the poor track record of defense contractors, both primes and subs, that have sought to diversify. It

⁷By contrast one banker suggested that for a defense contractor, hard pressed for cash but unable to raise it in the financial markets, being acquired by another firm in a strong financial position can be a means of salvation.

Why Do Defense Contractors Pay a Premium Above Prime Interest Rates for Short-Term (One Year or Less) Bank Borrowing?

Do defense contractors pay a premium above prime interest rates for short-term (one year or less) bank borrowing? There are three answers to this question: (1) not necessarily, (2) difficult to say, and (3) the question is too narrow.

The latest annual reports of 19 of the 19 leading suppliers to DoD in 1974 as fits at The Conference Board reveal the following information about interest on short-term bank borrowings.¹ The companies in each cluster are listed in descending order of volume of business with DoD in that year.

Bank Credit Extended at Prime²

Company	% Company Sales to DoD ³
United Aircraft Corp. ⁴	53
Rockwell International Corp.	19
Raytheon Company	47
Northrop Corporation	70

Bank Credit Extended above Prime³

Company	% Company Sales to DoD ⁴
General Dynamics Corp.	100
Lockheed Aircraft Corp.	53
McDonnell Douglas Corp.	44
Boeing Company	32
Litton Industries Inc.	31
Grumman Corp.	63

What distinguishes the companies paying prime from those paying above prime? An outsider cannot tell. The unweighted average of the figures representing percentage of company sales to DoD, for example, is higher for the above-prime firms (34 percent) than for the prime-rate firms (47 percent) — but not much. And Northrop had a

higher percentage of DoD sales than five of the six above-prime companies. Or take Grumman and Lockheed, both of which have had well-publicized financial problems. Do you necessarily attribute Grumman's problems to its DoD business. But the situation for Lockheed is far clearer: both the C5A and L-1011 have been unprofitable, for example.

Perhaps more important, stated interest rates on bank borrowings (prime, one-quarter of a percent above prime, etc.) constitute but one of several factors that reflect banks' appraisals of the creditworthiness of their clients. Other factors, each of which applies to one or more companies listed above, include: (1) compensating balance requirements and/or commitment fees, which make effective rates of interest higher than stated rates and which show considerable variation among these 18 companies; (2) the pledging of corporate assets as security for loans; (3) the presence (or absence) of restrictive covenants (e.g., limitations on dividends) in loan agreements; (4) borrowings from overseas banks as well as borrowings from domestic banks; (5) government loan guarantees (Lockheed); (6) the presence (or absence) of direct borrowing by a subsidiary of the parent corporation in addition to the parent's own borrowing; (7) the burden of the borrower's long-term debt. Unlike the rating services, a bank does not publicly reduce such considerations to the simplicity of letter grades.

One comes back, then, to points made earlier. The terms of bank credit extended to any firm are established essentially on an individual basis, and not on an industry basis, and are influenced chiefly by (1) the bank's perception of the strength and prospects of the borrower at the time the bank considers the financing, and (2) the bank's own situation then — its relative hunger for business, the supply of funds available to it, its competitive milieu.

¹As a rule, any borrower pays more than prime rates for bank borrowings that extend beyond one year.

²Hughes Aircraft is omitted because, being privately held, it does not issue an annual report to the public; General Electric Company and American Telephone & Telegraph Company are omitted because DoD business constituted but 10 percent and 3 percent, respectively, of their total sales.

³This term "extended" is used because a few of these companies made no borrowings against bank credit lines during the fiscal years in question.

⁴Source: Logistics Management Institute. As LMI has pointed out, these percentage figures are misleading for two reasons: the numerators from which they are computed are based on the total value of negotiated contracts awarded in 1974, even though some portion of each contract has been parcelled out to subcontractors, and these contracts will run for more than one year.

⁵Now United Technologies Corp. This company's short-term borrowings for the year in question were "chiefly at New York City prime interest rates."

remains to say that bankers are looking at the current diversification program of United Technologies Corporation with great interest.

The second question represents a challenge to the premise that the present defense base ought not to undergo erosion, that it should be at least held stable if not enlarged. While conceding that any buyer prefers to do business with at least two suppliers for each product or component it needs, that keen competition among suppliers is in important respects beneficial to DoD, some bankers believe that the defense base, both primes and subs, may be too big in the sense

that there are too many competing firms for most of them to be assured of long-term financial strength and viability. In this connection it is pertinent to rehearse two points previously raised: (1) there is considerable overcapacity in the aerospace industry; and (2) at the subcontractor level, several firms have become significantly stronger as a result of the withdrawal or demise of some of their competitors. This is not the place to explore the pros and cons of preserving or enlarging the present defense base, but it does seem fitting to report that some bankers hold a "con" viewpoint.

Other Financial Institutions

Life Insurance Companies

THIS SECTION of the report deals with the present, and estimated future, role of major life insurance companies in the financing of defense contractors. It is based on interviews conducted with senior officers of five of the country's largest life insurance companies.⁸ Because their comments exhibited a high degree of consistency and uniformity, it is believed that what follows is a fair and balanced presentation of the life insurance industry's view of the defense industry.

Lending Policy and Criteria

For the most part, life insurance companies are involved in corporate debt financing through privately placed loans (bonds, notes, etc.) of 15 or more years' maturity and with fixed interest rates. It is this involvement that will be examined here.⁹

Long-term loans represent investments that match the characteristics of a life insurance company's principal liabilities: permanent life insurance policies. The two major purposes to which long-term life insurance loans are put by

⁸Smaller regional life insurance companies, according to the insurance executives interviewed, play little part in financing defense contractors - at least major prime contractors. In those rare instances in which they are involved in a major financing by their standards - a loan, say, of \$15 million or more - it is almost always as participants in a consortium in which they are included with one or more of the larger life insurance companies, with that company, or one of that group of companies, acting as leader.

The tax situation of casualty insurance companies causes them to place the bulk of their funds in tax-preference investments rather than invest them in industrial concerns.

⁹A discussion of the pros and cons of private placements and an explanation of how they are arranged are found in an article by Joseph Van Vleck 3rd, "Arranging a Private Placement," *The Conference Board RECORD*, August, 1974, pp. 35-38.

Life insurance companies also purchase and sell publicly traded debt (bonds, convertible debentures) and equity instruments of corporations.

borrowers are: (1) funding capital investment programs, and (2) retirement of short-term debt.

Together the five firms participating in this study have several scores of billions of dollars on loan to U.S. business enterprises - the great majority of them on one or another *Fortune* list of leading companies. Although it was impossible for their representatives to estimate how much is outstanding to defense contractors, owing to the necessary imprecision of the definition of this term used in this study, these five companies apparently have several billions of dollars on loan to manufacturers with substantial defense contracts and, in most cases, with extensive commercial business as well.

As would be expected, the principal criterion observed by life insurance companies in evaluating loan proposals is long-run safety. As one executive put it: "We look for companies that are solid, stable, that have been around 100 years and will be around another 100. We prefer those with lots of assets and involved in mass production. The output need not be glamorous nor even highly profitable, but it must reflect diversification and staying power. The borrower's products and markets must appear guaranteed to us at least over the life of the loan."

In addition to preferring diversification of product lines in their individual borrowers, life insurance companies impose this requirement on their own portfolios of investments; a broad cross section of industries is sought. There are legal limitations on the percentage of a life insurance company's assets (including equity investments) that can be committed to any one firm - thus in New York State the limitation is 10 percent - and in practice no single loan comes close to such a ceiling. When a borrower requires a greater sum than a single life insurance company would feel comfortable with, the borrower or its investment banker will form a financing consortium of life insurance companies to spread the risk.

To determine the safety of a potential corporate loan, life insurance companies subject the prospective borrower to a variety of financial and operating tests based upon past results, current status, and outlook for the future. The following listing offered by one insurance company executive is similar to the tests others mentioned.

1. Financial Considerations

a. The health of the balance sheet, particularly with respect to capital structure. The debt/equity ratio is a key measure.

b. Coverage of fixed charges. Although there is apt to be a legal constraint — in New York State a life insurance company may make an unsecured loan to a firm only if the firm's earnings are 1.5 times fixed charges, for example — typically a life insurance company has a more stringent criterion.

c. Debt service ratio. Cash flow should be 1.5 to 2 times the sum of interest, rents and sinking-fund commitments.

d. Profit and cash-flow history.

e. Projected sources and applications of funds.

2. Market and Product Characteristics

a. Sales data by product line.

b. Share(s) of market(s) served.

c. Marketing, selling and distribution capabilities.

d. Concentration of customers (one insurance company stated it will reject loan requests from companies that have a single customer taking 50 percent or more of their output).

e. Extent and nature of competition.

f. Opportunities and problems of the industry or industries in which the borrower is involved.

3. Management

a. Caliber of management.

b. Organization structure.

c. Planning and controls.

d. Attitudes toward growth and diversification.

4. Other Tests

- a. Research and development programs.
- b. State of labor relations.
- c. Environment, pollution and safety performance.
- d. Relations with government.
- e. Outstanding litigation.

All the life insurance companies interviewed stressed that, in their loan analysis, they are primarily *credit-oriented*, not *product- or industry-oriented*. Thus, companies judged to be inherently strong and stable, with a proven sound financial record, will be given financing.

Attitude toward Defense Contractors

Despite the secondary importance they attach to a borrower's product or industry characteristics, the life insurance company executives interviewed have, on balance, a generally negative attitude toward financing defense contractors. One of them stated: "We would not consider taking on a new client that is a defense contractor," and added that his company would be very reluctant to extend further financing to two very large defense contractors with which it presently has relatively large loans. Other companies reported rejections of specific requests for loans by certain defense contractors.

In another respondent's opinion, the situation for defense contractors seeking insurance-company financing "is about as serious as it can get." The outlook for the future is, he said, equally gloomy. But his company has not had many requests for financing from defense contractors because, he thinks, "they know they will not get a particularly warm reception."

There appear to be two principal reasons for the negative attitude of life insurance companies toward financing defense contractors: (1) the inappropriateness of long-term loans for these firms, and (2) perceived risks of defense contractors as borrowers.

Short-term Character of Contractor Financing Needs

As noted, insurance companies consider 15-plus years consonant with their fiduciary

responsibility for the funds of their policyholders. By contrast, the financing needs of defense contractors are oriented to fulfillment of their contracts, practically none of which is likely to exceed five years. Thus there is a pronounced lack of fit between the normal lending horizon of a life insurance company (which horizon embraces at least three generations of defense contracts) and the normal borrowing horizon of a defense contractor. "This kind of financing is the area that commercial banks must carry. This is not our mission," one corporate financing officer stated.

Not all the insurance company participants fully subscribed to this view. Aware of profits to be made on shorter-term financing, some of them voiced concern that they were, as one of them phrased it, "losing some good bets" in failing aggressively to participate in this sector of the loan market. Indeed, one company said it is making seven- to eight-year loans "if the interest is right." (In the same vein, one of the bankers interviewed was puzzled by the apparent reluctance of the life insurance industry to engage in intermediate-term financing.)

Perceived Risks of Defense Contractors

Apart from the lack of fit between insurance company lending and defense-contractor borrowing horizons, insurance company executives tended to put defense contractors (with a few exceptions) well down on the list of desirable investment risks, below most consumer and industrial products manufacturers.

What makes defense contractors relatively risky to life insurance corporate finance officers? The major elements of risk they perceive are itemized below. Many of them duplicate the elements of risk discerned by bank lending officers.

• *The "one product, one customer" syndrome.* Life insurance companies expressed concern about the risk and vulnerability involved in dealing with companies that have only a limited product line and a few customers (perhaps only one - the government). Said one insurance company investment officer, "The

narrowness of the defense market is hazardous. By contrast, many commercially oriented companies have broader product lines and broader markets. Thus, their risk - and ours is diversified." Defense contractors whose products are also in demand in commercial markets - for example, electronics firms - have readily obtained insurance company financing.

• *Uncertainty.* Uncertainty is perhaps the word most frequently used by insurance companies to characterize the defense industry. One manifestation is the lack of assurance that any single contract a contractor holds, however profitable, will be followed by subsequent contracts - or that subsequent contracts awarded to that contractor will turn out to be profitable.

A second manifestation of uncertainty is the difficulty defense contractors and their lending agencies have in estimating accurately the costs that will be incurred in fulfilling a contract. Quite a few defense contracts involve a first-time production effort and exotic, untested technology. In these circumstances, outsiders like corporate financing officers and analysts of life insurance companies are frustrated in making realistic projections of costs. And inflation has taken its toll, and seems likely to continue to do so. Even where price escalation clauses have been incorporated into contracts, the protection frequently has been inadequate. The net result, according to one insurance company executive, is that "a company with a solid record of achievement and earnings can suddenly and unexpectedly have a contract that proves to be a disaster." Another observed: "Things just have to go wrong. There can be no end to the bugs in this business."

A third aspect of uncertainty of concern to insurance company executives has to do with the inevitable turnover of public officials who influence DoD procurement policy and practices. A change in national administration or even the biennial changes in the House of Representatives can and do contribute significantly to the uncertainty not only of procurement policy and practices but also of already negotiated contracts.

• *Cancellations.* Cancellations of defense contracts occur more than occasionally. DoD cancellation privileges are perceived as being very liberal, and are seen to be exercised relatively more frequently than is the case with commercial contracts. While DoD does make stipulated restitution for a cancellation, the affected manufacturer is often left with machinery and equipment that has no further military use and cannot be converted to commercial production.

• *Change orders.* The frequency with which changes in contract specifications are introduced by DoD during the life of contracts is believed to be much greater than the incidence of changes made by buyers in commercial contracts. Insurance company executives acknowledged that the continuing advances in the technology of armaments make the military's insistence on such changes understandable. But they saddle contractors with added costs and severe scheduling problems.

• *Difficulty in understanding the defense business.* The defense business is "extremely difficult to understand; it's hard to get a handle on it in the way we can for a conventional business," one insurance company respondent stated. One barrier, of course, is the high and very sophisticated technology entailed in fulfilling some contracts. Another is the requirement found in certain projects that production processes or product characteristics be kept secret from outsiders; in these circumstances it is perplexing to appraise applications for financing.

• *The practice of "buying in".* The insurance company participants have perceived a necessity, "sometimes at a desperation level," one respondent claimed, for some defense contractors to assure themselves of orders and backlogs. To keep key personnel on the payroll, and assure that their research and development effort will continue, and perhaps in the hope that technology developed for a military project will have subsequent commercial applications, these contractors bid aggressively and at times buy in. "In their hearts they know they can't live with these buy-ins," one of these respondents observed,

"but they hope they can renegotiate later as problems arise." As for the transfer of technology from military to commercial use, several members of this group of study participants expressed the belief that, at least in recent years, this has rarely happened.

• *Low profits.* Practically all the life insurance company executives interviewed made the point that profits on defense work are by and large lower than profits on commercial business. Relatively low profits per se are not necessarily an obstacle to lending by life insurance companies. But when they are linked, as they are in the minds of most of these respondents, to a belief that nearly every major defense contractor has encountered what one of them termed a "major disaster" every four or five years, they give the industry another black mark.

• *The climate of doing business with DoD.* Defense contractors, as life insurance companies see it, are seriously hampered by the climate of doing business with DoD. The DoD is said to maintain an adversary relationship with its suppliers; there is not the cooperation and reasonableness one finds in the commercial world. "You can generally sit down with a commercial customer, analyze problems that have arisen, and settle them quietly and effectively," a survey participant stated. The DoD, on the other hand, is characterized as being hard-nosed, rigid, inflexible. It also manifests little loyalty to suppliers, little interest in their long-run stability and strength.

Another untoward element of the business climate is overregulation. "Defense contractors" observed one insurance executive, "are being regulated to death." The red tape, confusing and contradictory regulations, and inflexibility of the federal bureaucracy that insurance company study participants discern add to their distaste for defense-contractor financing - as they do to their distaste for financing firms in other industries, like transportation and utilities, intimately involved with government.

• *The defense industry's image problems.* Most of the insurance company respondents are

troubled by what they perceive as the defense industry's negative image for many people, including, they suspect, a significant membership of the ranks of their policyholders. These respondents mentioned several aspects of the industry's image problem: the linkage with the far-from-universally-popular military establishment and the mammoth defense budget; cost overruns on certain contracts; congressional accusations of excess profits on other contracts; the Lockheed loan guarantee and other government actions regarded as bailouts for defense contractors; the revelation of what some term unethical practices in winning foreign sales. It is not just these events, but also the widespread publicity and commentary they have attracted — the defense industry, one respondent remarked, is highly visible — which have reinforced the hands-off attitude of insurance company executives toward involvement with defense contractors.

• *Other negatives* of the industry mentioned by these study participants include the exclusion of interest from the computation of contractor costs, the "best and final offer" syndrome, and the influence of political clout in the awarding of many defense contracts.

Suggested Solutions

The solutions offered by some of the life insurance company executives to problems they identify with the defense industry would, if implemented, reduce the investment risk they associate with these firms. The most frequently mentioned suggestions include:

1. Improved forward planning by DoD would reduce the uncertainty and volatility that presently characterize the defense industry. It would lead to longer production runs and some minimum assured continuity of orders, which, in turn, would significantly contribute to the stability (and profits) of defense contractors. It would also reduce the incidence of change orders and cancellations, and their untoward effects on contractors.

2. Changed attitude of DoD. A changed

contracting posture by DoD was strongly recommended. Some specifics: less bureaucratic rigidity; more understanding of and reasonableness about defense contractors' problems; adoption of the forthright negotiating stance, including willingness to make appropriate compromises, that characterizes normal commercial dealings; and greater loyalty to contractors.

Here are some illustrative statements:

- "A self-reexamination by DoD is needed. It should retreat from its often bullying and bureaucratic position and assume a more businesslike relationship toward its suppliers."

- "What is needed is stability of policy by DoD, and greater manifestation of moral responsibility toward the contractors as distinguished from mere financial responsibility."

- "It should be more widely recognized by DoD that it is often asking a defense contractor to perform a difficult, perhaps unique, and certainly high-risk job — one that a manufacturer for private industry would likely refuse."

With respect to greater DoD loyalty to contractors, the point was made that once a defense contractor has performed capably on a contract, DoD should both recognize and reward such performance by turning regularly to this accumulated expertise in awarding subsequent contracts for similar products or systems. This would be in contrast to its penchant for "starting all over again," as one respondent phrased it, with price, rather than contractor know-how, typically the chief determinant in making awards.

A case was cited in which a contractor had developed a unique technology for a highly specialized product, and had demonstrated far greater skill in its production than any other manufacturer. But other companies, utilizing the technology, but with only limited manufacturing experience, bid on a new contract; and one of them won it based on a low bid, only to have to go back later to DoD to ask for more time and money. The original contractor debated pulling out of this area of the defense business if, as it seemed, low-priced bids were to

be the key consideration. This threat was said to have persuaded DoD, in this instance, to reorient its contracting emphasis toward performance and away from price, and it has awarded subsequent contracts to the experienced manufacturer.

If the DoD more commonly favored established performance over price, "conceivably this might mean fewer but more stable contractors," one insurance company officer commented.

3. Diversification into commercial business. Every member of this group of respondents thought that defense contractors ought to diversify. If such a company had a reasonable share of its business tied to commercial products, manufactured and marketed them profitably, had the financial strength gained through diversification to "roll" with an occasional financial reverse from a defense contract, then the company would be more attractive as an investment risk. There was recognition that several defense contractors are undertaking significant diversification programs into commercial markets. United Technologies was repeatedly mentioned as a favorable example.

Diversification, it was agreed, is more easily called for than accomplished. It is bound to take a long, long time if pursued through internal development. And a merger or acquisition program would have to be massive, requiring substantial investment, in order significantly to affect the proportion of a firm's business in commercial markets and to be reflected in corporate profits.

4. A more responsible posture by Congress. The life insurance officers noted that the use of the defense industry and its contractors by some members of Congress as political footballs was a barrier to a sounder and more balanced public understanding of the industry's problems, and to the probability of constructive remedial legislation affecting the industry. Although this

would be admittedly difficult to accomplish, they believe that DoD should attempt to educate Congress dispassionately and as one put it, "with controlled, understated precision and accuracy" about the facts surrounding the defense industry. If this led to a dampening down of congressional criticism, investors could well gain confidence in the industry.

5. Increased government manufacturing and financing. Because of their belief that it is not realistic to hope that defense contractors and DoD could (or, in DoD's case, would be politically allowed to) implement enough of the changes required to move them into an improved risk status, several respondents foresee that government participation in the manufacture of defense products and/or related financing will probably be inevitable. Government financing might well take the form of guarantees similar to a commercial arrangement whereby a parent company will "guarantee" a subsidiary's obligations, or parallel the systems adopted by certain foreign governments to extend assistance to their respective national industries.

A Coming Capital Shortage?

Agreeing that there is no significant shortage of capital now, life insurance executives expressed mixed opinions about whether one is likely in the future. All of them maintained that good credit risks will get the financing they need, shortage or not; and should a serious capital shortage materialize, the financing problems of individual defense contractors will be accentuated in inverse proportion to their credit worthiness. Even in this event, "perhaps even the less desirable defense contractors could get credit if they were willing to pay unreasonable interest rates," one respondent opined. But the consensus was that extension of credit to unattractive risks, however profitable the interest rate is to the lenders, is a basically unsound investment policy.

Investment Banking Firms

UNLIKE BANKERS and insurance companies which provide financing for corporate clients, investment banking firms advise their clients about financing and, when long-term outside financing is desirable, arrange for it. In connection with the second function, such a firm plans and sees to the distribution to institutional and individual investors of new equity (stock) or debt (bond) issues. Or, the investment banking firm may try to place the financing privately, most likely in the form of debt and with one or more insurance companies. (Because of its lack of marketability, privately placed debt traditionally commands a slightly higher interest rate than bonds sold in the securities markets.)

If, in designing a balanced financing program for a client, an investment banking firm determines that a portion of it should consist of short-term borrowings, the firm will recommend to the client that it seek funds from commercial banks and may help the client to secure such financing. Finally, some - but not all - investment bankers also help clients sell commercial paper: unsecured notes with maturity of 270 days or less.

The investment bankers interviewed all were associated with major firms in this industry, and all manifested a distinct preference for doing business with clients with annual sales over \$50 million. "Small companies like defense sub-contractors are not worth our time," said one investment banker. "We're not geared for them; the required investment-analysis time and the placement effort can only be paid back to us by large dollar financing. We also stay away from what we call marginal situations, that is, relatively low profits, a record of severe up-and-down operations, and a limited product line."

Investment bankers apply significantly different criteria to equity issues and to debt issues. In equity issues, they are concerned, first, with consistency of profits and, after that, growth of profits. With debt issues, their con-

cern more nearly parallels that of life insurance companies and banks; safety and ability to repay the loan are paramount considerations. Thus the following tests that investment bankers apply to a proposed financing will have different emphases depending on whether debt or equity financing is contemplated.

1. Earnings - overall rate and stability of growth, balance among major lines of business, projection of future earnings both with and without the facilities, acquisitions, etc., the proposed financing will make possible.

2. The company's record of fulfilling contracts.

3. The character of future business: What size and types of order backlogs and uncompleted contracts, lasting over what time periods, does the company have? And will the contractor make a decent margin on each of these orders and contracts? What risks does it face in completing them?

4. The caliber and philosophy of management.

5. The diversity (or planned diversification) of product lines. Investment bankers like to see a significant proportion of noncyclical, stable commercial products in the client's mix.

Attitude toward Defense Contractors

The attitude of investment bankers toward defense contractors, like the attitude of commercial bankers and insurance company executives, is generally negative. "In fact," said one investment banker, "it's worse than it was five or ten years ago. Defense contractors were a favored industry in the 1950's and 1960's, but their managements have let them down - they became overoptimistic, overconfident and engaged in some very poor contracting." And over this same period, this respondent said, political considerations have forced DoD to impose more stringent and tighter controls, resulting in an even more difficult and demanding business climate for its suppliers.

The now familiar litany of problems affecting defense contractors, as voiced by commercial bank and life insurance company executives, was repeated by the investment bankers. Those most emphasized included:

1. Relatively low profits earned by defense contractors. "Most Congressmen are under the illusion that the defense industry is enormously profitable for its participants, and so they inveigle a helpless government into buying things the government doesn't really need," one study participant commented. But, he went on, net profits of defense contractors are relatively low and, for companies participating in both military and commercial markets, profits on defense business are lower than they are for commercial business.

2. The deterioration of defense-contractor balance sheets over the past 20 years, as manifested by ever-growing debt and resultant unsatisfactory debt/equity ratios.

3. Often excessive reliance on a single type of product tied to a single customer — or, to put the matter another way, lack of diversification.

4. The numerous characteristics of the defense industry which contribute to its uncertainty. For instance:

- Lack of continuity of production.

- Frequent cancellation of projects (frequent, that is, compared to commercial business), deferrals (e.g., stretch-outs or pushing delivery to a later date), engineering change orders, little assurance of a repeat order.

- The "cut defense" slogans voiced in Congress and echoed by some of its constituencies.

- The highly technological characteristics of many products that make the industry difficult for investment bankers to understand and evaluate with certainty. Typically accompanying this sophisticated technology is the phenomenon of rapid technological advance with resultant frequent change orders.

- The "one time" effort that characterizes

many defense contracts. "What we want to know is if there is a market [for those products] for five or more years out" stated a respondent. Related to this consideration is the occasional "one-time" spurt in earnings that a contract can contribute. "But this is not really desirable," says an investment banker, noting that such spurts do not reflect the kind of solidity and stability the investment community hopes for when analyzing the quality of earnings.

5. The tendency for some contractors to "buy in" at unrealistic prices, with ensuing losses and painful renegotiations.

The most significant consequence of investment bankers' disenchantment with the defense industry is that they do not expect that it will be feasible for its members, unless these problems are eliminated, to raise public debt or equity capital on tolerable terms in the foreseeable future. One investment banker did venture an opinion that, if they get their houses in order, some defense contractors will be able to secure limited equity financing, but the stock will likely have to be issued at a per-share price less than per-share book value. "They'll either have to cut back their business or raise expensive equity," another observed.

Suggested Solutions

Investment bankers proposed a number of solutions to these problems. Certain of these were felt by the respondents to be realistic while others, it was conceded, were somewhat idealistic in that, as one said, they were either "politically difficult or even impossible."

1. Permit the profit return on defense contracts to rise to a level equivalent to the level of return on normal commercial contracts.

2. Develop realistic initial costing and pricing by defense contractors in cooperation with DoD procurement personnel with the object of preventing costly overruns accompanied by uncertain renegotiated compensation.

3. Treat the defense industry as a public utility — a combination of public and private

endeavor - and assure an agreed-upon - a legislated - level of profits.

4. Improve the investment tax credit and "freeze" it legislatively as a permanent financing device.

5. Effect changes in the Renegotiation Act, so that a defense contractor can balance profits on individual contracts against losses on others. The present policy of renegotiating away "excess" profits, but requiring defense contractors to absorb any contract losses is unrealistic; this "no win but can lose" philosophy curbs motivation to seek defense contracts.

6. Consider government guarantee of loans to contractors, or establish an institution like the Reconstruction Finance Corporation for funding them.

7. Modify the present congressional year-to-year appropriations practice which currently yields little stability of operations; assure defense contractors of more continuity of orders and backlogs to permit orderly and efficient planning.

8. Require that DoD increase continuity and stability of defense-contractor operations by awarding longer production runs.

9. Minimize change orders. Recognized as frequently inevitable and necessary, these orders can be softened in impact by timely joint consultations between DoD and the defense contractor. In any event, compensate contractors equitably for the resultant costs incurred.

10. Urge defense contractors to diversify into more commercial products in a manner that will contribute to stability, continuity and a sustained sales and earnings performance, and thus make these firms more attractive to the investment community.

The investment bankers interviewed conceded these were not "easy" solutions. In fact, pessimism was expressed about any significant changes arising from Profit '76 or any related efforts, because the realities of politics, especially in the Congress, would defeat most

businesslike, remedial recommendations. For this reason, there is a good chance, one investment banker said, that capital may have to be allocated by the government, with financial institutions being required to place a certain portion of their available funds with defense contractors, and in other sectors of the economy - such as energy, housing and mass transportation - which the Federal Government wants to support but which would not receive adequate financing from the private capital markets.

Future Availability of Capital

All the investment bankers agreed that up until recently no firm with a record of steady if modest profitability has had a problem raising money. All, however, also agreed that this is changing and will become a steadily more serious problem as the inevitable demands for capital increase, both domestically and internationally. The potential capital demands in the areas of energy, housing, urban rehabilitation, ecology, environment and pollution, new plants and equipment, and mass transportation are enormous.

Another point of consensus: companies with top ratings will continue to find financing available; somewhat less desirable risks will have to "scratch" - to search innovatively to find other sources and financing methods - and perhaps pay near-exorbitant interest rates; and defense contractors (with certain exceptions) will find capital extremely hard to acquire. The equity and long-term debt markets, both public and private placement, will be largely closed to them except perhaps under virtually prohibitive and "unreasonable" rates and conditions. And commercial banks, with stiffened and more stringent loan criteria stemming from their recent spate of bad experience with a number of nondefense-industry loans, will look harder at defense contractors and impose more burdensome conditions on loans to them. "The outlook," warned one investment banker, "is unrelievedly bleak."

Rating Services

IT SEEMED appropriate to include in this study the views of rating services - firms that assess the strengths and weaknesses of a company seeking long-term debt or equity financing and, if the offering is to be a public one, bestow upon the debt or equity instrument a publicly disseminated grade reflecting that assessment, which is periodically updated. Rating services, several bankers asserted, have about as broad and as detached and objective a viewpoint concerning defense contractors as one can encounter in the financial community.

Within a rating service separate groups make evaluations of corporate debt instruments and corporate equity issues. Representatives of groups concerned with debt securities at two of the three recognized rating services contributed to this report.

The Mechanics of Ratings

When a company is thinking of seeking, or decides to seek, public long-term debt financing through the sale of bonds, it or its investment banker approaches the rating services to secure a rating from each one. The attendant investigation by the service, which, among other things, involves a meeting with the issuing company's management, is carried out at that company's expense. After the rating has been determined for an issue, there is a follow-up review made at least once a year over the life of the debt security. Upon request, the services also make rating evaluations of firms that seek private long-term debt financing; in these circumstances, the rating is not made public.

A bond rating is intended to be, as one other rating service has put it, "an indication of the relative degree of probability of repayment of the principal and interest on time." This service states: "When we rate a company, we do so on the basis of how we believe that company will perform under the worst of conditions, not the best." It recognizes two obligations in its work:

"First, just and always, [an obligation] to the investor - 'to tell it like it is.' Second, to be fair to the issuer, by assigning the highest rating possible."

The ratings used by one service are explained in the box on page 33. In general, the lower the rating, the higher the interest rate the borrower will have to offer.

The Views of the Analysts

The analysts at one rating service set forth the basic criteria this service uses for judging a company and then commented on how defense contractors, looked at as a class, measured up to these criteria.

1. Future earnings protection, by which is meant coverage of fixed charges, profit margins, and the viability and trend of those margins. The problems of defense contractors with regard to this criterion are:

a. Uncertainty. Because there is typically a three- to five-year period after the signing of a defense contract before the product or system is delivered, the rating service is necessarily dealing with estimates as it assesses a defense contractor. A striking example of uncertainty is that contracts typically have inadequate protection against the ravages of inflation.

b. Inadequate freedom of action by the contractor and the Department of Defense in working out the inevitable cost problems that turn up over the life of the contract. As these problems arise, Congress and the press more likely than not will have something to say about them, which hinders their timely and proper resolution.

c. The weakness entailed in excessive reliance on a single customer.

d. Low profit margins arising from over-aggressive bidding by contractors.

e. Questionable continuity of corporate revenues, the product of the contract-

Standard & Poor's Bond Ratings

To provide more detailed indications of credit quality, our traditional bond letter ratings may be modified by the addition of a plus or a minus sign, when appropriate, to show relative standing within the major rating categories, the only exceptions being in the "AAA" - Prime Grade category and the lesser categories below "BB".

Corporate Bonds

Bank Quality Bonds - Under present commercial bank regulations bonds rated in the top four categories (AAA, AA, A, BBB or their equivalent) generally are regarded as eligible for bank investment.

AAA - Bonds rated AAA are highest grade obligations. They possess the ultimate degree of protection as to principal and interest. Marketwise they move with interest rates, and hence provide the maximum safety on all counts.

AA - Bonds rated AA also qualify as high grade obligations, and in the majority of instances differ from AAA issues only in small degree. Here, too, prices move with the long-term money market.

A - Bonds rated A are regarded as upper medium grade. They have considerable investment strength but are not entirely free from adverse effects of changes in economic and trade conditions. Interest and principal are regarded as safe. They predominantly reflect money rates in their market behavior, but to some extent, also economic conditions.

BBB - The BBB, or medium grade, category is borderline between definitely sound obligations

and those where the speculative element begins to predominate. These bonds have adequate asset coverage and normally are protected by satisfactory earnings. Their susceptibility to changing conditions, particularly to depressions, necessitates constant watching. Marketwise, the bonds are more responsive to business and trade conditions than to interest rates. This group is the lowest which qualifies for commercial bank investment.

BB - Bonds given a BB rating are regarded as lower medium grade. They have only minor investment characteristics. In the case of utilities, interest is earned consistently but by narrow margins. In the case of other types of obligors, charges are earned on average by a fair margin, but in poor periods deficit operations are possible.

B - Bonds rated as low as B are speculative. Payment of interest cannot be assured under difficult economic conditions.

CCC-CC - Bonds rated CCC and CC are outright speculations, with the lower rating denoting the more speculative. Interest is paid, but continuation is questionable in periods of poor trade conditions. In the case of CC ratings the bonds may be on an income basis and the payment may be small.

C - The rating of C is reserved for income bonds on which no interest is being paid.

DDD-D - All bonds rated DDD, DD and D are in default, with the rating indicating the relative salvage value.

Source: Standard & Poor's Bond Guide, October, 1975, p. 8 Copyright 1976, Standard & Poor's Corporation

to-contract orientation of the defense industry.

2. Management A crucial test of management is its single-minded devotion to the survival and flourishing of the firm. Is management concentrating on profits this year and for the long term?

At least some defense-contractor managements appear to have been guided by considerations that tend to divert their attention from

the singleness of purpose the rating firm deems desirable. Among these considerations are:

The prestige of fulfilling a vitally important national need.

Undue preoccupation with the development and retention of a first-class and preeminent R and D staff.

The responsibility entailed in being a source of employment for large numbers of workers in areas where the defense contractor has plants.

- Willingness to take losses on some contracts in order to participate in others that prove profitable.

3. Asset protection, especially in the case of default. This concept embraces the amount of property, plant and equipment, working capital, and other tangible assets that a company can bring to bear against its debt burden should it choose, or have, to do so. The disabilities of defense contractors in respect to asset protection are two. First, a half-completed contract has no market value; there is little salvageable inventory, which a commercially oriented manufacturer would have, and very few receivables, which a financial concern would have. Second, the fixed assets of a defense contractor may well not be transferable to other uses.

4. Indenture terms: the specific protective provisions for bond holders. As a rule, these are fairly standard and often amount to asserting that the company will conduct its affairs prudently. (The defense industry presents no particular problem regarding this criterion.)

5. Financial resources. These embrace (a) the company's liquidity - its ability to meet its cash needs on time and (b) its flexibility in raising cash by short-term borrowings, long-term borrowings, selling stock, or, in the extreme, selling assets. Taken as a whole, defense contractors are, both at the moment and for the foreseeable future, foreclosed from the long-term debt and equity markets. The difficulty they would have in selling fixed assets has been noted above.

The analysts at the second rating service stress the following criteria in assessing corporate bonds:

- Sturdy historical performance in terms of profit margins (on sales, on assets, on investment). The idea is that margins should be large enough to cover fixed charges not only adequately but comfortably -- with room to spare.
- Stability of earnings.
- Predictability of the future course of business, the certainty of its continuity.

In their opinion, defense contractors and defense-oriented divisions of diversified

companies do not measure up well against these criteria. Profit margins are lower than they are in other industries and give barely more than minimal support of debt and other fixed charges like lease commitments. Moreover, earnings are volatile.

Uncertainty is manifest in a number of ways. Contract cancellations are more than occasional. DoD-mandated infusion of new technology into the product or system being made, after a contract has been signed, results in increased costs, another element of uncertainty. And, such changes aside, the common surfacing of workaday troubles in fulfilling the contract obscures the outlook for a defense contractor. (Even experienced contractors miscalculate costs, and when they do miscalculations tend to be of great magnitude - in some cases threatening the solvency of the company.) Finally, the long life of some contracts is still another source of uncertainty.

This rating service takes note of two pluses for defense contractors. The progress-payment arrangement is constructive, because this makes the contractor "nearly whole" by the end of the contract. And in recent years most contracts have had provision for price protection through escalation clauses, although this protection is not always adequate. On the other hand, they maintain that another claimed advantage, the spillover of R and D work funded by the government to commercial business, is illusory. Although some diversified companies have boasted about it and a very few have capitalized on it, in general it has proved to be a chimera in recent years.

Subcontractors

The analysts made these points about subcontractors:

- Subcontractors must be evaluated in the context of the uncertain, unsatisfactory relationship between the DoD and prime contractors. Thus subs are unattractive basically for the same reason that primes are.
- All things being equal, in general the bigger a company in terms of market share and

financial strength, the better. In this light subcontractors stand at a substantial disadvantage to major prime contractors.

• Another disadvantage for subcontractors vis-a-vis primes is that in slack periods, the latter, in order to keep their work forces intact, may pull back work that has been previously farmed out to subs.

A recently published survey of the aerospace industry by the equity department of one of the rating services contains these additional observations about subcontractors in that industry: margins on subcontracts are usually lower than on prime contracts; as work gets scarce, subs are compelled to underbid their competitors so they can get at least enough business to cover their overhead; and, good times or bad, if a sub has pricing or performance disagreements with its prime, the prime may well drop the sub in favor of another supplier.¹⁰

¹⁰Standard & Poor's *Industry Surveys: Aerospace*, October 30, 1975, p. A-27. Copyright 1975 by Standard & Poor's Corporation.

Overall Assessment

The two rating services surveyed, then, are not optimistic about the debt securities of defense contractors. Their representatives believe that the defense industry must be permitted better earnings so that it can become sufficiently attractive to investors to raise permanent debt capital at affordable rates. Furthermore, those contractors that are highly leveraged must raise equity capital if they are to be successful in attracting permanent debt capital — another compelling reason for a more liberal profit policy on the part of the Department of Defense. The analysts at one rating service suggested that DoD might do well to adopt a profit policy based on contractor ROI.

Diversification might be a promising avenue for defense contractors. But, again, most would find it difficult to raise funds for acquisition programs. And if a policy of diversification from within were pursued, a long time would elapse before the impact of that policy would have an impact on corporate earnings — and corporate standing in the long-term credit market.

An Accounting Firm

AS COMMERCIAL bankers, investment bankers, and life insurance company corporate financial officers offered their views about defense contractors' profit margins, the barriers to their investing in modern equipment, and whether or not interest should be allowed as an element of cost in negotiated contracts, it became apparent that it would be worthwhile to elicit the opinions of independent accountants knowledgeable about the financial ramifications of these contracts. This final section summarizes the views of two partners of a "Big Eight" accounting firm - one of them, among other things, in charge of auditing for one of the country's larger defense contractors.

Adequacy of Profits

Although this conclusion is not the product of rigorous analysis, over the years it appears that defense-contractor profit margins have fluctuated widely. Certainly a number of defense contracts have been extremely profitable. The F-4 program enabled McDonnell to rise from a pignylike position vis-à-vis Douglas to such great eminence that it was able to acquire Douglas when that company's fortunes declined. The A-4 program has proved lucrative for Douglas; the Polaris missile and C-130, for Lockheed. But overall, the evidence seems to be that defense-contractor earnings have not been sufficient to build up healthy equity bases.

For many defense contractors, profits would be adequate, even generous, if each contract could be carried out according to its terms, yielding a specified product or system in the agreed-upon time. But often contractors run into problems along the way, causing them financial losses which in some cases have been severe - e.g., the C5A for Lockheed, shipbuilding for Litton Industries, General Dynamics, and Lockheed. These problems have arisen all too frequently to be considered as quirks by the DoD or by anyone else. This may be because of the demanding tasks imposed

upon contractors in the development of advanced-technology products and systems. In any event, in the light of this experience profits are not adequate for the risks involved.

To be sure, the Department of Defense is obliged to take the view that the contractor should live up to what it has promised to do, and if it fails it should bear the burden of that failure. This is the appropriate posture of any tough-minded buyer. But if heavy penalties for nonfulfillment are imposed by DoD, they should be compensated for by extraordinary gains for superior performance. It is because opportunities for reward are not in balance with penalties that financial institutions are chary about defense-contractor financing, and, more specifically, that defense contractors have had great difficulty in raising equity capital. So either the balance has to be restored by providing greater opportunities for reward - and this means whopping big profits for successful contractors on some contracts - or the risks have to be reduced. Were risks and rewards in proper balance, moreover, defense contractors might well be able to raise equity capital, which they generally cannot do today.

Incentives to Invest in Modern Equipment

Providing an equitable balance between rewards and risks alone will not greatly enhance a defense contractor's propensity to invest in cost-saving or efficiency-improving facilities. In any cost-based pricing system, a contractor has little motivation to invest in a piece of equipment if only 15 percent of its cost can be recovered through its use on the contract for which it has been acquired; the other 85 percent of the cost would be a highly uncertain speculation for the contractor. Contrast the situation of automobile manufacturers: they can be more confident that any piece of production equipment can be used over its natural productive life.

Nor is the investment credit by itself an adequate motivator for investment in defense-

dedicated facilities, since the investment credit may be applied to all a contractor's capital equipment and buildings, whatever markets a contractor serves.

What would lead to greater use of modern equipment by defense contractors would be: (1) allowance of vastly accelerated depreciation of such equipment (recall the five-year write-offs permitted during World War II), and (2) government ownership of a greater portion of the capital equipment a contractor uses. The latter scheme should be employed more than it is at present.

Interest as an Allowable Cost?

This is an issue only in a negotiated cost-based pricing system. In commercial markets there is no talk of interest being an allowable cost. Whether or not interest should be allowable in a defense contract ought to be decided only in the context of the full contract, including the timing and amount of progress payments. In practice interest is implicitly weighed, though not explicitly taken into account, in determining the contractor's profit margin. If the price the contractor receives yields the contractor an adequate profit, obviously there is no problem; in this situation interest is a phony issue.

But a contractor may not be able to earn a high enough profit to compensate adequately for its interest costs. Suppose a contractor agrees to a price that will yield it a margin of 8 percent on allowed costs. Then its representatives tell the DoD contracting officer that it will incur substantial interest costs - to finance inventories, for example - and that it should be compensated for these. Therefore, the contractor suggests that the DoD allow it a 15 percent fee on allowed costs. The DoD contracting officer responds that this is not feasible; the contractor well knows that the DoD contracting officer has discretion in a range of 6.5 to 10 percent, but 15 percent is beyond his authority. In this example, then, the contractor may be penalized for not being able to add interest costs to its cost base. If profit could be established as return on the contractor's equity or assets - which are the crucial measures of

profitability - the interest question might disappear and more precise pricing would be possible.

But if interest is to be allowed, there are severe conceptual problems in defining interest - some of them, the subject of professional study and dispute among accountants. Should interest be calculated on the basis of funds the contractor actually borrows? Or should it be computed on the basis of the contractor's cost of capital, taking into account its cost of equity as well as cost of borrowed funds? And what if the contractor does not need to borrow money? Should it be allowed to charge against defense contracts its opportunity costs entailed in not having committed its resources to other uses? Finally, accurate allocation of interest to defense work is sure to be difficult for a contractor that is engaged in a variety of businesses, military and nonmilitary. For example, one major contractor currently has an interest bill of many millions of dollars. How should this interest be spread among assets devoted to profitable contracts, contracts on which it is experiencing losses, and the company's opportunity costs?

Other Issues

Inflation has so plagued defense contractors that the cash flow generated by depreciation charges, however computed, and retained earnings is inadequate to replace their capital equipment. A commercial enterprise does not have nearly so severe a problem with inflation, since within the limit of competitive conditions it can compensate for inflation in its pricing.

Defense-contractor shortcomings. Defense contractors are not without fault for the straits in which they find themselves. Defense contracting has been marred by overaggressive bidding in the expectation of follow-on business. Competing contractors sharpen their pencils and try to figure out how to win a contract without getting hurt in the short run. Defense contracting is also full of high risk from a technical viewpoint; change orders, or even demanding initial specifications, sometimes cause even the

most experienced contractors untoward financial consequences. Again, the fault is partly the contractors'. Their engineers tend to be great optimists, prone to unrealistically claiming that they can produce a product or component with certain specifications of certain weight for a specified price within such-and-such a period of time. On quite a few occasions, their firms have paid for that optimism.

DoD Management and Policy Changes. The DoD is plagued by successive waves of management and policy changes. In a sense, Total Package Procurement, Weighted Guidelines, and Profit '76 are a series of gimmicks. Defense Secretaries and Deputy Defense Secretaries tend to be persons with strong views of what is right and what is wrong in defense contracting, but the views are not the same from one incumbent to the next. All this creates an aura of undesirable instability in the eyes of the financial community, according to one of these study participants.

The government should furnish equipment (machine tools and the like) to defense contractors to get the modern capital base it wants and needs; otherwise this goal is not likely to be achieved. For not only is there a powerful negative incentive for contractors to make this kind of investment, but also the emerging capital shortage foreseen by one of these respondents would make it difficult for them to get funds for this purpose even if they wanted to. Furthermore, defense contractors ought to be allowed routinely and liberally to use government-supplied machinery and equipment for

commercial work, paying appropriate rental for this usage.

In high-risk technology, DoD should be more willing to make trade-offs. It should be less wedded to unrealistic and probably unneeded performance characteristics. And it surely should not insist on strict compliance with contract specifications that will achieve only marginal product improvements at substantial extra cost.

A cognate recommendation is that more equitable contracts should be established for prototypes involving technology going beyond the state of the art. There should be a cost-reimbursement arrangement with incentive fees and encouragement of flexible program management for the first production lot of a new system or product. As problems arise, contractor management should have more leeway in deciding on suitable trade-offs among cost, performance and risk.

The work of the Renegotiation Board should be carried out in the context of a contractor's overall results, as was originally intended. Thus if a contractor makes big profits on one product or system, but suffers a corresponding loss on another product or system, there would be no occasion for renegotiation. But the Renegotiation Board has, in the opinion of one of the accountants, mistakenly adopted the view that, in this example, profits on the first product are subject to renegotiation; whereas the losses on the second are irrelevant, since they are due to contractor mismanagement or simply to bad luck, for neither of which should DoD be held liable.

Chapter V

USE OF THE WEIGHTED GUIDELINES IN ESTABLISHING NEGOTIATION PROFIT OBJECTIVES

INTRODUCTION

The profit policy of the Department of Defense (DoD) is implemented during the contracting process through the actions of government contract negotiators. As a part of their preparation for negotiation, negotiators develop pre-negotiation profit objectives based upon policy and guidance set forth in the Armed Services Procurement Regulation (ASPR) 3-808.

In support of the DoD study entitled "Profit '76," LMI analyzed how DoD negotiators have used the Weighted Guidelines (WGL) provisions of ASPR in establishing their pre-negotiation objectives. The analysis focused on the profit rates assigned to the so-called "above-the-line" cost factors (materials, labor, overhead, and general and administrative expense). These factors comprise the category "Cost Input to Total Performance (CITP)." Other factors, i.e., risk, performance, selected, and special, commonly referred to as "below-the-line," were not included in the analysis.

DESCRIPTION OF THE DOD WGL PROFIT POLICY

This Section (1) synthesizes the underlying rationale for the WGL approach, (2) summarizes DoD's profit policy as contained in ASPR, and (3) discusses some practical limitations in the application and analysis of the WGL.

Underlying Rationale

The basic rationale for the WGL and their application in DoD contracts first was presented in a 1963 study report, "Study of Profit or Fee Policy."¹ That Study

¹Logistics Management Institute, Study of Profit or Fee Policy, Task 62-14, January 1963.

led to the implementation of the WGL. The following is a synopsis of the rationale, as stated in the referenced report, for the relative profit weight ranges assigned to the various profit factors.

Lower Profit Rates (Weights) Should be Allowed for Direct Materials

- There is less contractor investment per sales dollar for purchased and subcontracted items than for items made in-house.
- The rate of capital turnover on investments in subcontracted and purchased items is more rapid than on in-house effort.
- The economic value added to the end product by subcontracted and purchased items is smaller than the value added by in-house effort.
- The profit rate applied to purchased and subcontracted items is not enough lower than the profit on in-house effort to outweigh the other reasonings behind a sound "make or buy" decision.

Higher Profit Rates (Weights) Should be Allowed for Engineering Effort

- Engineering labor generally represents a greater investment in facilities and dollars for a substantially longer period of time than manufacturing.
- Engineering labor efforts represent a substantial investment in intangibles (e.g., design developments which provide a competitive advantage for manufactured

items sold on the commercial market, and thus increased profits on the sales of production quantities). When DoD breaks out the production phase for price competition, the contractor cannot tie development to production to earn a profit on the composite.

- DoD is seeking state-of-the-art advancements which are dependent upon the availability of talent. As manufacturing is more readily available than research talent, simple supply and demand considerations make it logical to pay a higher profit for engineering.
- In contrast to engineering, manufacturing activity generates a large proportion of its total volume of business on the basis of competitive price considerations (where profit is not negotiated and the WGL's are not applicable).

In-House Cost Items Other than Engineering Labor

- No rationale was given for the ranges that were assigned to these factors.

We are not aware of any post-1964 studies which have measured either the effective relationship between the above-the-line profit weight ranges and contractors' management behavior, or have tested the validity of the rationale.

Current ASPR Provisions

DoD's general contract profit policy is stated in ASPR 3-808.1 as follows:

"...to utilize profit to stimulate efficient contract performance...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...As an inducement for broad reduction in defense costs, the Government should establish a profit objective for contract negotiations which will:

- (i) reward the contractor who undertakes more difficult work requiring higher skills;
- (ii) allow the contractor an opportunity to earn profits commensurate with the extent of the cost risk he is willing to assume--the greater the risk assumption, the greater the profit objective established;
- (iii) reward those contractors who have an excellent record of past performance and conversely penalize those contractors whose performance has been poor; and
- (iv) reward contractors who provide their own facilities and financing or who have established their competence through prior development work undertaken at their own risk.

The weighted guidelines method set forth in 3-808.2 below for establishing profit objectives is designed to provide reasonably precise guidance in applying these principles. This method, properly applied, will tailor profits to the circumstances of each contract in such a way that long range cost reduction objectives will be fostered, and a wider spread of profits will be achieved. (Emphasis added.)

In ASPR 3-808.2, it is stated that:

"The weighted guidelines method provides contracting officers with (i) a technique that will insure consideration of the relative value of the appropriate profit factors described in 3-808.4 in the establishment of a profit objective and the conduct of negotiations; and (ii) a basis for documentation of this objective, including an explanation of any significant departure from this objective in reaching a final agreement..." (Emphasis added.)

The appropriate profit factors are set forth in ASPR 3-808.4, as shown on

Figure 1.

FIGURE 1. WEIGHTED GUIDELINES

Profit Factors	Weight Ranges
CONTRACTOR'S INPUT TO TOTAL PERFORMANCE	
Direct Materials	
Purchased Parts -----	1 to 4%
Subcontracted Items -----	1 to 5%
Other Materials -----	1 to 4%
Engineering Labor -----	9 to 15%
Engineering Overhead -----	6 to 9%
Manufacturing Labor -----	5 to 9%
Manufacturing Overhead -----	4 to 7%
General and Administrative Expenses -----	6 to 8%
CONTRACTOR'S ASSUMPTION OF CONTRACT	
COST RISK -----	0 to 7%
Type of Contract	
Reasonableness of Cost Estimate	
Difficulty of Contract Task	
RECORD OF CONTRACTOR'S PERFORMANCE -----	-2 to +2%
Small Business Participation	
Management	
Cost Efficiency	
Reliability of Cost Estimates	
Value Engineering Accomplishments	
Timely Deliveries	
Quality of Product	
Inventive and Developmental Contributions	
Labor Surplus Area Participation	
SELECTED FACTORS -----	-2 to +2%
Source of Resources	
Government or Contractor Source of Financial and Material Resources	
Special Achievement	
Other	
SPECIAL PROFIT CONSIDERATION--See 3-808.6.	

The assignment of specific weights (values) to the profit factors for individual contract negotiation objectives is covered under ASPR 3-808.5. The salient guidance for the assignment of specific weights is summarized, by factor, in the following.

Direct Materials: Normally, the lowest weight is 2%. The weight assigned is to be based upon the level of managerial and technical effort expended to acquire the needed items.

Labor: The weight assigned is to be based on the quality, level, and diversity of talent, skills, and experience required, especially the amount of scarce talent and supervision needed.

Overhead and G & A: The weight assigned is to be based on the amount and level of personnel required, and the significance of the contribution (i.e., routine vs. special).

Risk: The weight assigned is to be based on the degree of cost responsibility assumed by the contractor (i.e., type of contract), the reliability of the cost estimate, and the chances for contractor success (i.e., the difficulty of the task).

Record of Contractor's Performance: This relates only to the division (or profit center) which will be performing the work. The factors which are to be considered are shown in Figure 1. In addition, the management factor considers competence and willingness to adjust company resources to meet peculiar, difficult, and changing defense requirements. The cost efficiency factor considers cost control, investment in plant modernization for improved efficiency, and make-or-buy program effectiveness.

Selected Factors: The weight assigned to the amount of government furnished facilities or financial assistance (other than normal progress payments) ranges from zero to minus 2%. For technical breakthrough or extraordinary fast delivery requirements, the range is from zero to plus 2%.

Special Profit Consideration: Per ASPR 3-808.6, military items developed at the contractor's risk (without government assistance) are given an added weight of 1 to 4%. On Foreign Military Sales procurements, a weight of 1 to 4% is added in recognition of any outstanding sales effort exerted and unusual risks assumed by the contractor.

Practical Limitations

In the negotiation of cost reimbursement and fixed-price-incentive type contracts, the buyer and seller must reach agreement on both the total estimated cost and on the total dollar amount of the negotiated fixed- or target-fee, or profit. However, because of the substantially greater significance of the cost (approximately 90% of price) and the mandatory use of the DD Forms 633 which break down costs into the same cost elements as used in the WGL, cost negotiations normally focus on cost elements while profit negotiations focus only on total profit. Thus, separate profit objectives on the WGL elements, as required by the current ASPR policy, are meaningful only in establishing the Government's pre-negotiation profit objective. The effect of the ASPR profit policy is determined by how the DoD negotiators actually apply the policy in establishing their pre-negotiation profit objectives.

THE DATA BASE

Sources of Profit Data

Profit data are available from three forms prepared by DoD contract negotiators:²

- DD Form 1647, Weighted Guidelines Profit/Fee Objective
- DD Form 1499, Report of Individual Contract Profit Plan
- DD Form 1600, Report of Contract Completion

The primary source for pre-negotiation profit objectives data is DD Form 1647. Negotiators prepare this form, prior to negotiation, in order to establish a profit objective in accordance with the WGL format set forth in ASPR 3-804.4. The Form 1647 becomes part of the contract file. However, it is not utilized in any formal data collection effort.

A secondary data source is DD Form 1499. It is prepared after the negotiation. Data on the profit objective, from the Form 1647, is included on the 1499, limited to the percentage profit objective only on the "below-the-line" elements of total estimated cost, risk, performance, selected factors, and special profit consideration.

A third source of data is DD Form 1500, "Report of Contract Completion." This form provides data only on the total initial dollar and percentage amount of profit, and the final earned profit.

In focusing on the use of WGL in establishing pre-negotiation profit objectives, the above-the-line profit factors are significant because this is how the CTP profit rate is justified. Analyses of both Form 1647 and Form 1499 data indicate that CTP represents approximately 60% of the total profit objective.

²A copy of each of the three forms is provided in Appendix A.

Data taken from the Forms 1499 and 1500 are cumulated by the DoD and reported each fiscal year by the DoD Comptroller.³ The FY 75 report is considered a sufficient source of "below-the-line" profit information. Above-the-line data are available only from the DD Form 1547.⁴

Data Base for Analysis

Each of the Military Departments provided copies of their completed Forms 1547 on FY 75 pricing actions of over \$1 million. Of nearly 800 Forms 1547 provided, approximately 60 were eliminated for the following reasons:

- contract type not indicated
- commodity type not indicated
- profit \$ and % of cost could not be reconciled
- illegible data
- incomplete data
- small dollar values

A significant number of discrepancies in the Forms 1547 were corrected, as follows:

- Cost and profit dollar figures were checked for arithmetic accuracy. Where errors were observed, if the correct figures could be ascertained, correction was made; otherwise, the 1547 was deleted from the data base.

³DoD, Office of the Assistant Secretary of Defense (Comptroller), Profit Rates on Negotiated Prime Contracts, FY 1975, 3 February 1976.

⁴Because profit objectives on major above-the-line cost elements are as significant as below-the-line profit factors, it would be worthwhile for DoD to collect, analyze and report the Form 1547 data on the same general basis as the Forms 1499 and 1500 data. Currently the DoD does not do so.

- Costs which clearly fit under one of the more definitive categories occasionally were carried in the "other costs" category. (For example, a major subcontract was listed under "other costs" in order to assign it a different profit weight than was assigned to "subcontracts" in general.) In such cases, the cost and profit dollars were transferred from "other costs" to the appropriate definitive cost category.
- The profit percentage rates listed on the Forms 1547 often inaccurately reflected the cost/profit relationship due to either arithmetic error or rounding. Because of this and the adjustments mentioned above, for each cost category on each Form 1547, the corrected profit dollars were divided by the corrected cost dollars and the result used in the data base.

This screening and correcting process netted 535 pricing actions (165 Army, 87 Navy, and 283 Air Force) completed in the period July 1, 1974 through December 31, 1975. These actions represent a total of \$6,181,881,564 cost (profit excluded) with an above-the-line profit of \$367,273,277 (profit on risk, performance, etc., excluded). The sample is distributed by contract type and commodity categories as shown in Table 1.

ANALYSIS

The DD Form 1547 sample data base reveals median⁵ profit of 5.95% on CITEP, 3.5% on risk, 1.0% on performance, and minus 0.1% on all other factors, with a total profit of 9.8%. By comparison, the DoD Comptroller report for

⁵The median developed by LMI on its sample data is weighted based upon cost as included, by element, in the Forms 1547. The Comptroller median is not cost weighted.

TABLE 1. DISTRIBUTION OF DATA BASE

<u>BY CONTRACT TYPE</u>	<u>No. of Actions</u>	<u>Cost (000s)</u>
Cost-Plus-Fixed-Fee	88	\$ 703,133
Cost-Plus-Incentive-Fee	78	1,775,498
Fixed-Price-Incentive	112	1,786,558
Firm-Fixed-Price	247	1,735,075
Fixed-Price-Escalation/Fixed-Price-Redeterminable	10	181,617
TOTALS	535	\$6,181,881

<u>BY COMMODITY</u>		
Aircraft & Aircraft Engines	146	\$2,694,696
Missiles & Space Systems	109	1,191,921
Ships	24	995,887
Vehicles	11	163,595
Weapons & Fire Control Systems	37	161,714
Ammunition	47	171,004
Electronics & Communications	133	742,869
Logistics Support Services	28	60,285
TOTALS	535	\$6,181,881

FY 1975, based upon DD Form 1499 data, shows median profit of 6.5% on CITP, 3.0% on risk, 0.2% on performance, and 0.0% (zero) on all other factors, with a total profit of 9.9%. The above-the-line factors (comprising CITP) account for 65% of total profit as reported by the Comptroller, and 60% of the total in the Form 1547 sample.

Thus, the data base developed for this analysis is considered to be a valid sample—one that can be used to examine how negotiators have used ASPR guidance in developing above-the-line profit objectives. Results of the analysis follow.

Profit Objectives Have a Narrow Range and are Skewed Toward the Top of the Range

The cost element profit objectives tend to be skewed toward the high end of the ASPR authorized ranges. Approximately 50% of the costs are assigned a profit in the third quartile of the authorized range. Further, approximately 70% of the costs in each category were assigned objectives within a one percent range. These distributions, along with the mean, median, and mode profit rate for each cost element are shown in Table 2. The distribution of cost by quartile for each cost category are shown in Figures 2 through 9.

Profit Objectives are Higher on the Lower Risk Types of Contracts

Above-the-line profit objectives are higher on cost reimbursement (CPFF & CPIF) contracts and lower on fixed price (FFP & FPI) contracts, as shown in Table 3. This is caused, in part, by the relative distribution of costs, shown in Table 4. Cost reimbursement contracts, common for R&D work, contain a higher proportion of engineering effort (which bears the highest profit weight). Fixed price contracts contain a higher proportion of purchased direct materials (which bear the lowest profit rate). Also, as cost recovery usually is faster under cost reimbursement contracts, the CITP profit rates will tend to provide a relatively higher return on investment on low risk contracts than on high risk contracts.

Profit Objectives Differ Significantly from the Mid-points of the ASPR Ranges

There is a significant difference between the mid-points of the ASPR range per cost category and the actual profit objectives. This is illustrated in Table 5. Column A shows an "average" contract, based on the total Form 1547 sample. Column C shows the relative amount of profit on total cost attributable to each

TABLE 2. DISTRIBUTION OF PROFIT ON COST BY FORM 1547 COST CATEGORY

Cost Category	ASPR Profit Range	Mean Profit Rate* (Weighted)	Median Profit Rate** (Cost Weighted)	Mode Profit Rate (% of Cost at this Rate)	Profit Rate Modal Range (% of Costs in this Range)	3rd Quartile of ASPR Profit Range (% of Costs in this Quartile)
Purchased Parts	1 - 4%	3.1%	3.2%	3.5%	2.5 - 3.5% (89%)	2.6 - 3.3% (43%)
Subcontracts	1 - 5	3.5	4.0	3.0	3.0 - 4.0 (63%)	3.0 - 3.9 (40%)
Other Material	1 - 4	2.9	2.5	2.5	2.0 - 3.0 (77%)	2.6 - 3.3 (25%)
Engineering Labor	9 -15	12.1	12.0	12.0	12.0 -13.0 (68%)	12.0 -13.4 (68%)
Engineering O/H	6 - 9	7.5	7.5	7.5	7.0 - 8.0 (90%)	7.6 - 8.3 (24%)
Manufacturing Labor	5 - 9	7.5	7.5	8.0	7.0 - 8.0 (80%)	7.0 - 7.9 (40%)
Manufacturing O/H	4 - 7	5.9	6.0	5.5	5.5 - 6.5 (84%)	5.6 - 6.3 (48%)
Other Cost	N/A	5.6	5.9	N/A	3.0 - 7.0 (69%)	N/A
G & A	6 - 8	7.1	7.0	7.0	7.0 - 7.5 (88%)	7.0 - 7.4 (82%)
TOTAL	N/A	5.94%	5.95%	N/A	5.0 - 7.0 (70%)	N/A

* Total Profit \$ ÷ total cost \$ for each cost category.

**Half of the costs are assigned a profit rate equal to or above, and half are equal to or below this %.

PURCHASED PARTS

ASPR Profit Range = 1-4%
 ASPR Profit Mid-Point = 2.5%
 Costs at ASPR Profit Mid-Point = 17.1%

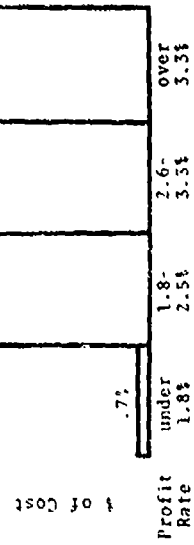


FIGURE 2

SUBCONTRACTS

ASPR Profit Range = 1-5%
 ASPR Profit Mid-Point = 3%
 Costs at ASPR Profit Mid-Point = 30.2%

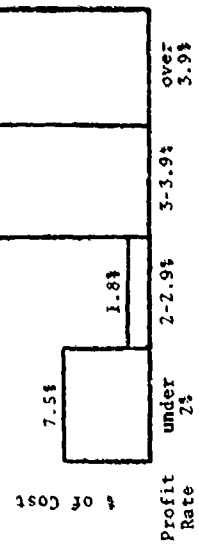
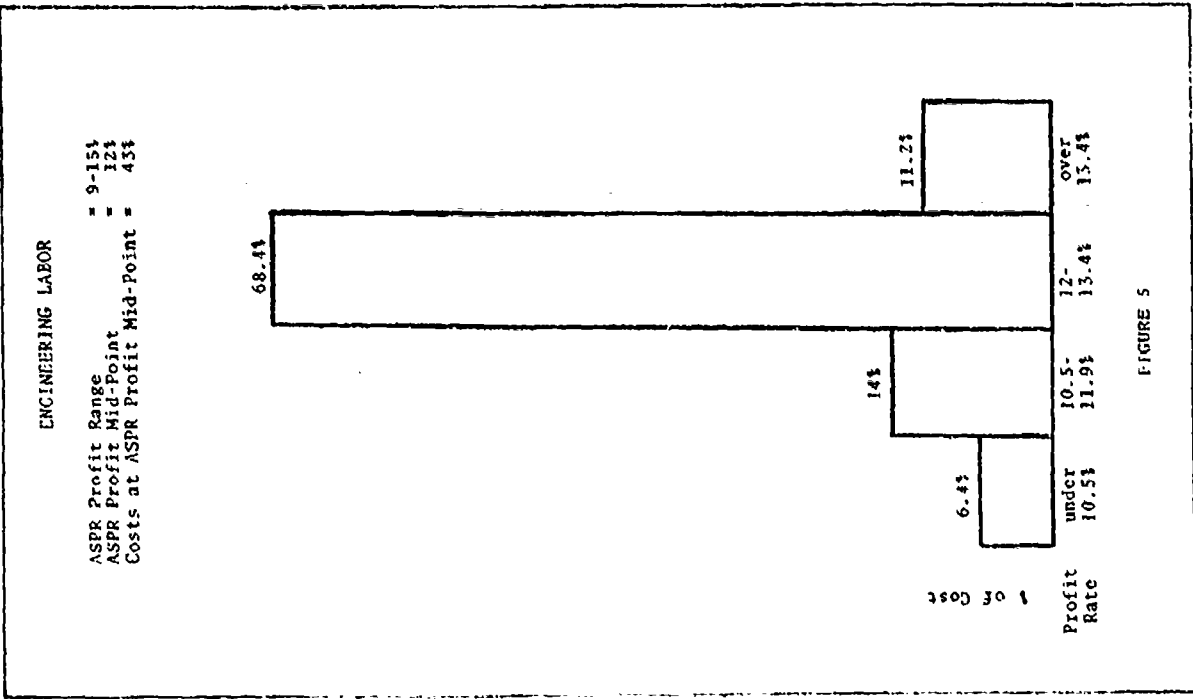
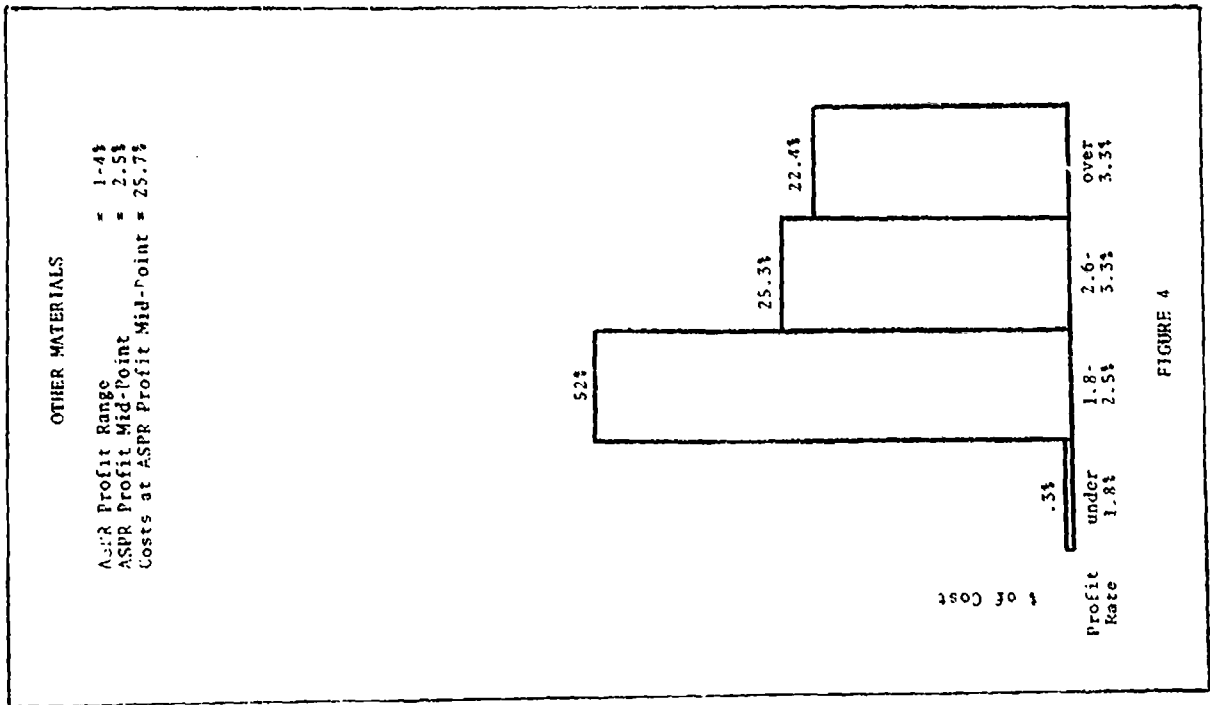


FIGURE 3



ENGINEERING OVERHEAD

ASPR Profit Range = 6.9%
 ASPR Profit Mid-Point = 7.5%
 Costs at ASPR Profit Mid-Point = 42.9%

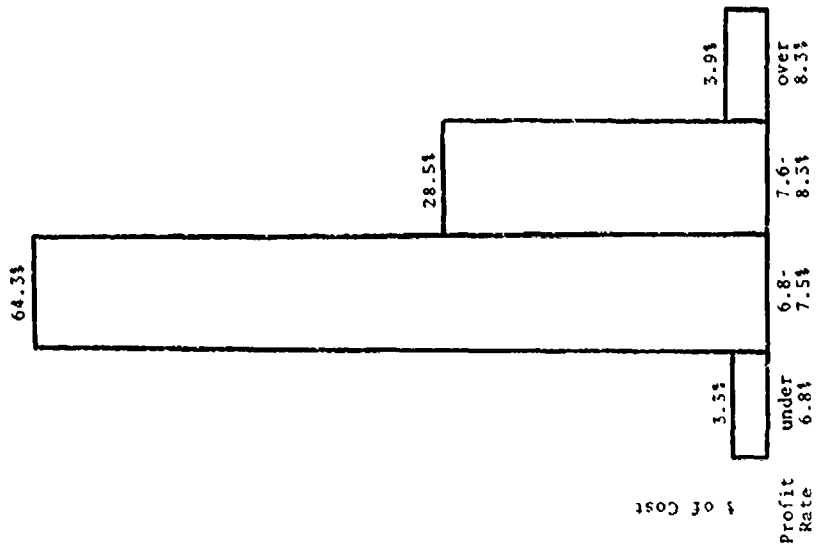


FIGURE 6

MANUFACTURING LABOR

ASPR Profit Range = 5-9%
 ASPR Profit Mid-Point = 7%
 Costs at ASPR Profit Mid-Point = 18.2%

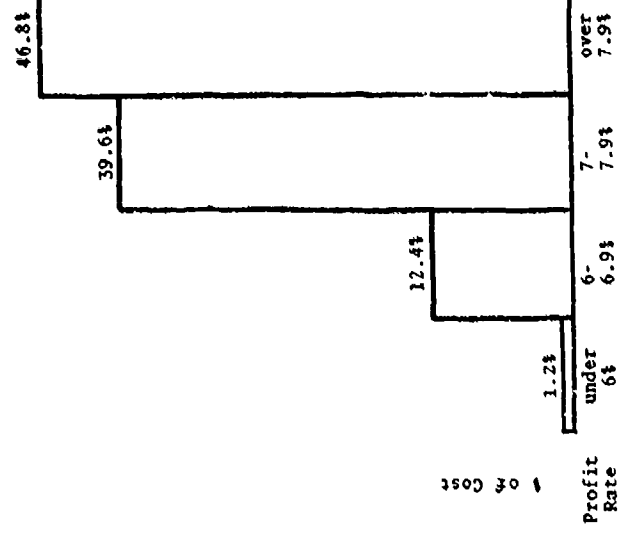


FIGURE 7

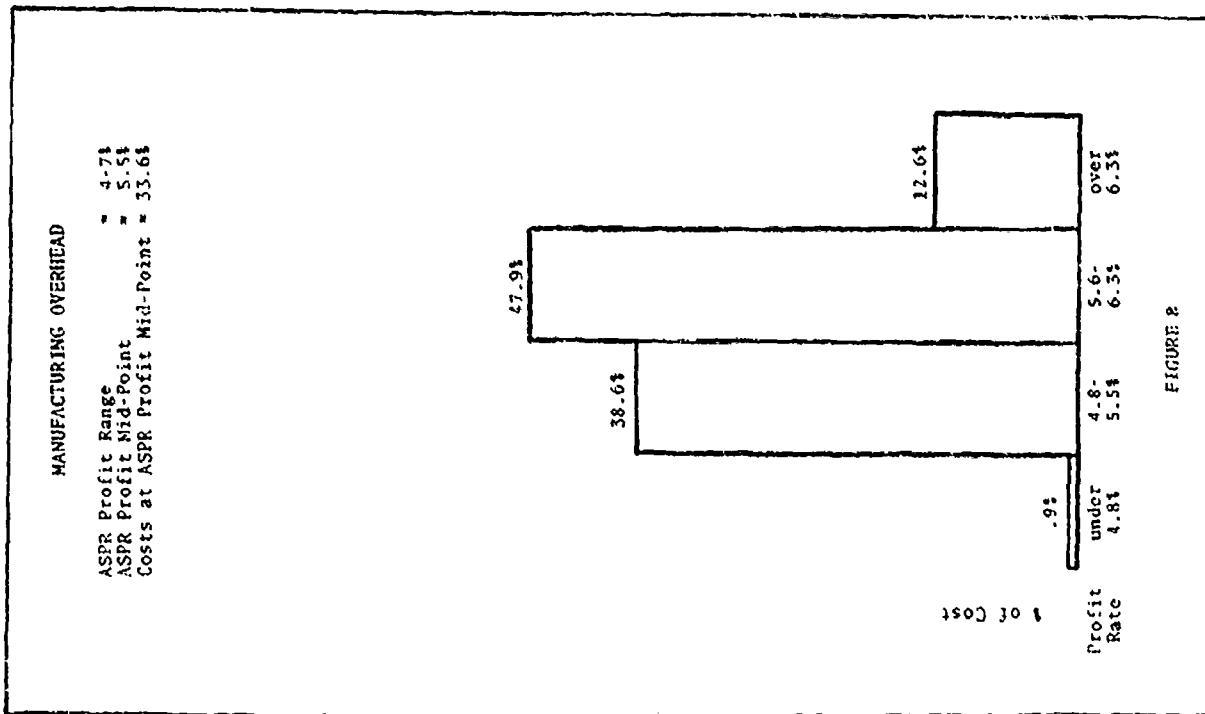


FIGURE 8

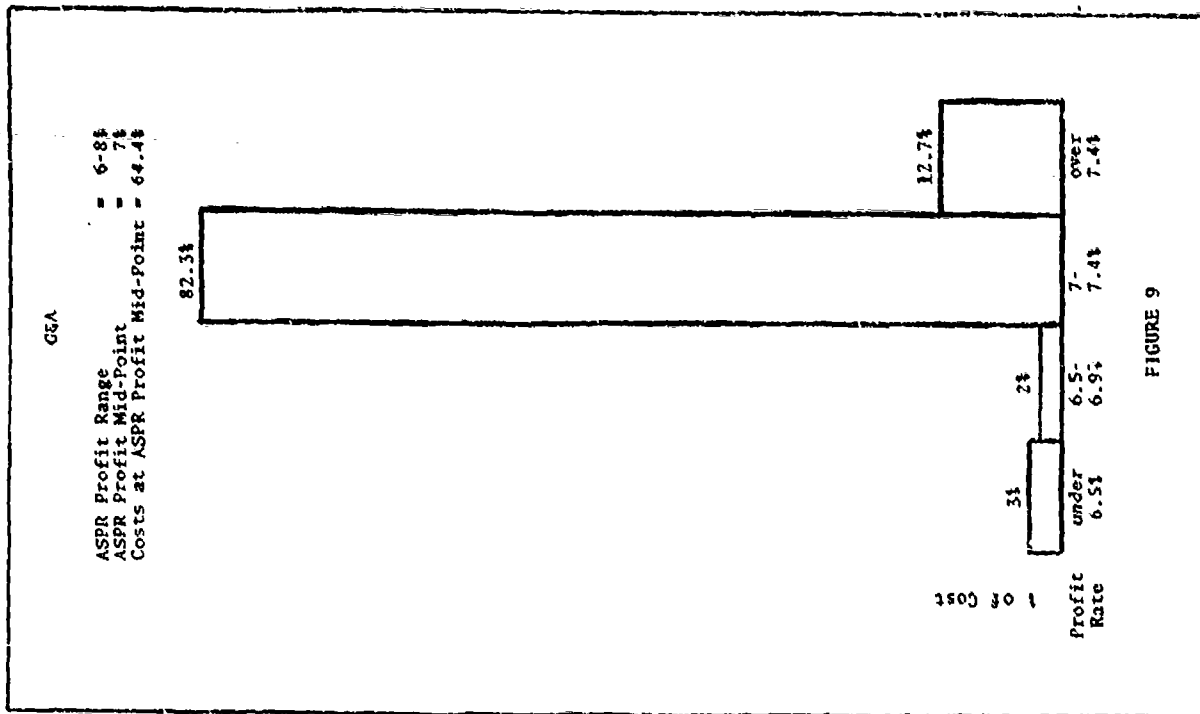


FIGURE 9

**TABLE 3. DISTRIBUTION OF MEAN PROFIT RATES
(WEIGHTED) BY COST CATEGORY AND CONTRACT TYPE**

Cost Category	Contract Type				All Contracts
	CPFF	CPIF	FPI	FFP	
Purchased Parts	2.4%	3.0%	3.2%	3.1%	3.1%
Subcontracts	4.2	3.5	4.1	3.7	3.5
Other Materials	3.2	2.7	2.7	3.1	2.9
Engineering Labor	12.6	11.7	12.3	12.3	12.1
Engineering O/H	7.6	7.4	7.6	7.6	7.5
Manufacturing Labor	6.9	7.5	7.8	7.5	7.5
Manufacturing O/H	5.7	5.6	6.1	5.8	5.9
Other Costs	3.8	5.6	6.4	6.0	5.6
G & A	7.2	7.0	7.2	7.1	7.1
Total Cost	7.0%	6.4%	5.7%	5.3%	5.9%

**TABLE 4. DISTRIBUTION OF COSTS BY COST CATEGORY
AND CONTRACT TYPE**

Cost Category	Contract Type				All Contracts
	CPFF	CPIF	FPI	FFP	
Purchased Parts	10.1%	7.3%	18.4%	22.4%	15%
Subcontracts	18.0	23.9	17.6	22.1	21
Other Materials	1.4	1.7	3.7	3.2	3
Total Direct Materials	29.5%	32.9%	39.7%	47.7%	39%
Engineering Labor	21.5%	15.9%	5.0%	3.9%	10%
Engineering O/H	18.8	14.9	4.9	4.8	9
Manufacturing Labor	12.1	10.0	17.0	10.9	12
Manufacturing O/H	3.0	10.2	18.4	16.7	14
Other Costs	7.5	6.9	6.6	6.5	7
G & A	7.6	9.2	8.4	9.5	9
Total Value Added	70.5%	67.1%	60.3%	52.3%	61%
Total Cost	100.0%	100.0%	100.0%	100.0%	100%

TABLE 5. PROFILE OF TOTAL SAMPLE
(AN "AVERAGE" CONTRACT WOULD LOOK LIKE THIS)

Cost Category	1547 % of Total Cost* (A)	1547 Weighted Mean Profit** (B)	1547 Weighted Mean Profit as a % of Total Cost (C) (A) x (B)	ASPR Mid-Point Profit % (D)	ASPR Mid-Point Profit as a % of Total Cost (E) (A) x (D)	1547 Deviation from ASPR Mid-Points (F) (C) - (E)
Purchased Parts	15%	3.1%	.46%	2.5%	.38%	+.08%
Subcontracts	21	3.5	.74	3	.63	+.11
Other Materials	3	2.9	.09	2.5	.08	+.01
Total Direct Materials	39%	N/A	1.29%	N/A	1.09%	+.20%
Engineering Labor	10%	12.1%	1.21%	12 %	1.20%	+.01%
Engineering O/H	9	7.5	.68	7.5	.68	.00
Manufacturing Labor	12	7.5	.90	7	.84	+.06
Manufacturing O/H	14	5.9	.83	5.5	.77	+.06
Other Costs	7	5.6	.39	N/A	.39***	.00
G & A	9	7.1	.64	7	.63	+.01
Total Value Added	61%	N/A	4.65%	N/A	4.51%	+.14%
Total Cost	100%	5.94%	5.94%	N/A	5.60%	+.34%

*From Table 4. **From Table 2.

***No range prescribed in ASPR; mid-point assumed to be same as 1547 sample.

cost category. Columns E and F show the comparative profits based on the mid-points of the ASPR authorized ranges. Were profit objectives clustered at the ASPR mid-points, profit would decrease about 0.33%.

Profit Objectives are Lower for Work that
Requires the Most Investment

This is illustrated in Table 6, which compares the distribution of profit dollars by cost category for both the weighted mean profit weights derived from the Form 1547 data sample and the ASPR mid-point profit rates. Column F indicates that the pre-negotiation profit objectives provide more profit on purchased direct materials, which require little investment, than would result from applying the ASPR mid-point rates. On the other hand, for the value added by in-house work, which requires more contractor investment, the objectives provide less profit than the ASPR mid-points would yield.

CONCLUSIONS

Two major conclusions of significance to the Profit Policy Study Group emerged from this analysis, as follows:

- The WGL, in practice, give less profit weight to contractor investment than would result from merely using the mid-points of the authorized profit ranges.

The ASPR-authorized above-the-line profit weight ranges inherently provide higher profits on contracts which utilize higher amounts of contractor capital investment. This results from assignment of lower profit weight ranges to the costs of direct materials, which normally require relatively low investment, and higher profit weight ranges to the value-added cost elements (such as engineering), which normally require higher levels of investment. However, in establishing pre-negotiation objectives, the DoD negotiators put

TABLE 6. DISTRIBUTION OF PROFIT DOLLARS BY COST CATEGORY

Cost Category	1547 % of Total Cost (A)	1547 Weighted Mean Profit as a % of Total Cost (B)	1547 % of Total Profit (C)	ASPR Mid-point Profit as a % of Total Cost (D)	ASPR Mid-Point % of Total Profit (E)	1547 Deviation from ASPR Mid-Points (F)
Purchased Parts	15%	.46%	7.74%	.38%	5.79%	+ .95%
Subcontracts	21	.74	12.46	.63	11.25	+1.21
Other Materials	3	.09	1.52	.08	1.43	+ .09
Total Direct Materials	39%	1.29%	21.72%	1.09%	19.47%	+2.25%
Engineering Labor	10%	1.21%	20.37%	1.20%	21.43%	-1.06%
Engineering O/H	9	.68	11.45	.68	12.14	- .69
Manufacturing Labor	12	.90	15.15	.84	15.00	+ .15
Manufacturing O/H	14	.83	13.97	.77	13.75	+ .22
Other Costs	7	.39	6.57	.39	6.96	- .39
G & A	9	.64	10.77	.63	11.25	- .48
Total Value Added	61%	4.55%	78.28%	4.51%	80.53%	-2.25%
Total Cost	100%	5.94%	100.00%	5.60%	100.00%	-0-

Col. A-From TABLE 4; B-From TABLE 5, Col. 3; C-Col. E ÷ 5.94% x 100; D-From TABLE 5, Col. 5;
E-Col. D ÷ 5.60% x 100; F-Col. C minus Col. E

significantly more profit weight on direct material cost, and less on the value added costs, than would result from applying the ASPR-authorized profit range mid-points.

DoD negotiators' pre-negotiation profit objectives on total above-the-line costs (CITP) are inverse to risk.

CITP profit objectives are higher for low risk cost reimbursement contracts and lower for high risk fixed-price contracts. This is a consequence of higher profit rates on engineering effort, most associated with research and development work performed under cost reimbursement contracts, and lower profit rates on materials cost, most associated with production effort under fixed-price contracts.

APPENDIX A

DD Form 1547, Weighted Guidelines
Profit/Fee Objective

DD Form 1499, Report of Individual
Contract Profit Plan

DD Form 1500, Report of Contract
Competition

DD Form 1547: Weighted Guidelines Profit/Fee Objective

WEIGHTED GUIDELINES PROFIT/FEE OBJECTIVE				
INSTRUCTIONS: 1. See ASPR 3-606 for determination of assumed weight factors. 2. See ASPR 3-611 for determination of profit objective.				
1. RFP/RFB OR CONTRACT NO.	2. CONTRACTOR	3. CONTRACT TYPE		
4. COST INPUT TO TOTAL PERFORMANCE (ASPR 3-606.1(b))				
COST CATEGORY	GOVERNMENT'S COST OBJECTIVE	ASPR 3-606 WEIGHT RANGE	ASSIGNED WEIGHT	WEIGHTED PROFIT/FEE (Col 3 x 4)
DIRECT MATERIALS, PURCHASED PARTS		15 TO 45		
SUBCONTRACTED ITEMS		15 TO 55		
OTHER MATERIALS		15 TO 45		
ENGR DIRECT LABOR		55 TO 155		
ENGR OVERHEAD		65 TO 95		
MFG DIRECT LABOR		55 TO 95		
MFG OVERHEAD		45 TO 75		
OTHER COSTS				
GENERAL AND ADMINISTRATIVE		15 TO 55		
TOTAL				
5. COMPOSITE PROFIT/FEE ON COST INPUT TO TOTAL PERFORMANCE (Col 4 - Col 5)				6. PROFIT/FEE OBJECTIVE
5. COST RISK	ASPR 3-606.1(c)	65 TO 75		
7. PERFORMANCE	ASPR 3-606.1(d)	-25 TO +25		
8. SELECTED FACTORS	ASPR 3-606.1(e) & .1(f)	-15 TO +15		
9. SPECIAL PROFIT	ASPR 3-606.1(g) .1(h)	65 TO 95		
10. COST-BASED PROFIT/FEE OBJECTIVE (Line 3 thru 9)				
11. CONTRACT CAPITAL TURNOVER RATE			DD Form 1547	X
12. CONTRACT CAPITAL INDEX			ASPR 3-606.1(i)	
13. CAPITAL ADJUSTED PROFIT OBJECTIVE			Line 12 x 50% of Line 10	
14. SPECIAL PROFIT (Replace line 9 if applicable)			ASPR 3-606.1(i)	
15. TOTAL PROFIT OBJECTIVE			(Line 13 + Line 14)	
DATE	PREPARED BY	SIGNATURE		

DD FORM 1547, 1 SEP 73

PREVIOUS EDITION OF THIS FORM IS OBSOLETE.

DD Form 1499: Report of Individual Contract Profit Plan

REPORT OF INDIVIDUAL CONTRACT PROFIT PLAN						DEPARTMENT	
1. REPORT NUMBER	2. CONTRACT NUMBER					3. ACTION	
	a. SUBY	b. ACTIVITY	c. PT	d. SERIAL NO.	(Apply only if NO)	YEAR	MONTH
4. PURCHASING OFFICE NAME						ITEM CODE	
5. TYPE OF ACTION A. INITIAL AWARD B. SUBSEQUENT NEGOTIATION OF COST/PROFIT						6a. ORDER/WOO NO.	
6. CONTRACTOR IDENTIFICATION a. COMPANY NAME b. DIVISION NAME (If applicable)						ITEM CODE	
7. PRINCIPAL PLACE OF PERFORMANCE (CMT-1000)						ITEM CODE CITY STATE	
8. FEDERAL SUPPLY CLASS OR SERVICE CODE						ITEM CODE	
9. DEPARTMENT OF DEFENSE CLAIMANT PROGRAM NUMBER						ITEM CODE	
10. TYPE OF CONTRACT (ALPR Section III, Part 4) A. FIXED PRICE REESTIMATION B. FIXED PRICE C. FIXED PRICE ESCALATION D. FIXED PRICE INCENTIVE (All types) E. COST PLUS AWARD FEE F. COST PLUS FIXED FEE G. COST PLUS INCENTIVE FEE						ITEM CODE	
11. REPORTED GUIDELINES (ASPR 3-46) (If weighted guidelines are not used, check a through e and rate only if 1 only)							
b. COST INPUT TO TOTAL PERFORMANCE						DD Form 1497, Line 5	%
c. COST RISK						Line 6	%
d. PERFORMANCE						Line 7	%
e. DELETED FACTORS						Line 8	%
f. SPECIAL PROFIT FACTOR						Line 9	%
g. COST-BASED PROFIT/FEE OBJECTIVE (Sum of a through e, if applicable)						Line 10	%
12. CONTRACT CAPITAL EMPLOYED (Use Section 12 only if capital employed method is applicable)							
a. COMPOSITION							
(1) OPERATING						DD Form 1497, Line 7	\$
(2) LAND						Line 4(a)	\$
(3) BUILDINGS						Line 4(b)	\$
(4) EQUIPMENT						Line 4(c)	\$
(5) TOTAL CAPITAL EMPLOYED						Line 9	\$
b. CONTRACT CAPITAL TURNOVER RATE						DD Form 1497, Line 11	%
c. SPECIAL PROFIT FACTOR						Line 12	%
d. TOTAL PROFIT OBJECTIVE						Line 13	%
13. CONTRACTOR'S PROPOSED PROFIT OR FEE OBJECTIVE							
a. ESTIMATED AMOUNTS NEGOTIATED							
e. TARGET OR COST (To nearest dollar - omit cents)						\$	
f. PROFIT OR FEE (To nearest dollar - omit cents)						\$	
g. PROFIT OR FEE AS A PCT. OF COST (14b ÷ 14a)						%	
h. PROFIT OR FEE AS A PCT. OF CAPITAL (14b ÷ 12a(5))						%	
i. PROFIT FOR ADDITIONAL CONTRACTOR INVESTMENT						\$	
NOTES: (1) Show all percentages to nearest tenth of a percent. (2) Delete all negative amounts by a minus (-) sign before entry.							
15. DATE SUBMITTED		16. TYPED NAME AND SIGNATURE OF PROCURING CONTRACTING OFFICER OR REPRESENTATIVE				17. TELEPHONE NUMBER	

DD FORM 1 SEP 72 1499

PREVIOUS EDITIONS ARE OBSOLETE.

DD Form 1600: Report of Contract Completion

REPORT OF CONTRACT COMPLETION <small>(Show dollar amounts to nearest dollar - cost added. Show percentages to the nearest tenth of a percent.)</small>					DEPARTMENT		REPORT CONTROL SYMBOL			
1. REPORT NUMBER	2. CONTRACT NUMBER						3. AWARD DATE	YEAR	MONTH	
	A. DEPT	B. ACTIVITY	C. FY	<small>(Army only)</small> D. TAG	<small>(Army only)</small> E. SERIAL NO.	<small>(Army only)</small> F. NO				4. COMPLETION DATE
5. PURCHASING OFFICE NAME							ITEM CODE			
6. CONTRACTOR IDENTIFICATION A. COMPANY NAME B. DIVISION (if applicable)							ITEM CODE			
7. PRINCIPAL PLACE OF PERFORMANCE (City - State)							ITEM CODE		CITY	STATE
8. FEDERAL SUPPLY CLAM OR SERVICE CODE							ITEM CODE			
9. DEPARTMENT OF DEFENSE CLAIMANT PROGRAM NUMBER							ITEM CODE			
10. TYPE OF CONTRACT (ASPR Section 24 Part 4) A. FIXED PRICE REDEMPTION (All types) B. FIXED PRICE INCENTIVE (All types) C. COST PLUS AWARD FEE D. COST PLUS FIXED FEE E. COST PLUS INCENTIVE FEE							ITEM CODE			
11. CONTRACT COST										
A. INITIALLY NEGOTIATED TARGET OR COST							\$			
B. ADJUSTMENTS NEGOTIATED TO CHANGE SCOPE OF CONTRACT (If this is a net reduction of cost, indicate by a minus sign before amount)							\$			
C. OVERRUN OR UNDERRUN (Change in excess of final cost plus B. Unfavorable indicates net final cost is less than A. plus B. If favorable, indicate by a minus sign before amount.)							\$			
D. FINAL COST (Sum of A + B + C)							\$			
12. CONTRACT PROFIT OR FEE (Indicate penalty by minus sign before amount)										
A. INITIALLY NEGOTIATED PROFIT OR FEE							\$			
B. ADJUSTMENTS BECAUSE OF CHANGE IN SCOPE OF CONTRACT (If not reduction of cost, indicate by a minus sign before amount)							\$			
C. COST INCENTIVE EARNINGS OR PENALTY							\$			
D. PERFORMANCE INCENTIVE EARNINGS OR PENALTY							\$			
E. GENERAL INCENTIVE EARNINGS OR PENALTY							\$			
F. VALUE ENGINEERING EARNINGS							\$			
G. FINAL PROFIT OR FEE (Sum of A + B + C + D + E + F. Use minus sign for loss.)							\$			
13. PROFIT OR FEE PERCENTAGES										
A. INITIALLY NEGOTIATED PROFIT OR FEE RATE (12B ÷ 11A)							%			
B. FINAL PROFIT OR FEE RATE (12G ÷ 11D)							%			
14. REMARKS										
15. DATE SUBMITTED			16. TYPED NAME AND SIGNATURE OF ADMINISTRATIVE CONTRACTING OFFICER OR REPRESENTATIVE AND NAME OF OFFICE				17. TELEPHONE NO.			
18. DATE SUBMITTED			19. TYPED NAME AND SIGNATURE OF PROCURING CONTRACTING OFFICER OR REPRESENTATIVE				20. TELEPHONE NO.			

DD FORM 1600

REPLACES EDITION OF 1 JUL 60, WHICH IS OBSOLETE.

Chapter VI

AN EVALUATION OF THE TEST OF THE EMPLOYED
CAPITAL CONCEPT OF PROFIT ESTABLISHMENT

by

D. E. Strayer
Air Force Business Research Management Center

Prepared for the OASD (I&L) Profit '76 Study by the
Air Force Business Research Management Center

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PURPOSE OF THE STUDY

Culminating several years of analytic effort and policy development, the Department of Defense released for voluntary use a new concept of profit establishment. When introduced to the procurement community in 1972 by DPC 107 the employed capital concept contemplated adjusting the weighted guidelines developed profit objective to take account of the total capital estimated to be employed by the contractor in the procurement being negotiated. For a number of reasons which are beyond the scope of this study the policy was made voluntary rather than mandatory although management took an interest in seeing that it was fairly tested. Despite considerable pressure, however, less than 20 instances of use were recorded.

At the request of the Profit '76 study director, Brig Gen Stansberry, the Air Force Business Research Management Center devised a questionnaire which would capture the after-the-fact reactions of both government and industry personnel who actually implemented the employed capital concept. It was recognized that in an after-the-fact situation involving only successful trials of the DPC 107 profit policy the findings would be limited.

Also although every attempt was made to prevent bias in responses, there is no certainty that we were successful. Further, the research was hampered by the passage of time and accessibility of persons who were associated with the trials. However, within these limitations the study is intended to shed light on two dimensions of the DPC 107 experience.

a. The implementation aspects of the policy; i.e., how the respondents perceived the policy to amend their existing approach to profit, (which was required if DPC 107 was to be utilized generally), and;

b. How the policy operated in the course of the negotiation process; i.e., what costs and benefits were perceived by the users of the employed capital concept.

Measuring the perceived responses of the government and industry negotiating teams who used DPC 107 the study provides a documented history of how these users perceived the employed capital concept. It cannot be and should not be generalized beyond the respondents and their particular circumstances. Qualitatively, however, the study offers insight into the policy formulation and the policy content issues surrounding the DPC 107 experiment.

APPROACH

Basic Approach

The BRMC approached this study as a change management problem. DPC 107 was viewed as a new performance program requiring both DOD and contractor personnel who normally analyze and negotiate contract costs and profits to approach the profit portion of their tasks differently than they had been accustomed to using the usual ASPR weighted guidelines. Furthermore the differences were regarded as fundamental, i.e., requiring new actions as opposed to slightly altering existing rules, procedures, etc. For example, an entirely new component, employed capital, had been inserted in the DPC 107 policy. Thus this constituted a major change in the performance program which DOD and contractor negotiating personnel employed.

Model

To identify variables a model was employed which regarded the change management problem as involving three fundamental phases.

a. Recognition of need for a new profit policy. This directed attention to the issue of whether the respondents

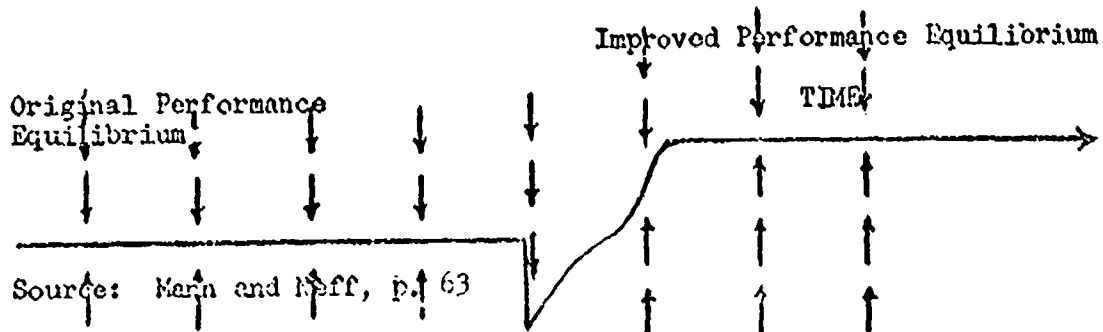
perceived a need for improvement in the Defense Department's approach to profit objective development and subsequent profit negotiation.

b. The perceived costs involved with implementing the new profit policy established by DPC 107.

c. The perceived benefits of using DPC 107's new profit policy.

The model approaches the question of change of implementation, therefore, from the viewpoint of perceived need, cost, and benefit to those who must employ the policy. To the extent that it is valid, it offers valuable insights into the policy promulgation process. Figure 1 illustrates the basic approach to change management used in this research.

FIGURE 1
ORGANIZATIONAL CHANGE



Population

To test the model the total DOD experience with the DPC 107 employed capital concept was identified. Exhibit 1 lists the contractors and defense department procuring activities involved. These comprise the nine test cases which were performed by Defense Department procuring activities prior to issuance of DPC 107, plus six additional applications which were performed by defense procurement activities under the DPC 107 policy guidance. While the study effort knew of several other attempts which were contemplated by procuring activities, we are confident that only 15 applications actually occurred.

EXHIBIT 1

<u>SERV</u>	<u>K TYPE</u>	<u>VALUE (\$M)</u>			<u>PROFIT %</u>	
		<u>PROP.</u>	<u>OBJ.</u>	<u>NEG.</u>	<u>OBJ.</u>	<u>NEG.</u>
N	FFP	5.5	5.0	5.1	13.4	13.2
N	FFP	4.8	4.3	4.4	11.5	11.7
N	FFP	2.9	2.8	2.9	13.5	13.0
AF	FFP	10.7	9.5	9.7	16.5	16.2
N	FFP		.7	.7	12.1	12.0
N	FFP	6.0	5.9	5.4	12.9	12.9
N	FFP	154.2	144.0	145.0	13.3	13.5
N	FFP	267.4	236.8	240.2	13.0	13.5
A	FFP	8.2		7.4	11.4	12.0
AF	FPIF	16.7	15.1	15.5	11.5	10.7
AF	CRFF-V	7.8	7.0	7.1	8.6	8.4
AF	FFP	4.9	4.3	4.5	14.6	14.5
AF	FFP	3.8	3.2	3.3	18.7	18.7
AF	FFP	3.7	3.5	3.5	17.4	17.4
AF	FFP	4.0	3.7	3.7	16.3	16.3

For each application situation, i.e., the government and industry negotiating teams, nine functional participants were identified. These representatives were interviewed to collect systematically their perceived responses to the DPC 107 policy. The Procuring Contracting Officer, contract negotiator, price analyst, Administrative Contracting Officer, and DCAA auditor were identified as contributors to the development of the government's profit position and thus directly involved in DPC 107 implementation. The contractor's negotiating team was considered as consisting of the contract negotiator, his supervisor, the financial analyst responsible for preparing the contractor's employed capital position, and the corporate official who would approve and ultimately sign the contract.

Not all of the principals were available for this study. In a few cases two years had elapsed since the initial application, and some of the people involved had retired, left government service, transferred to other organizations, or otherwise departed from the scene and were thus inaccessible. In other situations the negotiating team's composition did not include all of the identified participants. Because of the new policy's significance, the management level selected to participate differed or in some instances the team did not have members available for the separate functions identified. These

functions were in these instances assumed by other team members. Another constraint on the size of the participating population involved repeat applications. A total of 15 of those interviewed participated in more than one negotiation involving employed capital. Thus the population size was less than would have been experienced had each use of employed capital been separate and unique.

The final population consisted of 61 individuals. Six of these could not be included in the data collection effort for various reasons. Thus the final data collection effort concentrated on 55 individual respondents. These were divided 28 from government agencies and 27 from contractor organizations.

Survey Instrument

Considering the time available for data collection, issues to be examined, variability of responses which could be expected, and related issues it was decided to employ an interview method of collecting data. This permitted the interviewer to assess both the clarity of recollection and the degree of bias with which the respondent addressed the issues being examined. In addition, it was believed that a survey would both require too much time to secure results and

would negatively affect the extent and quality of response. In addition as complex issues were involved the interviews permitted collection of first hand responses to the policy. This was considered to be extremely important in permitting a meaningful evaluation of the DPC 107 experience.

Data Collection

An interview questionnaire was designed and questions formulated to address the basic constructs of need, perceived costs and perceived benefit. The questionnaire was field tested with several individuals who were knowledgeable of both the procurement and of the research problems involved. Numerous changes and improvements were made in the course of the field testing. Actual data were then gained by personal interviews with each respondent. Each interview consumed between 30 minutes and an hour and was conducted in the respondent's office. Responses were recorded immediately or in those instances where circumstances prevented extensive note taking were recorded as soon as the interview was terminated. Also every effort was made to insure that the data obtained were both accurate and uncontaminated by interviewer bias. The interviewer consciously attempted to avoid biased responses. Thus in some issues no data were recorded rather than a response which was perceived to be obviously "sanitized."

FINDINGS

Need

Five questions were developed approaching the need for policy change construct. Because it would be impossible to secure responses to such a question if directly phrased, various proxies were employed. These were expectations and reaction to the employed capital policy, perceived management support and immediate management attention, concern regarding cost of capital, and need for a role for return on investment in profit establishment. The responses were categorized by industry and government source. In addition to computing the percentage responses by category a chi square analysis was performed to test the difference between industry and government reactions. Exhibit 2 summarizes the findings with regard to perceived need.

EXHIBIT 2
 PERCEIVED NEED
 FOR
 CHANGE IN PROFIT POLICY

Question	\$ Government	\$ Industry	Industry/Government Difference Significance Level	Degrees of Freedom
Expectations of Employed Capital				
Low & Skeptical	60.7	51.9		
Enthusied	28.6	48.1		
High	10.7	0	10.73%	2
Reaction of Negotiating Team				
Annoyed	18.5	18.5		
Interesting	63.0	37.0		
Enthusied or More	18.5	44.4	9.55%	2
Attention of Immediate Management				
None or Some	46.4	22.2	10.83%	1
Substantial	53.6	77.8		
Degree of Management Support				
Ignored-Interest	26.9	11.1		
Supported	50.0	40.7		
Enthusiastic	23.1	48.1	11.48%	2
Role of ROI in Profit Establishment				
None	3.7	0		
Some	29.6	25.9		
Considerable	66.7	74.1		
Cost of Capital A Concern				
Yes	56	59.3		
No	44	40.7		
			None	

It is interesting to note that government respondents consistently viewed the new policy with less enthusiasm and perceived lower management interest than did their industry counterparts. This is confirmed by a chi square analysis which suggests that in four of the five instances the differences between industry and government respondents had approximately a 10% chance of being caused by chance alone. This suggests that government respondents view the profit issue differently than their industry counterparts.

Cost of Implementation

The question of perceived costs of implementing the employed capital concept was difficult to explore. Five questions were developed to shed light on this issue. These involve the form completion problem, data collection problem, and comparative times of using employed capital concept on the procurement in question, on a different organization, and on a second application involving the same agency or organization. Exhibit 3 summarizes the findings on these issues.

EXHIBIT 3
 PERCEIVED COST
 OF
 IMPLEMENTING EMPLOYED CAPITAL CONCEPT

Question	% Government	% Industry	Industry/Government Difference Significance Level
Form Completion Difficulty			
None	41.7	36.0	
Some	37.5	32.0	
Substantial	20.8	32.0	None
Time Using ECC vs WGM			
Less or Same	26.1	32.0	
Twice or More	73.9	68.0	None
Difficulty Getting Data			
None	37.5	28.6	
Some	50.0	42.9	
Considerable	12.5	28.6	None
Time Using ECC on 2nd Organization			
Half or Less	28.0	48.1	
Same	52.0	44.4	
Twice or More	20.0	7.4	21.73%
Time Using ECC on Same Organization			
Half or Less	63.0	51.9	
Same or More	37.0	48.1	None

Responses were fairly consistent. In only one instance did there appear to be much possibility of systematic difference in perception between industry and government respondents. As expected although some difficulty was reported in the implementation process the results indicate that these were not insurmountable. The respondents felt that second applications with the same or with different organizations would require much less time.

Benefits of Implementation

Perceived benefits were addressed in four questions. These dealt with the ability of the employed capital concept to assist profit negotiations by rendering profit less subjective and contentious, by developing concrete profit issues which could be negotiated, by providing some degree of benefit for the additional effort expended, and by satisfying the expectations that the team had generated when they were first exposed to the employed capital concept. Exhibit 4 summarizes the responses to the questions asked.

EXHIBIT 4
 PERCEIVED BENEFIT
 OF
 USING EMPLOYED CAPITAL CONCEPT

Question	% Government	% Industry	Industry/Government Difference Significance Level
Assistance in Profit Negotiation			
None	38.5	52	
Some	19.2	20	
Substantial	42.3	28	None
Assistance in Developing Negotiable Issues			
None	44.4	43.5	
Some	22.2	21.7	
Substantial	33.3	34.8	None
Benefit for Expended Effort			
None	50	51.9	
Some	10.7	14.8	
Substantial	39.3	33.3	None
Expectations Realized			
Yes	63.0	48.1	
No	37.0	51.9	None

In no instance were the differences between industry and government responses significant. It is of interest to note that fewer industry personnel considered that employed capital concept assisted profit negotiations. In addition fewer industry personnel considered that their expectations were met by the policy. It seems likely, therefore, that government negotiators did not regard the employed capital concept as having much potential when they were first exposed to it and did not see any reason to change their views after they had completed negotiations. Industry, on the other hand, had higher expectations and lower perceived benefits.

Summary and Caveats

It is important that these findings be kept in perspective. Although substantial numbers of both government and industry respondents offered negative or safe responses to the benefit issue, a sizeable minority considered that the employed capital concept had been of substantial assistance in each of the dimensions. A similar observation is likewise applicable to the perceived need construct.

MEANING OF FINDINGS

Evaluation of the findings of this study is essentially judgemental. For reasons mentioned earlier no final judgement can be made based on the data collected. In a judgemental sense, however, the following conclusions seem clearly supportable.

Need

Government personnel did not generally perceive a need for profit policy change. In addition they did not perceive that the DPC 107 policy had the firm support of either their immediate management or of DOD management as a whole. This can probably be traced to the voluntary aspect of the policy.

In addition it seems that government personnel may not have a clear perception of the role profit plays in the industries they deal with. However, a substantial minority of government personnel do not share these views and may be reasonably responsive to policy changes.

Cost

Although the administrative costs of first implementation were perceived as being high succeeding costs were estimated to be much lower. In addition, the general tenor of responses suggested that the administrative cost dimensions were overstated as causes for nonutilization of DPC 107.

Benefit

Benefits were not perceived as being commensurate with costs by a substantial number of respondents. Industry was most disappointed in this regard. Although the reasons for this were not explored in this research, hints of a technical flaw in recognizing corporate investment surfaced in several instances. This may have a relationship to the findings.

Qualitative Findings

In addition to the structured questions, several dimensions were explored in an open ended fashion during the interview. The most pertinent of these related to the dimensions which a

new profit policy should address and to the reasons for non-acceptance of the DPC 107 concept. These findings are explored in greater detail in Appendix 1. In summary, however, it seems that the negotiators perceived a negative attitude on the part of the government, if they were contractor personnel, and a negative attitude on the part of the contractor if they were government personnel. This suggests that a much better understanding of the need for a different profit policy must be instilled in both contractor and government personnel. While a number of people have suggested that the administrative aspects of DPC 107 were responsible for its lack of acceptance, neither the structured or the unstructured questions confirmed this view.

Conclusions

Viewed in a total context, it seems likely that the reasons for nonacceptance of DPC 107 employed capital concept are fairly straightforward. Neither industry nor government really believed that the employed capital profit policy was needed.

In addition they perceived the costs of using employed capital as fairly high and its benefits slight. The fact that

the first time costs were large and subsequent costs would have been much smaller did not aid subsequent uses of DPC 107 because many people felt that the benefits were slight. In addition DOD management was not perceived as favoring implementation. It seems likely, therefore, that future profit policy must be made mandatory if it is to be given a fair trial.

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Chapter VII
PROFIT POLICY FORMULATION

In accordance with the Deputy Secretary of Defense's Charter in May 1975, the Profit Policy Formulation Group set out to revise DoD Profit Policy to motivate defense contractors to make investments which will increase productivity and reduce defense contract costs.

In order to approach this task in a manner so that constructive changes could be made, the team reviewed prior studies completed in this area. In addition, they reviewed the results of questionnaires received from both Government and Industry procurement personnel relative to the problems with the current profit policy and their recommended solutions for a revised policy. The team received valuable input from the data gathered from the profit centers participating in the Profit '76 Study. Such data influenced the changing of some of the ingredients of the policy itself.

The team also visited with nine selected defense contractor top management personnel to discuss current policy, the problems associated therewith, proposed changes and many other pertinent areas in negotiating profit in the defense environment.

Discussions relative to changes in profit policy have taken place also at Procurement Seminars and Symposiums at various locations with both Government and Industry personnel. The top management levels across Government Agencies have also been consulted and briefed on proposed changes to the profit policy with valuable input being furnished the study team for consideration as well. Several meetings took place with the Cost Accounting Standards Board Staff relative to Standard 414 (Cost of Capital) to merge their efforts with ours so as to avoid conflict and duplication.

The information gathered from above sources produced a large number of ideas. These ideas were evaluated against the following factors, assumptions, and criteria as well as general business and economic principles.

Given Factors:

1. A change in DoD's independently established prenegotiation profit objective will not guarantee a one-for-one change in a contractor's earned (coming-out) profit.
2. Going-in profit opportunity will be established as a result of negotiations.
3. Contracting Officers must have adequate policy latitude to "give and take" during negotiations based on their judgment of the situation.

Assumptions:

1. A change in the going-in negotiated profit will result in a like change in the coming-out profit though not in the same amount.
2. Giving weight to capital investment in contract pricing will result in greater attention to this factor by defense contractors.
3. Agreement reached at the end of negotiations represents a free will decision by both parties.
4. Radical changes to current policies are probably not required.

Evaluation Criteria:

1. Does the proposal advance DoD's basic profit policy objective?
2. Does the proposal accord equitable treatment to contractors?
3. Can operating personnel understand and support the proposal?
4. Does the proposal avoid unnecessary complexities?
5. Is the administrative effort involved reasonably commensurate with the proportion that profit bears to the total contract price?

To be responsive to our charter and fortified with the knowledge gathered from exposing early draft policy changes to both Government and Industry personnel, the Profit '76 Policy Group settled on a proposed final policy package as follows:

1. Recognize capital (facilities) as a real and essential ingredient of contract performance:

a. Uniformly compensate contractors for the time value of facilities capital employed at an imputed interest rate associated with a risk free investment. Treat this imputed interest as an allowable contract cost and reimburse it as such.

b. Recognize that a special risk attaches to capital investments made for defense purposes. Provide contractors the opportunity to earn profit to compensate for that risk in the same general manner that they are given an opportunity to earn profit to compensate for the cost risks they assume. Tailor the extent of profit opportunity to the degree of risk associated with facilities capital employed in support of a given contract.

2. Emphasize effort and risks as profit determinants rather than contract costs to dispel the "cost plus a percentage of cost" connotation associated with the current profit policy.

3. Recognize productivity as a factor in establishing the profit objective for an instant contract. The benefit of good past performance to a new future contract is difficult to measure. Reliance on cost/performance incentives in the instant contract should be the yardstick to determine profit earned on the basis of demonstrated performance during the instant contract.

The proposed revised policy focuses on a contractor's effort, assumption of risk and degree of facility investment. This is as should be to instill the proper motivation for overall cost efficiency on the part of the defense community.

Based on the foregoing considerations, the policy group, developed, coordinated and promulgated the following Defense Procurement Circular (DPC) 76-3 which sets forth the revised policy.



DEFENSE PROCUREMENT CIRCULAR

1 SEPTEMBER 1976

NUMBER 76-3

This Defense Procurement Circular is issued by direction of the Assistant Secretary of Defense (Installations and Logistics) pursuant to the authority contained in 5 U. S. Code 301, 10 U. S. Code 2202, DOD Directive No. 5126.22, and ASPR 1-106.

All Armed Services Procurement Regulation material and other directive material published herein is effective 1 October 1976.

Unless otherwise indicated in the introductory language preceding an item, each item in this Circular shall remain in effect until the effective date of that subsequent ASPR revision which incorporates the item, or until specifically canceled.

Reproduction authorized.

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Executive Summary

The purpose of this Defense Procurement Circular is to promulgate significant changes to Department of Defense profit and pricing policy for negotiated contracts. The changes announced herein are based upon a study of the profitability of Defense contractors in which the Army, Navy, Air Force, Defense Supply Agency, other Government agencies, and industry played major roles. The study, entitled Profit '76, was conducted at the direction of the Deputy Secretary of Defense and was led by the Office of the Assistant Secretary of Defense (Installations and Logistics).

The most important changes concern contractor investment. Over the last several years, the level of contractor facility investment in Department of Defense contracts has been considerably lower than in comparable commercial endeavors, even after taking into account government-furnished facilities and equipment. The reasons for contractor reluctance to invest in modern machinery and equipment for use on DoD contracts are many and varied, but it is clear that some are rooted in present procurement policy which fails to recognize adequately, (either in profit or as an allowable cost) the facility investment which may be required for efficient operation. Accordingly, two important changes are being made. The first provides that the imputed cost of capital for facility investment (measured in accordance with CAS 414) will be considered allowable on most negotiated DoD contracts which are priced on the basis of cost analysis. Procedures are established so that on the average the contracting officer's pre-negotiation profit objective takes into account (and offsets) the cost increase attributable to the imputed cost of facility capital. The second change provides that the level of facility investment will be recognized by DoD contracting officers in reaching a pre-negotiation profit objective under the weighted guidelines method. The relative weight of this factor in the pre-negotiation profit objective calculation is modest; in the future it will likely be increased after industry has had some opportunity to adjust its investment patterns. It is anticipated that these policy changes will help remove obstacles to cost-reducing facility investment decisions by industry.

Other changes of consequence contained in this DPC include the following:

Contract estimated cost receives less emphasis as a profit determinant.

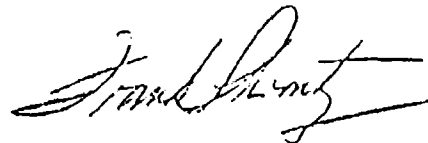
DPC #76-3 1 SEP. 1976

A greater spread in profit is established to recognize the difference in risk between cost reimbursable and fixed price type contracts.

Productivity improvements are introduced as a modest profit factor so as to further the principle that reduced costs will lead to increased earnings.

Past performance as a profit determinant has been deleted from the weighted guidelines. No objective measure of past performance exists and the use of this factor has been erratic and of little significance in arriving at a negotiated profit. This factor will, however, continue to be used in the source selection process.

This Defense Procurement Circular is promulgated with the expectation that the revised policies will lead to the establishment of more equitable profit objectives on DoD contracts and that contractors will respond to the incentives created to reduce hardware costs through facility investments. The Secretary of Defense has requested that all echelons of command, and in particular, contracting officers give this policy their full support.



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(Installations and Logistics)

ITEM I -- PROFIT, INCLUDING FEE UNDER COST REIMBURSEMENT TYPE CONTRACTS

This Item supersedes ASPR 3-808 and Item XXIII of DPC 75-1 dated 30 July 1975.

3-808 revises the Department of Defense's profit policy. The revised profit policy does not alter the principal procurement objective to obtain a quality product, delivered on schedule at a reasonable price. It does, however, revise the factors to be used in establishing the profit component of price and makes these guidelines mandatory when negotiating certain contracts. The purpose of the revised policy is to determine a profit objective that is based on a combination of cost, risk and facilities investment factors. It is fully intended and expected that implementation of this revised policy will alter previous norms for defense profits when applied to individual procurement actions. Past profit evaluation practices should not be carried forward and allowed to hinder the fulfillment of these intentions and expectations.

The revised profit policy continues to use the same basic evaluation technique employed in the original weighted guidelines. However, significant revisions have been made not only to the profit determinants but also to the weight mix and weight ranges. Further, primary emphasis has been placed on evaluating the effort, risk and facilities investment associated with the procurement. Quantification of these factors in the form of a dollar profit objective should be the derivative of a thorough evaluation of the current procurement action.

Past Performance, Sources of Resources, and Special Achievement, have been deleted as profit elements. Facilities Investment has been added to the basic profit evaluation process. Retained are the elements of Materials, Engineering Labor and Overhead, Manufacturing Labor and Overhead and General Administration. "Special Factors" which include Foreign Military Sales, Productivity (a new item), Independent Development, and Other Factors, complete the revised guidelines. These special factors, when present, can result in an add-on to the basic profit objective.

The relative weight mix of the major profit determinants has been revised. Under the policy in effect since January 1964 the prenegotiation profit objective determinants were as follows: (i) Contractor's Input to Total Performance (65% of Total); (ii) Contractor's Assumption of Contract Cost Risk (30% of Total); and (iii) all other factors (5% of Total). Under this revised policy the breakdown is as follows:

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(i) Contractor Effort (50% of Total), (ii) Cost Risk (40% of Total), and (iii) Investment (10% of Total). An adjustment factor (.7) has been established for Contractor Effort so that the same administrative procedures can be used in determining the profit objective for this area but to scale it from 65% down to 50%. Weight ranges for types of contracts have been revised to effect an increase in the relative weight to be given to cost risk in establishing the overall profit objective.

It is contemplated that the 10% relative weight assigned to "Investment" will be reevaluated in the future with the view of increasing it. A period of time will be allowed to give the Defense Industry an opportunity to examine and adjust its facilities investment policies and practices. Issuance of a Cost Accounting Standard pertaining to operating capital could be a major factor in the timing of such a reevaluation.

3-808 Profit, Including Fees Under Cost-Reimbursement Type Contracts.

3-808.1 Policy.

(a) General. 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. 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. 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. Consequently, 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 procurement, giving due weight to each of the effort, risk, facilities investment and special factors set forth in this 3-808. This will result in a wider range of profits which, in many cases, will be significantly higher than previous norms.

(b) Contracts Priced on the Basis of Cost Analysis. When cost analysis is performed pursuant to 3-807.2, profit consideration shall be in accordance with the objectives set forth below.

The Government should establish a profit objective for contract negotiations which will:

- (i) motivate contractors to undertake more difficult work requiring higher skills and reward those who do so;
- (ii) allow the contractor an opportunity to earn profits commensurate with the extent of the cost risk he is willing to assume;
- (iii) motivate contractors to provide their own facilities and financing and establish their competence through development work undertaken at their own risk and reward those who do so; and
- (iv) reward contractors for productivity increases.

The weighted guidelines method set forth in 3-808.2 below for establishing profit objectives is designed to provide reasonably precise guidance in applying these principles. This method, properly applied, will tailor profits to the circumstances of each contract in such a way that long range cost reduction objectives will be fostered, and a spread of profits will be achieved which is commensurate with varying circumstances.

(c) Contracts Priced Without Cost Analysis. On many contracts and subcontracts, good pricing does not require an examination into costs and profits. Where adequate price competition exists and in other situations where cost analysis is not required (see 3-807), fixed-price type contracts will be awarded to the lowest responsible offerors without regard to the amount of their profits. Under these circumstances, the profit which is anticipated, or in fact earned, should not be of concern to the Government. In such cases, if a low offeror earns a large profit, it should be considered the normal reward of efficiency in a competitive system and efforts should not be made to reduce such profits.

3-808.2 Weighted Guidelines Method.

(a) General.

(1) The weighted guidelines method provides contracting officers with (i) a technique that will insure consideration of the relative value of the appropriate profit factors described in 3-808.4 in the establishment of a profit objective and the conduct of negotiations; and (ii) a basis for documentation of this objective, including an explanation of any significant departure from this objective in reaching a final agreement. The contracting officer's analysis of these profit factors is based on information available to him prior to negotiations. Such information is furnished in proposals, audit data, performance reports, pre-award surveys and the like. The weighted guidelines method shall be used in all contracts where cost analysis is performed except as set forth in (b) below.

(2) The contractor's proposal will include cost information for evaluation and a total profit figure. Contractors shall not be required to submit the details of their profit objectives but they shall not be prohibited from doing so if they desire. Elaborate and voluminous presentations are neither required nor desired and may indicate a low index of cost effectiveness, which fact itself should be taken into consideration by the contracting officer.

(3) The negotiation process does not contemplate or require agreement on either estimated cost elements or profit elements, although the details of analysis and evaluation may be discussed in the fact-finding phase of the negotiation. If the

difference between the contractor's profit objective and the contracting officer's profit objective is relatively small, no discussion of individual factors may be necessary. If the negotiating parties' objectives are relatively far apart, a disclosure of weightings and rationale by both parties may be made concerning the total assigned to contractor effort, contractor risk, facilities investment and special factors. By thus developing a mutual understanding of the logic of the respective positions, an orderly progression to final agreement should result. Simultaneous, not sequential, agreement will be reached on cost, any incentive profit-sharing formulas, or limitation on profits, and price. The profit objective is a part of an overall negotiation objective which, as a going-in objective, bears a distinct relationship to the target cost objective and any proposed sharing arrangement. Since the profit is merely one of several interrelated variables, the Government negotiator shall not complete the profit negotiation without simultaneously agreeing on the other variables. Specific agreement on the exact weights or values of the individual factors is not required and should not be attempted.

(b) Exceptions.

(1) Under the following listed circumstances, other methods for establishing profit objectives may be used. Generally, it is expected that such methods will accomplish the two features of the weighted guidelines methods set forth in (a)(1) above. Where methods other than the weighted guidelines are used to establish a profit objective, an appropriate reduction in the profit objective will be made to compensate for the amount of facilities capital cost of money allowed in accordance with 15-205.50.

- (i) Architect-engineering contracts;
- (ii) personal or professional service contracts;
- (iii) management contracts, e.g., for maintenance or operation of Government facilities;
- (iv) termination settlements;
- (v) engineering services, labor-hour, time-and-material, and overhaul contracts providing for payment on a man-hour, man-day or man-month basis, and where the contribution by the contractor constitutes the furnishing of personnel rather than the output of an integrated research, engineering, or manufacturing organization;
- (vi) cost-reimbursement construction contracts; and
- (vii) cost-plus-award-fee contracts.

(2) Other exceptions may be made in the negotiation of contracts presenting unusual pricing situations when specifically authorized by the Head of a Procuring Activity. Such exceptions

shall be justified in writing and authorized only in situations where the weighted guidelines method is determined to be unsuitable.

(c) Limitation. In the event this or any other method would result in establishing a fee objective in violation of limitations established by statute or this regulation, the maximum fee objective shall be the percentage allowed pursuant to such limitations. (See 3-405.) No local administrative ceilings on profit shall be permitted.

3-808.3 Profit Objective.

(a) A profit objective is that part of the estimated contract price objective or value which, in the judgment of the contracting officer, is appropriate for the procurement being considered, covering the profit or fee element of the price objective. This objective should realistically reflect the total overall task to be performed and the requirements placed on the contractor. Prior to the negotiation of a contract, change order, or contract modification, where cost analysis is undertaken, the negotiator shall develop a profit objective. The weighted guidelines method, if applicable, shall be used for developing this profit objective. If a change or modification is of a relatively small dollar amount and is basically the same type of work as required in the basic contract, the application of the weighted guidelines method will generally result in a profit objective similar to the profit objective in the basic contract, and therefore this basic rate may be applied to the contract change or modification. However, in cases where the change or modification calls for substantially different work, then the basic contract profit and the contractor's effort may be radically changed and a detailed analysis is necessary. Also, if the dollar amount of the change or contract modification is very significant in comparison to the contract dollar amount, a detailed analysis should be made.

(b) Development of a profit objective should not begin until after a thorough (i) review of proposed contract work; (ii) review of all available knowledge regarding the contractor, pursuant to Section 1, Part 9, including capability reports, audit data, pre-award survey reports and financial statements, as appropriate; and (iii) analysis of the contractor's cost estimate and comparison with the Government's estimate or projection of cost.

(c) Where methods other than the weighted guidelines are used to establish a profit objective, an appropriate reduction in the profit objective will be made to compensate for the amount of facilities capital cost of money allowed in accordance with 15-205.50.

3-808.4 Profit Factors.

(a) The following factors shall be considered in all cases in which profit is to be specifically negotiated. The weight ranges listed after each factor shall be used in all instances where the weighted guidelines method is used.

PROFIT FACTORS	MEASUREMENT BASE	WEIGHT RANGES
A. CONTRACTOR EFFORT (1)	Booked Costs (2)	
<u>Material Acquisition</u>		
Subcontract Items		1 to 5%
Purchased Parts		1 to 4%
Other Material		1 to 4%
<u>Engineering</u>		
Direct Labor		9 to 15%
Overhead		6 to 9%
<u>Manufacturing</u>		
Direct Labor		5 to 9%
Overhead		4 to 7%
<u>Other</u>		
General Management		1 to 2%
B. CONTRACTOR RISK	Booked Costs (2)	0 to 3%
C. FACILITIES INVESTMENT	Facilities Capital Employed	0 to 12%
D. SPECIAL FACTORS		
Foreign Military Sales	Value of FMS Order	1 to 4%
Productivity	(See 3-1300.5)	
Independent Development	Booked Costs (2)	1 to 4%
Other	Basic Profit Objective	1 to 2%

(1) An adjustment factor of .7 is applied to the results of the Contractor Effort evaluation to arrive at the dollar profit objective for this factor (see DD Form 1547).

(2) See 3-1300.5.

(b) Under the weighted guidelines method the contracting officer shall first measure the "Contractor's Effort" by the assignment of a profit percentage within the designated weight ranges to each element of contract cost recognized by the contracting officer. Although certain classifications of acceptable cost, including travel, subsistence, facilities, test equipment, special tooling, federal manufacturers excise taxes, and royalty expenses, may have been historically excluded from the base upon which profit has been computed, they shall not be excluded when using the weighted guidelines method.

Not to be included for the computation of profit as part of the cost base is the amount calculated for the cost of money for facilities capital. A complete discussion of how this cost is determined and how it will be applied and administered is set forth in 3-1300.

(c) The suggested categories under the Contractor's Effort are similar to those on the Contract Pricing Proposal (DD Form 633). Often individual proposals will be in a different format; but since these categories are broad and basic, they provide sufficient guidance to evaluate all other items of cost.

(d) After the contracting officer has computed a total dollar profit for the Contractor's Effort, he shall then add the specific profit dollars assigned for cost risk, facilities investment risk, and special factors. Weighted Guidelines Profit/Fee Objective (DD Form 1547) is to be used, as appropriate, to facilitate the calculation of this profit objective. (See F-200.1547.)

(e) The weighted guidelines method was designed for arriving at profit or fee objectives for other than nonprofit organizations. However, if appropriate adjustments are made to reflect differences between profit and nonprofit organizations, the weighted guidelines method can be used as a basis for arriving at fee objectives for nonprofit organizations. Therefore, the policy of the Department of Defense is to use the weighted guidelines method, as modified in (2) below, to establish fee objectives which will stimulate efficient contract performance and attract the best capabilities of nonprofit organizations to defense oriented activities. The modifications should not be applied as deductions against historical fee levels, but rather, to the fee objective for such a contract as calculated under the weighted guidelines method.

(1) For purposes of this subparagraph, nonprofit organizations are defined as those business entities organized and operated exclusively for charitable, scientific or educational purposes, no part of the net earnings of which inure to the benefit of any private shareholder or individual, no substantial part of the activities of

which is carrying on propaganda or otherwise attempting to influence legislation or participating in any political campaign on behalf of any candidate for public office, and which are exempt from Federal income taxation under Section 501 of the Internal Revenue Code.

(2) For contracts with nonprofit organizations where fees are involved, the following adjustments are required in the weighted guidelines method.

- (i) A special factor of -1% shall be assigned in all cases.
- (ii) The weight range under "Contractor Cost Risk" shall be -1% to 0% in lieu of 0% to 8% for contracts with those nonprofit organizations or elements thereof identified by the Secretary of Defense or the Secretary of a Department (or their respective designees) as receiving sustaining support on a cost-plus-a-fixed-fee basis from a particular Department or Agency of the Department of Defense.

(f) In making his judgment of the value of each factor, the contracting officer should be governed by the definition, description, and purpose of the factors together with considerations for evaluating them as set forth herein.

3-808.5 Contractor Effort.

(a) General. This factor is a measure of how much the contractor himself is expected to contribute to the overall effort necessary to meet the contract performance requirements in an efficient manner. This factor, which is apart from the contractor's responsibility for contract performance, takes into account what resources are necessary and what the contractor himself must do to accomplish a conversion of ideas and materials into the final product called for in the contract. This is a recognition that within a given performance output, or within a given sales dollar figure, necessary efforts on the part of individual contractors can vary widely in both value and quantity, and that the profit objective should reflect the extent and nature of the contractor's contribution to total performance. The evaluation of this factor requires an analysis of the cost content of the proposed contract as follows.

(b) Material Acquisition (Subcontracted Items, Purchased Parts and Other Material). Analysis of these cost items shall include an evaluation of the managerial and technical effort necessary to obtain the required purchased parts, subcontracted items, and other materials, including special tooling. This evaluation shall include consideration of the number of orders and suppliers, and whether established sources are available or new sources must be developed. The contracting officer shall also determine whether the contractor will, for example,

obtain the material and tooling by routine orders from readily available supplies (particularly those of substantial value in relation to the total contract cost), or by detailed subcontracts for which the prime contractor will be required to develop complex specifications involving creative design or close tolerance manufacturing requirements. Consideration should be given to the managerial and technical efforts necessary for the prime contractor to administer subcontracts, and select subcontractors, including efforts to break out subcontracts from sole sources, through the introduction of competition. These determinations should be made for purchases of raw materials or basic commodities, purchases of processed material including all types of components of standard or near standard characteristics, and purchases of pieces, assemblies, subassemblies, special tooling and other products special to the end-item. In the application of this criterion it should be recognized that the contribution of the prime contractor to his purchasing program might be substantial. This might be applicable in the management of subcontracting programs involving many sources, involving new complex components and documentation, incomplete specifications, and close surveillance by the prime contractor's representative. Recognized costs presented as direct material costs such as scrap charges shall be treated as material for profit evaluation. If intracompany transfers are accepted at price, in accordance with 15-205.22(e), they shall be evaluated as material. Other intracompany transfers shall be evaluated by individual components of cost, i.e., material and overhead. Normally the lowest unadjusted weight for material is 2%. A weighting of less than 2% would be appropriate only in unusual circumstances when there is a minimal contribution by the contractor.

(c) Conversion (Engineering and Manufacturing Labor). Analysis of the engineering labor and manufacturing labor items of the cost content of the contract should include evaluation of the comparative quality and level of the engineering talents, manufacturing skills and experience to be employed. In evaluating engineering labor for the purpose of assigning profit dollars, consideration should be given to the amount of notable scientific talent or unusual or scarce engineering talent needed in contrast to journeyman engineering effort or supporting personnel. The diversity, or lack thereof, of scientific and engineering specialties required for contract performance and the corresponding need for engineering supervision and coordination should be evaluated. Similarly, the variety of manufacturing labor skills required and the contractor's manpower resources for meeting these requirements should be considered.

(d) General Management (Overhead and G&A).

(1) Analysis of these overhead items of cost includes the evaluation of the make-up of these expenses and how much they contribute to contract performance. This analysis should include a determination of the amount of labor within these overhead pools and how this labor would be treated if it were considered as direct labor under the contract. The allocable labor elements should be given the same profit consideration that they would receive if they were treated as direct labor. The other elements of these overhead pools should be evaluated to determine whether they are routine expenses such as utilities, depreciation, and maintenance, and hence given lesser profit consideration, or whether they are significant contributing elements. The composite of the individual determinations in relation to the elements of the overhead pools will be the profit consideration given the pools as a whole. The procedure for assigning relative values to these overhead expenses differs from the method used in assigning values of the direct labor. The upper and lower limits assignable to the direct labor are absolute. In the case of overhead expenses, individual expenses may be assigned values outside the range as long as the composite ratio is within the range.

(2) It is not necessary that the contractor's accounting system break down his overhead expenses within the classification of engineering overhead, manufacturing overhead, and general and administrative expenses unless dictated otherwise by Cost Accounting Standards (CAS). The contractor whose accounting system only reflects one overhead rate on all direct labor need not change his system (if CAS exempt) to correspond with the above classifications. The contracting officer in his evaluation of such a contractor's overhead rate could break out the applicable sections of the composite rate which could be classified as engineering overhead, manufacturing overhead and general and administrative expenses and follow the appropriate evaluation technique.

(3) There is a critical factor that should be considered in the determination of profit in this area. Management problems surface in various degrees and the management expertise exercised to solve them should be considered as an element of profit. For example, a new program for an item which is on the cutting edge of the state of the art will cause more problems, require more managerial time, and abilities of a higher order than one which is a follow-on contract. If new contracts create more problems and require a higher profit weight, follow-ons should be adjusted downward as many of the problems should have been solved. In any event an evaluation should be made of the underlying managerial effort involved on a case by case basis.

(4) It may not be necessary for the contracting officer to make a separate profit evaluation of overhead expenses in connection with each procurement action for substantially the same product with the same contractor. Where an analysis of the profit weight to be assigned to the overhead pool has been made, that weight assigned may be used for future procurements with the same contractor until there is a change in the cost composition of the overhead pool or the contract circumstances, or the factors discussed in (3) above are involved.

3-808.6 Contract Cost Risk.

(a) General. This factor reflects the policy of the Department of Defense that contractors bear an equitable share of contract cost risk and to compensate them for the assumption of that risk. A contractor's risk associated with costs to perform under a Government contract is usually minimal under cost reimbursement type contracts. However, as procurements progress from Basic Research through Follow-on Production and Supply contracts the use of increased contractor risk assumption type contracts is appropriate for increasing the contractor's responsibility for performance. The generally accepted progression of the procurement spectrum ranging from Basic Research through Supply procurements and from cost to firm fixed price contracts is shown below:

	<u>Type of Effort</u>	<u>Type of Contract</u>
(1)	Basic Research	Cost, CPFF
(2)	Applied Research	Cost, CPFF
(3)	Exploratory Development	Cost, CPFF
(4)	Advanced Development	CPFF, CPAF
(5)	Engineering Development	CPFF, CPAF, CPIF
(6)	Operational System Development	CPIF, CPAF, FPI
(7)	First Production	FPI
(8)	Follow-on Production	FPI, FFP
(9)	Supply	FFP

Research and the various categories of development are defined in ASPR Section IV.

In developing the pre-negotiation profit objective the contracting officer will need to strongly consider the type of contract anticipated to be negotiated and the contractor risk associated therewith when selecting the position in the weight range for profit that is appropriate for the risk to be borne by the contractor. This factor should be one of the most important in arriving at pre-negotiation profit objectives.

(b) Evaluation of Contractor's Assumption of Contract Cost Risk.

(1) Evaluation of this risk requires a determination of (i) the degree of cost responsibility the contractor assumes, (ii) the reliability of the cost estimates in relation to the task assumed, and (iii) the complexity of the task assumed by the contractor. This factor is specifically limited to the risk of contract costs. Thus, such risks on the part of the contractor as reputation, losing a commercial market, risk of losing potential profits in other fields, or any risk on the part of the purchasing activity, such as the risk of not acquiring an effective weapon are not within the scope of this factor.

(2) The first and basic determination of the degree of cost responsibility assumed by the contractor is related to the sharing of total risk by contract cost by the Government and the contractor through the selection of contract type. The extremes are a cost-plus-fixed-fee contract requiring only that the contractor use his best efforts to perform a task, and a firm fixed-price contract for a complex item. A cost-plus-fixed-fee contract would reflect a minimum assumption of cost responsibility, whereas a firm fixed-price contract would reflect a complete assumption of cost responsibility.

(3) The second determination is that of the reliability of the cost estimates. Sound price negotiation requires well-defined contract objectives and reliable cost estimates. Prior production experience assists the contractor in preparing reliable cost estimates on new procurements for similar equipment. An excessive cost estimate reduces the possibility that the cost of performance will exceed the contract price, thereby reducing the contractor's assumption of contract cost risk.

(4) The third determination is that of the difficulty of the contractor's task. The contractor's task can be difficult or easy, regardless of the type of contract.

(5) Contractors are likely to assume greater cost risk only if contracting officers objectively analyze the risk incident to proposed contracts and are willing to compensate contractors for it. Generally, a cost-plus-fixed-fee contract would not justify a reward for risk in excess of 1%, nor would a firm fixed-price contract justify a reward of less than 6%. Where proper contract type selection has been made the reward for risk by contract type would usually fall into the following percentage ranges:

Type of Contract....and....	Percentage Ranges
Cost-Plus-Fixed Fee	0 to 1%
Cost-Plus-Incentive-Fee	1 to 3%
Fixed-Price-Incentive	3 to 6%
Firm-Fixed-Price	6 to 8%

a. These ranges may not be appropriate for all procurement situations. For instance, a fixed-price-incentive contract which is closely priced with a low ceiling price and high incentive share may be tantamount to a firm fixed-price contract. In this situation, the contracting officer might determine that a basis exists for high confidence in the reasonableness of the estimate, and that little opportunity exists for cost reduction without extraordinary efforts. On the other hand, a contract with a high ceiling and low incentive formula could be considered to contain cost-plus-incentive-fee contract features. In this situation the contracting officer might determine that the Government is retaining much of the contract cost responsibility and that the risk assumed by the contractor is minimal. Similarly, if a cost-plus-incentive-fee contract includes an unlimited downward (negative) fee adjustment on cost control, it could be comparable to a fixed-price-incentive contract. In such a pricing environment the contracting officer may determine that the Government has transferred a greater amount of cost responsibility to the contractor than is typical under a normal cost-plus-incentive-fee contract.

b. The contractor's subcontracting program may have a significant impact on the contractor's acceptance of risk under a contract form. It could cause risk to increase or decrease in terms of both cost and performance. This consideration should be a part of the contracting officer's overall evaluation in selecting a factor to apply for cost risk. It may be determined, for instance, that the prime contractor has effectively transferred real cost risk to a subcontractor and the contract cost risk evaluation may, as a result, be below the range which would otherwise apply for the contract type being proposed. It would be expected that this situation would be found to exist only in a very few extraordinary procurement situations under circumstances of (i) a follow-on production contract, in which a very substantial portion of the total contract costs represents a single subcontract or a very few subcontracts, (ii) the fullest incentive reward and penalty feature on cost performance having been passed by the prime to the subcontractor. In a procurement action in which all of these circumstances are found to exist, a lower than usual profit weight may appropriately be applied to the aggregate of all recognized costs including the subcontract portion. The contract cost risk evaluation should not be lowered, however, merely on the basis that a substantial portion of the contract costs represents subcontracts without any substantial transfer of contractor's risk, since this could result eventually in a lessening of the amount of work let on subcontracts.

C. In making a contract cost risk evaluation in a procurement action that involves definitization of a letter contract, unpriced change orders and unpriced orders under BOA's, consideration should be given to the effect on total contract cost risk as a result of having partial performance before definitization. Under some circumstances it may be reasoned that the total amount of cost risk has been effectively reduced. Under other circumstances it may be apparent that the contractor's cost risk remained substantially unchanged. To be equitable the determination of a profit weight for application to the total of all recognized costs, both those incurred and those yet to be expended, must be made with consideration to all attendant circumstances, not just be the portion of costs incurred, or percentage of work completed, prior to definitization.

3-808.7 Facilities Capital Investment. This element relates to the consideration to be given in the profit objective in recognition of the investment risk associated with the facilities employed in the performance of a contract. Six to 10 percent of the net book value of facilities capital allocated to the contract is the normal range of weight for this profit factor. The key factors that the contracting officer should consider in evaluating this risk and in selecting a weight within the percentage range of 6 to 10 are (i) whether the facilities are general purpose or special purpose items, (ii) the age of the facilities, (iii) the undepreciated value of the facilities, and (iv) the relationship of the remaining write-off life of the investment and the length of the program(s) or contract(s) on which the facilities are employed. Separate evaluation shall be made of existing and new facilities investments in arriving at a composite weight for this profit factor.

(a) Existing Facilities. That portion of the facilities capital to be employed on the contract which represents prior investments would normally fall in the lower half of the range, i.e., between 6-8. Within this range general purpose equipment with a small undepreciated value which can be used for continuing follow-on defense work or for commercial work should receive less weight. Special purpose equipment should receive greater weight depending upon the unrecovered value in relation to its future utility.

(b) New Investments. Facility investments to be made during the course of the contract would normally fall in the upper half of the range, i.e., 8-10. To assist in evaluating this element, the contracting officer should request the contractor to submit reasonable evidence that the new facilities are

part of an approved investment plan, and achievable benefits to the Government will result from the investment. New industrial facilities and equipment which (i) are to be procured by the contractor primarily for Defense business, (ii) have a long service life, (iii) have a limited economic life due to limited alternative uses, and (iv) reduce the total life cycle cost of the products produced for the DoD should receive maximum weight. To the extent that the new investment represents routine replacement of existing assets, a lesser weight should be assigned.

3-809.8 Special Factors.

(a) Foreign Military Sales Effort. Contractors actively engaged in the development of foreign markets for military items frequently exert sales efforts and assume risks beyond the normal risks recognized in the weighted guidelines method. In such cases, in connection with procurements for Foreign Military Sales (FMS), it is appropriate to recognize outstanding sales effort in the foreign markets and attendant risks by a special profit factor to be considered within the weighted guidelines in arriving at a profit objective. One to four percent of recognized costs is established as the normal range of value for this profit factor. The criteria for selection of the specific percentage shall be based upon such factors as the contractor demonstrating that he has (i) initiated the sale or expended efforts in furthering the sale, (ii) assumed responsibility for the product after delivery beyond that which may be priced in the contract, or (iii) assumed other risks associated with the Foreign Military Sale. It is not intended that this special profit factor be applied to all Foreign Military Sales, but only in those cases when a contractor can demonstrate that additional profit beyond that normally recognized in the weighted guidelines is warranted for that sale. This special profit factor shall not apply to Foreign Military Sales made from inventories or stocks, to procurements for replenishment of inventories or stocks, or to procurements made under DoD Cooperative Logistic Support Arrangements.

(b) Productivity.

(1) General. A key objective of the Department of Defense profit policy is to reduce the cost of defense preparedness by incentivizing Defense Contractors' investment in modern cost-reducing facilities and other improvements in efficiency.

To the extent that costs serve as the basis for pricing (both cost and profit), success in reducing costs could serve, in turn, to reduce profit dollars opportunity. For example, a fixed price incentive type contract is typically used for the first production contract of a major weapon system program. The incentive to increase productivity and reduce cost within one contract works against a contractor on follow-on production contracts because the reduced level of cost becomes a part of the basis for

pricing subsequent contracts. In order to mitigate the loss of profit dollars opportunity that occurs when costs are reduced due to productivity gains, a special "Productivity Reward" may be included in the pre-negotiation profit objective of a pending procurement under certain circumstances.

(2) Applicability Criteria. The "Productivity Reward" may be applied when the following criteria are met:

- (i) The pending procurement action involves a follow-on production contract.
- (ii) Reliable actual cost data is available to establish a fair and reasonable cost baseline.
- (iii) Changes made in the configuration of the item being procured are not of sufficient magnitude to invalidate price comparability.

(3) Implementation Procedures. The amount of productivity reward for a given contract is based on the estimated cost reduction which can be attributed to productivity gains. Set forth below are principles and procedures which apply to estimating cost reductions and calculating the productivity reward.

- (i) The contractor shall prepare and support the cost reduction estimate.
- (ii) The overall contract cost decrease shall be based on estimated decreases measured at the unit cost level.
- (iii) The lowest average unit cost (exclusive of profit) for a preceding production run shall serve as the unit cost baseline.
- (iv) A technique shall be employed to determine that portion of the cost decrease which is attributable to productivity gains as opposed to the effects of quantity differences between the base contract and the pending procurement action.
- (v) When the parties agree that the estimated overall contract cost decrease is materially affected by price level differences between the base period and the current point in time, an economic price adjustment may be applied to the estimate.
- (vi) The productivity reward shall be calculated by multiplying the contract cost decrease due to productivity gains by the base profit objective rate.

- (vii) The degree of review and validation of the data supporting the productivity reward calculation should be commensurate with the materiality of this profit element in relation to the overall price objective.

There may be several methods advanced, by both contracting officers and contractors, to quantify productivity gains. Any technique may be acceptable provided it takes into account equitably the principles and procedures listed above.

(c) Independent Development. Contractors who develop items which have potential military application without Government assistance are entitled to special profit consideration on those items as a special profit factor to be considered within the weighted guidelines in arriving at a profit objective. One to four percent of recognized cost is established as the normal range of value for this profit factor. The criteria for selection of the specific percentage shall be the importance of the development in furthering defense purposes, the demonstrable initiative in determining the need and application of the development, the extent of the contractor's cost risk, and whether the development cost was recovered directly or indirectly from Government sources.

(d) Other Factors. A composite percentage weight within the range of minus five percent to plus five percent of the basic profit objective may be assigned to other factors in arriving at the total profit objective. These other profit factors, which may apply to special circumstances or particular procurements, relate to contractor participation in Small or Minority Business, and Labor Surplus Programs and to special situations not specifically set forth elsewhere in these guidelines. Program participation which is rated as merely satisfactory should generally be assigned a weight of zero. Evidence of energetic support may justify a plus weight and poor support a negative weight. Special situations may be assigned either a plus or minus weight depending on the particular circumstances of the procurement.

(1) Small Business Participation. The contractor's policies and procedures which energetically support Government small business programs pursuant to 1-707.1 and 1-332 should be given favorable consideration. Any unusual effort which the contractor displays in subcontracting with small concerns, particularly for development type work likely to result in later production opportunities, and overall effectiveness of the contractor in subcontracting with and furnishing assistance to small concerns

should be considered. Conversely, failure or unwillingness on the part of the contractor to support Government small business policies should be viewed as evidence of poor performance for the purpose of establishing a profit objective.

(2) Labor Surplus Area Participation. A similar review and evaluation (as required in (1) above) should be given to the contractor's policies and procedures supporting the Government's Labor Surplus Area Program pursuant to 1-805.1. Particular favorable consideration should be given to a contractor who (i) makes a significant effort to help find jobs and provide training for the hardcore unemployed, or (ii) promotes maximum subcontractor utilization of certified eligible concerns, as defined in 1-801.1.

(3) Special Situations. Particular procurement situations may justify use of a profit factor other than those specifically identified in these guidelines. These situations shall be identified and the reason(s) for their use documented in the records of price negotiation. Examples of such situations include contractor effort to exploit additional production cost reduction opportunities or to improve or develop new product/manufacturing technologies to reduce production cost.

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ITEM II -- CALCULATION AND APPLICATION OF FACILITIES CAPITAL EMPLOYED

3-1300 is a new Part which sets forth (1) guidelines for estimating facilities capital employed in individual procurements and (2) procedures for application to the pricing, payment and final settlement aspects of the procurement.

Facilities capital employed has profit and cost applications. In this regard, the investment risk aspect of the facilities capital employed is recognized as a part of profit when the profit objective is required to be established in accordance with the guidelines set forth in Item I. This applicability becomes effective upon the receipt of this Circular. Cost of money for facilities capital as a cost is herein implemented in anticipation of the approval of CAS 414. This new cost will be recognized in DoD procurement as of the effective date of CAS 414. Recognition will be given in negotiated contracts which are priced on the basis of cost analysis.

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3-1300 Facilities Capital Employed
3-1300.1 Policy
3-1300.2 Definitions, Measurement and Allocation
3-1300.3 Estimating Business Unit Facilities Capital and
Cost of Money
3-1300.4 Contract Facilities Capital Estimates
3-1300.5 Pre-Award Facilities Capital Applications
3-1300.6 Contractual Coverage
3-1300.7 Post Award Facilities Capital Applications
3-1300.8 Administrative Procedures

3-1300 Facilities Capital Employed.

3-1300.1 Policy.

(a) It is the policy of the Department of Defense to recognize facilities capital employed as an element in establishing the price of certain negotiated defense contracts when such contracts are priced on the basis of cost analysis. The inclusion of this recognition is intended to reward contractor investments, motivate increased productivity and reduced costs through the use of modern manufacturing technology, and to generate other efficiencies in the performance of defense contracts. The recognition of contractor investments in the development of the profit objective will result in a profit objective based on a combination of effort, risk, and investment factors.

(b) Separate recognition shall be given to the cost of capital and the special risk associated with the facilities capital employed for defense contract purposes.

(1) The risk aspect of facilities capital employed shall be recognized as a part of profit when the profit objective is established in accordance with the guidelines set forth in 3-808. (See specially 3-808.7.)

(2) Cost of money for facilities capital will be recognized as an allowable cost in those negotiated defense contracts priced on the basis of cost analysis. (See 15-205.50).

(c) Applicability. As of the effective date of this policy, it shall apply to appropriate new contracts and modifications to existing contracts. This policy shall not apply to contracts or amendments thereto which precede its effective date.

3-1300.2 Definitions, Measurement and Allocation. Cost Accounting Standard (CAS) No. 414, "Cost of Money as an Element of the Cost of Facilities Capital," incorporated in ASPR Appendix O, establishes criteria for the measurement and allocation of the cost of capital committed to facilities, as an element of contract cost for historical cost determination purposes. Important features of the CAS are its definitions, techniques for application, and a prescribed Form CASB-CMF with instructions. This Part adopts the techniques of CAS 414 as the approved method of measurement and allocation of facilities cost of money to overhead pools at the business unit level, and adds only such supplementary procedures as are necessary to extend those techniques to contract forward pricing and administration purposes. Therefore, these procedures are intended to be completely compatible with, and an extension of, the definitions, criteria and techniques of CAS 414. Contractors who computerize their financial data are encouraged to meet the requirements of both CAS 414 and this Part from the same data bank and programs.

3-1300.3 Estimating Business Unit Facilities Capital and Cost of Money.

(a) Two methods are described below for estimating contract facilities capital to be employed and the related cost of money, a "historical" method and a "projected" method. Both use the techniques of CAS 414 and Form CASB-CMF to develop Facilities Capital Cost of Money Factors (CMF) by overhead pools at the business unit level, and then use those factors to estimate Contract Facilities Capital Cost of Money and Contract Facilities Capital Employed on DD Form 1861. The principal differences in the two methods of estimating are (i) the time periods used as a data base, and (ii) the number of Forms CASB-CMF required.

(b) The "historical" method uses business unit facilities capital data from the contractor's latest completed cost accounting period, and therefore uses exactly the same facilities values and allocation bases as are required for retroactive cost determination and/or repricing under CAS 414 and ASPR 15-205.50. This method of estimating facilities capital to be employed, and the related cost of money, assumes that the same relationships of average facilities employed to allocation base units of measure will continue to apply over the contract performance period. It is especially appropriate for a contractor who budgets each year's depreciation for new facilities (a common practice), and therefore maintains a fairly constant level of facilities net book value. It has the advantages of (i) maximum simplicity, and (ii) congruence with the retroactive cost determination and repricing mentioned above. Therefore prompt completion of one Form CASB-CMF immediately following completion of each cost accounting period will serve the dual purpose of retroactive repricing under CAS 414, and forward pricing under this Part.

(c) The "projected" method uses the same Form CASB-CMF and CAS 414 techniques, but draws its data from budgetary projections for future time periods. Separate Forms CASB-CMF must be submitted for each contractor cost accounting period impacted by negotiated contract performance periods, and therefore different sets of Cost of Money Factors are developed for each cost accounting period. In this respect, "projected" CMF's are similar to Forward Pricing Rate Agreements (FPRA's), and will normally be submitted and evaluated as complementary documents and procedures. The inclusion or exclusion of facilities net book values should be consistent with the allowability or unallowability of costs generated by those facilities, for overhead and pricing purposes. This method has the disadvantage of more forms, complexity and softer data, but is the only way to accommodate and reflect major changes in the level of facilities net book values, e.g., major plant additions for a new program or the decrease of facilities by sale, abandonment or other disposal.

(d) Use of the "projected" method does not relieve the contractor of annual submissions of "historical" or actual data on Form CASB-CMF, since they serve separate purposes. Projected facilities capital and cost of money are used to develop (i) the facilities investment risk element of a prenegotiation profit objective, and (ii) an interim billing rate for reimbursing the cost of facilities capital employed. Retroactive actual submissions are required when it is necessary to determine final allowable costs for cost settlement and/or repricing in accordance with CAS 414 and ASPR 15-205.50.

(e) The "historical" method will normally be used to estimate projected facilities capital and cost of money. The "projected" method may be used when materially different results would be obtained, such as anticipated new investment or decreases in plant facilities that will materially affect facilities net book values over the life of the contract. When the projected method is used the contractor should justify the proposal by reasonable identification of the facilities to be acquired or disposed of, with a time-phased program, both of which should be supported by his capital budget. A contractor's proposal under the "projected" method will be reviewed by the auditor and ACO, usually in connection with negotiating FPRA'S, and recommendations made to the PCO. The PCO's decision to accept the "projected" method should balance the materiality of the effect of facilities increases or decreases justified, against the added complexity and administrative burden of evaluating the proposal.

(f) Under either method of estimating, only the most recent interest rate determined by the Secretary of the Treasury pursuant to P.L. 92-41 (85 Stat. 97) will be used as the cost of money rate in Column i of Forms CASB-CMF. Therefore only one rate will be used in the estimating process regardless of the length of the contract term, and that same rate must be used on DD Form 1861 to determine Contract Facilities Capital Employed (see 3-1300.4(c) below).

3-1300.4 Contract Facilities Capital Estimates.

(a) After determination of whether to use the "historical" or "projected" methods and submission of appropriate Forms CASB-CMF as described above, the PCO is in a position to estimate the facilities capital cost of money and capital employed for a contract proposal. DD Form 1861 "Contract Facilities Capital and Cost of Money" has been provided for this purpose and, properly completed, becomes a connecting link between the Forms CASB-CMF and DD Form 1547 "Weighted Guidelines Profit/Fee Objective." An evaluated contract cost breakdown, reduced to the contracting officer's prenegotiation

cost objective, must be available. The procedure is similar to applying negotiated and approved overhead rates to appropriate overhead allocation bases to determine contract overhead costs.

(b) DD Form 1861 provides for listing overhead pools and direct-charging service centers (if used) in the same structure they appear on the contractor's cost proposal and Forms CASB-CMF. The structure and allocation base units-of-measure must be compatible on all three displays. If the "projected" method is used, each overhead pool must be further broken down by years to match the separate "projected" Forms CASB-CMF. If the "historical" method is used, this yearly breakdown is not required. Appropriate contract overhead allocation base data are extracted from the evaluated cost breakdown or prenegotiation cost objective, and listed against the above pool-year structure. Facilities Capital Cost of Money Factors are extracted from the appropriate (historical or projected) Forms CASB-CMF and likewise listed against the pool-year structure. Each allocation base is multiplied by its related factor to get the Facilities Capital Cost of Money estimated to be incurred in each pool-year. The sum of these segments represents the estimated Contract Facilities Capital Cost of Money.

(c) Since the Facilities Capital Cost of Money Factors reflect the applicable cost of money rate in Column 1 of Form CASB-CMF, the Contract Facilities Capital Employed can be determined by dividing the contract Cost of Money by that same rate. DD Form 1861 is designed to record and compute all the above in the most direct way possible, and the end result is the Contract Facilities Capital Cost of Money and Capital Employed which is carried forward to DD Form 1547.

3-1300.5 Pre-Award Facilities Capital Applications. Facilities Capital Cost of Money and Capital Employed as determined above, are applied in establishing cost and price objectives as follows:

(a) Cost of Money.

(1) Cost Objective. This special, imputed cost of money shall be used, together with normal, booked costs, in establishing a cost objective or the target cost when structuring an incentive type contract. Target costs thus established at the outset, shall not be adjusted as actual cost of money rates become available for the periods during which contract performance takes place.

(2) Profit Objective. Cost of money shall not be included as part of the cost base when measuring the contractor's effort in connection with establishing a pre-negotiation profit objective. The cost base for this purpose shall be restricted to normal, booked costs.

(b) Facilities Capital Employed. The profit objective as it relates to the risk associated with facilities capital employed shall be assessed and weighted in accordance with the profit guidelines set forth in 3-808.7.

3-1300.6 Reserved.

3-1300.7 Post Award Facilities Capital Applications.

(a) Interim Billings Based on Costs Incurred. Contract Facilities Capital Cost of Money may be included in cost reimbursement and progress payment invoices. The amount that qualifies as cost incurred for purposes of the "Cost Reimbursement, Fee and Payment" or "Progress Payment" clause of the contract is the result of multiplying the incurred portions of the overhead pool allocation bases by the latest available Cost of Money Factors. Like applied overhead at forecasted overhead rates, such computations are interim estimates subject to adjustment. As each year's data are finalized by computation of the actual Cost of Money Factors under CAS 414 and ASPR 15-205.50, the new factors should be used to calculate contract facilities cost of money for the next accounting period.

(b) Final Settlement. Contract facilities capital cost of money for final cost determination or repricing is based on each year's final Cost of Money Factors determined under CAS 414 and supported by separate Forms CASB-CMF. Contrary to projection of contract cost of money under the "historical" method, each year of contract performance must be separately computed in a manner similar to yearly final overhead rates. Also like overhead costs, the final settlement will include an adjustment from interim to final contract cost of money. However estimated or target cost will not be adjusted.

3-1300.8 Administrative Procedures.

(a) Contractor submission of Forms CASB-CMF using either the "historical" or "projected" method of forecasting will normally be initiated under the same circumstances as Forward Pricing Rate Agreements (see ASPR 3-807.12(b)), and be evaluated as complementary documents and procedures. The "historical" method requires only one Form CASB-CMF, which also serves to finalize facilities cost of money for the prior period, while the "projected" method requires separate Forms for each prospective cost accounting period during which Government contract performance is anticipated. If the contractor does not annually negotiate FPRA's, submissions may nevertheless be made annually or with individual contract pricing proposals, as agreed to by the contractor and the cognizant ACO. The cognizant ACO shall, with the assistance of the cognizant auditor, evaluate the facilities capital data and cost of money factors, and retain approved factors with other negotiated forward pricing data and rates.

(b) When a contracting officer uses the Weighted Guidelines method of determining a profit objective under the criteria of ASPR 3-808.2, he will complete a DD Form 1861 "Contract Facilities Capital and Cost of Money" after evaluating the contractor's cost proposal and determining his pre-negotiation cost objective, but before completing a DD Form 1547 "Weighted Guidelines Profit/Fee Objective." At his option, a PCO may request the cognizant ACO to complete the DD Form 1861 in connection with normal field pricing support under ASPR 3-801.5, and include it in his field pricing support report with appropriate evaluation comments and recommendations.

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(c) If the "projected" method was used for projecting Facilities Cost of Money Factors, a final Form CASB-CMF must be submitted by the contractor under CAS 414 as soon after the end of each cost accounting period as possible, for the purpose of final cost determinations and/or repricing. In this event the submission should accompany the contractor's proposal for actual overhead costs and rates, and be evaluated as complementary documents and procedures.

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ITEM III -- COST OF MONEY FOR FACILITIES CAPITAL EMPLOYED AS AN
ALLOWABLE COST

15-205.50 covers a cost principle relative to the recognition
of cost of money for facilities capital as an allowable cost.

15-205.50 Facilities Capital Cost of Money (CWAS-NA)

(a) Facilities capital cost of money (Cost of Capital Committed to Facilities) is an imputed cost determined by applying a cost of money rate to facilities capital employed in support of Defense contracts. A cost of money rate is derived from a common source and uniformly imputed to all contractors. Capital employed is determined without regard to its source as between equity or borrowed capital. The resulting cost of money is an imputed cost and is not a form of interest on borrowings as discussed in 15-205.17.

(b) Facilities capital cost of money is allowable cost provided (i) the contractor's capital investment is measured, allocated to contracts, and costed in accordance with 3-1300, and (ii) the contractor maintains adequate records to demonstrate compliance with item (i).

(c) Cost of money for facilities capital need not be entered on the company's books of account. However, a memorandum entry of the cost shall be made. All relevant schedules, cost data and other data necessary to fully support the entry shall be maintained in a manner to permit audit and verification.

(d) Cost of money which is calculated, allocated and documented in accordance with these regulations shall be deemed an "incurred cost" for cost reimbursement purposes pursuant to the payment provisions of applicable cost type contracts. See E-509.5 re: applicability of cost of money for progress payment purposes under fixed price contracts.

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ITEM IV -- SUPPLEMENTARY INSTRUCTIONS FOR USE OF DD FORM 633

Defense Contractors will calculate the cost of money for Facilities capital employed in accordance with ASAR 3-1300.3 and identify this amount on DD Form 633, line 8 (Other Costs). This is an overhead cost that is separately identified for pricing purposes. The contractor will include information regarding existing facilities and new facility investments for evaluation (see 3-808.7).

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ITEM V -- INCURRED COSTS -- PROGRESS PAYMENTS

To provide for the inclusion of the facilities capital cost of money in the cost base for progress payment purposes, E-509.5 is revised as follows:

E-509.5 Incurred Costs.

Add the following at the end of the first full paragraph:

Facilities capital cost of money, which is recognized as an allowable cost by 15-205.50, shall be deemed an incurred cost for progress payment purposes. When this cost is allocated in compliance with 3-1300 and records are maintained in accordance with 15-205.50, it shall be a "properly allocable and allowable indirect cost as shown by records maintained by the contractor" within the meaning of that requirement as included in the Computation of Amounts provision of the uniform Progress Payment clause set forth in 7-104.35.

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ITEM VI -- DD FORM 1547 - WEIGHTED GUIDELINES PROFIT/FEE OBJECTIVE

This revised Item replaces the 1 September 1972 edition of this form. Editions prior to the new 1976 form are obsolete.

WEIGHTED GUIDELINES PROFIT/FRE OBJECTIVE				
CONTRACTOR:		RFP/CONTRACT PLAN NO:		
BUSINESS UNIT:		CONTRACT TYPE:		
ADDRESS:				
Profit Factors	Measurement Base (a)	Weight Range	Assigned Weight	Profit/Fee Dollars (b)
PART A - CONTRACTOR EFFORT				
MATERIAL ACQUISITION	\$	%	%	\$
Subcontracted Items		1 to 5		
Purchased Parts		1 to 5		
Other Material		1 to 5		
ENGINEERING - Direct Labor		9 to 15		
- Overhead		6 to 9		
MANUFACTURING - Direct Labor		5 to 9		
- Overhead		4 to 7		
OTHER COSTS				
GENERAL MANAGEMENT - G&A		6 to 8		
PROFIT SUBTOTAL	XXXXXXXXXXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
ADJUSTMENT FACTOR	XXXXXXXXXXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	8.7
1. TOTAL EFFORT		XXXXXXXXXX	XXXXXXXXXX	
PART B - CONTRACTOR RISK				
2. COST	(Line 1a)	0 to 8		
PART C - FACILITIES INVESTMENT				
3. CAPITAL EMPLOYED		6 to 10		
4. BASIC PROFIT OBJECTIVE	(Lines 1 + 2 + 3)			
PART D - SPECIAL FACTORS				
Foreign Military Sales		1 to 4		
Productivity (ASPR 3-803.8)				
Independent Development (Line 1a)		1 to 4		
Other (Line 4)		-5 to +5		
5. SPECIAL PROFIT OBJECTIVE				
6. TOTAL PROFIT OBJECTIVE	(Lines 4 + 5)			

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ITEM VII - DD FORM 1861 - CONTRACT FACILITIES CAPITAL AND COST
OF MONEY

This revised Item replaces the 1 September 1972 edition of DD Form 1861 in DPC 75-1. Editions prior to the new 1976 form are obsolete.

This Item is to be used to compute the facilities capital employed on a specific contract and the cost of money.

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INSTRUCTIONS FOR DD FORM 1861

CONTRACT FACILITIES CAPITAL AND COST OF MONEY

PURPOSE. The purpose of this form is to compute the estimated facilities capital to be employed for a specific contract proposal. An intermediate step is to compute the estimated facilities capital cost of money, using the Facilities Capital Cost of Money Factors developed on Form(s) CASB-CMF. This procedure is intended to be fully compatible with Cost Accounting Standard 414 "Cost of Money as an Element of the Cost of Facilities Capital," and extend those criteria and techniques to prospective periods for forward pricing purposes. ASPR 3-1300 should be referred to for applicability and further explanation.

IDENTIFICATION. Identify the contractor, business unit and address. Identify the specific RFP or contract to which the computation pertains, by PIIN number. Identify the estimated performance period of the contract.

OVERHEAD POOLS (Col. 1). List all business unit overhead pools and direct-charging service/support centers whose costs will be allocated to this contract. The structure must be compatible with the contractor's cost proposal and Form(s) CASB-CMF.

COST ACCOUNTING PERIOD (Col. 2). This column is used only for the "projected" method of estimating contract facilities capital employed and cost of money. Each Overhead Pool listed must be further broken down by each Cost Accounting Period impacted by the Performance Period of the contract. The yearly breakdown must also correspond to yearly overhead allocation bases in the contractor's cost proposal, and to separate Forms CASB-CMF for each year listed. If the "historical" method is used, the column should be ignored.

CONTRACT OVERHEAD ALLOCATION BASE (Col. 3). For each Overhead Pool and Cost Accounting Period listed, record the same Contract Overhead Allocation Base amounts used in the pricing report to derive the pre-negotiation cost objective. Such amounts should be the same as those used for burdening contract overhead or applying service/support center use charges. The base units-of-measure (e.g., Direct Labor Dollars, Direct Labor Hours, Direct Material Dollars, etc.) must agree with those used on the Form(s) CASB-CMF.

FACILITIES CAPITAL COST OF MONEY FACTORS (Col. 4). Carry forward the appropriate estimated Facilities Capital Cost of Money Factors from the Form(s) CASB-CMF. Business units, overhead pools and cost accounting periods must agree.

FACILITIES CAPITAL COST OF MONEY AMOUNT (Col. 5). The product of each Contract Overhead Allocation Base (Col. 3) multiplied by its related Facilities Capital Cost of Money Factor (Col. 4).

CONTRACT FACILITIES CAPITAL COST OF MONEY (). The sum of Col. 5. This represents the contract's allocable share of business unit's estimated cost of money for the cost accounting period(s) impacted by the contract performance period. Therefore it represents a portion of the total(s) of Col. 5 of Form CASB-CMF.

FACILITIES CAPITAL COST OF MONEY RATE (Line 7). The same Cost of Money Rate used in Col. 1 of the Form(s) CASB-CMF. Only one rate will be used in the facilities capital estimating process regardless of the length of the contract performance period.

CONTRACT FACILITIES CAPITAL EMPLOYED (Line 8). The quotient of Line 6 divided by Line 7. This represents the contract's allocable share of the business unit's estimated facilities value for the cost accounting period(s) impacted by the contract. Therefore it represents a portion of the total(s) of Col. 4 of Form CASB-CMF.

ITEM VIII -- EXAMPLE OF APPLICATION OF NEW PROFIT POLICY

EXAMPLE

ABC CORPORATION

The following example of the application of the new Department of Defense profit policy is based on the example accompanying Cost Accounting Standard 414 "Cost of Money as an Element of the Cost of Facilities Capital" (incorporated in ASPR Appendix O), which should be reviewed for the source, measurement and allocation of the facilities values used on Form CASB-CMF, and computation of the Facilities Capital Cost of Money Factors. Note that the amount of facilities capital allocated to the example contract is not representative of any class of DoD contract.

The example DD Form 1861 shows how business unit Cost of Money Factors are applied to contract proposed Overhead Allocation Bases to compute the estimated Contract Facilities Capital Cost of Money and Capital Employed. The example DD Form 1547 shows how the contract estimated costs and estimated capital employed are used in the new "Weighted Guidelines Profit/Fee Objective" format to compute a pre-negotiation profit objective.

The example has not been completed by the assignment of specific weights to profit factors and computation of a Total Profit Objective, for the reasons that such extension would be meaningless in a hypothetical case, and would distract from illustration and understanding of how the profit factor measurement bases are determined.

APPENDIX A
 FACILITIES CAPITAL
 COST OF MONEY FACTORS COMPUTATION
 ("Regular" Method)

FORM C-58-D-CMF		ADDRESS:												
CONTRACTOR: ABC Corporation		BUSINESS UNIT: A Division		2. ACCUMULATION & DIRECT DISTRIBUTION OF H.B.V.		3. ALLOCATION OF UNDISTRIBUTED	4. TOTAL NET BOOK VALUE	5. COST OF MONEY FOR THE COST ACCOUNTING PERIOD	6. ALLOCATION BASE FOR THE PERIOD	7. FACILITIES CAPITAL COST OF MONEY FACTORS				
COST ACCOUNTING PERIOD: (Historical) Y.E. 12/31/75		1. APPLICABLE COST OF MONEY RATE 8.0%	8,270,000	BASIS OF ALLOCATION	COLUMNS 2+3	COLUMNS 1X4	IN UNIT(S) OF MEASURE	COLUMNS 5+6						
BUSINESS UNIT FACILITIES CAPITAL	RECORDED		8,270,000	UNDISTRIBUTED	COLUMNS 2+3	COLUMNS 1X4								
	LEASED PROPERTY													
	CORPORATE OR GROUP		450,000											
	TOTAL		8,720,000											
OVERHEAD POOLS	UNDISTRIBUTED		3,450,000	DISTRIBUTED	COLUMNS 2+3	COLUMNS 1X4								
	DISTRIBUTED		5,270,000											
	Engineering		320,000							756,000	1,076,000	86,080	2,000,000	.04304
	Manufacturing		4,500,000							2,250,000	6,750,000	540,000	3,000,000	.18000
G&A EXPENSE POOLS	Technical Computer			444,000	444,000	35,520	2,280 hr	15.57895						
	G&A Expense		450,000		450,000	36,000	36,700,000	.00098						
TOTAL			5,270,000	3,450,000	8,720,000	697,600	//////	//////						

WEIGHTED GUIDELINES PROFIT/FEE OBJECTIVE				
CONTRACTOR: ABC Corporation			RFP/CONTRACT PIIN NO:	
BUSINESS UNIT: A Division			CONTRACT TYPE:	
ADDRESS:				
Profit Factors	Measurement Base (a)	Weight Range	Assigned Weight	Profit/Fee Dollars (b)
PART A - CONTRACTOR EFFORT				
MATERIAL ACQUISITION	\$	%	%	\$
Subcontracted Items	990,000	1 to 5		
Purchased Parts	85,000	1 to 4		
Other Material		1 to 4		
ENGINEERING - Direct Labor	330,000	9 to 15		
- Overhead 80%	264,000	6 to 9		
MANUFACTURING - Direct Labor	1,210,000	5 to 9		
- Overhead 200%	2,420,000	4 to 7		
OTHER COSTS				
Technical Computer (280 hrs)	70,000			
Total Cost Input	5,369,000			
GENERAL MANAGEMENT - G&A 8.99%	483,000	6 to 8		
PROFIT SUBTOTAL	XXXXXXXXXXXXXXXXXX	XXXXXXXX	XXXXXXXX	
ADJUSTMENT FACTOR	XXXXXXXXXXXXXXXXXX	XXXXXXXX	XXXXXXXX	X .7
1. TOTAL EFFORT	5,852,000	XXXXXXXX	XXXXXXXX	
PART B - CONTRACTOR RISK				
2. COST (Line 1a)	5,852,000	0 to 8		
PART C - FACILITIES INVESTMENT				
3. CAPITAL EMPLOYED	3,020,325	6 to 10		
4. BASIC PROFIT OBJECTIVE	(Lines 1 + 2 + 3)			
PART D - SPECIAL FACTORS				
Foreign Military Sales		1 to 4		
Productivity (ASPR 3-803.8)				
Independent Development (Line 1a)		1 to 4		
Other (line 4)		-5 to +5		
5. SPECIAL PROFIT OBJECTIVE				
6. TOTAL PROFIT OBJECTIVE	(Lines 4 + 5)			

Chapter VIII

REPORT OF THE SPECIAL ADVISORY COMMITTEE

By July 1976, the Profit '76 Study Team had accumulated much data, conducted extensive analysis, and formulated a number of alternative policy changes. The basic elements of a tentative new policy had been shaped, but a few key issues remained unsettled. Moreover, the Study Director felt that, before making a final judgment on a new policy, it would be well to make a summary review of the study from its inception, and to assess whether the approach had been sound, and whether the information and analysis developed supported the tentative study conclusions.

In order to achieve complete objectivity, and to seize the benefit of the best informed and most authoritative judgment available, a Special Advisory Committee was convened under the provisions of Public Law 92-463. The panel consisted of recognized experts from industry and the academic world, knowledgeable in Government, and prominent in the fields of business, finance, and economics. Following is the report of that Committee.

August 9, 1976

SPECIAL ADVISORY COMMITTEE

Honorable W. P. Clements, Jr.
Deputy Secretary of Defense
The Pentagon
Washington, D.C. 20301

Dear Mr. Secretary:

In accordance with your request of May 12, 1976, a Special Advisory Committee, convened under the provisions of Public Law 92-463 and Department of Defense Directive 5105.18, conducted a two day review of the Profit '76 Study on July 19 and July 20, 1976. The agenda of the meeting was completed in accordance with the provisions of the Federal Advisory Committee Act and this latter report is being submitted as required by the Act and as requested by your letter.

Briefings of the Special Advisory Committee were given under the able leadership of Brigadier General James W. Stansberry. Our Committee was very impressed with the competence, subject knowledge, and presentation ability of each of the study staff personnel. It is our unanimous opinion that the Profit '76 study itself was an extremely thorough, well-balanced and professional effort.

In convening the Special Advisory Committee, you asked that we review the processes by which the study was conducted, the analytical methods employed and, in a short letter report, provide you with a collective judgment regarding the results. In reaching our judgment, as outlined in the following paragraphs, we have been briefed on prior studies and have reviewed related material as well as the data analysis of the current study. We have accepted the stated opinion of Coopers & Lybrand that the data submitted by Defense Contractors and reviewed by audit firms is reliable for the purposes of this study.

We believe that a profit policy which over emphasizes cost and under emphasizes investment tends to discourage efficient production. Therefore, we support the thrust of the proposed revision in policy which would provide for specific recognition of investment by contractors

We understand the rationale behind the relatively small weight given to facilities investment on the proposed revision to D.D. Form 1547 (Weighted Guidelines Profit/Fee Objectives), but we are of the opinion that it is not of sufficient magnitude to create a positive incentive for new cost-effective investment. For this reason, we would suggest that you may wish to increase the weight given facilities investment progressively. It would also seem to us appropriate and desirable to include working capital in the formula when the CASB adopts a Standard on that subject. In the interim, we would urge an aggressive approach towards the use of supplementary techniques to encourage contractors to

make capital investment in cost-reducing facilities. We were impressed with the potential benefit to be realized through the cost savings sharing approach of the "productivity award" and the value engineering incentive techniques, as well as the use of the award fee technique to encourage new investment. All of these suggestions point to a more equitable distribution of profit from giving consideration to return on investment.

We would caution against any assumption that overall contractor risk is measured exclusively by the type of contract negotiated. Defense contractors are subject to other significant risks, such as the instability of defense business in specific product lines, which, in turn, results in the placement of the defense industry in a higher risk classification by the financial community. Any incentive which might encourage contractors to agree to the wrong type of contract for the specific production could prove counter-productive. As a suggestion for future consideration, the profit factor for the Part B, Contractor Risk portion of D.D. Form 1547 might well consider facilities investment as well as operating costs.

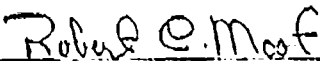
Our Committee, in reviewing the data presented relative to the adequacy of the defense industrial base, could not evaluate the degree, if any, that erosion of the base was taking place. Although the size of the base may be under adjustment to conform to the changing volume of defense procurement, there was no evidence of great difficulty in placing required procurements. We would, however, urge that necessary effort be exerted to keep in the defense industrial base large commercial producers, such as General Motors, as well as encouraging diversification by those producers whose output is 80% to 100% for defense.

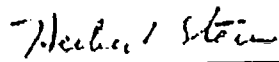
We reviewed the interrelated potential impact of CAS 409, CAS 414 and the proposed profit policy. From the data presented, we conclude that the cost advantage to the contractor of the progressive implementation of CAS 414 far outweighs any temporary cash flow disadvantage of CAS 409. Although we did not conclude from the data presented that the "average" rate of return on investment earned by defense contractors was too high or too low, we are of the opinion that it would not be equitable to implement CAS 414 in a manner which would increase the overall profit of all contractors. We recommend that the weight range of the profit objective on D.C. Form 1547 be modified to provide for an offset to the estimated overall 1% cost increase attributable to CAS 414. Such an approach will hold average price and profit constant, while at the same time rewarding those contractors with a greater facilities investment. If, at the same time, steps are taken to encourage new cost-reducing facility investment, it is our opinion that significant benefits can be realized, including lower prices to the government which would not be inconsistent with higher profits to those contractors who had done most to reduce costs.

The Special Advisory Committee is convinced that the benefits possible under the proposed policy revision will not be realized unless special care is taken to assure a full understanding of objectives and methods on the part of contracting officers and commanders of buying organizations throughout the Department of Defense. This is so because the greatest benefit will be derived through developing custom-tailored approaches for large negotiated contracts. Defense contracting personnel must use profit negotiation as a tool to focus on the reduction of the approximate 90% of contract price without sacrifice of quality and with the collateral objective of broadening the competitive industrial base.


The Special Advisory Committee has found this assignment interesting, challenging and important. Sound implementation of the policy will significantly improve the resource allocation process of the Department of Defense and the Federal Government, and at the same time strengthen our national competitive industrial base. We would like to express our appreciation for the outstanding staff work of General Stansberry and his associates from the Department and those outside consultants who participated in the study.

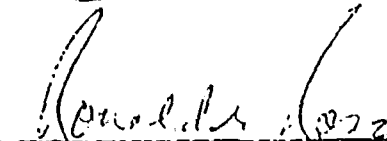
Sincerely,


ROBERT C. MOOT
Chairman


HERBERT STEIN


RONALD FOX


HERMAN W. DAVIS


RONALD G. ROSS

Chapter IX

The following is a detailed summary of the results of the entire effort. It was used as Deputy Secretary Clements' full report to the Joint Committee on Defense Production.

STATEMENT OF

MR. WILLIAM P. CLEMENTS
DEPUTY SECRETARY OF DEFENSE

CLEARED
FOR PUBLICATION

NOV 15 1976 3

Before

DIRECTORATE OF DEFENSE PRODUCTION
& ASSISTANT SECRETARY FOR
DEFENSE PRODUCTION
DEPARTMENT OF DEFENSE

The
JOINT COMMITTEE ON DEFENSE PRODUCTION

On

18 NOVEMBER 1976

"DEPARTMENT OF DEFENSE CONTRACT PROFIT POLICY"

Senator Proxmire and members of the committee, thank you for the opportunity to discuss with you the new Department of Defense (DoD) profit policy.

We have been mindful for some time of the need to improve our profit policy so as to help us accomplish a key objective of the Department of Defense - to strengthen the defense industrial base. Today's sophisticated weaponry is expensive; therefore the industry which serves our defense needs must be as efficient and cost-effective as possible.

We have suspected for some time that the defense industrial base was suffering from a low level of private investment, and have suspected that low level is in part traceable to a relatively low level of profitability. It is axiomatic that business flourishes in an atmosphere which makes it possible to earn a fair level of profit. The rule is equally valid when business deals with the DoD, and it works to the Government's advantage for a number of reasons:

- o It attracts good performers to do business with the Government
- o It makes for a healthy and competitive environment
- o It enables contractors to invest in new and efficient plant equipment with ultimate reduction in cost.

In order to gain a detailed understanding of this matter, in May 1975 the Profit '76 study was chartered by me and led by Deputy Assistant Secretary Dale R. Babione and Brigadier General James W. Stansberry under the supervision of Assistant Secretary Frank A. Shrontz. The goal of the study was to develop any policy revisions considered necessary to encourage private investment in cost-reducing equipment. The basic approach was to compare earnings and investment data between defense and commercially oriented companies.

We sought widespread participation in the study throughout government. The Military Departments became actively involved as did the Joint Logistic Commanders (JLCs). A high-level steering committee consisting of the Assistant Secretaries of Defense for both Installations and Logistics and Comptroller, as well as the Assistant Secretaries (I&L) of the Military Departments, exercised guidance and surveillance throughout the course of the study. We dealt extensively with representatives of the General Accounting Office (GAO), the Cost Accounting Standards Board, the Office of Federal Procurement Policy, and many other interested offices.

In any evaluation of investment and earnings, the

key to success is reliable data. Our collection and analysis of data was a carefully phased effort. First, we discussed in detail with industry, the GAO, accounting firms and others the data elements required. We requested the participation of 133 major defense contractors that supply weapon systems and hardware. The data from the participating contractors was submitted to their certified public accountants (CPAs). The accounting firms of each participating company made a thorough, independent check of the collected data. Finally, the figures were further reviewed and analyzed by a CPA firm working under contract to the DoD. Ultimately our CPA firm received data from 76 companies. They rejected the data from 12 of the companies based on either their own review or that of the company's own CPA firm. The final analysis was then based on data from 64 companies (147 defense oriented profit centers) with an aggregate sales data for government business averaging \$15.5 billion annually during the five year period from 1970 through 1974. As a result of the close coordination and comprehensive reviews, we obtained a high level of confidence in the data developed.

We also collected considerable data (\$8.5 billion annually) on the commercial operations of companies doing business with the DoD. This data, while

valuable for certain purposes, was not considered sufficiently typical for all commercial endeavors for us to base prime earning comparisons on it, and it alone. Therefore, a second set of figures was constructed from the same five year sample period utilizing data routinely gathered by the Federal Trade Commission (FTC) on 5,000 corporations producing durable goods with aggregate average sales of \$450 billion annually. We believe that the FTC data offers the best overall reflection of profitability in the commercial business world; for that reason, our comparisons are based primarily on that data.

I would now like to turn to our data analysis results. Looking at the return on sales, figure 1 displays the time trends of pre-tax profitability for commercial and government profit centers and for the FTC Durable Goods Producers. As noted on the chart, the commercial profit centers reported a five year average of 17.1%, which is roughly 2 1/2 times the FTC Durable Goods average of 6.7%. The five year average of the government oriented profit centers was 4.7%, which is 2.0% below the FTC average. This relationship of lower earnings on sales has also been noted in past profit studies.

PROFITABILITY -- RETURN ON SALES PROFIT BEFORE TAXES/SALES

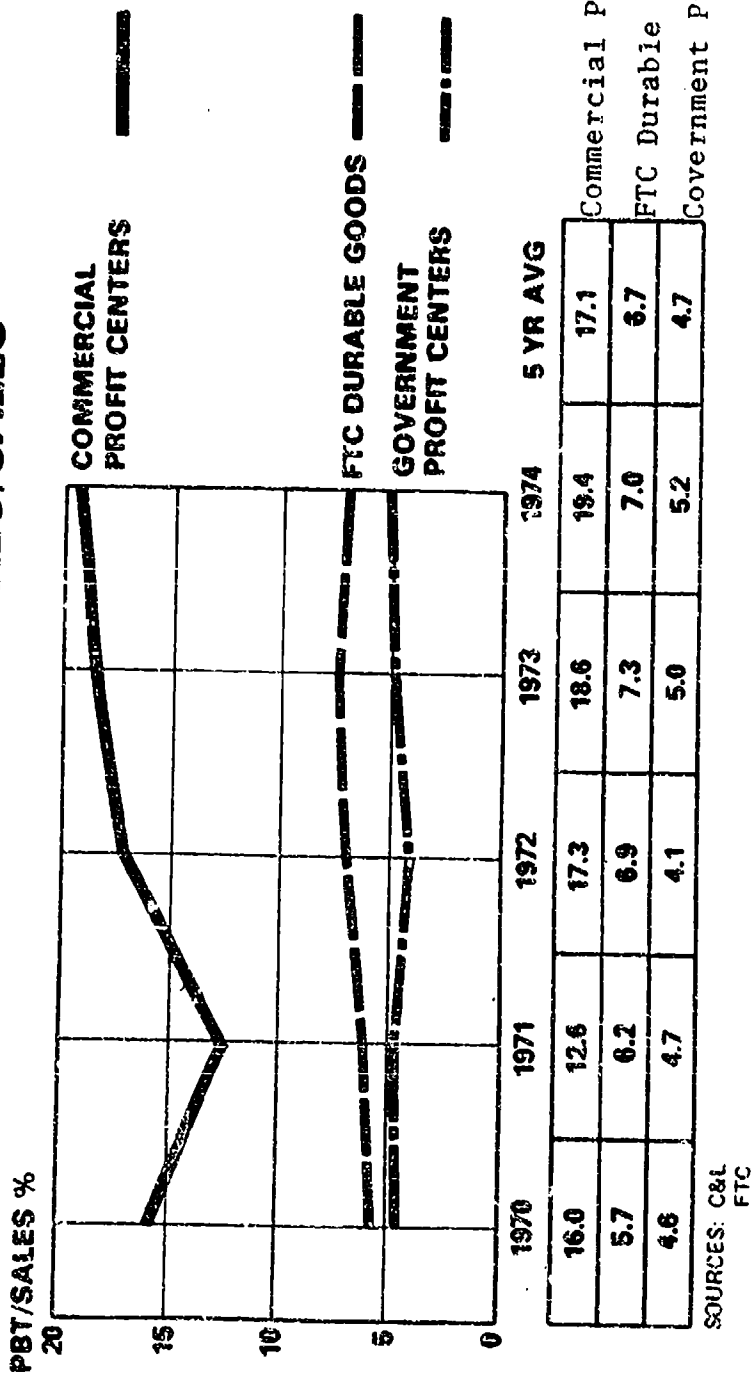
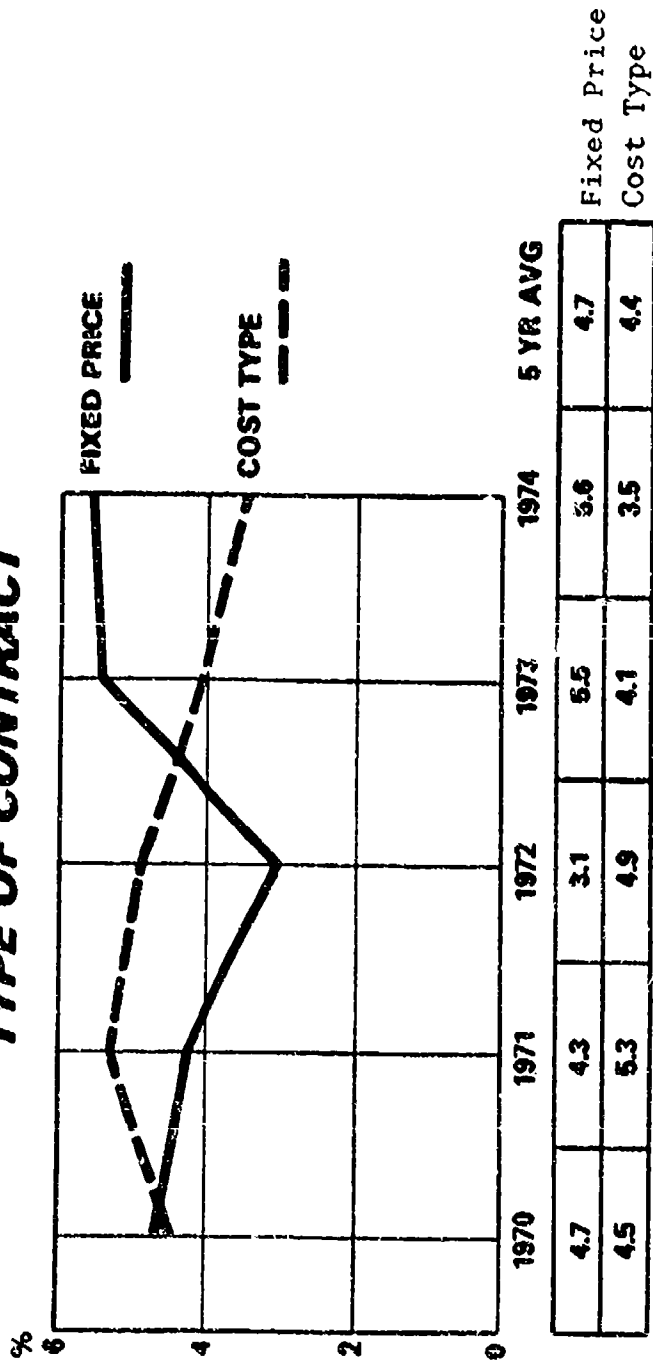


FIGURE 1

We also collected profit data by type of contract. Figure 2 compares the profitability of fixed price with cost type contracts. The fixed price type of contract, which includes fixed price incentive, averaged 4.7% over the five year period. The cost type contract five year average was 4.4%, which is only .3% lower than the fixed price average. This relationship appears disproportionate since a contractor with a fixed price contract assumes a significantly greater risk and should be able to earn more profit than a contractor with a cost type contract. We have recognized this as a problem to be dealt with in our revision to the profit policy. Of course, proper selection of contract type is also essential in order to improve the spread in realized profits between cost type and fixed price contracts. We feel that we are doing a better job now and that is reflected in the data for 1974.

**PROFITABILITY — RETURN ON SALES
PROFIT BEFORE TAXES/SALES BY
TYPE OF CONTRACT**



SOURCE: C&I

FIGURE 2

Up to this point, we have focused on realized profits; however, it is important to note that there is a difference between realized profits and negotiated profits. This difference is reflected in figure 3 which displays the negotiated vs realized profits for the five years covered in the study. The principal elements are as follows:

- o Negotiated. The average profit for all types of DoD contracts during the five year period was 8.8% of sales.

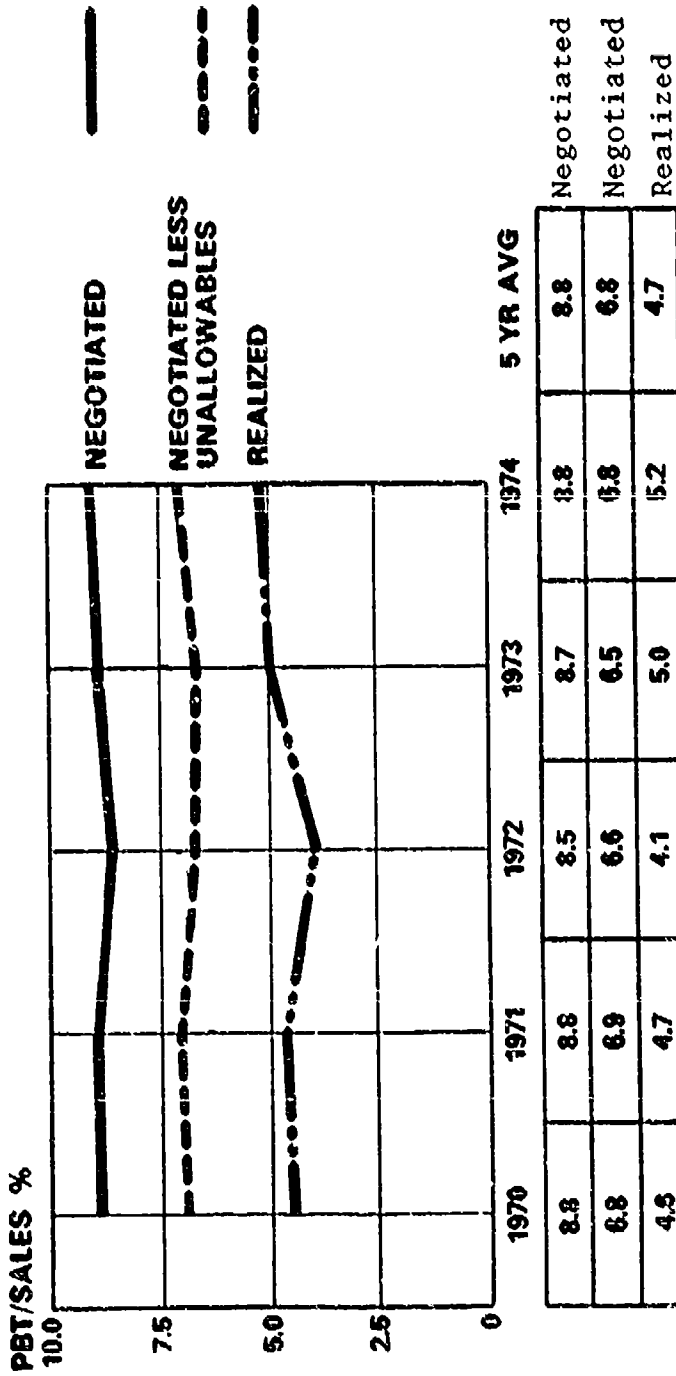
- o Negotiated less Unallowables. One of the objectives of the profit study was to determine the impact of unallowables on earnings. The data indicated that ASPR XV unallowables (interest, contributions, IR&D/B&P in excess of ceiling, etc.) average about 2.0% of sales; consequently, if defense contractors could realize the negotiated profit rate less unallowables, the earnings of 6.8% would be very close to the FTC average of 6.7%.

- o Realized. The average realized profit rate is 4.7%. This indicates that there is a substantial erosion of the profit rate during contract performance.

This problem must be addressed by both government and contractors

in more realistic initial pricing of the contract.
Improvements in cost control by contractors are also
needed in order to improve the realized profit rate.

**PROFITABILITY — RETURN ON SALES
 PROFIT BEFORE TAXES/SALES
 NEGOTIATED VS REALIZED**



Source: ASD(C)
 C&L

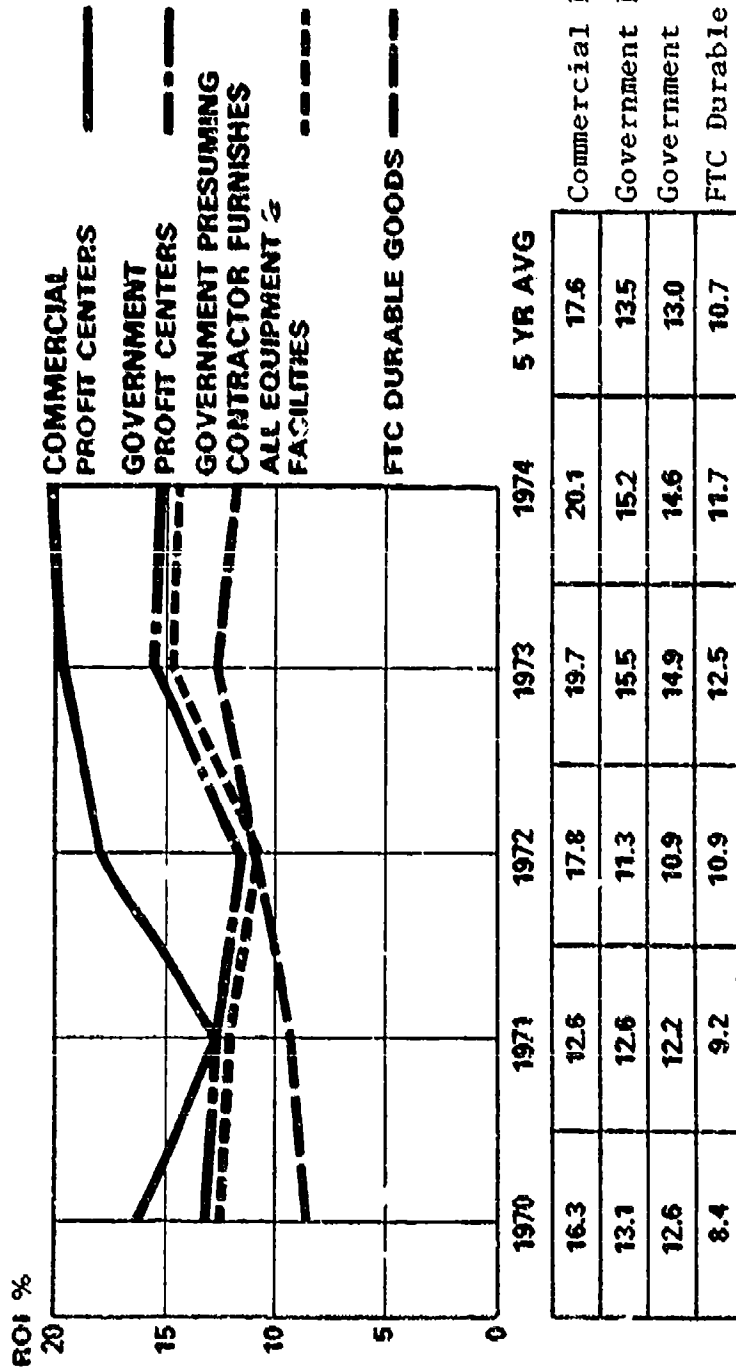
FIGURE 3

Although return on sales is important, it is not the complete measure of profitability. In our economic system, return on investment is a key factor in the allocation of resources. In our study, we used return on total assets less progress and advance payments as the definition of investment to measure return on investment. Advance and progress payments (cost reimbursements on cost type contracts were reported as progress payments for the purposes of the study) were subtracted from the investment base since they represent an investment by the government, not the contractor. This is a conservative definition of investment which fairly portrays the relative levels of investment made by defense and commercial contractors.

In figure 4, the time trends of return on investment for commercial and government profit centers, and for the FTC Durable Goods producers are shown. Commercial profit centers averaged 17.6% for the five year period, which is close to their 17.1% return on sales. Government profit centers averaged 13.5%, which is 2.9 times the return on sales. However, the FTC Durable Goods producers averaged only 10.7% for the five years, which is 1.6 times the return on sales. We thought that the amount of government owned facilities might have contributed to the relatively healthy return on investment for government profit centers.

To assess the impact of these facilities, we computed their net book value so as to approximate the investment that the contractors would carry on their books. Inclusion of government owned facilities at a depreciated value would only decrease the return on investment for these profit centers from 13.5% to 13.0%. Therefore, the return on investment for government profit centers is somewhat more than for the FTC data, and inclusion of the depreciated value of government owned facilities makes little difference in the rate of return.

**PROFITABILITY - RETURN ON INVESTMENT
PROFIT BEFORE TAXES/TOTAL ASSETS
(Less Progress and Advance Payments)**



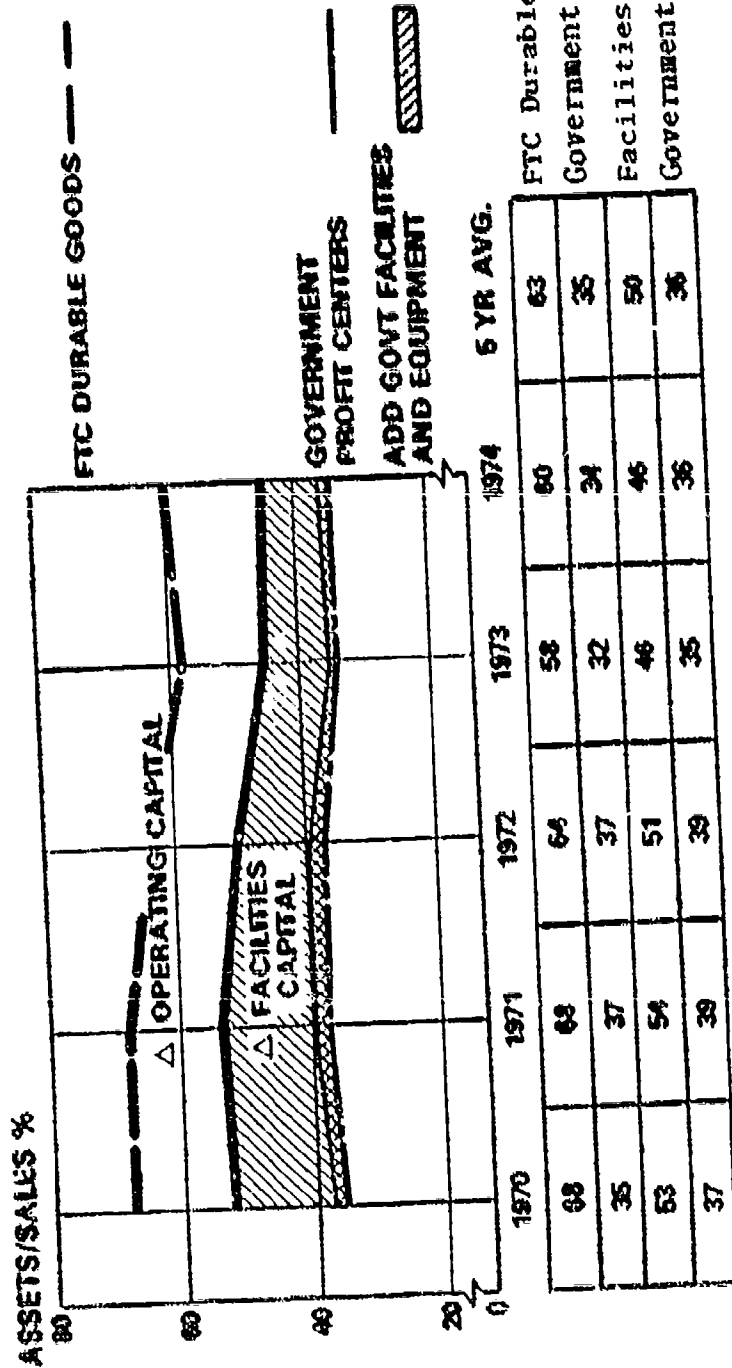
SOURCES: C&L
FTC

FIGURE 4

To better understand how the government return on investment is being realized, we compared the level of investment for government and the FTC. This comparison is shown in figure 5. The FTC data indicates that commercial contractors invest an average of 63¢ for every dollar of sales. Government contractors, on the other hand, invest an average of 35¢ for every dollar of sales. We consider this difference of 28¢ on the sales dollar to be significant. To examine the reasons for this difference, the investment was analyzed in terms of facilities capital (net book value of land, buildings, and equipment) and operating capital (current assets less progress and advance payments). It was found that 15¢ of that difference is the result of a lower level of facilities investment by government contractors, which is noted on figure 5 as the "delta" for facilities capital. The remaining difference of 13¢ is the "delta" for operating capital, which is caused by the difference in financing of government and commercial contracts (i.e., government progress payments). We were also concerned with the effect of government owned facilities on the level of investment; however, we found that by adding the net book value of these facilities the overall investment would only increase 1¢ (35¢ to 36¢). Thinking in terms of a profit policy

that would stimulate investment and productivity, the potential impact is reflected in the "delta" for facilities capital (cross hatched area between the 36¢ level and the 50¢ level).

**PROFITABILITY - RETURN ON INVESTMENT
ASSETS/SALES**



SOURCES: FTC
C&I

FIGURE 5

The level of investment is greatly influenced by the sources of capital available. Although debt is an important source of funds, the major source is from internally generated funds, which is a function of the return on sales. To determine the significance of this relationship, we have examined the interaction between facilities investment and return on sales. Figure 6 shows facilities capital/sales percentages on the left axis and the profit before taxes/sales on the bottom axis for each source of data as shown below:

- o Government Profit Centers. Defense contractors averaged 4.7% return on sales and 10.9% investment in facilities.

- o FTC Durable Goods. The FTC contractors averaged 6.7% return on sales and 26.0% investment in facilities.

- o Commercial Profit Centers. Commercial profit centers averaged 17.1% return on sales and 41.1% investment in facilities.

Looking at the extremes, we note that the investment in commercial profit centers is about 3.7 times the investment in government profit centers. Further, we note that the return on sales for the commercial profit centers is about 3.6 times the return on sales for the government

profit centers. There appears to be a rough correlation between the amount of facilities investment a company is willing to make and the amount of profit dollars that the company can expect to realize from that investment.

In terms of considering productivity, if it is efficient in the commercial marketplace for the FTC Durable Goods producers to employ about 2 1/2 times the amount of facilities per dollar of sales, compared to the defense producer then there are probably productivity gains that could be made if defense contractors increased their investment. An increase in investment should decrease the production cost and the price to government

INTERACTION BETWEEN FACILITIES CAPITAL INVESTMENT AND RETURN ON SALES

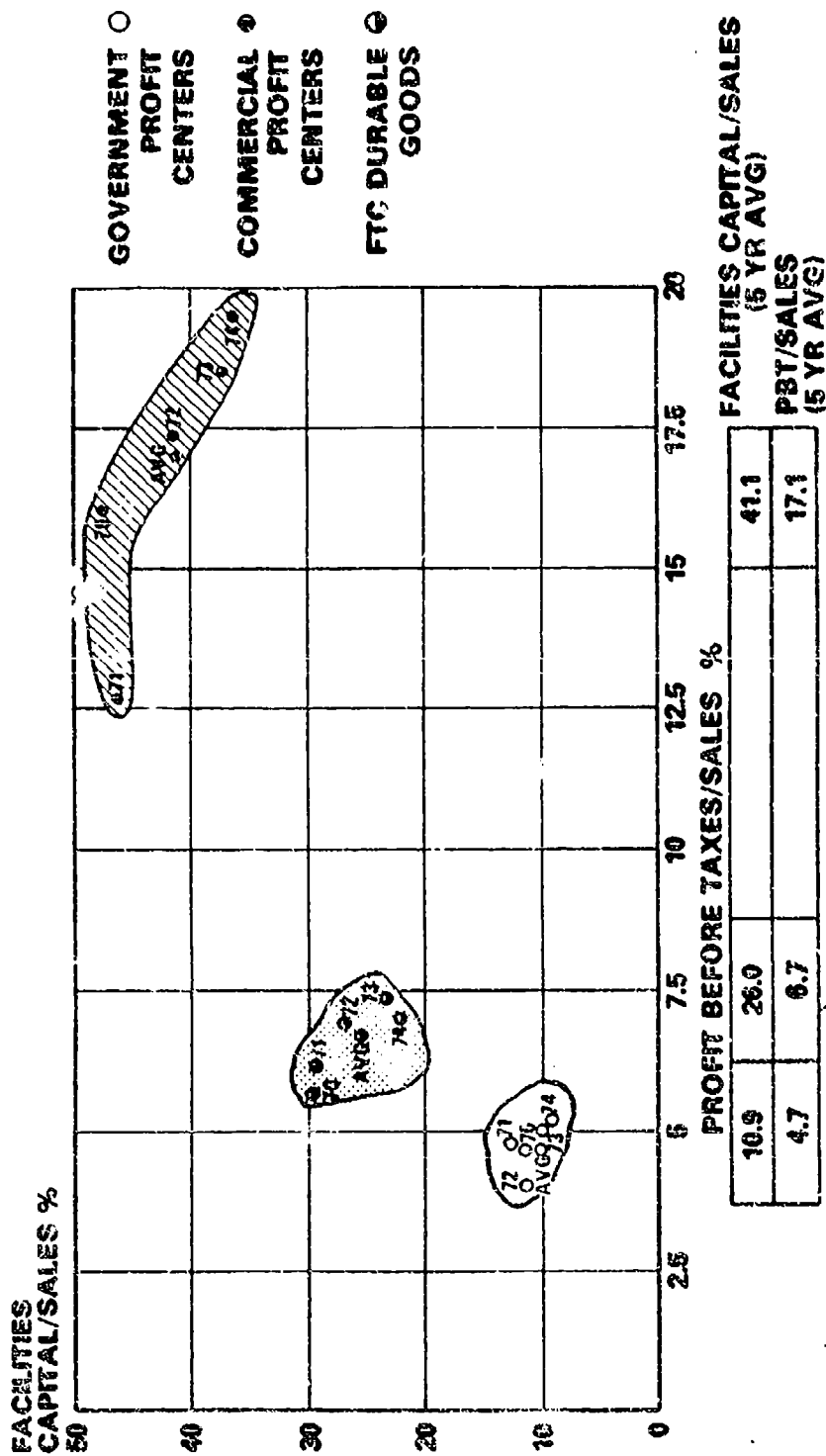


FIGURE 6

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In addition to the interaction of level of investment and return on sales, one has to also consider return on investment. Figure 7 shows the level of investment in terms of sales/asset turnover on the left axis and the profit before taxes/sales on the bottom axis. Turnover refers to the amount of sales generated by a given amount of investment. A turnover rate of one indicates that there is one dollar's worth of investment supporting a dollar in sales. A turnover rate of two indicates that there is 50¢ worth of investment supporting a dollar in sales. A turnover rate of four indicates that there is 25¢ in investment supporting a dollar in sales. The multiple of the turnover rate times the return on sales is the return on investment, which is reflected by the three ISO-ROI lines (5%, 10%, 20%). All three groups are achieving an ROI in the 10-20% range, but it is important to note how they realize these returns. The commercial profit centers maintain a turnover rate of approximately one by realizing a 17.1% return on sales; however, government profit centers with a relatively low return on sales have to achieve a significantly higher turnover of assets. They do this by minimizing their level of investment.

INTERACTION BETWEEN ASSET TURNOVER AND PROFIT ON SALES

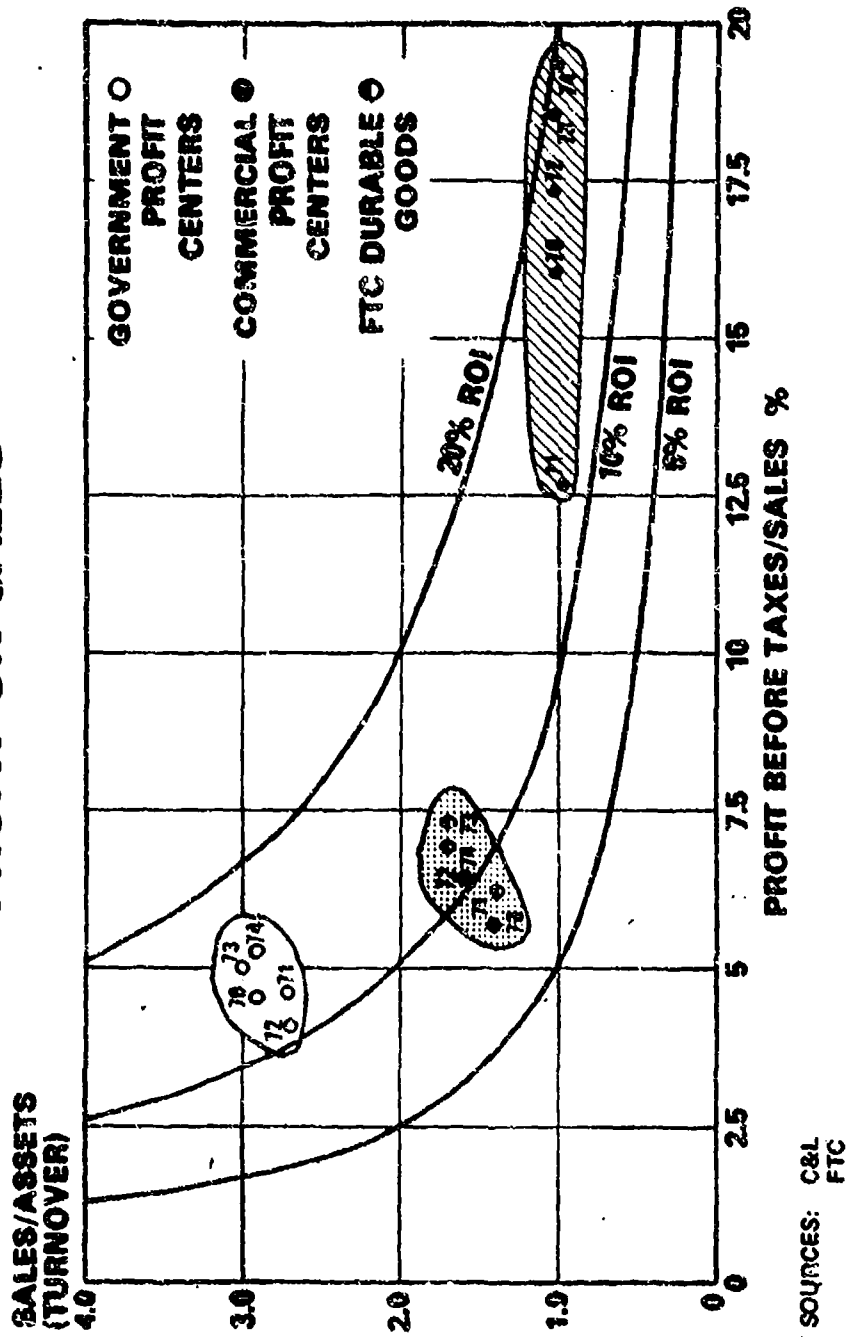


FIGURE 7

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While all of the data we have analyzed was very important in shaping our revised policies, we also paid a great deal of attention to the opinions expressed by our contracting officers and representatives of industry. Over 300 contracting officers were surveyed, as were some 200 companies. We noted that there was strong support for basing profit potential somewhat on investment; also that both government and industry felt that the cost of capital should be more adequately recognized as an element of product price. We also contracted for the Conference Board, an independent research assoc. to examine the question of business risk and investment determinants. The Conference Board interviewed 53 account executives of 31 financial institutions. They reported that these financial institutions, an important source of funds for defense industry, felt that defense business was not sufficiently profitable for the risks involved. Whether or not one agrees or disagrees with this opinion, it must be noted that these firms have heavy influence over the availability of funds for defense industry investment.

From the facts and opinions gathered during the course of the study, it became clear that we should shape our profit and pricing policies to more directly encourage investment; and that such investment carried with it the

potential for significant productivity gains and price reductions. The detailed changes we have made are shown in figure 8.

Turning to our new profit policy, figure 8 shows the changes in emphasis on the various profit factors as noted below:

"Contractor Input to Total Performance (CITP)" is a measure of the estimated cost of and represents the effort required to perform the contract. This was the dominant element in the profit objective in the old policy, and accounted for about 65% of the negotiated profit rate. To shift the emphasis from a cost-based profit policy, we have reduced this factor significantly.

Under the old policy, "Contract Cost Risk" recognizes the contractor's assumption of risk with a minimum weight (0%) for cost plus fixed fee contracts and a maximum weight (7%) for firm fixed price contracts. On the average, this accounted for 30% of the profit objective in the old policy. Our government procurement personnel indicated in the opinion survey that there should be a greater difference in cost risk between cost type and fixed price contracts. These opinions appear to have been validated by our profit center data, which indicated a very small difference in

realized profits between cost type and fixed price contracts. Accordingly, we have provided for a 1% increase in the risk ranges for fixed price contracts, which will increase the emphasis for contract cost risk to 40% of the profit objective in the new policy.

"Past Performance" was included in the old profit policy as a subjective factor to reward or penalize a defense contractor for his performance on prior defense contracts. Our data indicated that this factor was applied in an inconsistent manner and probably had little impact on the contractor's performance on the instant contract. We consider past performance to be an appropriate consideration in source selections, but an ineffective tool in profit policy. On an overall basis, past performance accounted for an insignificant portion of the profit objective and therefore has been deleted in the new policy.

"Use of Government Resources" was included in the old policy to penalize the contractor (0 to -2%) for use of government furnished facilities. This factor had an insignificant impact on the overall level of profits and has been deleted in the new policy. The thrust of the new policy is on the investment furnished by the contractor, not by the government.

"Contractor Investment in Facilities Capital" has been added to the new policy in order to recognize and reward contractors for the investment they have applied to the contract. This is the major change in policy and is generally in accordance with the recommendations of the Commission on Government Procurement, the Comptroller General, informed observers in Congress and many others. We have allocated 10% of the profit objective to contractor investment. We recognize that this is a modest approach; however, we are being cautious until we have had the opportunity to assess the overall impact of this policy change. The weight of this factor will likely be increased in the future.

"Productivity" is a new feature in the profit policy. We have felt for some time that our policy should motivate defense contractors to increase their productivity and thereby reduce costs. The old policy has not proved effective in this area, because a contractor could lose profit opportunity in a follow-on contract if he had made significant productivity gains since the profit objective was based on estimated cost. Accordingly, the new policy provides for consideration of profit on demonstrated unit cost reductions resulting from productivity improvements. This approach emphasizes that it is our objective to

reduce contract price and that we are willing to reward productivity when it yields lower prices.

"Other Factors" that may be used in the profit objective are essentially unchanged in the new policy. These factors include consideration for Foreign Military Sales (FMS), Independent Development, Small Business and minority business participation.

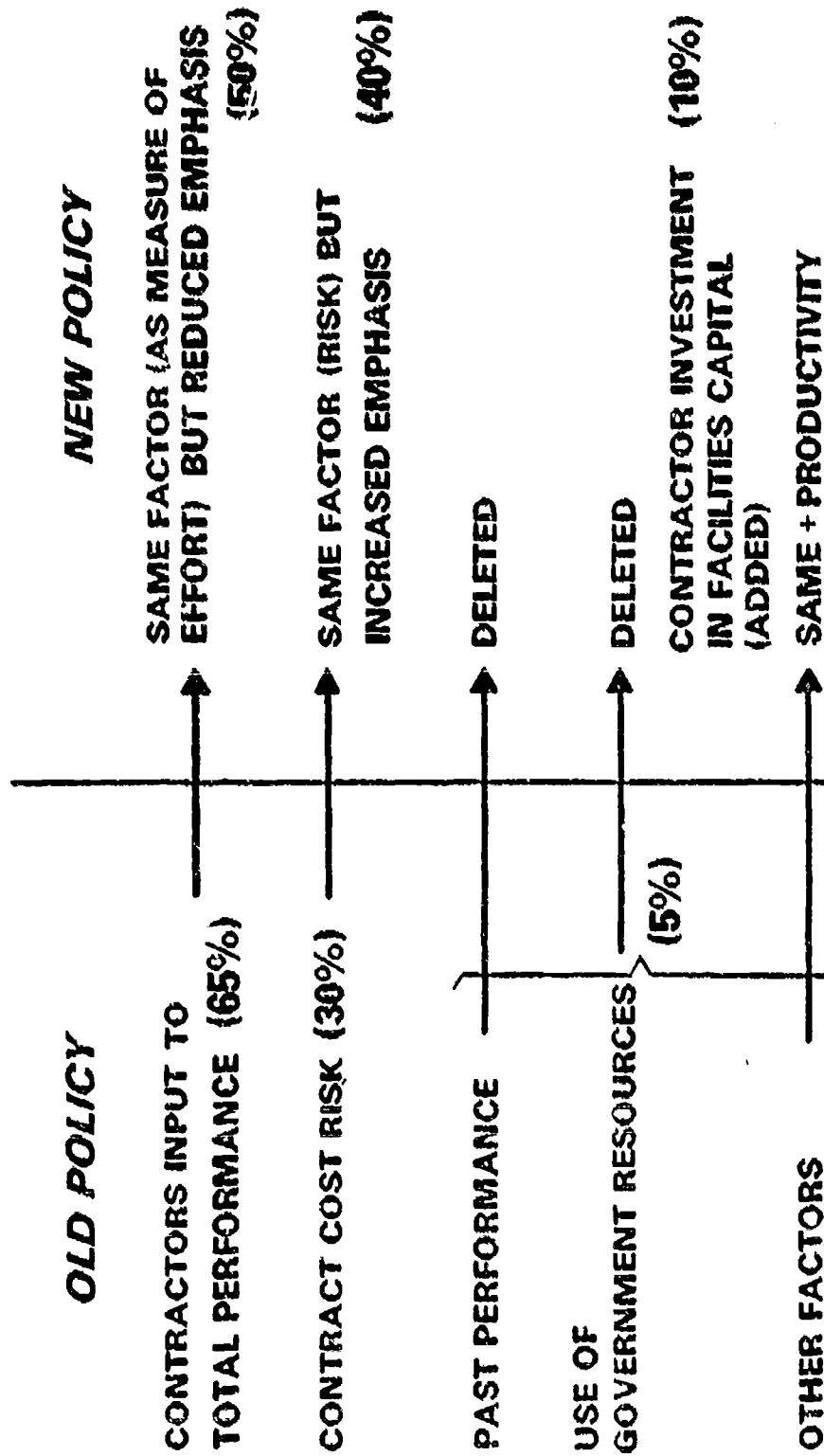


FIGURE 8

A corollary effort has been made in the development of cost objectives to recognize contractor investment. The Cost Accounting Standards Board has taken a positive step forward with Cost Accounting Standard (CAS) 414, which is entitled "The Cost of Money as an Element of the Cost of Facilities Capital". CAS 414 provides the methodology to estimate, accumulate and report a cost of capital that is imputed to the contractor's investment in facilities at an interest rate published by the Secretary of the Treasury. We have made this cost allowable on most negotiated contracts which are priced on the basis of cost analysis. Procedures have been established so that on the average, the prenegotiation profit objective takes into account and offsets the cost increase attributable to the imputed cost of facilities capital. This offset provision is in line with the view expressed in Senator Proxmire's letter to Secretary Rumsfeld of May 27, 1976 on this subject.

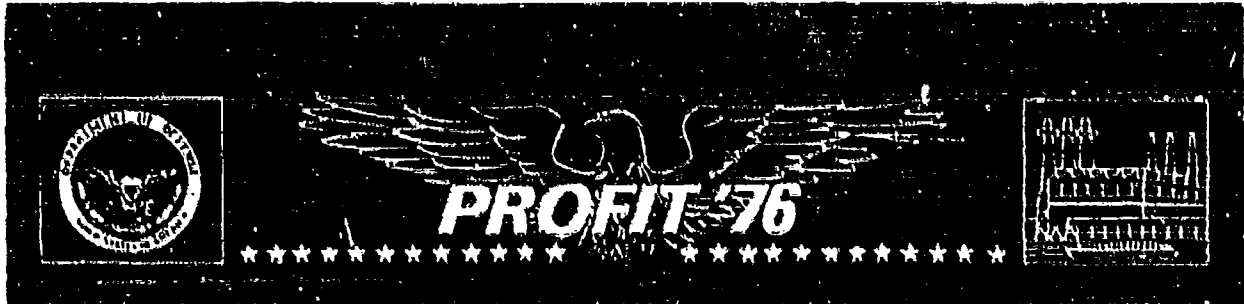
We feel that our new profit policy and the allowance of the imputed cost of capital will help remove obstacles to cost-reducing facility investment decisions by industry. These policy changes are a step in the right direction and should reduce the DoD acquisition cost by improving the viability and productivity of our defense industrial base.

Chapter X

IMPLEMENTING THE NEW POLICY

The new policy eventuating from the Profit '76 study was promulgated in Defense Procurement Circular 76-3 on 1 September 1976. With the effective date only a month away (1 October 1976), it was imperative that the way be paved by a concentrated effort to familiarize contract negotiators in both Government and industry of the new policy and the methodology of its application.

Under the co-sponsorship of the Office of the Assistant Secretary of Defense (I&L) and the National Contract Management Association, a series of workshops were scheduled at strategic locations around the country during the month of September. The schedule of those workshops and their locations are shown on the following page. An on-going program continues to provide training in the new policy as needed and within the limitations of resources.



DOD PROFIT AND PRICING POLICY WORKSHOP

Co-Sponsored By

THE OFFICE OF THE
ASSISTANT SECRETARY OF DEFENSE
(INSTALLATIONS AND LOGISTICS)

AND

THE NATIONAL CONTRACT MANAGEMENT ASSOCIATION

WASHINGTON, D C	SEPTEMBER 13
BOSTON, MASSACHUSETTS	SEPTEMBER 14
NEW YORK, NEW YORK	SEPTEMBER 15
DAYTON, OHIO	SEPTEMBER 16
ST LOUIS, MISSOURI	SEPTEMBER 17
SEATTLE, WASHINGTON	SEPTEMBER 20
SAN FRANCISCO, CALIFORNIA	SEPTEMBER 21
ALBUQUERQUE, NEW MEXICO	SEPTEMBER 21
LOS ANGELES, CALIFORNIA	SEPTEMBER 22
ANAHEIM, CALIFORNIA	SEPTEMBER 23
DALLAS, TEXAS	SEPTEMBER 24
ORLANDO, FLORIDA	SEPTEMBER 28

Designed for joint instruction of Government and Industry personnel

IMPLEMENTATION PROGRAM

INSTRUCTORS

Brigadier General James W. Stansberry, Director Profit '76

Colonel Charles J. Elliott, Deputy Director Profit '76

Dr. Otto B. Martinson, Logistics Management Institute

Mr. David M. Koonce, OASD(I&L)/PF

Mr. Joseph Nocera, DCAA

Mr. Robert Benson, DCAA

Mr. Douglas Dockter, DRDTA

Mr. Charles L. Hamilton, SANSO

Mr. Joseph Gallagher, HQ Naval Material Command

Mr. Thomas Brown, AFALD

Mr. Arnold Jackson, Logistics Management Institute

Appendix

Special Studies

1. Logistics Management Institute; Profit '76 (LMI Task 76-3)
2. Logistics Management Institute; Defense Industrial Base
(LMI Task 76-2)
 - Volume I Executive Summary
 - Volume II Compilation of Data
 - Volume III Case Studies
3. Coopers & Lybrand
 - Corporate Level Analysis
 - Profit Center Level Analysis
 - Contracting Officer Survey
4. Aerospace Industries Association; Risk Analysis