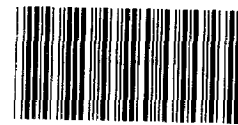GAO

Fact Sheet for the Chairman, Committee on Governmental Affairs, United States Senate

September 1986

ACQUISITION

DOD's Acquisition Improvement Program--Program Managers' Views

131522

GAO

United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-221205

September 30, 1986

The Honorable William V. Roth, Jr.
Chairman, Committee on Governmental Affairs
United States Senate

Dear Mr. Chairman:

As requested by your letter dated September 13, 1984, we reviewed the Department of Defense's (DOD's) implementation of the Defense Acquisition Improvement Program, also known as the "Carlucci Initiatives." You asked us to assess the effectiveness of the initiatives on the acquisition process in terms of their objectives to provide cost savings, shorten the acquisition process, increase readiness, and strengthen the industrial base. We previously reported[1] to you on our overall assessment of DOD's progress in implementing the improvement program and also provided a briefing report[2] which contained additional details on the status of the program's 33 individual initiatives. This completes our analysis of the Defense Acquisition Improvement Program by summarizing the results of the questionnaires we sent to government and industry managers of major weapon programs to get their views of the effectiveness of the improvement program.

Overall, most program managers in both the government and private industry reported that the Acquisition Improvement Program has made little or no difference in the acquisition process. Most reported that the government program manager's responsibility and accountability were adequate even before the Improvement Program was initiated. About half of the government managers and nearly three-fourths of the industry managers indicated that the government manager's authority was now only marginally adequate to inadequate, despite a major thrust of the Improvement Program to provide program managers with the authority to manage their programs.

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[1]DOD's Defense Acquisition Improvement Program: A Status Report (GAO/NSIAD-86-148, July 23, 1986).

[2]Status of the Defense Acquisition Improvement Program's 33 Initiatives (GAO/NSIAD-86-178BR, September 23, 1986).

From their perspective, the program managers indicated a variety of improvements which are still necessary, including

--greater stability in the acquisition process,

--reduction in government oversight of programs, and

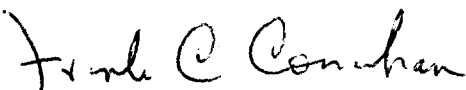--more streamlining of the acquisition process.

Our questionnaire results from the government represent 54 major weapon programs of the 99 listed on DOD's December 1984 Selected Acquisition Reports; industry results represent 65 major programs. However, our overall response rate was over 80 percent because we excluded from our analysis those responses from managers who we believe lacked sufficient program tenure to provide knowledgeable responses. Taken together the two questionnaires represent 84 major weapon programs. Appendix I also contains a description of our methodology for collecting the data and analyzing the information.

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As arranged with your Office, unless you publicly announce its contents earlier, we plan no further distribution of this fact sheet until 30 days from the date of the report. At that time we will send copies to interested parties and make copies available to others upon request.

If we can be of further assistance, please call Paul Math, Associate Director for Research, Development, Acquisition, and Procurement on 275-4587.

Sincerely yours,

Frank C. Conahan
Assistant Comptroller General

C o n t e n t s

ABBREVIATIONS

DAIP   Defense Acquisition Improvement Program

DOD   Department of Defense

DSARC   Defense Systems Acquisition Review Council

DTC   design-to-cost

OSD   Office of the Secretary of Defense

ANALYSIS OF QUESTIONNAIRE RESULTS

INTRODUCTION

Our objective was to obtain the perspectives of program managers from government and industry on the effect of the Defense Acquisition Improvement Program (DAIP). This program included 33 initiatives designed to improve the process of acquiring major weapon systems and to achieve cost savings, shorten the acquisition process, increase readiness, and strengthen the industrial base. We obtained the program managers' perspectives through two separate mailed questionnaires to government and industry managers. The two questionnaires were nearly identical except that the industry questionnaires excluded certain questions, such as those related to the Defense Systems Acquisition Review Council (DSARC) process, that the government managers were uniquely qualified to answer. Data collection was completed in April 1986.

We mailed questionnaires to managers of programs[1] listed on DOD's December 1984 Selected Acquisition Reports. These reports summarize key information for major weapon systems, and therefore, provide a comprehensive list of these weapons, except for certain highly secret ones. We sent questionnaires to government managers of 92 of the 99 major weapon programs on the Selected Acquisition Reports and to managers at prime contractors of 88 of these programs. We excluded programs that were part of our questionnaire pretesting or, in the case of industry, where no procurement contract had been awarded.

We received responses from government managers representing 78 major programs, and responses from industry managers representing 78 programs. Since government and industry managers did not report on the same 78 programs, these managers together reported on 84 programs.

To ensure that program managers could provide knowledgeable responses to our questionnaire, we excluded from our analysis those programs in which the managers did not meet certain tenure requirements during the DAIP's implementation. More specifically, we excluded those programs in which the program manager's or deputy program manager's combined experience in these positions on their current program did not cover the last

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[1]In several cases we sent and received a questionnaire from more than one industry manager on the same major program because more than one major contractor was involved. In these cases, we combined responses so that our unit of measure for analysis was the weapons program responses for both government and industry.

2 years. This tenure requirement helps ensure more knowledgeable responses because our questionnaire generally asked for the program managers' perceptions of the DAIP's impact on their current programs as seen in managing these programs. We excluded 24 government and 13 industry programs where the managers did not meet the tenure criterion, leaving 54 government and 65 industry programs for analysis.

The overall response rate for the government questionnaire was 85 percent (78 of 92) and 89 percent (78 of 88) for the industry questionnaire. However, the effective response rate was somewhat lower because in some cases the respondents did not provide answers to applicable questions.[2] The average nonresponse rate on individual questions for the government was 4.5 percent and 5.4 percent for industry. As a result, the effective response rates were about 81 percent for the government and 84 percent for industry. Based on our analysis of nonrespondents, we believe that with the possible underrepresentation of ships, the questionnaire responses adequately represent the major systems having program managers meeting our tenure criterion.

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[2]The number of respondents varies throughout our discussion of questionnaire results because (1) program managers did not always respond to questions that were applicable to their programs and (2) many questions did not apply to all respondents. When either of these situations occur, our analysis indicates the number of managers responding to the questions being addressed.

OVERALL ASSESSMENT

Impact of DAIP

DOD instituted DAIP in 1981 to address longstanding problems with major systems acquisitions, including significant cost overruns and schedule slippages. Most program managers in government and industry responding to our questionnaire reported that DAIP has made little or no difference regarding the efficiency and economy in the process of acquiring weapon systems. (See fig. I.1.)

--About 67 percent of the 64 industry program managers responding indicated that DAIP had made little or no difference.

--Government program managers reported a somewhat less negative view of the DAIP's impact with about 57 percent of the 53 program managers who responded indicating that it had made little or no difference.

The remaining program managers indicated that the DAIP's impact had been positive to very positive.

Figure I.1: Program Managers' Overall Assessment of the DAIP's Impact
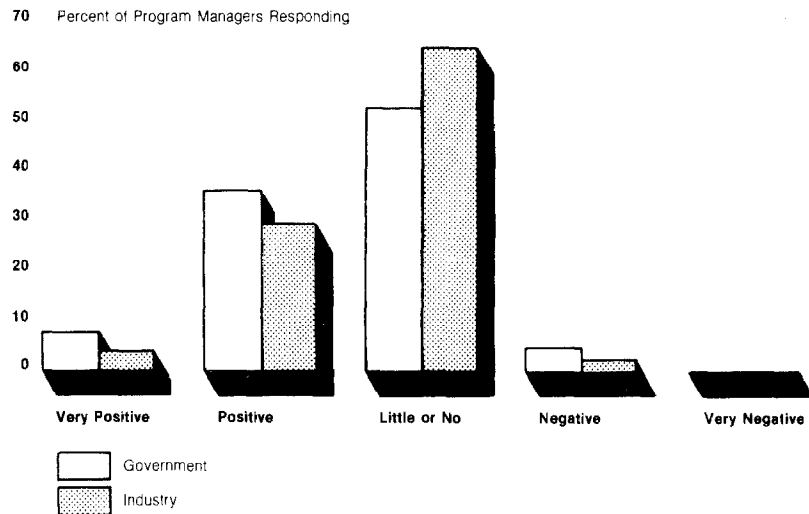
Improvements suggested

About 94 percent (or 51 of 54) of government and 83 percent (or 54 of 65) of industry program managers responding to our questionnaire provided narrative comments addressing specific actions for improving the acquisition process. These actions most often related to stabilizing the acquisition process, reducing program oversight, giving program managers more authority, and improving various administrative processes. Several other types of actions, such as improving staffing and training, were also identified. (See fig. I.2.)

--Industry program manager respondents reported more frequently (91 percent to 57 percent) than government managers a continuing need to improve program stability. Actions most frequently identified included greater use of multiyear procurement, more stable funding, and closer adherence to plans.

--A large percentage of government (59 percent) and industry (54 percent) program managers would reduce management oversight of programs, increase program managers' authority, and reduce the numbers of bureaucratic layers in the acquisition process.

--All responding industry program managers, as compared with 41 percent of government managers, also suggested some administrative improvements. Industry managers' suggestions frequently included the need to "streamline" the contracting process--a technique for giving contractors more latitude in designing systems. Government managers' suggestions included, for example, streamlining, more firm fixed-price contracts, and greater emphasis on using production prototypes for testing.

--Other suggestions related to staffing, such as ensuring adequate staffing levels, providing more training, and instituting a better reward system.

Figure I.2: Program Managers' Suggestions for Improving Acquisitions

100   Percent of Program Managers Responding

90
80
70
60
50
40
30
20
10
0

Improve Stability   Reduce Oversight   Improve Administration   More Staff Training   Other

☐ Government
▨ Industry
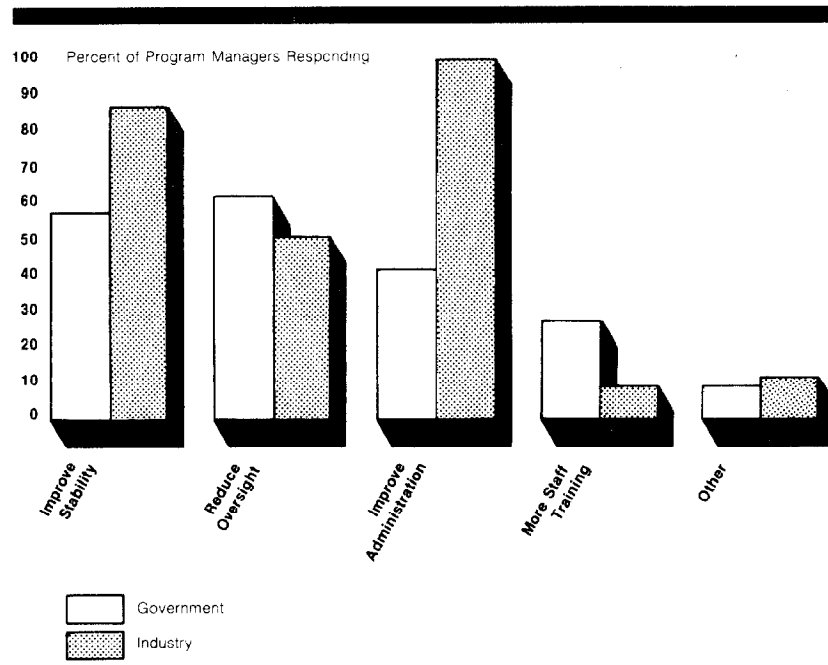
DOD MANAGEMENT OF MAJOR
ACQUISITIONS

In providing perspectives on several issues related to DOD's
management of major acquisitions, program managers noted

--an inadequate level of authority for government program
  managers,

--adequate levels of responsibility and accountability of
  government program managers,

--little or no time saved in preparing for DSARC reviews,

--significant potential to reduce over-specification in
  contracts through streamlining, and

--frequent use of a variety of competitive techniques.

Authority, responsibility, and
accountability of government
program managers

Most program managers reported that the current level of government program manager authority was marginally adequate to very inadequate. Furthermore, many of the managers indicated authority had decreased during the last 2 years under DAIP. Conversely, most managers reported that responsibility and accountability levels were adequate or more than adequate, and that little or no change had occurred in responsibility and accountability under DAIP.

--Only about 17 percent of government and 10 percent of
   industry managers reported that the level of government
   program managers' authority had increased under DAIP.
   One-half of the government and nearly three-fourths of the
   industry managers indicated that the current level of
   authority was marginally adequate to inadequate. (See
   figs. I.3 and I.6.)

--About 54 pecent of government and 70 percent of industry
   managers reported little or no change in the government
   managers' level of responsibility. Most of the remaining
   managers reported that it had increased. Nearly 90 percent
   of government managers and three-fourths of industry
   managers indicated that the responsibility levels were
   adequate. (See figs. I.4 and I.6.)

--Nearly 60 percent of government and two-thirds of industry
   managers believed that the government program managers'
   level of accountability for their programs has changed
   little. Most of the remaining managers reported that
   it had increased. Nearly 90 percent of government and
   three-fourths of industry managers also indicated that the
   level of accountability was adequate. (See figs. I.5 and
   I.6.) Many managers added that there are too many
   bureaucratic layers in the organization between them and
   the decisionmakers. Although some stated that this
   lengthens the acquisition process, they did not indicate
   that the bureaucratic layers had diluted accountability.

The contribution of appropriate levels of authority and responsibility to stable programs is noted on page 24.

Figure I.3: Change in Government Manager Authority Under the DAIP
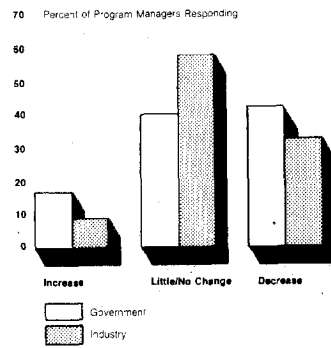
Figure I.4: Change in Government Manager Responsibility Under the DAIP
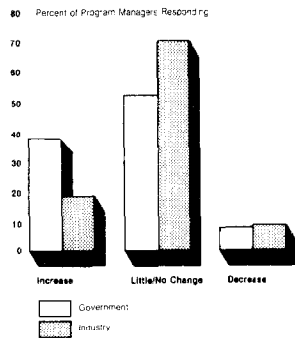
Figure I.5: Change in Government Manager Accountability Under the DAIP
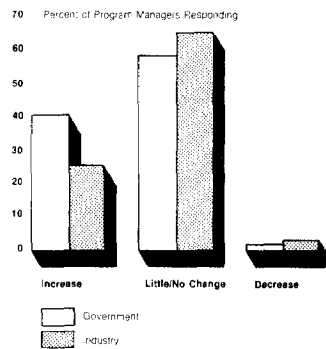
Note: The "increase" and "decrease" responses both include two levels
        of magnitude--"some" and "great".

Figure I.6: Program Managers Viewing Government Manager Authority, Responsibility, and Accountability as Marginally
Adequate to Inadequate

13
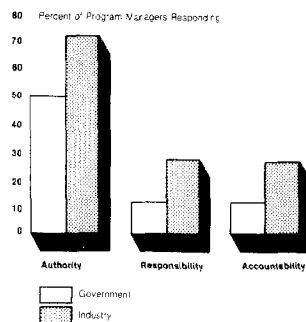
DSARC process

Several initiatives dealt with reducing the time spent in complying with the DSARC process. DSARC is the top level DOD body for providing advice and assistance to the Secretary of Defense on matters relating to major acquisitions. The initiatives reduced the number of DSARC milestones from four to two and eliminated or reduced certain DSARC briefing and data requirements. Seventeen, or about 65 percent, of the 26 government program managers recently involved in the DSARC process reported that DAIP had resulted in little or no reduction in time spent preparing for these reviews. (See fig. I.7.) Of the nine program managers indicating at least some reduction in preparation time, four reported that the time saved had been offset by the time required for other program review requirements.

Figure I.7: Time Saved in DSARC Process

Great (7.7%)

Little or No (65.4%)

Moderate/Some (26.9%)
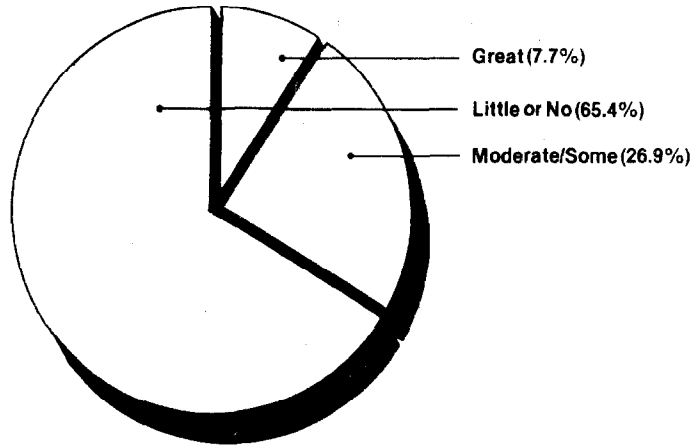
Streamlining

In 1983, the Office of the Secretary of Defense (OSD) redirected the initiative on reducing the number of DOD directives to focus on "streamlining" which addresses over-specification in contracting. It allows contractors more flexibility in designing systems to meet DOD's needs by emphasizing "what is needed" and "performance required," rather than detailed "how to" specifications. Although relatively few program managers reported that the streamlining approach had been selected for application on their programs, most managers responding indicated that the benefits of this approach could be significant. Industry program managers perceived the potential benefits as being greater than the government program managers.

   --About 17 percent of the government managers and 15 percent
     of industry managers indicated that their programs had been
     selected for implementing the streamlining initiative.
     (See fig. I.8.) Overall, the managers reported using
     streamlining on 14 programs.[3]

   --From 79 to 100 percent of the government managers
     responding to our questionnaire believed that this
     initiative could benefit at least to some extent in the
     following areas: using contractor ingenuity and
     experience, encouraging early industry participation, and
     precluding premature application of military
     specifications. Over three-fourths believed that it could
     benefit at least to some extent in producing operationally
     suitable and field supportable designs. From about 89 to
     100 percent of industry managers responding to our
     questionnaire also cited these areas as having at least
     some benefit--from 53 to 84 percent believed they could be
     of great or very great benefit. (See fig. I.9.)

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[3]Government and industry managers did not report on the same 14 programs. We arrived at this figure by comparing the 9 programs reported by government managers and the 10 by industry managers. Furthermore, no more than 10 of the 14 programs involved streamlining according to both government and industry managers. We cannot be precise on the extent of agreement because both government and industry managers did not provide questionnaires on 5 programs.

Figure I.8: Extent Streamlining Used

Government Program Managers

Industry Program Managers

14.8% — Not Sure

16.7% — Used

68.5% — Not Used

15.4% — Not Sure

15.4% — Used

69.2% — Not Used

Figure I.9: Streamlining Benefits

Government Program Manager

Percent of Program Managers Responding

Use Contractor Experience / Enhance Industry Participation / Limit Overspecifications / Better Operational Design / More Supportable Design

Industry Program Manager

Percent of Program Managers Responding

Use Contractor Experience / Enhance Industry Participation / Limit Overspecifications / Better Operational Design / More Supportable Design

None

Some Moderate

Great or More
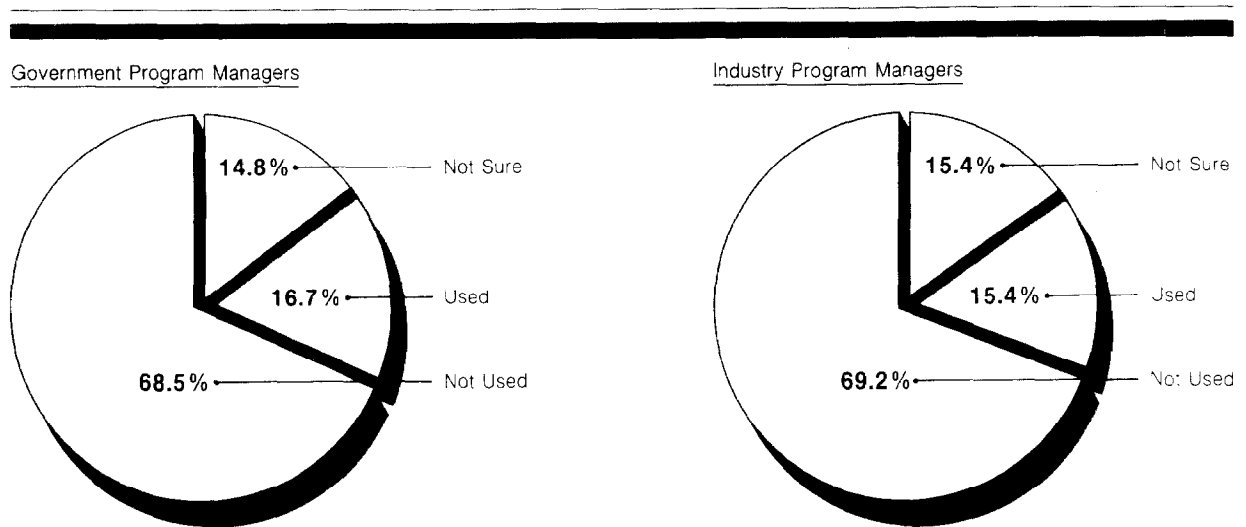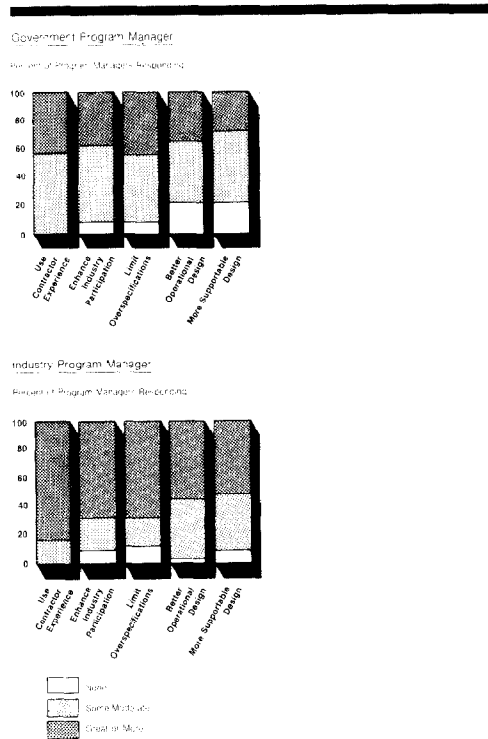
Competition

One initiative dealing specifically with greater use of competition in the acquisition process, particularly during the production phase, was intended to help reduce costs, improve contractor performance, and enhance the industrial base. Most government managers reported having used competition with beneficial results. In some cases, they also noted the benefits were somewhat offset by the cost and time associated with administering the competitive process. In addition, although most government managers indicated that increased competition had enhanced the industrial base, most industry managers did not believe this was the case.

--Nearly 68 percent, or 36 of the 53 government respondents, reported that at least 1 competitive technique was introduced into their programs between fiscal years 1983 and 1985. The techniques most frequently reported as used were selecting at least one prime contractor using competition, selecting a second source at the subcontractor level, and establishing goals and plans for competition in production. A prime contractor second source was selected for production in 9 of the 36 programs reporting use of competitive techniques. (See fig. I.10.) Only 17 of the 36 managers indicated that their programs were in full-scale production and 8 of the 17 managers identified annual cost savings due to competition ranging from 1 to 71 percent of the weapon's unit cost. The remaining nine managers did not identify savings either because they could not determine them or because competition was not a major part of the program. However, several government managers also reported that new administrative requirements related to competition had frustrated other attempts to reduce the time spent in procurement administration. (See p. 51.)

--About 80 percent, or 31 of the 39 government managers stating it was applicable and were sure about the impact, believed that increased competition had enhanced the condition of the industrial base affected by their program. Only 14, or about 38 percent of the 37 industry managers responding to this portion of our questionnaire, believed this was the case. (See fig. I.11.)

Figure I.10: Competitive Techniques Used by Government Program Managers

70   Percent of Program Managers Responding
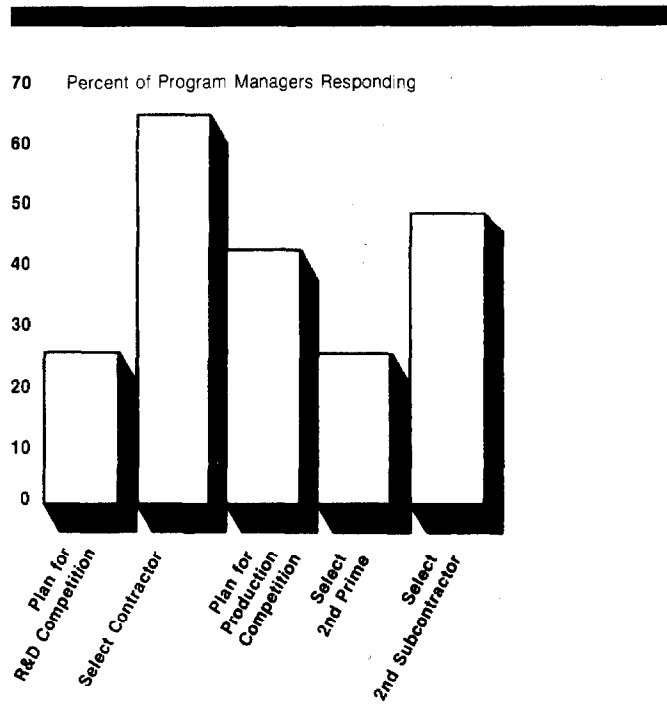
Figure I.11: Competition's Effect on Industrial Base

80   Percent of Those Responding Program Managers Using Competitive Techniques

Great/Very Great   Moderate/Some   Little or No

☐ Government
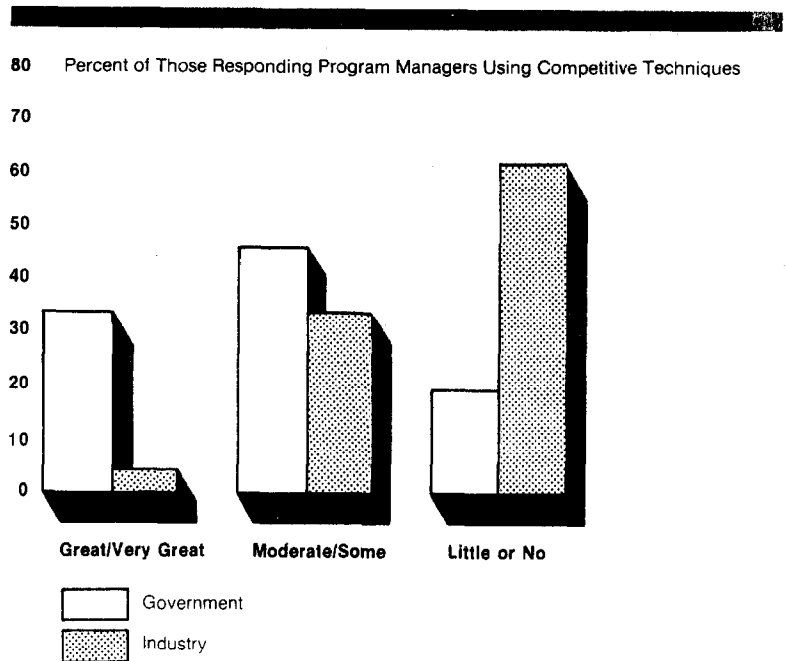
▨ Industry

PROGRAM STABILITY

Stable programs are generally considered to lack funding
turbulence while achieving quantity, cost, schedule, and
performance objectives; unstable programs do not. According to
both government and industry program managers, the number of
programs considered unstable has increased overall since DOD
instituted DAIP. About 45 percent of both government (24 of 53
responding) and industry (29 of 64) managers considered their
programs unstable at the beginning of fiscal year 1986. This is
an increase from about 40 percent (or 21) of government managers
and 38 percent (or 24) of industry managers who considered their
programs unstable at the beginning of fiscal year 1983. (See
fig. I.12.)

Figure I.12: Programs Reported as Unstable

Percent of Program Managers Responding

☐ Start of FY 1983

▨ Start of FY 1986
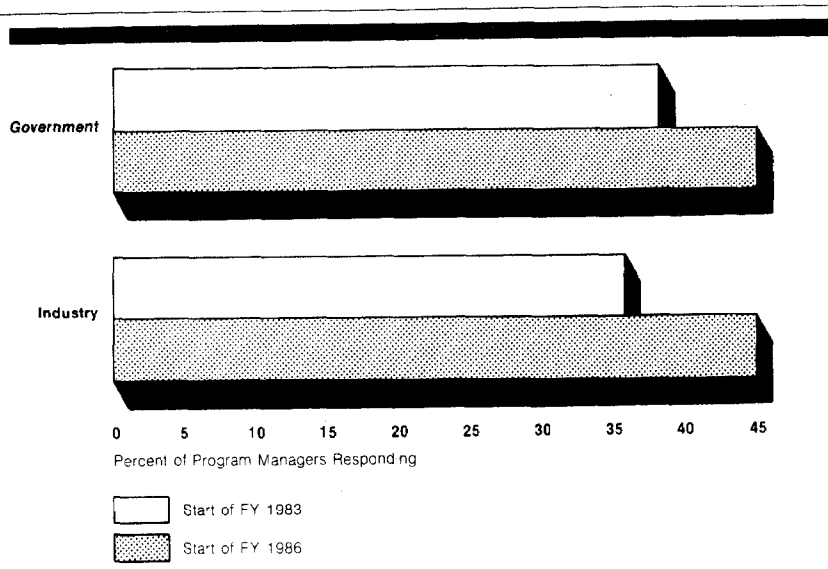
Causes of program instability

    Program managers with unstable programs reported[4] several
contributors to program instability. Reasons most often cited
were failure to adhere to 5-year plans and funding adjustments
made at all levels.

    --From 79 to 92 percent of the 24 government managers
      reporting unstable programs at the beginning of fiscal year
      1986 attributed this, in part, to adjustments to the 5-year
      plan and funding adjustments by the services, OSD, and the
      Congress; the 29 industry managers reporting unstable
      programs had similar views with from 79 to 85 percent of
      them citing the same reasons for instability. Industry
      managers reported technical problems as a contributor to
      instability more often than government managers--63 percent
      compared to 48 percent. In addition, the lack of adequate
      authority and responsibility of government managers was a
      contributor according to most government and industry
      managers. (See fig. I.13.)

    --Several program managers gave narrative comments
      indicating that the relatively short tenure of government
      program managers had contributed to program instability.
      The 77 government program managers providing tenure data
      averaged about 27 months experience on their current
      program as either program manager or the deputy. The 83
      industry program managers providing this data averaged
      about 45 months of experience or almost two-thirds more
      than that of their government counterparts.[5] (See fig.
      I.14.) One in four industry program managers had served at
      least 54 months with their current programs in contrast to
      one in four government managers who had served at least 31
      months.

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[4]Twenty-four government and 29 industry managers reported having
  unstable programs at the beginning of fiscal year 1986. However,
  the number of managers responding to specific questions regarding
  the causes of instability varied from 24 to 25 government
  managers and from 24 to 28 industry managers.

[5]The number of managers included in our tenure analysis exceeds
  the 54 government and 65 industry program managers considered in
  our other analyses. We included managers in our tenure analysis
  who did not meet our minimum tenure requirements for inclusion in
  our overall analysis. (See p. 5.) To have excluded these
  managers with relatively short tenures from our tenure analysis
  would have artificially increased average tenures since our
  objective was to determine average tenure for all program
  managers.

Figure I.13: Causes of Instability

100   Percent of Program Managers Reporting Unstable Programs

□ Government
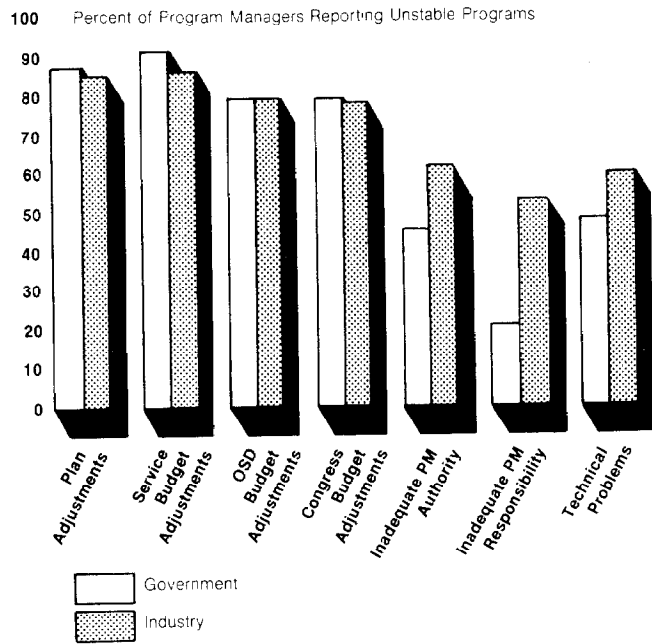
▦ Industry

Figure I.14: Tenure of Program Managers on Current Program by Service-Government Versus Industry

60   Tenure of Program Managers Responding (Months)

□ Government

▦ Industry

23
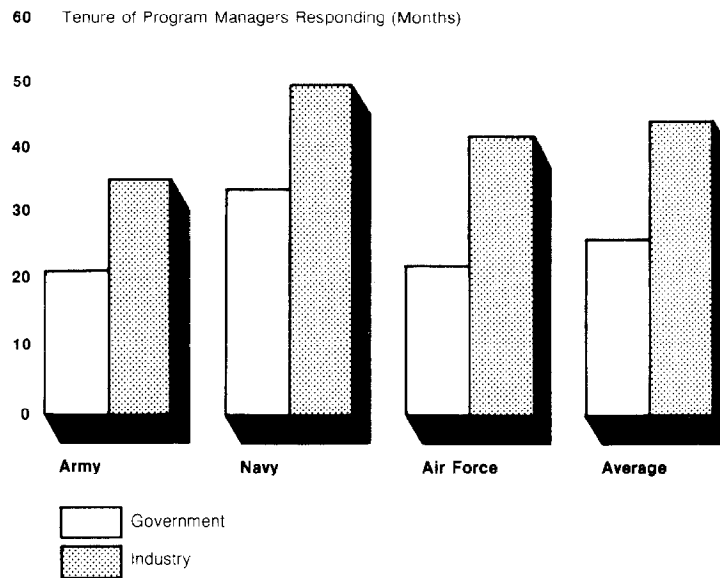
Contributors to program stability

Programs are more likely to be stable, according to program managers reporting stable programs,[6] when funding is adequate and budgets are realistic. Other significant contributors to stable programs were adherence to 5-year plans, appropriate levels of government program manager authority and responsibility, and use of multiyear contracting. (See fig. I.15.)

--All of the 29 government managers reporting stable programs and citing reasons attributed the stability, in part, to adequate funding and realistic budgets. Ninety-seven percent of the 35 industry managers reporting stable programs attributed the stability to adequate funding (we did not specifically ask them about realistic budgeting).

--Industry managers more frequently than government managers (97 percent to 69 percent) cited adherence to the 5-year plan as a contributor to stability.

--About 72 percent of government managers reported adequate authority and nearly 83 percent reported adequate responsibility as stability contributors. Over 80 percent of industry managers reported these factors as contributors.

--Although only about 38 percent of the government managers and 65 percent of the industry managers indicated that the use of multiyear contracting had contributed to their program's stability, a more relevant comparison would involve only those program managers reporting stable programs who actually had employed multiyear contracting. Nearly all government (seven of eight) and industry (four of five) included in this category reported that multiyear contracting had contributed very greatly to their program's stability.

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[6]Twenty-nine government and 35 industry managers reported having stable programs at the beginning of fiscal year 1986. However, the number of managers responding to our questions regarding the contributors to stability varied from 24 to 29 government managers and from 17 to 34 industry managers.

Figure I.15: Factors Contributing to Stability at Least to Some Extent

Percent of Program Managers Reporting Stable Programs

Government

Industry
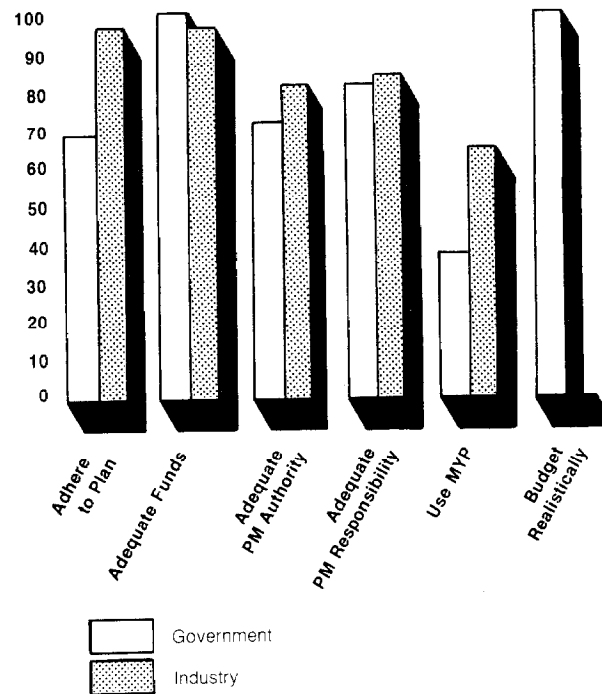
Procurement strategies for
improving program stability

Enhancing the stability of the acquisition process is considered a prerequisite to achieving many of the DAIP's objectives. Consequently, several initiatives relate to specific procurement strategies for improving program stability. These include greater use of multiyear procurement, buying in more economic quantities, better use of the design-to-cost (DTC) concept as an incentive to contractors for reducing production costs, and using preplanned product improvements. A discussion of each of these initiatives follows. Questionnaire results generally suggest the potential for more widespread application of these initiatives. When the initiatives were applied, program managers generally reported favorable results.

Multiyear procurement

The objective of this initiative is to reduce acquisition costs and improve product quality by stimulating capital equipment investments. Although many program managers considered using multiyear procurement, few programs were ultimately approved. When multiyear procurement was used, program managers reported benefits, including cost savings and enhancements to the industrial base.

Government program managers considered multiyear procurement for 39 (74 percent) of the 53 programs for which we received questionnaire responses. Responses to our questionnaire indicated a final multiyear decision was made on 30 of the 39 programs. Program managers for the remaining nine programs did not provide this information or reported that a final decision on multiyear procurement had not been made.

--Government managers decided not to propose 7 of the 30 programs for multiyear procurement to service headquarters.

--Government managers proposed 23, or 77 percent, of the 30 programs to service headquarters for approval.

--Service headquarters forwarded to OSD for approval 15, or 65 percent, of the 23 programs recommended to them by the program managers.

--OSD submitted 13, or 87 percent, of the 15 programs they received to the Congress, which ultimately approved 9, or 69 percent of the 13 submitted. (See fig. I.16.)

Most of the nine government program managers using multiyear procurement reported some cost savings ranging from 7 to 31 percent annually during fiscal years 1983 to 1985. (See page 48 for information on multiyear procurement's contribution to enhancing the industrial base.)

Figure I.16: Dispositions of Multiyear Procurement Considerations by Various Organizations

40   No. Programs Considered and Disposition
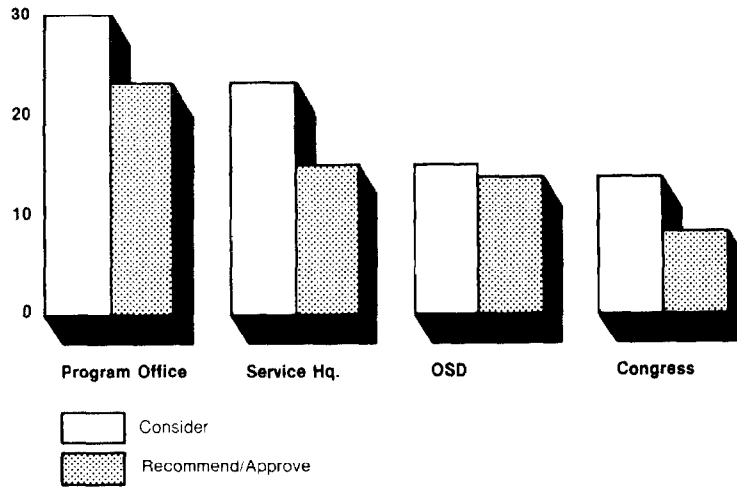
Economic production rates

This initiative is intended to reduce the cost and time needed to field a weapon system by producing them at more economical rates. About three-fourths, or 22 of the 29 government managers, and 64 percent, or 27 of the 42 industry program managers with systems in production, reported that the systems had been produced at economic rates at some time during fiscal years 1983 through 1985. This represents 34 programs.[7] Government managers most frequently cited funding problems as the reason for not producing economically, while industry managers most often mentioned developmental difficulties with the system. (See fig. I.17.)

--When systems were not produced at economic rates during any year between fiscal years 1983 and 1985, nearly three-fourths of government program managers, compared with about 46 percent of industry managers, reported that insufficient funding was a cause.[8]

--Year-to-year fluctuations in funding was cited as a reason by 70 percent of government managers and about 41 percent of industry managers.

--Developmental difficulties with the system was reported as a reason by about 29 percent of government managers and 57 percent of industry managers.

--Other reasons cited for not producing at economic rates included systems being near the end of their procurement cycles, required quantities supporting only limited production, and planned product improvements being underway.

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[7]Government and industry managers did not report on the same 34 programs. We arrived at this figure by comparing the 22 programs reported by government managers and the 27 by industry managers. Furthermore, no more than 29 of the 34 programs were produced at economic production rates according to both government and industry managers. We cannot be precise on the extent of agreement because both government and industry managers did not provide questionnaires on 14 programs.

[8]The number of government managers responding to our questions regarding reasons for not producing at economic rates varied from 9 to 20; the number of industry managers responding varied from 15 to 24.

Figure I.17: Reasons for Not Producing at Economic Production Rates

80   Percent of Applicable Program Managers
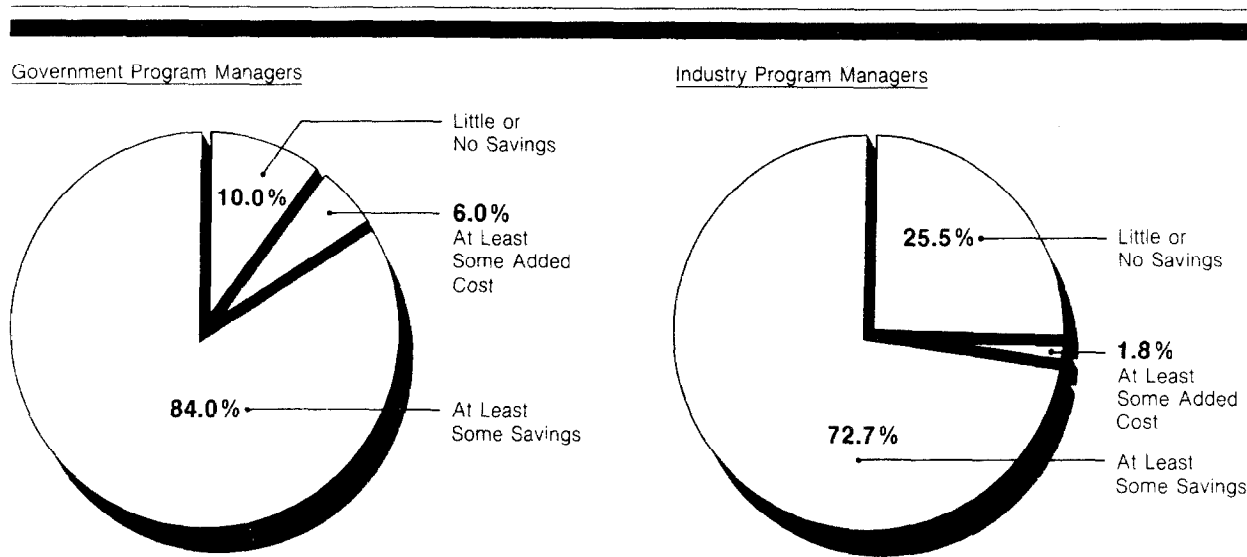
Government
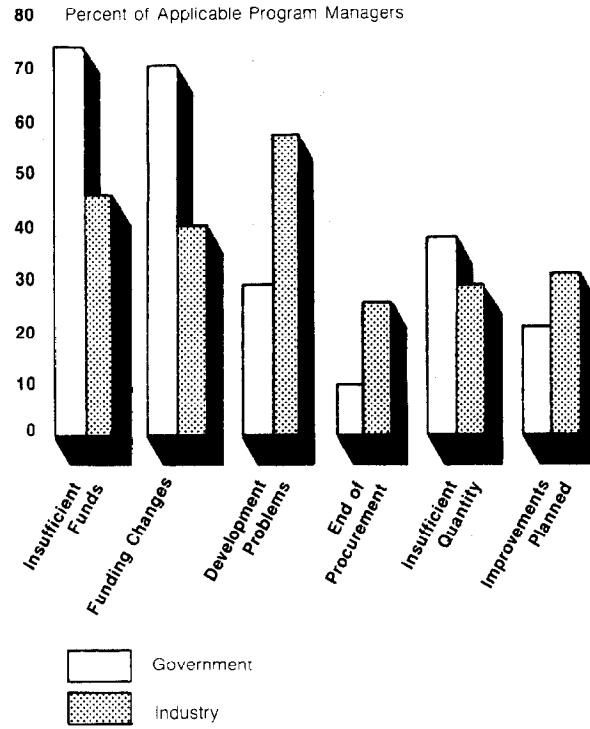
Industry

DTC

The DTC initiative is intended to better control weapon
systems costs by providing better contractual incentives to
industry. The incentives are to more closely associate DTC goals
with actual costs incurred in early production runs rather than
costs indicated by proposal/paper studies. Although most program
managers reported that basing incentives on actual production
costs would result in cost savings, few managers reported using
this technique.

> --Most of the 50 government and 55 industry program managers
>   responding indicated that basing DTC incentive awards on
>   actual production costs can result in cost savings. (See
>   fig. I.18.)

> --Government and industry program managers reported 17
>   programs that contained a DTC incentive during fiscal years
>   1983 to 1985. Of these programs, at least 7 involving 12
>   production type contracts contained DTC provisions. Ten of
>   these contracts based DTC incentives at least, in part, on
>   actual production costs; two based the incentive only on
>   proposals or paper studies.

Figure I.18: Potential Design-to-Cost Savings

Government Program Managers

Little or
No Savings

10.0%

6.0%
At Least
Some Added
Cost

84.0%

At Least
Some Savings

Industry Program Managers

25.5%

Little or
No Savings

1.8%
At Least
Some Added
Cost

72.7%

At Least
Some Savings

Preplanned product improvement

The purpose of preplanned product improvements is to produce weapon systems sooner by incorporating planned upgrades at a later date when the technology is more readily available. There was some disagreement between government and industry program managers as to whether preplanned improvements were being planned and incorporated into their programs. Consequently, the answers to our questions in this area vary considerably between these groups. However, program managers generally reported significant schedule and other benefits resulting from what they believed to be preplanned improvements.

--Program managers' responses regarding the extent that preplanned improvements had been planned or were planning to be incorporated covered 56 different programs. Government and industry managers both agreed that 11 (20 percent) of these programs involved preplanned improvements. In 18 (32 percent) programs, these managers disagreed as to whether their programs involved preplanned improvements. In the remaining 27 (48 percent) programs, no opportunity existed for comparing the managers' views because both government and industry managers did not respond. (See fig. I.19.)

--Of the 16 government managers indicating that their programs were in production and incorporated preplanned improvements, 10 reported that the first unit was produced over a year earlier than planned due to preplanned improvements. For 2 of these 10 programs, the industry managers reported there was no more than a month schedule benefit. In 3 of the 10 programs, industry managers reported either that preplanned improvements had not been used or that they were uncertain about this. In another 2 of the 10 programs, industry managers reported preplanned improvements would be used, but there had been no schedule benefits because production had not begun. Industry and government managers generally agreed that in the remaining three programs the first unit was produced over a year earlier due to preplanned improvements.

--Most managers producing systems under what they believed to be preplanned improvements reported other benefits, including upgrading performance, increasing capability to manage and control program expenditures, and fielding more supportable and maintainable systems. (See fig. I.20.)

Figure I.19: Degree of Consensus Between Government and Industry Managers on Use of Preplanned Improvements
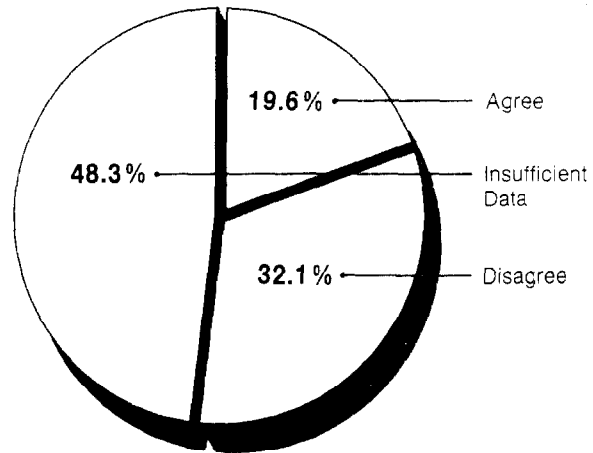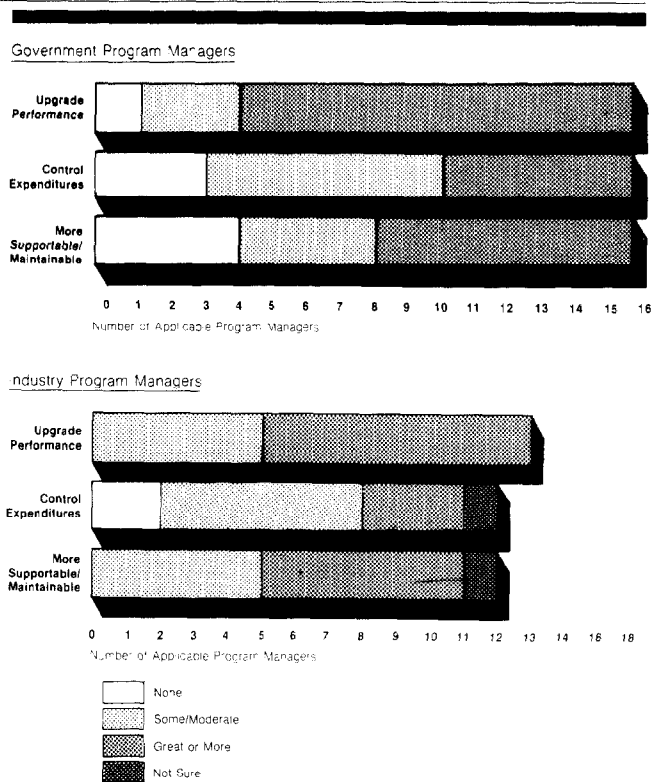

Figure I.20: Preplanned Improvement Benefits

REALISTIC BUDGETING

        Realistic budgeting includes several initiatives intended to
reduce cost growth in weapon systems resulting from understated
and overly optimistic program and budget estimates. These
initiatives address budgeting for inflation; budgeting for
technical risk; and budgeting to most likely cost using
independent cost estimates, justifying use of low estimates,
baselining, and applying contractor incentives. Baselining is an
attempt to control costs by a documented formal agreement to
develop and acquire the initially approved weapon system and
ensuring accountability for any later changes to the original
agreement. The baselining technique includes three critical
elements--an initial estimate of program costs called the program
baseline; procedures for changing the baseline as may be required
by changes in program requirements, available funding, or other
changes; and accountability for the changes made.

Budgeting for risk

Budgeting for risk entails determining whether and how the contingency funds for risk will be measured and included in the budget. Although program managers reported that formal, quantitative assessments of risk result in more realistic cost estimates, many managers reported using other techniques. Most government managers reported including funds for risk in their budgets, but generally not as a specific identifiable amount through techniques such as using a separate line item or management reserves. (See fig. I. 21.)

   --Over one-half, or 33, of the 59 responding industry managers compared to about one-fourth, or 13, of the 48 government managers reported using what they considered to be a formal, quantitative technique. (See fig. I.22.) In total, either the government or industry program managers reported using formal, quantitative techniques on 40 programs.[9] Predominant formal techniques cited by industry managers were design reviews, test and evaluation, and simulations and modeling. No formal techniques were predominant among government managers. However, in several cases government managers, unlike industry managers, listed techniques such as design reviews and tests and evaluations which government managers did not consider to be formal, quantitative techniques.

   --Almost 70 percent, or 9, of the 13 government managers and about 70 percent, or 23, of the 33 industry managers using what they considered to be formal techniques included the results in their program budgets or cost estimates.

   --The 48 government and 56 industry managers responding to this issue most frequently cited providing more realistic cost estimates and minimizing performance risk as benefits of formal, quantitative risk analysis. Other benefits cited included ensuring adequate funding and minimizing schedule slippage. (See fig. I.23.)

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[9]Government and industry managers did not report on the same 40 programs. We arrived at this figure by comparing the 13 programs reported by government managers and the 33 by industry managers. Furthermore, in no more than 25 of the 40 unique programs did both government and industry managers report using formal, quantitative techniques. We could not precisely determine on how many programs both government and industry used these techniques because we did not receive questionnaires from managers in both on 19 programs.

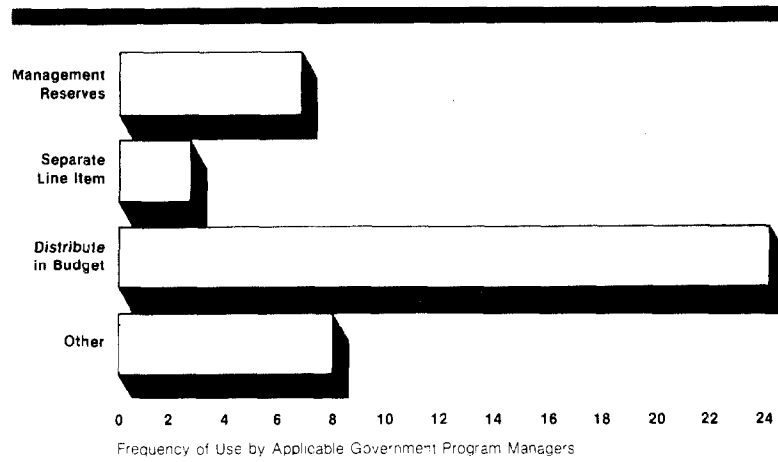**Figure I.21: Techniques Used to Budget for Risk**

Frequency of Use by Applicable Government Program Managers

Figure I.22: Extent Risk Analysis Used

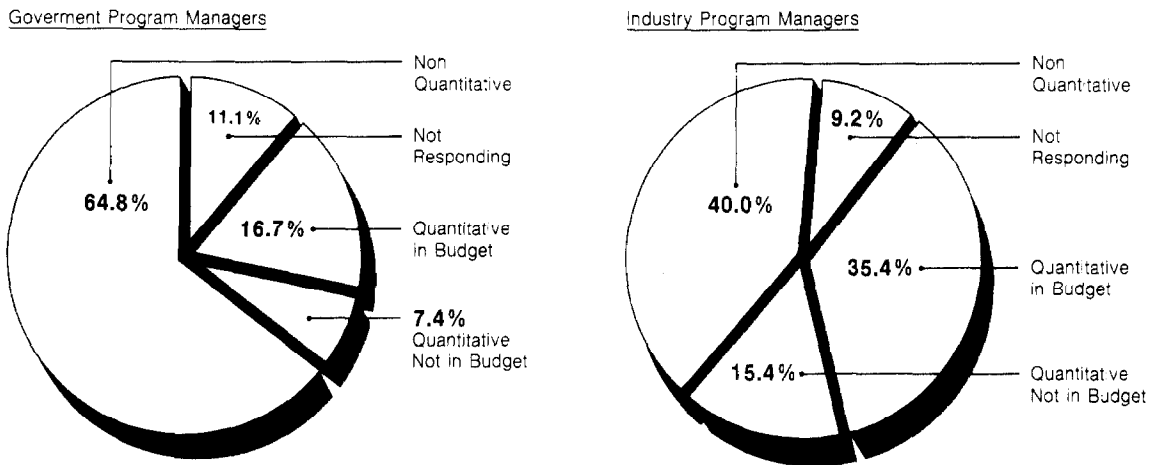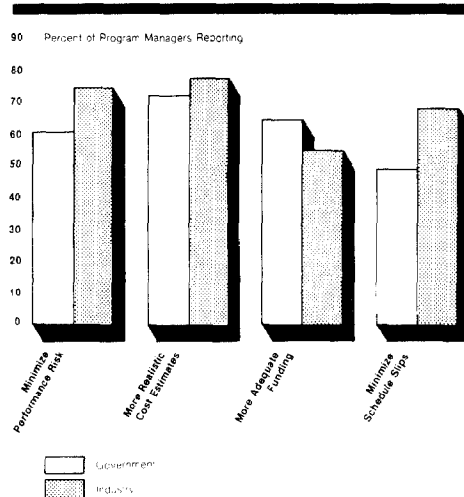Goverment Program Managers

Industry Program Managers

Figure I.23: Benefits of Quantitative Risk Analysis

Budgeting to most likely cost and for inflation

The budgeting to most likely cost initiative was intended to help reduce the cost growth in weapon systems resulting from understated and overly optimistic program and budget estimates. DOD has characterized the problem, in part, as involving cost and budget estimates that have sometimes been purposely understated either because DOD was forcing a program to fit available funding, or because contractors lowered their cost estimates to win a contract with hopes of recovering costs on follow-on contracts.

Developing independent estimates was the most frequently reported technique used by government program managers in reducing the likelihood of unrealistically low estimates. Forty-six, or 87 percent, of the 53 government managers responding, reported using this technique. (See fig. I.24.) Government managers also frequently (74 percent) reported using the baselining technique to reduce the likelihood of unrealistically low estimates. In addition, 21, or 40 percent, reported submitting justifications for use of low estimates. (See fig. I.25.)

Budgeting for inflation involved using a special index.[10] About 57 percent of the government program managers reported that the index had provided a reasonably accurate estimate of inflation. The remaining responses were about equally divided between overestimated and underestimated increases.

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[10]The special index is an inflation factor, above the general price index, to account for the higher price increases which DOD believes are associated with weapon systems procurement.

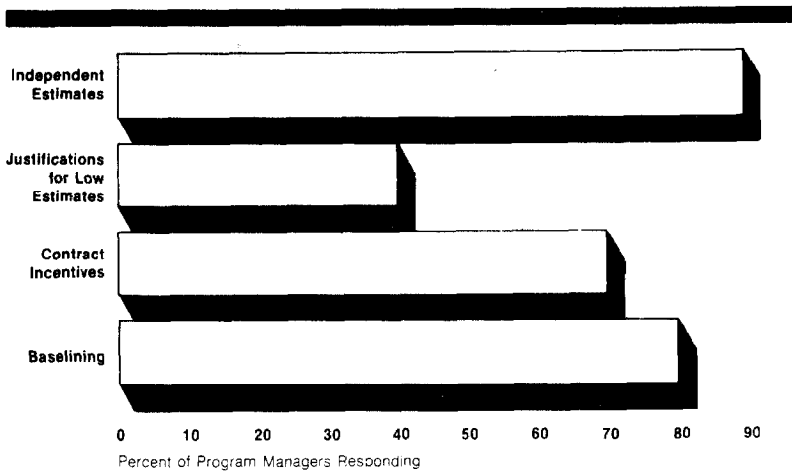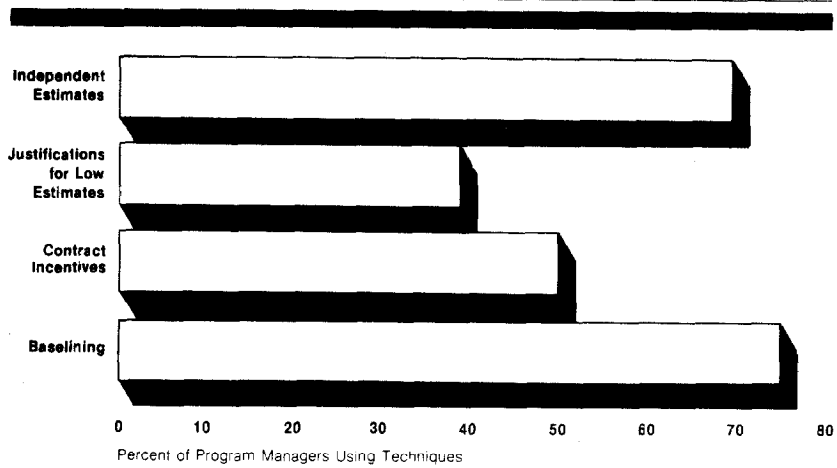**Figure I.24: Techniques Government Program Managers Use in Budgeting to Most Likely Cost**

Percent of Program Managers Responding

Figure I.25: Techniques Used at Least Somewhat Effectively in Budgeting to Most Likely Cost

Percent of Program Managers Using Techniques

SYSTEM READINESS

    DAIP included several initiatives for improving the
logistical supportability and maintainability of weapon systems
deployed in the field for which we obtained program managers'
perspectives. These initiatives include

    --giving greater emphasis to weapon systems' readiness and
      support early in the acquisition cycle,

    --providing adequate funding for test hardware, and

    --increasing the use of contractor incentives to improve
      weapons support and readiness and providing the government
      program manager with additional control to ensure timely
      and adequate systems' logistics support.

Overall, many program managers from government and industry
reported that, during fiscal years 1983 to 1985, system readiness
was receiving greater attention during the acquisition process.
Government managers reported more frequently than industry
managers that readiness requirements were a threat to extending
the acquisition schedule.

Readiness and support emphasis

    All 10 government and 19 industry program managers with
programs still in early development generally reported that
readiness and support issues are receiving at least some attention
from external reviewing officials. Over one-half of the
government managers reported that these issues are receiving a
great or very great amount of attention. (See fig. I.26.)
Program managers with programs beyond early development reported
similar results.

    --Thirteen of 28 government and industry managers responding
      with programs in early development indicated that setting
      reliability goals early is receiving a great or very great
      amount of attention.

    --Twenty-eight of 29 government and industry managers
      responding indicated that use of standardized operational
      and support systems was receiving at least some attention
      and 14 of these indicated it was receiving a great or very
      great amount of attention.

    --Twenty-six of 29 government and industry managers
      responding reported that greater attention is being given
      to identifying the resources required to achieve system
      readiness goals--10 believed to a great or very great
      extent.

--Nine of the 10 government managers (we did not ask industry
managers) with programs in early development reported that
use of contract incentives is receiving at least some
attention with 5 indicating the extent of attention to be
great or very great.

--Seven of the 10 government managers (we did not ask
industry managers) believed that program management control
over logistics and support resources is receiving a great
or very great amount of attention.

Figure I.26: Techniques Used to Provide Attention to Readiness Factors for Programs in Early Development


Government — Some/Moderate

Government — Great/Very Great

Industry — Some/Moderate

Industry — Great/Very Great
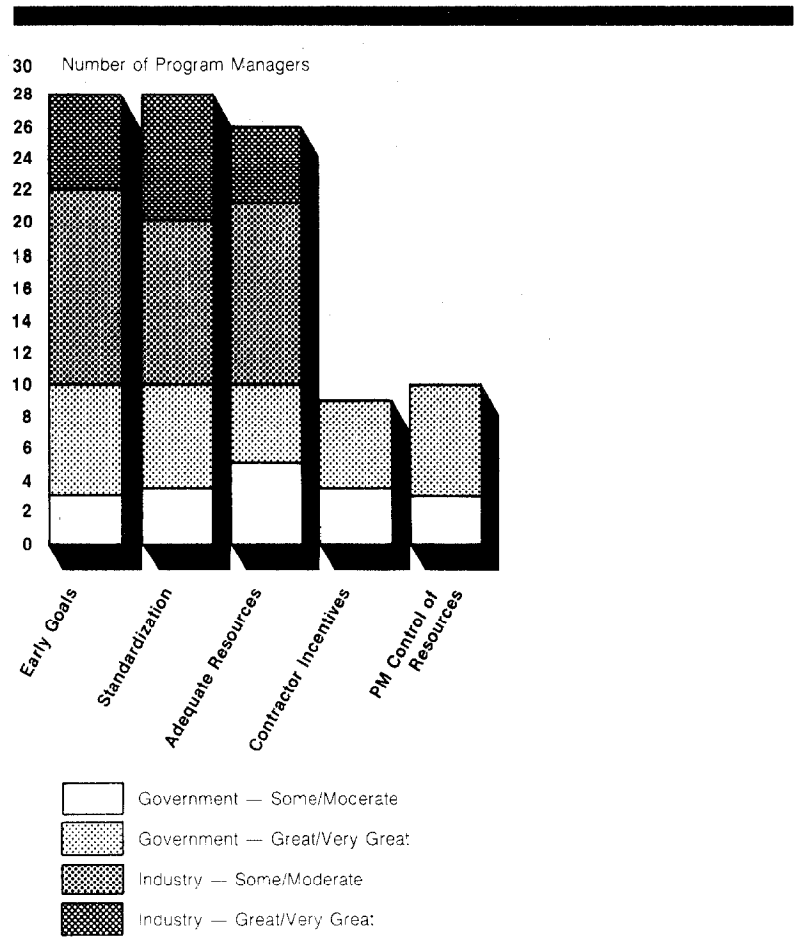
Impact of reliability and
support requirements on
acquisition schedules

Several factors can lengthen or threaten to lengthen acquisition schedules, including not only reliability and support requirements, but also program planning problems, funding instability, availability of funds when needed (timeliness), and technical problems. Government and industry programs reported that all of these factors have lengthened or threatened to lengthen schedules; however, industry managers tended to rate factors other than reliability and support as being a greater threat to maintaining schedules.

--Of the 24 government and industry program managers responding and having programs in early development, managers in industry reported most frequently that the major threats to schedules were inadequate or untimely funding, funding instability, and changes to program plans. Government managers reported that these factors and technical problems, as well as reliability and support requirements, were about equally affecting schedules at least to some extent. (See fig. I.27.)

--Six government and three industry managers reported that reliability and support posed at least some threat to schedule (see fig. I.27), but none viewed the threat to be great.

Figure I.27: Factors Affecting Acquisition Schedule at Least to Some Extent

14   Number of Program Managers

Government
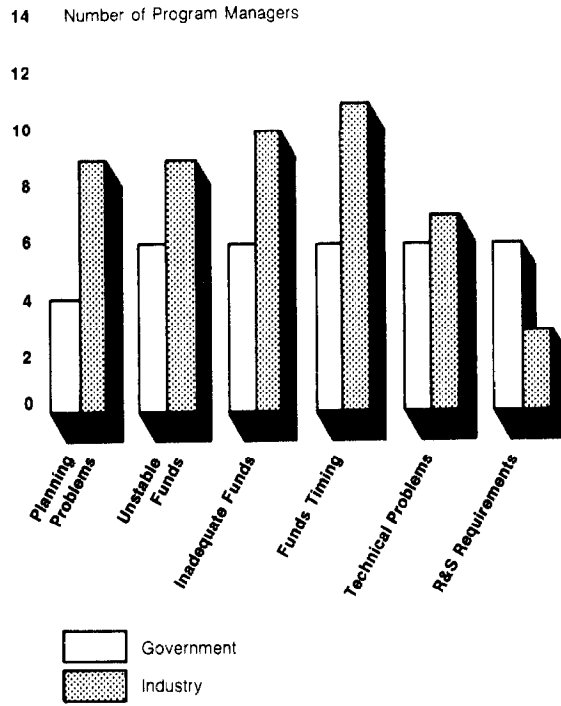
Industry

Funding for test hardware

        Most government and many industry program managers reported
that funding for test hardware was adequate, but industry managers
viewed the funding as inadequate much more frequently than their
government counterparts. Furthermore, several industry managers
indicated that when funds were inadequate serious program
consequences occurred.

        --Of the 36 government managers reporting that funds for
          test hardware had been requested during fiscal years 1983
          through 1985, 31, or about 86 percent, indicated that
          funding was at least adequate. This compares to about 52
          percent, or 25, of the 48 industry managers, indicating
          that test hardware funds had been requested, who reported
          at least adequate funding. However, an additional 13 or 27
          percent of the industry managers indicated the funding was
          only marginally adequate as compared to 3 or 8 percent of
          the government managers. (See fig. I.28.)

        --Managers of 12, or about 14 percent, of the 84
          number of programs reported inadequate funding. This
          includes 2 programs reported on by government managers and
          10 different programs reported on by industry managers.
          The government managers did not specify why funding was
          inadequate. When industry managers gave a reason, they
          stated that required funds were either not included in the
          budget or budgeted funds were reduced.

        --According to some industry managers, inadequate test
          hardware funding has resulted in increased costs, program
          delays, and increased program risk.

Figure I.28: Adequacy of Test Hardware Funds

Goverment Program Managers

Industry Program Managers
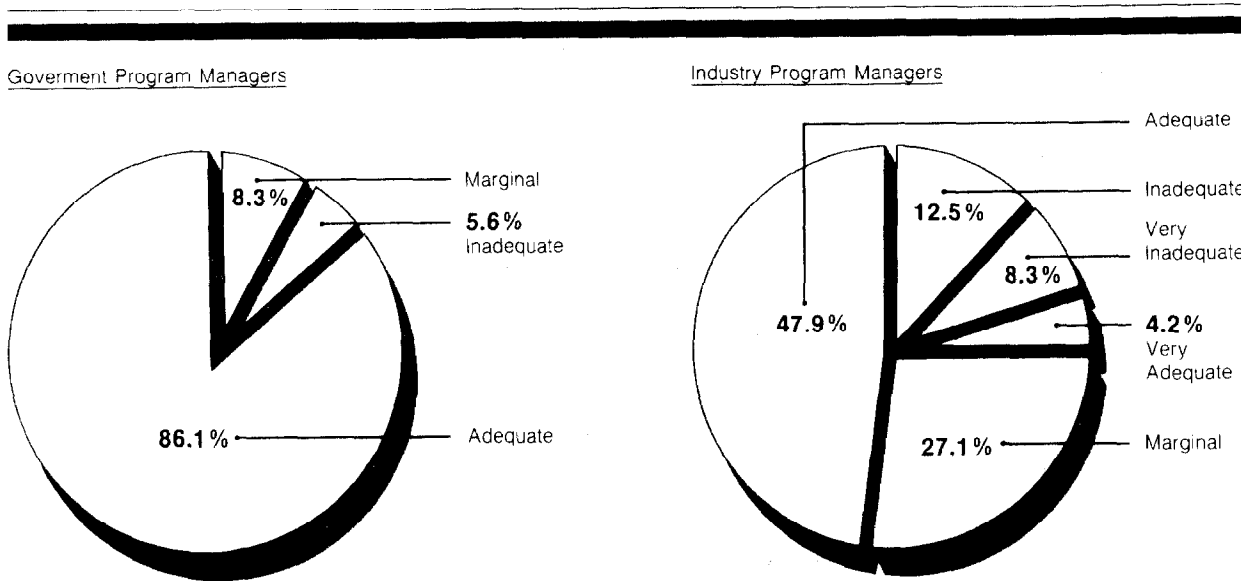
Contract incentives and
## program office control of
resources

Program managers with systems in early development frequently reported that contract incentives were being used to improve system reliability and support. A high proportion of these government program managers reported having sufficient opportunity, authority, information, and resources to control for adequate logistic support. However, a relatively smaller proportion of industry managers reported that the government managers had sufficient authority and resources.

--Four of the 11 government managers, and 9 of the 19 industry managers with systems in early development and reporting on this issue indicated they were using contract incentives, such as award fees and warranties, to improve system reliability and support.

--Almost all of the 11 government managers believed they had sufficient opportunity, authority, and information. Most also reported sufficient resources to control logistics support. Industry managers may have had a somewhat different perception;[11] most reported that government managers had sufficient opportunity and information, but fewer reported that the managers' authority and resources were adequate for controlling logistics support. (See fig. I.29.)

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[11]Questionnaire data was insufficient for drawing any meaningful comparisons between government and industry views on this issue. Of the 22 unique programs represented by the government and industry responses, 13 or more than half could not be compared because both government and industry managers did not respond.

Figure I.29: Number of Managers with Programs in Early Development Reporting that Government Program Managers Have Sufficient Control Over Selected Factors Influencing Readiness and Support

20   Program Managers In Early Development
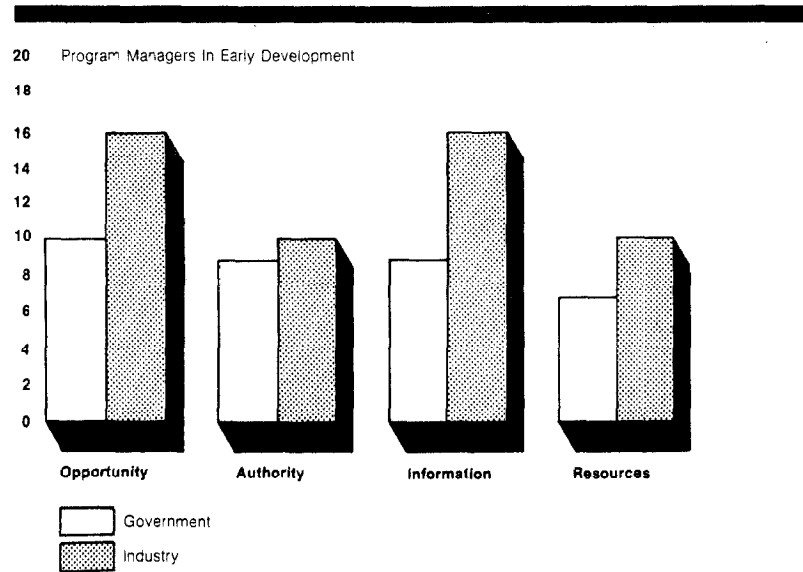
INDUSTRIAL BASE

     Several initiatives were instituted to enhance the defense
industrial base. These initiatives included actions related to
contractor incentives; various procurement strategies, such as,
the use of economic production rates, competition, and multiyear
contracting; and certain administrative actions.

     Program managers from government and industry frequently
reported that various contractor incentives were having at least
some impact on enhancing the industrial base. Government managers
most frequently reported the action to use more rapid depreciation
of capital investments followed by increased support given to the
manufacturing technology program as having at least some potential
for enhancing the industrial base. The manufacturing technology
program encourages factory applications of new technologies.
Industry managers most frequently reported the manufacturing
technology program and expediting contract payments as having at
least some impact. All other incentives, including (1) use of
negotiated profit levels commensurate with risk, (2) greater use
of Economic Price Adjustment Clauses in contracts, and (3) repeal
of the statutory provision regarding excess profits, were
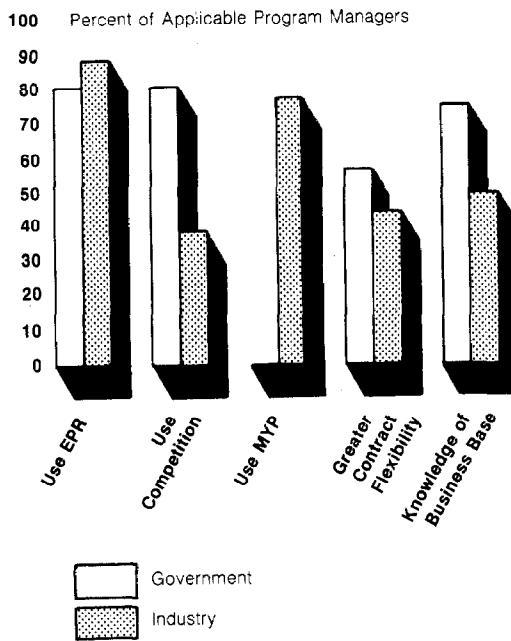frequently reported as enhancing the industrial base. (See fig.
I.30.)

     Industry and government program managers had somewhat
differing assessments of the effect various procurement strategies
had on the industrial base. Although 80 percent of the government
managers and 87 percent of industry managers viewed the use of
economic production rates as having some effect on enhancing the
industrial base, their views of competition's effect differed
markedly. Whereas 80 percent of the government managers reported
competition as having some impact, only 38 percent of the industry
managers reported this view. Industry managers also reported less
frequently than government managers that contract flexibility and
more knowledge of the business base were having an effect. In
addition, industry managers frequently reported that multiyear
procurement was having an impact; we did not ask government
managers about this. (See fig. I.30.)

Figure I.30: Various Actions Enhancing the Industrial Base at Least to Some Extent

Contractor Incentives

100   Percent of Applicable Program Managers
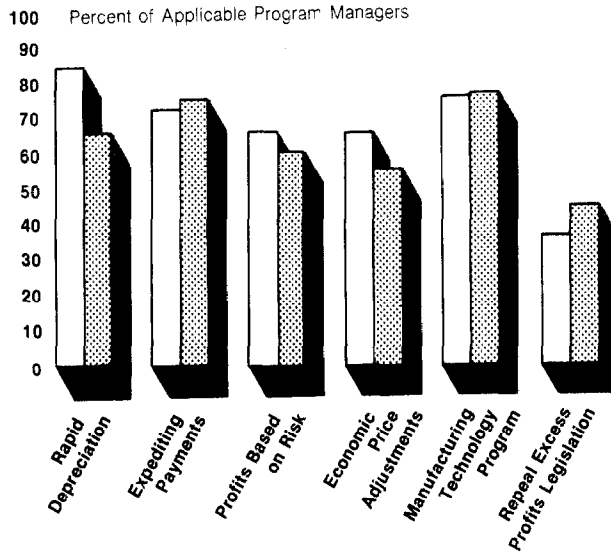
Procurement Strategies/Administrative Actions

100   Percent of Applicable Program Managers

☐ Government

▒ Industry

PROCUREMENT ADMINISTRATION

Two initiatives covering procurement administration were intended to reduce the administrative cost and time to procure items and improve the source selection process. Several actions taken to reduce administrative cost and time included

--raising the $10,000 limit for negotiating, rather than competitively bidding, small purchases to $25,000;

--raising the mandatory threshold for contractor cost and pricing certificates from $100,000 to $500,000;

--raising the threshold for service secretary review of contract determination and findings for research and development from $100,000 to $5 million; and

--simplifying contract formats.

The contractor threshold for cost and pricing certificates was later reversed to $100,000 by the Competition in Contracting Act of 1984. The source selection initiative was to ensure evaluation of past performance of DOD contractors in the source selection process.

Neither of the two actions to implement the source selection initiative had been fully accomplished at the time of our questionnaire. One action to establish a DOD-wide system for sharing contractor performance information was later considered to be unnecessarily duplicative of existing processes. Another action to modify DOD policy to emphasize contractor past performance in the source selection process was still in process at the time of our questionnaire.

Reducing administrative cost and time

The questionnaire results were somewhat mixed on DOD's actions to reduce administrative costs and time. In many instances, the actions had not been applied to the programs. From 57 to 83 percent of the government program managers (we did not address this question to industry) reported that they did not apply (1) simplified contract formats, (2) the new thresholds for service secretary reviews, (3) the higher cost and pricing threshold, or (4) the higher threshold for negotiating small purchases. When the actions were applied, our data showed, according to the government managers, time requirements were reduced in

--all eight programs simplifying contract formats,

--14 of 22 programs involving the higher thresholds for service secretary reviews,

--11 of 22 programs applying the higher thresholds for contractor cost and pricing certificates, and

--13 of 15 programs using the greater authority for negotiating small purchases. (See fig. I.31.)

When program managers reported that they had applied the above techniques and time had not been reduced in procurement administration, they attributed this about equally to requirements for sole-source justifications, time required for contract preaward surveys by the Defense Contract Administrative Service, and new legislative requirements. (See fig. I.32.)

Figure I.31: Impact of Various Actions to Reduce Administrative Time in Contracting
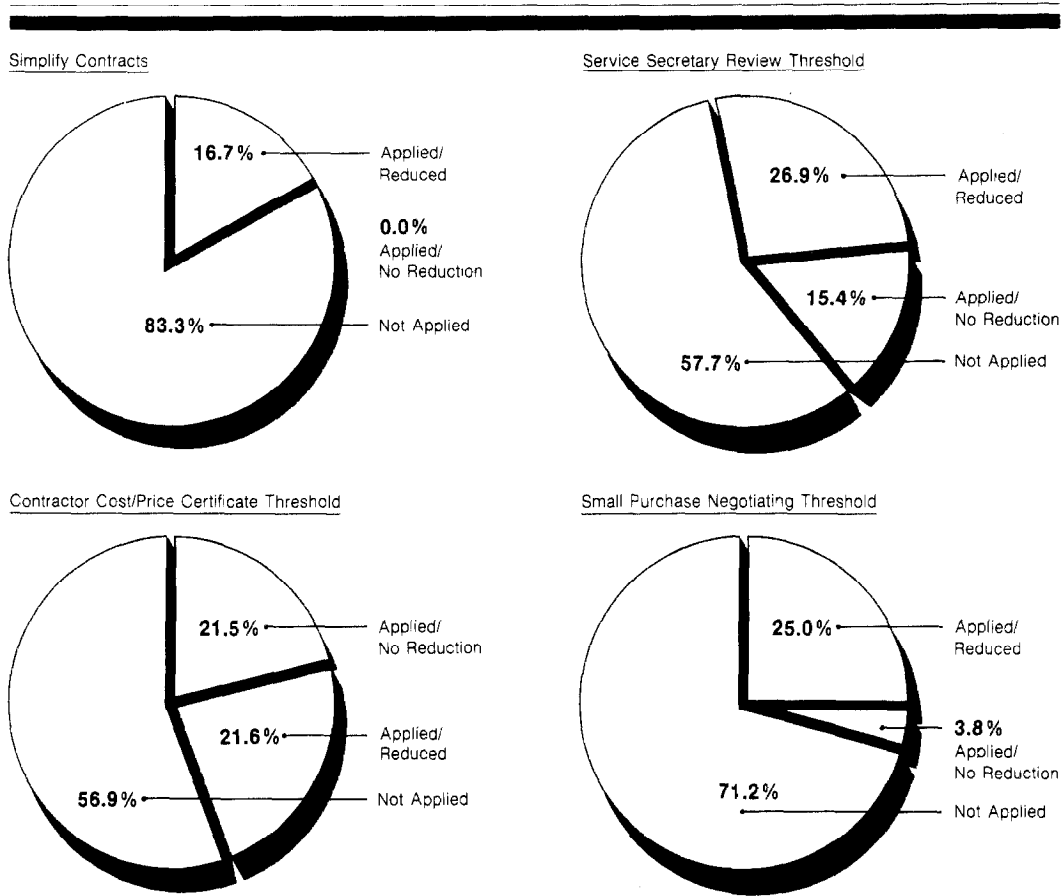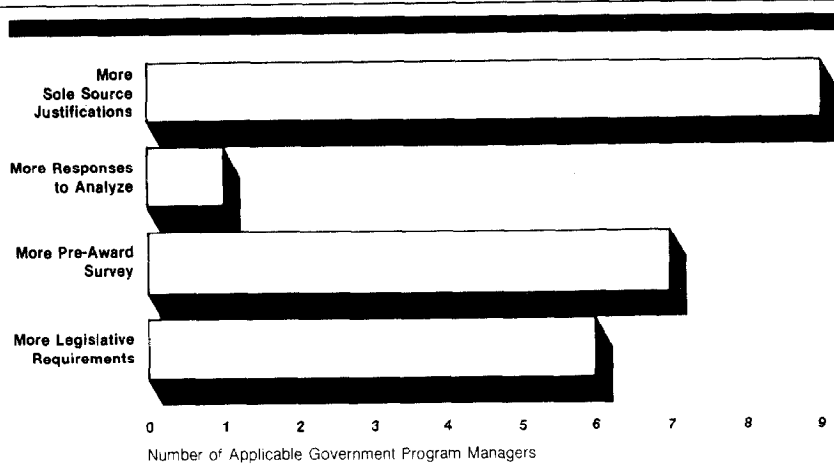
Simplify Contracts

16.7% — Applied/
          Reduced

0.0%
Applied/
No Reduction

83.3% — Not Applied

Service Secretary Review Threshold

26.9% — Applied/
          Reduced

15.4% — Applied/
          No Reduction

57.7% — Not Applied

Contractor Cost/Price Certificate Threshold

21.5% — Applied/
          No Reduction

21.6% — Applied/
          Reduced

56.9% — Not Applied

Small Purchase Negotiating Threshold

25.0% — Applied/
          Reduced

3.8%
Applied/
No Reduction

71.2% — Not Applied

Figure I.32: Reasons Administrative Time Not Saved

More
Sole Source
Justifications

More Responses
to Analyze

More Pre-Award
Survey

More Legislative
Requirements

0   1   2   3   4   5   6   7   8   9

Number of Applicable Government Program Managers

Source selection

Although DOD had not implemented the source selection initiative, most program managers responding to our questionnaire indicated that a contractor's past performance is formally evaluated during the selection process.

--According to 37 (about 88 percent) of the 42 government program managers reporting that contract bidders on their program were former DOD contractors, the contractor's past performance is formally evaluated during the selection process. Industry program managers reported somewhat less favorable results. According to the 59 industry managers who had experience with the source selection process, 33 (about 56 percent) reported that they were evaluated on their past performance. (See fig. I.33.)

--Most government and industry managers generally reported that certain specific factors relating to contractor performance were evaluated. Factors most frequently reported as being evaluated were contractors' past records in meeting performance specifications, scheduled deliveries, and cost estimates. Those least frequently reported as being evaluated related to product quality (producing reliable and maintainable products with minimum defects). There was little difference between government and industry managers' responses. (See fig. I.34.)

--Government and industry managers differed markedly on the effect of the attention being given to source selection. Three-fourths, or 27, of the 36 government managers reporting on this issue indicated that the attention given has increased at least to some extent the likelihood of selecting contractors who could best meet the program's cost, schedule, and performance goals. Only about one-fourth, or 9, of the 33 industry managers believed this to be the case. (See fig. I.35.)

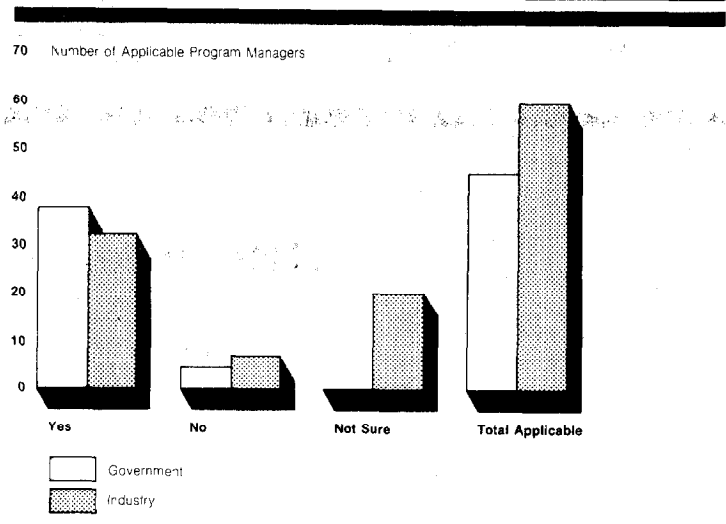**Figure I.33: Extent Contractor Performance Evaluated in Source Selection**

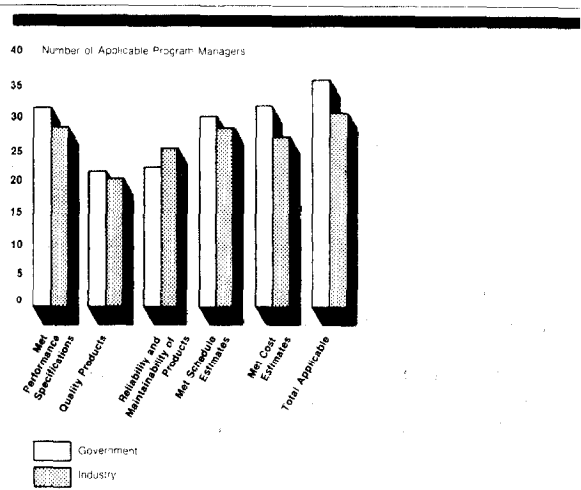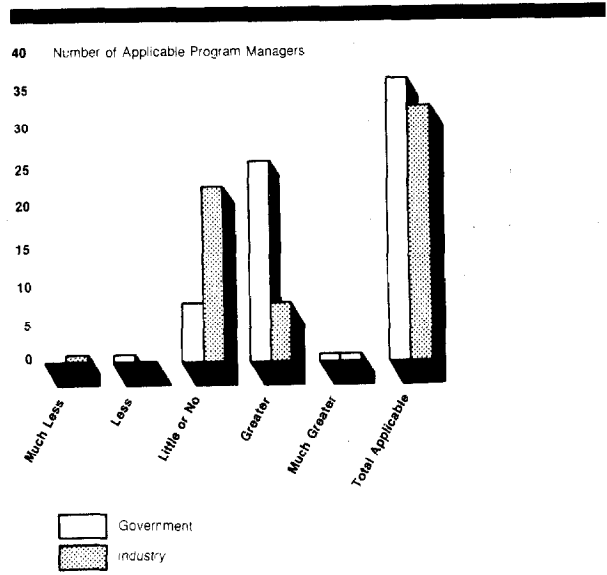**Figure I.34: Factors Considered in Source Selection**

Figure I.35: The Effect on Likelihood of Selecting the Best Contractor by Considering Past Performance

LETTER FROM THE HONORABLE WILLIAM V. ROTH, JR.

CHAIRMAN, SENATE COMMITTEE ON GOVERNMENTAL AFFAIRS

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United States Senate

COMMITTEE ON
GOVERNMENTAL AFFAIRS
WASHINGTON, D.C. 20510

September 13, 1984

The Honorable Charles Bowsher
Comptroller General of the United States
U. S. General Accounting Office
441 G Street, N. W.
Washington, D. C.   20548

Dear Chuck:

As you know, my Committee has been conducting a series
of hearings over the last several years to review the
effectiveness and efficiency of the Defense Department's
acquisition process. We have reviewed a wide range of specific
problem areas, including such things as ineffective operational
testing of weapon systems and overpricing of spare parts, as well
as examining the Department's management reform efforts.

One of the matters which has been of great interest to
the Committee is the development and implementation of the
Defense Acquisition Improvement Program (DAIP), informally known
as the "Carlucci Initiatives." These 32 initiatives have been
the subject of two general oversight hearings and many of the
specific problem areas in the acquisition process reviewed by the
Committee have also included some examination of one or more of
the initiatives.

It has been more than three years since the DAIP was
first developed and implementation began and it is appropriate
now to begin to assess what effects this reform effort has had on
the acquisition process. In addition, GAO has been reviewing
many of the issues covered by the DAIP over the last few years
and has developed a great deal of useful information on the many
problem areas plaguing the defense acquisition process. In light
of these facts, I am requesting that the General Accounting
Office begin a review of the Defense Department's Acquisition
Improvement Program to determine how effective these reforms have
been in reaching their stated goals of shortening the acquisition
process, increasing readiness, providing cost savings and
strengthening the industrial base.

In conducting this review, I would expect the GAO to
provide an assessment of the effectiveness of the DoD's reform
efforts with special emphasis on problem areas in the acquisition
process it has identified through its own reviews. For example,

The Honorable Charles Bowsher
Page 2
September 13, 1984

the GAO has completed several reports and analyses of the Defense
Department's budgeting, cost estimating and cost reporting
process and based on this work should be able to provide its
opinions and views on the Department's progress in these areas.

        Before beginning work on this request, I would ask that
your auditors contact Mr. Link Hoewing of my staff at 224-4751 to
discuss any problems or questions that may need to be resolved.
I appreciate your attention to this request and look forward to
the completion of the report.

                                Sincerely,

                                William V. Roth, Jr.
                                Chairman

WVR/kkp

(396507)

United States
General Accounting Office
Washington, D.C. 20548

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