THE POLITICS OF DEFENSE CONTRACTING

Council on Economic Priorities

The Iron Triangle

GORDON ADAMS

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PREFACE

The past decade has seen a significant change in the ability of business to obtain information on Federal policy-making, penetrate the councils of Government and move Congress and the public to support its political agenda. In the past decade, most of the *Fortune* 500 companies have established corporate offices in Washington to gather information, participate in public policy-making, and coordinate the firm's overall Government relations effort. At a stunningly rapid pace, corporations have taken advantage of recent legislation to create Political Action Committees, channelling millions of dollars into campaign contributions to Federal candidates.

The Council's interest in corporate political activity combines a tradition of a decade of research on defense contracting with a realization of the widespread and growing political influence of corporations. For decades contractors have had a special stake in public policy—for some, contract dollars provide the bulk of their total business. Not surprisingly, then, defense contractors have pioneered in the development of Government relations tools and policies. Consequently, this study focuses on the political power of the defense industry. We analyzed in detail individual companies choosing eight that are major defense contractors and significant part of whose sales are with the Department of Defense: Boeing, General Dynamics, Grumman, McDonnell Douglas, Northrop, Rockwell International and United Technologies. These eight companies dominated the top 10 contractor list two-thirds of the time between 1970 and 1979, receiving over $100 billion in DoD contracts, 25 percent of all DoD awards. Nearly $25 billion of this was for research and development—37 percent of the DoD total for R & D.

They also received over $11.4 billion in NASA contracts, 36 percent of the NASA total. Fifty percent of the sales of these companies in the past decade have been principally with these two Federal agencies. Grumman was high, with 82 percent, and Boeing low with 30.8 percent.

We have pulled together information from many areas: board/financial networks, political action committees, personnel transfers, grass-roots activities, lobbying, the Washington office, in order to understand the nature and scope of corporate Government relations practices. The resulting study has led to the following findings:

1. Newly released data shows that five companies in our study (Boeing, General Dynamics, Grumman, Lockheed, Rockwell International) spent a total of $16.8 million during a two-year period in the 1970s to operate their offices in Washington. Rockwell International's Washington office, alone, spent $7 million. This amount includes substantial spending on lobbying and Government relations, much of which is subsidized by the taxpayer. These five contractors charged $15.8 million of this amount to the Department of Defense as part of general and administrative expenses, an amount later slightly reduced as a result of audits conducted by the Defense Contract Audit Agency. All eight companies had registered lobbyists in Washington in the late 1970s—Boeing the most (15) and General Dynamics the fewest (1). In terms of disclosed lobbying expenditures, Northrop's lobbyists reported receiving the most funds for lobbying from 1977-79 ($340,000), followed by Lockheed lobbyists ($158,000). General Dynamics was again low ($1,600).

2. The Political Action Committees of the defense industry, according to the most recent available data (1977-78), are the largest corporate PACs, averaging $81,000 a year in total disbursements and $55,000 in contributions to Federal campaigns. The eight PACs in this study, created between April 1976 and February 1978 had spent over $2 million by summer 1980, 60 percent of it ($1.26 million) in contributions to Federal campaigns. General Dynamics had the largest volume of total PAC spending ($510,000 from July 1977 to August 1980) while Northrop had the lowest ($110,416 from February 1978 to July 1980). Measuring Federal campaign contributions alone, Grumman gave the most—$338,000 by June 1980—and Boeing the least, $86,000 by May 1980.

We also aggregated Federal campaign data for the first time according to contributions to members of key committees and the geographic location of the district. We found that the McDonnell Douglas PAC concentrated the highest proportion of its contributions on key committee members and candidates from areas with company plant locations (79 percent), followed by Lockheed (67 percent), with Boeing the lowest (36 percent).

3. These eight PACs concentrated their contributions in Congress on a small number of committee members most central to their business. In the Senate Armed Services Committee, the leading recipients of contributions from the eight PACs (to summer 1980) were:

Sen. Strom Thurmond (R-SC)	$14,300
Sen. John Tower (R-TX)	$13,175
Sen. John Warner (R-VA)	$11,000
Sen. Sam Nunn (D-GA)	$ 9,100
Sen. Barry Goldwater (R-AZ)	$ 7,800

On the Senate Defense Appropriations Subcommittee the leading recipients were:

Sen. Ernest Hollings (D-SC)	$13,000
Sen Warren Magnuson (R-WA)	$10,200
Sen. Jake Garn (R-UT)	$ 5,500
Sen. Edward Brooke (R-MA)	$ 5,300
Sen. Daniel Inouye (D-HI)	$ 5,100

In the House Armed Services Committee the ranking recipients were:

Rep. Charles Wilson (D-CA)	$12,925
Rep. Jim Lloyd (D-CA)	$11,650
Rep. Mendel Davis (D-SC)	$10,100
Rep. Bob Wilson (R-CA)	$ 9,700
Rep. Richard Ichord (D-MO)	$ 9,925

In the House Defense Appropriations Subcommittee, the ranking recipients were:

Rep. Joseph Addabbo (D-NY)	$10,800
Rep. Robert Giaimo (D-CT)	$ 7,700
Rep. Jack Edwards (D-AL)	$ 7,250
Rep. Bill Chappell (D-FL)	$ 6,400
Rep. Bill Burlison (D-MO)	$ 6,200

4. The eight companies have access to the defense policy process through significant movements of personnel between the Government and the firms. Our review of DoD data showed that 1,942 individuals (uniformed and civilian) moved between DoD/NASA and the eight companies between 1970 and 1979. Of these, 1,672 were hired by the companies, while 270 company employees went to work for DoD and NASA. The highest number of such transfers was with Boeing (398), followed by Northrop (360) and Lockheed (321). Grumman (96) and United Technologies (83) had the fewest transferees. Reviewing civilian transfers in particular, Northrop hired the largest number of civilian employees from DoD (50), while Rockwell had the highest number of civilian transfers to DoD (47). Grumman hired the lowest number of civilians from DoD (5), while United Technologies had the lowest civilian flow to DoD (12). We estimate, on the basis of their own descriptions, that one third of all civilian transfers involved personnel in the crucial area of research and development. Grumman had the highest proportion (41 percent), while General Dynamics had the lowest (28 percent). Based on employees' own descriptions, we estimate that 24 percent of civilian transfers (116) placed personnel in positions which constituted an "appearance of potential conflict of interest." (See Chapter 6 for definition.) While these situations do not constitute wrong-doing and

may have been resolved in ways that eliminate any conflict, the high number suggests a need for more adequate reporting requirements, stricter enforcement of conflict of interest legislation, and new legislation to put greater distance between DoD and the industry.

5. The eight companies in this study play a key role in defining future weapons systems, principally through their access to the early definition of research and development policies and projects. Initial contractor R & D activity is funded by the Federal Government through DoD's Independent Research and Development and Bids and Proposals (IR & D and B & P) programs. The Defense Department spends roughly $1 billion each year on these two programs, which have minimal Congressional supervision.

On the basis of data voluntarily supplied by Grumman, we calculate that 78 percent of company R & D investment between 1973 and 1979 was funded through IR & D and B & P, combined. On the basis of data disclosed by DoD in response to a Freedom of Information Act request, we estimate that at the high end 65 percent of Northrop's R & D investment, between 1973 and 1978, and at the low end, 14.5 percent of United Technologies' was funded through DoD's IR & D program.

6. Grass-roots mobilizations are becoming a crucial element in contractor lobbying. At least two of the companies in the study—Rockwell and Grumman—undertook major grass-roots efforts on behalf of their defense programs in the 1970s. Between 1975 and 1976 Rockwell spent $1.35 million, some of it reimbursed by DoD contracts, on efforts aimed at mobilizing employees, stockholders, communities and mass organizations on behalf of the B-1 bomber. Grumman organized a similar campaign for its F-14 program between 1977 and 1978.

7. Members of company boards of directors can provide a useful informational and Government relations resource, though data on their role is limited. Directors of these eight companies have a large number of ties with financial institutions, many of which lend to the companies. Members of Lockheed's board are also directors of 18 financial institutions; Rockwell has 17 such shared memberships; and Boeing 16; while Northrop (10), and McDonnell Douglas (9) were lowest in such shared memberships. Some major banks are lenders to several companies in the study: Chase Manhattan (5), Citicorp (4), Morgan Guaranty (4), and Security Pacific (4). In addition, 41 percent of the directors of these eight companies are directors of other companies which received nearly $2 billion in 1979 contracts from DoD.

8. All eight companies are prominently represented on the kay advisory committees of the Department of Defense and NASA, where, at an early stage, they discuss and help formulate projects in which they have a direct corporate interest. Boeing had the highest membership total on such committees—23—followed by Lockheed—20.

9. Lavish entertainment of Federal officials, once a frequent practice in the defense industry, appears to have declined markedly as a result of stricter measures taken by DoD in the late 1970s.

10. Although with the exception of Northrop there is little evidence of illegal political contributions by these firms in the U.S., all eight admit to some involvement in overseas payments about which questions have been raised (see Chapter 14). In some cases, such payments were linked to military sales. The three companies most involved with overseas sales—Boeing, Lockheed and McDonnell Douglas—also have the highest amounts of such overseas payments.

11. The eight companies in the study all refused to disclose information on their Government relations practices, pleading cost, lack of time, proprietary information, and national security. In response to our request that each company review the preliminary draft of its profile, three companies—General Dynamics, McDonnell Douglas and Rockwell—failed to respond in any way. Northrop and Lockheed replied with hostile and totally uninformative communications. We rate all five very poor on disclosure. Boeing and United Technologies provided a small amount of additional information, rating poor in disclosure. Grumman provided an informative review of the profile, making its fair rating the best in the study.

12. Information on Government relations is hard to come by. The secrecy of the contractors is matched by the inadequacy of Federal record keeping and requirements on disclosure. Data on research and development spending is uneven and uninformative. Data on subcontracting is undisclosed, and lobbying data is thin.

A powerful flow of people and money moves between the defense contractors, the Executive branch (DoD and NASA), and Congress, creating an "iron triangle" on defense policy and procurement that excludes outsiders and alternative perspectives. The concluding chapter of this study discusses ways in which the public might penetrate the triangle, reclaiming its right to a voice in this critical area of national policy.

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PART I
THE IRON TRIANGLE: CONGRESS, THE PENTAGON, AND THE DEFENSE CONTRACTORS

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1
The Business of Defense

The defense budget of the United States, which now accounts for roughly one quarter of all Federal spending, will rise rapidly in the 1980s. Many justifications are offered for its dramatic increase: inflation, the high price of increasingly sophisticated weapons, the rivalry between the military services, and the need for an arms build-up to protect United States interests in an unstable world.[1] Rarely mentioned, however, are the pressures that the defense contracting industry exert on the Government, their chief "customer."

In approaching the Government, contractors take advantage of both their opportunities as members of the "big business" community and their unique role and special access as manufacturers of weapons that guarantee "national security." The benefits to the industry of aggressive "Government relations" practices are great. The cost to the country, however, in an inflated budget and a narrowing of the debate on strategic and foreign policy, is high.

Business as Usual

For over a century, private industry has asserted its power in American politics. "Big business" has both sought Government favors and battled Government efforts to control it.[2] Business leaders constantly warn that Government has become too large and exercises too much influence in the private sector. They castigate regulatory agencies as costly, restricive, and inefficient. But alongside this apparent antagonism another, more cooperative set of relations has developed. During World War I business leaders were brought into the Federal Government as wartime production planners for virtually all sectors of U.S. in-

dustry. In the 1920s Secretary of Commerce Herbert Hoover organized permanent advisory commissions to the Department composed of business representatives from different sectors of the economy. President Roosevelt attracted a number of businessmen into Government positions first to combat the Depression and later, in World War II, to plan wartime production. As the war ended, many Government commissions and the new Council on Economic Advisors turned to business for staffing and ideas about post-war economic, foreign and military policy.

Members of regulatory commissions are often drawn from the regulated industry; personnel move steadily between the agency, the industry being regulated and its legal support community.[3] In certain areas, regulation—far from being the whipping boy of the business community—is welcomed. Much is gained by industry through regular Federal involvement in price-setting and entry and exit from the markets.

Since 1946, and especially in the sixties and seventies, America's corporations expanded and developed practices and structures to influence Congressional and Executive policy-makers. A growing number of major companies now have a corporate office responsible for "Government relations." Most of the Fortune 500 companies have offices in Washington whose purpose is to gather information and exert political pressure. Government relations is the art of making connections: between the company's needs, its potential support at the grass roots (workers, communities, stockholders), its campaign spending, the key staff and members of Congress, and officials in agencies in the Executive branch.

At a stunningly rapid pace, companies have taken advantage of the Federal Election Reform Act of 1971, as amended in 1974 and 1976, to establish Political Action Committees to channel their campaign contributions. Increasingly, PACs are being used as the corporate forum for determining a company's Government relations strategy. Corporations in America today are more sophisticated, more thorough and more coherent in developing political strategies than ever before. As *Fortune* noted:

> The business community has become the most effective special interest lobby in the city. Suddenly business seems to possess all the primary instruments of power—the leadership, the strategy, the support troops, the campaign money—and a new will to use them.[4]

According to Philip Shabecoff of *The New York Times Magazine*, "These are the days of wine and roses—of champagne, even, and orchids—for business interests in Washington. . . . Quietly, cautiously, but with growing success, the business community has been moving to influence legislation, administrative decision-making and the regulatory process."[5]

A Special Kind of Business

While the defense industry holds many characteristics in common with other members of the "big business" community, contractors play a unique role in American society. As manufacturers of strategic weapons, they are widely identified as guardians of "national security." The Federal Government not only regulates their activities but serves as one of their best customers. The weapons they manufacture follow the specifications of their Federal client; the procurement process is initiated and sustained by members of both the industry and the Government. This close interdependence has made them pacesetters in developing Government relations practices that safeguard their interests.

This intimacy developed early. Dependence on Government procurement began during World War I; many firms disappeared between the wars when procurement declined. In response, defense industry leaders, the financial community, and Government officials made vigorous efforts in the 1920s to establish national policies—air mail subsidies, Federal regulation, and consistent defense procurement—that would help the industry survive. After World War II, industry pressure and Government decisions led to Federal support for a private defense capacity, in effect subsidizing industry to keep critical personnel in working teams and production facilities open.

The decision to maintain a large, privately-owned defense manufacturing capacity has led to a bewildering variety of Federal procurement policies, many of which foster a high degree of intimacy between the Pentagon and its contractors and inhibit cost control.[6] Contractors expect that the Federal Government will not force them to do business at a loss; they assume that their productive capacity will be maintained and that profit margins will be ensured as their costs are reimbursed. DoD practices perpetuate these expectations: most defense contracts are negotiated rather than competitive. There are, in fact, 17 exceptions to the procurement requirement for competitive bidding and they cover important areas:

- —Public exigency
- —Supplies or services for which it is impractical to secure competition by formal advertising
- —Experimental, developmental, or research work
- —Technical equipment requiring standardization and interchangeability of parts
- —Technical or specialized supplies requiring substantial initial investment or extended period of preparation for manufacture
- —Negotiation after advertising
- —Purchases in the interest of national defense or industrial mobilization.[7]

Through frequent contract changes initiated by both sides of the

relationship, most DoD contracts turn into cost-plus. In addition to a visible profit, the contractors are the recipients of indirect benefits. Federal procurement policies provide defense contractors with a large amount of rent-free procuction space and equipment,[8] offer interest-free loans for "progress" on work completed by contractors, and rotate contracts among firms to ensure that no major contractor is without a contract for too long a period of time.[9]

Some see this interdependence as a form of Government control. The Department of Defense now maintains a bureaucracy of three million people, one million of whom are civilians, to design, produce, use, and repair weapons. Some critics of the DoD such as Seymour Melman and John Galbraith describe this "military-industrial complex" as a corporation that is dominated by a Government that saddles it with the frustrating task of producing non-commercial goods at high prices, using inefficient methods that reduce profits, sap management capabilities, hinder their commercial effectiveness and drain the productivity of the American economy as a whole.[10]

Analysts of defense spending also note bureaucratic pressures to expand military programs. Like all bureaucracies, the DoD and the services need to justify and perpetuate their existence. Defense budget-making is riddled with tales of bureaucratic policies in which the military have redefined the policy to fit a particular program. The Strategic Air Command (SAC) fought hard to keep manned bombers alive, despite Secretary of Defense Robert MacNamara's effort to kill them in the early 1960s. Without the B-1, SAC had no airborne role, a function that they wanted to maintain. The Navy argued for submarine-based weapons partly because they wished to keep a strategic function under their control.

The interdependence of supplier and purchaser in this highly political market creates special problems. Richard Kaufman, counsel to the Congressional Joint Economic Committee, lists some of them:

> padded costs, the use of government-owned equipment for commercial activities, the cash flow advantages of progress payments, the privilege of making late delivery of products that do not meet original specifications, bail-outs and get-well devices for contractors with cost overruns, executive salaries and fringe benefits and the personal career opportunities for those who oscillate between the Pentagon and the defense industry and who operate within those two powerful publicly-supported institutions.[11]

In spite of—and often because of—inefficiency and red tape, weapons manufacturers have received steady income from doing business with DoD. There is evidence that, contrary to the denial of contractors, profits for defense firms have run higher than the general manufacturing average, when one measures income as a proportion of capital investment rather than of sales.[12] For some aerospace companies a significant proportion of profits, for others corporate survival itself, depends on Federal contracts. Between 1972 and 1976, 36 firms

on the DoD top contractors' list received contract awards that totalled over 10 percent of company sales.[13]

Their dependency on Federal procurement places the contractors and their constituents in a special position. As contractors are quick to point out, more than company profits are at stake. The net of defense spreads outwards from the contractor to the labor force and the community. In the absence of alternatives, defense contracting provides careers and jobs for scientists, engineers, technicians and production workers, a group who numbered 1,170,000 in 1980, according to the Aerospace Industries Association.[14] Defense firms are major employers and sources of revenue in the areas where their production facilities are located. Union leaders know that contracts mean strengthened membership for the aerospace divisions of such unions as the United Auto Workers (UAW) and the International Association of Machinists (IAM). Local officials in San Jose, Los Angeles, Seattle, Dallas, Fort Worth, Hartford, Groton, St. Louis, Cincinnati, and Long Island—politicians from heavily defense-dependent states such as California, Connecticut, Missouri, Washington, Texas, Ohio, and New York—all know that there are few real alternatives to the work from defense contracting. To succeed in the weapons business, they must succeed in the "influence business." Accordingly, they have created "Government relations practices," a variety of tools and relationships that has taken them far beyond the classic model of the free enterprise system.

Government Relations

Contractors' Government relations, like those of other corporations, trade in two commodities: information and influence. A contractor seeks information from Congress and the Executive in answer to many questions: what programs are forthcoming and where and how are they being defined; what are Federal procurement plans and regulations going to look like, where do bureaucrats and members of Congress stand on particular systems, when will legislation be considered and what form will it take? The company reworks this information, which flows in vast quantities, to focus on company needs and possibilities. In other words, it becomes intelligence.[15] The need for such intelligence is virtually endless, and contractors' Government relations officers and Washington staff spend a substantial portion of their time talking on the phone, visiting Pentagon and Congressional offices, reading documents, and deciphering information useful to the company. In addition, Government relations specialists play a key role in providing information in the other direction—from the company to the Government—on company plans and needs.

This flow of information facilitates the other principal task of Government relations—the exerting of influence. Corporate officers for Government relations advise their company on how to gain access and manipulate the Government to serve their needs, often recommending changes in policy.[16] They manage the most important direc-

tion of communication: that towards the Government, becoming expert at neutralizing opposition in Congress, selling a company plan in the Executive branch, reversing unfavorable decisions and regulations, directing campaign contributions, focusing grass-roots lobbying efforts, and even taking a hand in drafting proposed legislation.

Government relations efforts also aim towards defending the industry and its views on policy from outsiders, critics and alternative perspectives. The industry makes the most of its unique role: as manufacturer of weapons it assumes a major role in defining national and global security. Industry spokesmen guard the terms of debate, challenging the legitimacy of alternative views and scoring participants who are not members of the fraternity. Even unlikely targets face criticism. The top defense planners of the Reagan Administration, until recently considered outsiders, were described by pro-industry spokesmen, columnists Roland Evans and Robert Novak, as follows:

> Casper Weinberger: Weinberger's nearly total ignorance on defense questions. . . was fully revealed in his Senate confirmation hearings.
>
> Frank Carlucci, Deputy Secretary of Defense: a civil servant with no Defense Department background.
>
> William Howard Taft, III, adviser to Weinberger: a Washington lawyer who knows even less about defense than Weinberger and Carlucci.
>
> Richard Stubbing, adviser to Taft: a Carter administration anti-defense expert at the Office of Management and Budget whose views generally coincide with Sen. George McGovern's.[17]

The Iron Triangle

Over the years the defense industry has become a *de facto* participant in the policy-making process. As in other areas dominated by powerful corporate interests, a policy sub-government or "iron triangle" has emerged.

Political scientists describe an "iron triangle" as a political relationship that brings together three key participants in a clearly delineated area of policy-making: the Federal bureaucracy, the key committees and members of Congress, and the private interest.[18] In defense, the participants are the Defense Department (plus NASA and the nuclear weapons branch of the Department of Energy); the House and Senate Armed Services Committees and Defense Appropriations Subcommittee, as well as Congressional members from defense-related districts and states; and the firms, labs, research institutes, trade associations and trade unions in the industry itself.

The special interests and the Federal bureaucracy interpenetrate each other. Policy-makers and administrators move freely between the two arenas and policy issues are discussed and resolved among participants who share common values, interests, and perceptions. As

Senator Aiken has put it, "Agencies and their clientele tend to develop coincident values and perceptions to the point where neither needs to manipulate the other overtly. The confident relationships that develop uniquely favor the interest groups involved."[19] The distinction between public and private starts to disappear as a sector of industry begins to "appropriate" Government authority.[20]

The creation of an "iron triangle" takes time and active efforts of its participants. All three sides work to maintain it as economic circumstances change. There is continuous communication between the Executive, Congress and the industry, creating a community of interest in which it becomes difficult to answer the question, "Who controls whom?". Once molded, the triangle sets with the rigidity of iron. The three participants exert strenuous efforts to keep it isolated and protected from outside points of view. In time they become unwitting victims of their own isolation, convinced that they are acting not only in their own but in the public interest.

> In the day-to-day performance of their tasks, administrators see very little of the more general public support which accompanied the establishment of the agency. The only people who are likely to come to the attention of administrators are those whose problems are uniquely a part of the administrative environment. . . Under such circumstance it is not surprising that the administrator's perception of the public interest is in reality defined by the interests of the regulated parties.[21]

In Congress, defense-related committees and their members jealously guard their sovereignty over defense legislation and appropriations and other committees and members tend to follow their leadership.[22] Other Congressional forums for debating defense policy have little legislative power and almost no influence over policy debates. The Joint Committee on Defense Production, the Joint Economic Committee, and Government Operations committees in both houses have regularly debated defense policy and procurement issues, but have had little access to actual legislation and appropriations bills. The Joint Committee on Defense Production was abolished in 1978 as part of committee reforms in Congress, and its functions were absorbed by the banking committees, eliminating one significant forum for public discussion of alternative approaches to defense procurement policy.

Even in the Executive branch, there is little opposition to the defense "iron triangle." DoD's Office of Economic Adjustment, founded to help communities adjust to base closings and contract terminations, has limited authority and almost no influence over procurement policy planning.[23] The Arms Control and Disarmament Agency, which seeks to reduce defense spending through arms control, has little say in policy-making.

The power to exclude is the mirror image of special access. Because of its entrenchment and paramount role in defining national security, the "iron triangle" of defense has acquired a special clout and

protection from criticism. This is especially apparent at the Executive level. The Office of Management and Budget (OMB) has virtual final say over the budget requests of all agencies with one exception—the Defense Department. The Department has wide-ranging power to appeal to the President, who often overrules the OMB. As former Budget Bureau Deputy Director Philip Hughes put it:

> The most relevant consideration is, in blunt terms, sheer power—where the muscle is—and this is a very power-conscious town, and the Secretary of Defense and the defense establishment are a different group to deal with, whether the Congress is dealing with them or whether the Budget Bureau is dealing with them.[24]

The development of the "iron triangle" has put an end to those brave days described by political theory when, in the "separation of powers," Congress legislated, the Executive administered, and corporations did business with the government at arms' length. Instead, according to economist Murray Weidenbaum:

> The close, continuing relationship between the Department of Defense and its major suppliers is resulting in convergence between the two, which is blurring and reducing much of the distinction between public and private activities in an important branch of the American economy.[25]

This study examines the "iron triangle" in defense, extracting the role played by eight contractors and describing the techniques they have developed to strengthen their side of the triangle. It presents profiles of individual companies and examines in some depth the Government relations practices common to the industry, analyzing current issues, detailing current disclosure and reporting requirements, discussing brief cases of corporate practice in each area, and evaluating the available data for each of the eight companies. While the limitations of data prevent us from offering a definitive analysis, we hope that these portraits will serve as a starting point for further work by scholars, journalists, activists, members of Congress, corporate officials, and the general public.

FOOTNOTES

1. There is a wide range of literature debating these various explanations for the growth and contents of the defense budget. Inflation and other elements of cost growth in weapons spending are discussed, for example, in A. Ernest Fitzgerald, *The High Priests of Waste* (New York: Norton, 1972); Jacques S. Gansler, *The Defense Industry* (Cambridge: MIT Press, 1980); and Richard F. Kaufman, *The War Profiteers* (Garden City, NY: Doubleday,

Anchor Books, 1972). Cost increases of specific weapons systems are discussed in Gordon Adams, *The B-1 Bomber, An Analysis of Its Strategic Utility, Cost, Constituency and Economic Impact* (New York: Council on Economic Priorities, 1976); the space shuttle in *Aerospace Daily*, 11 Feb. 1980, p. 217; and the F-18 fighter in "Options on F-18 Cancellation Weighed," *Aviation Week and Space Technology*, 20 June 1980. The weapons procurement process and the bureaucratic politics of the Pentagon are discussed in Morton J. Peck and Frederick M. Scherer, *The Weapons Acquisition Process: An Economic Analysis* (Boston: Harvard Graduate School of Business Administration, Division of Research, 1962), pp. 98-99; J. Ronald Fox, *Arming America: How the U.S. Buys Weapons* (Boston, Harvard Graduate School of Business Administration, 1974), Chap. 4; Harvey M. Sapolsky, *The Polaris System Development: Bureaucratic and Programmatic Success in Government* (Boston: Harvard University Press, 1972), pp. 77-78; Fitzgerald, *The High Priests of Waste* pp. 59-61; and Kaufman, *The War Profiteers*, p. xvi. Economic aspects of defense spending are covered by Paul Baran and Paul M. Sweezey in *Monopoly Capital* (New York: Monthly Review Press, 1968), Chap. 7; United Nations Centre for Disarmament, *Economic and Social Consequences of the Arms Race and Military Expenditures*, Updated Report of the Secretary-General (New York: United Nations, 1978); and United Nations Centre for Disarmament, Research reports commissioned by United Nations Group of Governmental Experts on the relations between disarmament and development, submitted to U.N. Secretariat, 1980; Seymour Melman, *The Permanent War Economy* (New York: Simon and Schuster, Touchstone Books, 1964); Lloyd Dumas, "Economic Conversion, Productive Efficiency and Social Welfare," *Journal of Sociology and Social Welfare*, 4, nos. 3 and 4, Jan./March 1977; David Gold and Gordon Adams, "The Military Budget, Politics and the American Economy," *URPE Newsletter* of the Union for Radical Political Economics, 12, no. 4, July/Aug. 1980; and Michael Edelstein, *The Economic Impact of Military Spending* (New York: Council on Economic Priorities, 1977). International developments and U.S./Soviet military balance issues are discussed in Franklyn D. Holzman, "Are the Soviets Really Outspending the U.S. on Defense?" *International Security*, Spring 1980; Les Aspin, "Judge not by numbers alone," *The Bulletin of Atomic Scientists*, June 1980; U.S., C.I.A., *A Dollar Cost Comparison of Soviet and U.S. Defense Activities, 1968-78*, Jan. 1979; and John Collins, *U.S.-Soviet Military Balance: Concepts and Capabilities, 1960-1980* (New York: McGraw-Hill, 1980). Weapons technologies are discussed in Richard Burt, *New Weapons Technologies, Debate and Directions*, International Institute for Strategic Studies, Adelphi Paper no. 126 (London: International Institute for Strategic Studies, 1976); and Daniel Goure and Gordon McCormick, "PGM: No Panacea," *Survival* (International Institute for Strategic Studies), 22, no. 1, Jan./Feb. 1980.

2. Arthur Bentley, *The Process of Government: A Study of Social Pressure*, 2nd ed. (Evanston, IL: Principia Press of Illinois, 1945); E.E. Schattschneider, *The Semi-Sovereign People*, 2nd ed. (Hinsdale, IL: Dryden Press, 1975); David Truman, *The Governmental Process: Political Interests and Public Opinion* (New York: Knopf, 1975); and Edward Pendleton Herring, *Group Representation Before Congress* (Baltimore, MD: Johns Hopkins Press, 1929).
3. Marver Bernstein, *Regulating Business by Independent Commissions* (Princeton, NJ: Princeton University Press, 1955); Grant McConnell, *Private Power and American Democracy* (New York: Knopf, Inc., 1967); and Common Cause, *Serving Two Masters, A Common Cause Study of Conflicts of Interest in the Executive Branch* (Washington, DC: Common Cause, 1976).
4. "Business is Learning How to Win in Washington," *Fortune*, 27 March 1978.
5. Philip Shabecoff, "Big Business Is on the Offensive," *The New York Times*

Magazine, 9 Dec. 1979. See also Steven Rattner, "Big Industry Gun Aims at the Hill," *The New York Times*, 7 March 1979; "A Threat to Crime-Code Reform," *Business Week*, 28 Jan. 1980; Ann Crittenden, "Study Finds Corporations in Broader Political Role," *The New York Times*, 31 May 1979; and Phyllis S. McGrath, *Redefining Corporate-Federal Relations*, A Report from the Conference Board's Division of Management Research (New York: The Conference Board, 1979).

6. Sen. William Proxmire, *Report From Wasteland* (New York: Praeger Publishers, 1970); Fox, *Arming America*; Kaufman, *The War Profiteers*; Fitzgerald, *High Priests of Waste*; Peck and Scherer, *Weapons Acquisition Process*; Adam Yarmolinsky, *The Military Establishment* (New York: Harper & Row, 1971) and Dumas, "Economic Conversion, Productive Efficiency and Social Welfare."
7. Fox, p. 253.
8. Each company in our study operates plants and equipment which are actually owned by the Federal Government [usually called Government-Owned, Contractor-Operated (GOCO)]. Richard Kaufman gives estimates of Federal investment in GOCO as at least $15 billion (pp. 141-142). This investment is often justified as a necessary subsidy to the industry for doing defense business.

   Using GOCO plants and equipment is a real benefit for the contractors. Instead of borrowing capital or using company funds to invest in productive capacity, these are provided virtually rent free. The relatively lower capital costs of defense contracting may be a factor in the higher rate of return as a proportion of invested capital in this industry. (See Murray Weidenbaum, "Arms and American Economy: A Domestic Convergency Hypothesis," Papers and Proceedings of the 80th Annual Meeting of the American Economic Association, *American Economic Review*, 58, no. 2, May 1968.) Use of GOCO floor space may confer other advantages on the company. Pratt and Whitney division of United Technologies, for example, used GOCO facilities for nine years in the 1950s and 1960s to produce 10,000 jet engines for commercial buyers, paying no rent to the Federal Government and making reductions in contract prices on Government engines as a result of the unit price in savings (Kaufman, p. 174). Grumman has disclosed that it intends to use Government-owned facilities on Long Island to carry out subcontract work for Boeing on the latter's new 767 commercial air transport.
9. Peck and Scherer, pp. 375-76; Kaufman, p. 265; and James R. Kurth, "The Political Economy of Weapons Procurement: The Follow-On Imperative," *American Economic Review*, 62, no. 2, May 1972, pp. 304-311.
10. Seymour Melman, *Pentagon Capitalism* (New York: McGraw-Hill Book Company, 1970) and *The Permanent War Economy*; and John Kenneth Galbraith, *How to Control the Military* (New York: The New American Library, 1969).
11. Kaufman, p. xviii.
12. Weidenbaum, "Arms and the American Economy," p. 434.
13. Council on Economic Priorities, "The Defense Department's Top 100, 1977," *Council on Economic Priorities Newsletter*, CEP Publication N7-5, Aug. 1977.
14. *Aerospace Daily*, 13 Nov. 1980, p. 58.
15. Lewis Anthony Dexter, *How Organizations are Represented in Washington* (Indianapolis: Bobbs-Merrill, 1969).
16. Phyllis McGrath, *Redefining Corporate-Federal Relationships.* The Conference Board.
17. Roland Evans and Robert Novak, *The Washington Post*, 9 Jan. 1981.
18. See Gordon Adams, "Disarming the Military Subgovernment," *Harvard Journal on Legislation*, 14, no. 3, April 1977; Lester V. Salamon and John J. Siegfried, "Economic Power and Political Influence: The Impact of Industry Structure on Public Policy," *American Political Science Review*, 71, no. 3, Sept. 1977; Joel D Auerbach and Burt Rockmen, "Bureaucrats and Clientele

Groups: A View from Capitol Hill," *American Journal of Political Science*, 22, no. 4, Nov. 1978; McConnell, *Private Power and American Democracy*; John Lieper Freeman, *The Political Process* (Garden City, NY: Doubleday, 1955), pp. 7 and 31; Charles Jones, *Introduction to the Study of Public Policy*, 2nd ed. (North Scituate, MA: Duxbury Press, 1977), chap. 2; Stephen Bailey, *Congress in the Seventies*, 2nd ed. (New York: St. Martin's Press, 1970), p. 61; and Douglas Cater, *Power in Washington* (New York: Random House, 1964).

19. Harmon Zeigler and Wayne G. Peak, *Interest Groups in American Society*, 2nd ed. (Englewood Cliffs, NJ: Prentice Hall, 1972), p. 172.
20. McConnell describes this as the "privatization of the state," p. 244; James O'Connor describes it as the "appropriation of a sector of state power by private interest" in *The Fiscal Crisis of the State* (New York: St. Martin's Press, 1973, p. 66). See also, Edward S. Flash, *Economic Advice and Presidential Leadership* (New York: Columbia University Press, 1965), pp. 36-39; and Fred Block, *Origins of International Economic Disorder* (California: University of California Press, Ltd., 1977), pp. 102-108.
21. Michael T. Hayes, "The Semi-Sovereign Pressure Groups: A Critique of Current Theory and Alternative Typology," *The Journal of Politics*, vol. 40, 1978, pp. 134-61; Schattschneider, *Semi-Sovereign People*; and Zeigler and Peak, *Interest Groups in American Society*, p. 172. Auerbach and Rockmen note in their survey study, "Bureaucrats and Clientele Groups," that 84 percent of the members of Congress they polled felt that the influence of interests in the administrative process was at the expense of the public interest.
22. Adams, "Disarming the Military Subgovernment."
23. Confidential interviews, 1979.
24. Kaufman, *War Profiteers*, p. 180.
25. Weidenbaum, "Arms and the American Economy," p. 428.

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2

Research Methods and Data

Categories and Sources

Before selecting a sampling of firms that were both major DoD contractors and defense-dependent, we needed to develop a set of data categories that would indicate a company's activities and avenues of access to the Federal policy apparatus. We reviewed numerous studies of the defense procurement process, as well as literature on corporate Government relations[1] and drew up a fairly comprehensive list of the data that we felt we needed. Covering both Government relations and basic corporate data, it read as follows:

- —the extent of a company's defense contracting, especially for research and development
- —major defense products and work locations
- —contractor use of Government-owned plants and equipment
- —company use of subcontractors and the locations of subcontracting work
- —the role of boards of directors, bank lenders and auditors
- —the movement of personnel between the company and the key Federal agencies
- —the company's campaign contributions to candidates for Congress
- —the structure, size and activity of the Washington office of the company
- —company participation in trade associations and advisory committees

—company entertainment of Federal officials
—advertising and grass-roots mobilization
—questionable sales practices

Having developed a reasonably comprehensive list of information that would help identify Government relations activities, we proceeded to gather data from all available public sources: media accounts of corporate activity, company annual reports and disclosures to the Securities and Exchange Commision (SEC), Congressional hearings and investigations, and data provided by a variety of Federal agencies, ranging from the Library of Congress to the Department of Defense. This task proved enormous and difficult in virtually every category.

Information on a company's financial position came from the annual reports to stockholders and filings with the SEC, information on Government contracting from the Department of Defense and NASA. In order to match products with plant locations, we had to combine company, DoD and media data. Information on the support apparatus (accountants, legal counsel, advertising agency, banks) was drawn from the standard business sources, the SEC, and reference works on specific professions. Some data in this category were simply unavailable: company stock ownership is unevenly disclosed, at best, while no company breaks down its annual advertising budget by type of product.[2]

We drew together a contracting history of each company using the above sources, plus extensive clipping files of the standard media and business press. Data on a company's use of Federally-owned plants were obtained from annual documents maintained by each of the armed services. Research and development contracts and data on expenditures depended on DoD contracting information, company *10Ks* and DoD's response to a Freedom of Information Act request filed by *The Nation* magazine at our request in 1979.

Data on the members of the boards of directors came from biographies supplied by some of the companies, company proxy statements, and a detailed survey of biographical registers. Information on the DoD contracts held by companies on whose boards the directors of our eight companies sit was obtained from the DoD.

Data on personnel transfers depended on close scrutiny of reports filed annually by all personnel who move either from DoD or NASA to a defense/NASA contractor or vice versa. These reports are maintained in Washington, a minimal summary is provided annually by DoD, and NASA is sometimes willing to mail its reports to researchers.

Information on Political Action Committees was gathered from the Federal Elections Commission (FEC) in Washington. Some data can be mailed to researchers, while a significant part is not computerized and can only be gathered by a careful examination of microfilm at the FEC. Data on key members of Congress and candidates from areas where the company has plant locations were drawn from *The Congressional Directory* and *The Almanac of American Politics*.

Information on corporate Washington offices came from a variety of sources. Each quarter *The Congressional Record* and *Congressional Quarterly* provide a listing of the filings of lobbyists, including names of clients, receipts and expenditures. The media discuss Washington activities of defense contractors from time to time. *Washington Representatives* provided further data. In 1980, *Armed Forces Journal International* reviewed the Washington offices of several contractors, including the eight in our study. After considerable effort we were able to obtain through Common Cause audits of the Washington office expenditures of five of the eight companies, covering 1974 and 1975. These audits provided virtually the only data available on the cost of operating such an office.

Information on trade association membership was solicited by circulating a questionnaire to 30 defense-related associations. This questionnaire met with uneven response but did provide some basic information on association activities, membership and objectives. Advisory committee data were drawn from three sources: three successive annual reports of membership data prepared by the Subcommittee on Reports, Accounting and Management of the Senate Government Operations Committee (discontinued since 1979), annual reports on advisory committees prepared by the General Services Administration, and annual reports of committees filed with the Library of Congress.

Data on entertainment activities was provided through media accounts and reports and hearings of the Joint Committee on Defense Production. This included a 1976 survey conducted by the Joint Committee which covered our companies as well as several others. The data from this survey, however, were minimal. Information on questionable payments overseas was obtained from press accounts and disclosures by the company to the SEC.

Though grass-roots networks are frequently crucial to a company's Government relations strategy since they spread contract dollars across a wide geographic area, data are hard to obtain. There is no systematic disclosure by contractors and the DoD maintains minimal data.[3] We were, however, able to obtain press accounts of some grass-roots lobbying, as well as disclosures by some firms to the House Subcommittee on Commerce, Consumer and Monetary Affairs, which indicate some of the resources spent on such efforts.

The Companies

After gathering a vast amount of data on 15 companies, we drew up a questionnaire (see Appendix), which we sent by registered mail. This practice, routine in Council studies, met with a deafening near-silence—broken by cries of protest:

> We are asked for information that we consider to be private data.
>
> —B.H. Cook, Lockheed

A significant amount of the data and information requested in your letter and accompanying questionnaire is considered to be of a proprietary nature, and, therefore, I must respectfully decline our participation in your study.

—C. MacGregor, United Technologies

In reviewing the questionnaire. . . I find that it would be almost impossible for us to respond without violating our policy on several counts. These include both sensitivity and the sheer time and money involved in gathering data which is not collected at Boeing in the manner that your questions seem to envision. . . . To supply quite a few elements that we consistently have labeled as proprietary to others would be improper.

—P. Bush, Boeing

I'm sorry, but we can't agree that the information you're requesting has no competitive significance. I'll be amazed if you get it from any other company.

—W.B. Jones, Grumman

Many of the questions are inappropriate and cannot be answered. Others pertain to information that is either highly proprietary to the Corporation or may be confidential from a security classification standpoint. A response thereto is precluded.

—F.H. Menaker, Jr., Martin Marietta

In response to your letter of June 1, Raytheon Company will not be participating in the study.

—T.L. Phillips, Raytheon

We do not choose to participate.

—W. Gurnee, Northrop[4]

Having already done a great deal of research, we were then in a position to make a final selection of sample companies, choosing eight that were both defense-dependent and major contractors with the Federal Government.[5] These eight—Boeing, General Dynamics, Grumman, Lockheed, McDonnell Douglas, Northrop, Rockwell International and United Technologies—have a twenty-year history in defense contracting. Together they have received 25 percent of all NASA contracts for the period and 37 percent of all DoD prime contracts for R & D (see Chart I and Table II). Since 1970, they have appeared a total of 68 times out of a possible 100 among the top 10 DoD contractors. Lockheed has been the Pentagon's number one contractor for five of the 10 years, General Dynamics for three, and McDonnell Douglas for two.[6]

Their relationship with the DoD is symbiotic: not only does the DoD depend on them for a significant percentage of contracts but also the contractors themselves depend on DoD and NASA for a large percentage of their business.[7] Ranked by DoD and NASA contracts as a percentage of sales over the 10 years, the scale runs from a high of 93.8 percent (Grumman) to a low of 31.2 percent (Boeing). Ranked

TABLE I
COMPANY SALES AND CONTRACTING
1970-79
($millions)

Company	Total Sales	Contracts DoD	Contracts NASA	% of Total Sales	Govt. Sales $	% of Total Sales	Foreign Military Sales Contracts	% of Total Sales	Overseas Sales Overseas & Export Sales	% of Total Sales
Boeing	41,402.6	12,039.1	864.9	31.2%	12,744.4	30.8%	337.9	.82%	17,301.30	41.8%
General Dynamics	24,121.5	17,900.8	666.9	77.0%	11,854.5 (1973 on)	64.1%	2,499.7	10.4%	N.A.	Under 10%
Grumman	12.015.8	10.772.6	492.6	93.8%	8,512.8 (1971, 1973 on)	82.3%	1,008.7	8.4%	820.7 (1977 on)	18.2%
Lockheed	31,356.0	17,473.4	684.8	57.9%	21,214.2	67.7%	1,263.7	4.0%	6,911.4	22.0%
McDonnell Douglas	32,713.6	18,461.1	1,952.6	62.4%	20,237.00	61.9%	3,718.3	11.4%	9,860.6 (1972 on)	34.5%
Northrop	10,593.8	6,175.4	177.1	60.0%	6,741.5 (1972 on)	71.8%	3,701.2	34.9%	4,379.4 (1971-72 1975 on)	46.6%
Rockwell	42,060.3	8,322.0	6,244.2	34.6%	16,785	39.9%	220.5	.52%	7,283 (1973 on)	21.1%
United Technologies	42,002.2	13,734.2	347.6	33.5%	13,690.1	32.6%	986.0	2.3%	13,424.2	32.0%
Total	236,265.8	104,878.6	11,430.7	49.2%	111,779.5	50.0%	13,736.0	5.8%	59,980.6	25.4%

Sources: Company Annual Reports and 10K's; U.S Department of Defense, *100 Companies Receiving the Largest Dollar Volume of Military Prime Contract Awards;* NASA, *Annual Procurement Report.*

NOTE: PERCENTAGES BASED ON DATA WHICH IS NOT AVAILABLE FOR CERTAIN YEARS ARE DERIVED FROM TOTAL SALES FIGURES FOR ONLY THOSE YEARS WITH AVAILABLE DATA.

TABLE II

GOVERNMENT CONTRACTING

1970-79

($millions)

Company	DoD Contracts	DoD % of Total DoD Contracts	DoD R&D Contracts	DoD R&D % of Total DoD R&D	NASA Contracts	NASA % of Total NASA
Boeing	$ 12,039.1	2.9%	$ 4,757.9	7.1%	864.9	2.7%
General Dynamics	17,900.8	4.3%	2,947.5	4.4%	666.9	2.1%
Grumman	10,772.6	2.6%	1,813.4	2.7%	492.6	1.5%
Lockheed	17,473.4	4.2%	4,298.0	6.4%	684.8	2.1%
McDonnell Douglas	18,461.1	4.4%	4,618.8	6.9%	1,952.6	6.1%
Northrop	6,175.4	1.5%	644.6	1.0%	177.1	0.6%
Rockwell	8,322.0	2.0%	3,867.9	5.8%	6,244.2	19.6%
United Technologies	13,734.2	3.3%	1,910.1	2.8%	347.7	1.1%
Total	$104,878.6	25.3%	$24,858.2	37.1%	11,430.8	35.9%

Source: U.S. Department of Defense, *100 Companies Receiving the Largest Dollar Volume of Military Prime Contract Awards: Top 500 Research & Development Contractors*; and NASA *Annual Procurement Report*.

by company disclosed data on Government sales for the same period, the scale ranges from 82.2 percent (Grumman) to 30.9 percent (Boeing). (See Table I.)

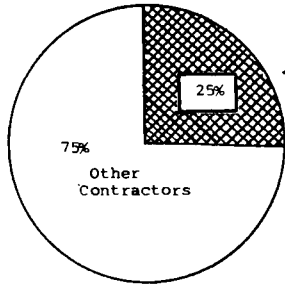
Dividing the data provided by the companies into appropriate categories (contracting data, contracting history, research and development, boards of directors, personnel transfers, Political Action Committees, trade association and advisory committee memberships, entertainment practices, and questionable payments), we drew up profiles. Each set of data posed particular problems and each required careful checking and further calculations, described in each chapter below. Once we had completed a draft profile, as is our practice, we circulated it for comment to each company. Once again, the response to our request for factual comments was largely ignored. We received no reply from three companies: General Dynamics, McDonnell Douglas, and Rockwell. Two companies—Boeing and United Technologies—provided us with a little information, most of which we had already used. Two companies—Northrop and Lockheed—responded with uncomplimentary and even threatening letters. Only one company, Grumman, gave a careful reading of the profile, offering additional information which we have incorporated into the final draft.

The main text examines the general background of Government relations and defense contracting and discusses each item in some detail. This text was sent out for review to nine outside readers, whose comments were taken into account in redrafting. In addition to the text we present aggregations of data from the profiles, permitting us to compare corporate practices.

In breaking the data down into categories, it is easy to lose sight of the whole. Each category appears to be discrete, independent of the others. Such is not the case. Grass-roots lobbying is closely tied to PAC contributions; the links with trade associations are often made by personnel who have transferred from one side of the triangle to the other. The effectiveness of the tools in maintaining the company's side of the triangle is regularly reviewed, and company executives spend increasing resources in developing and coordinating the firm's Government relations policies. In presenting profiles of individual companies of importance, the study in effect describes the Government relations practices common to the industry, analyzing current issues, detailing current disclosure and reporting requirements and discussing cases of corporate practice in each area.

Chart Ia

DEPARTMENT OF DEFENSE CONTRACTS, 1970-1979

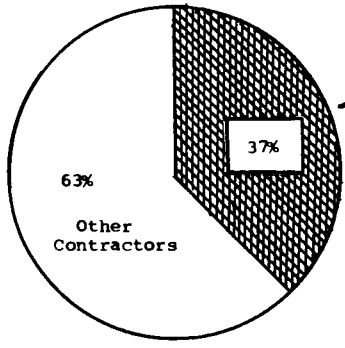


Total, 1970-1979
$415,247,000,000

Company	Percent of total Department of Defense
McDonnell Douglas	4.4
General Dynamics	4.3
Lockheed	4.2
United Technologies	3.3
Boeing	2.9
Grumman	2.6
Rockwell	2.0
Northrop	1.5
	25.3

Chart Ib

DEPARTMENT OF DEFENSE RESEARCH AND DEVELOPMENT CONTRACTS
1970-1979



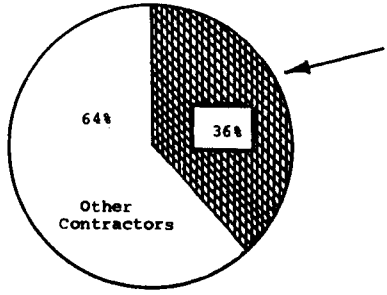
Total, 1970-1979
$67,240,000,000

Company	Percent of total Department of Defense
Boeing	7.1
McDonnell Douglas	6.9
Lockheed	6.4
Rockwell	5.8
General Dynamics	4.4
United Technologies	2.8
Grumman	2.7
Northrop	1.0
	37.1%

Source: Department of Defense 500 Research and Development Contractors.

Chart Ic

NASA CONTRACTS, 1970-1979



Total, 1970-1979
$31,864,000,000

Company	Percent of total of NASA
Rockwell	19.6
McDonnell Douglas	6.1
Boeing	2.7
Lockheed	2.1
General Dynamics	2.1
Grumman	1.5
United Technologies	1.1
Northrop	0.6
	35.9%

Source: NASA Annual Procurement Reports

Chart II

COMPANY DEPENDENCY ON GOVERNMENT AND FOREIGN SALES IN THE SEVENTIES
(Covers years as noted in Table 1)

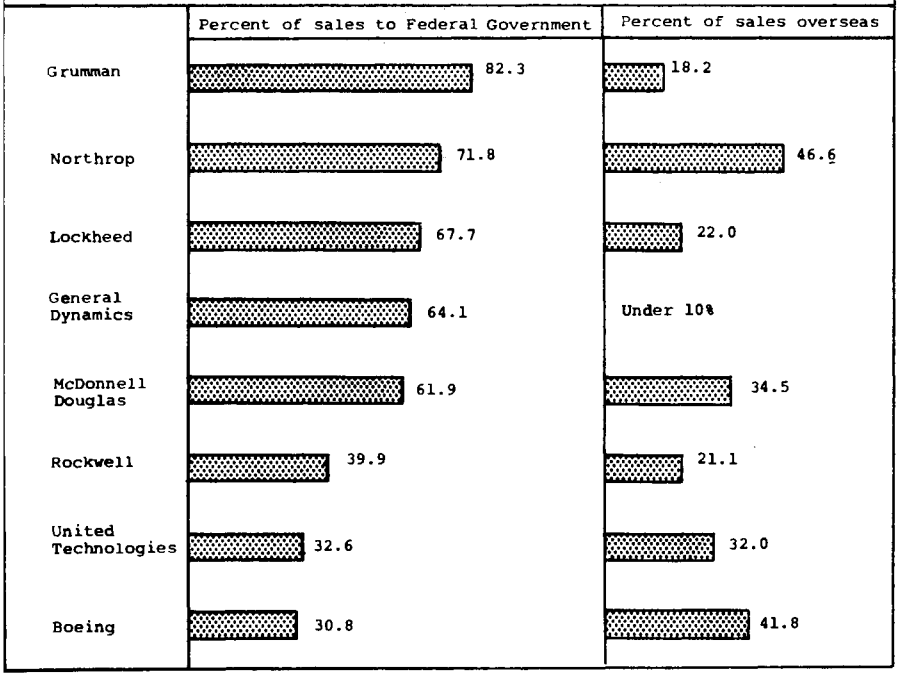
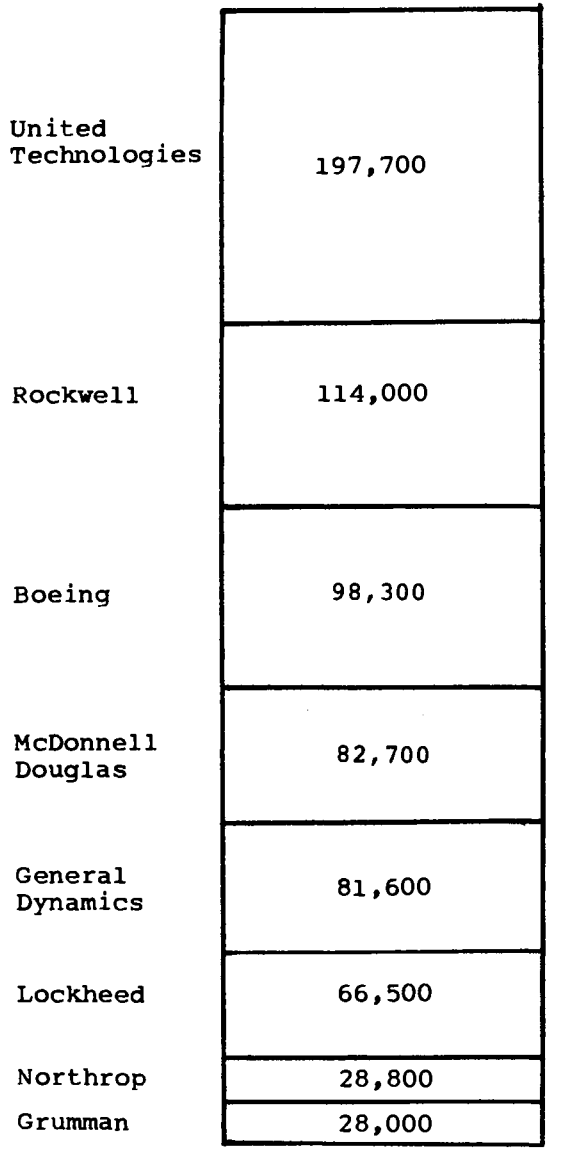


Chart III

COMPANY EMPLOYMENT
1979



Source: Company annual reports

TABLE III

DEPENDENCY ON GOVERNMENT AND FOREIGN CONTRACTS AND SALES

(% of Total Company Sales)

(RANK BY PERCENTAGE OF SALES)

Company	DoD/NASA Contracts*	Government Sales	Foreign Military Sales Contracts	Overseas Sales
Boeing	31.2%	30.8%	.82%	41.8%
General Dynamics	77.0%	64.1%	10.4%	under 10%
Grumman	93.8%	82.3%	8.4%	18.2%
Lockheed	57.9%	67.7%	4.0%	22.0%
McDonnell Douglas	62.4%	61.9%	11.4%	34.5%
Northrop	60.00%	71.8%	34.9%	46.6%
Rockwell	34.6%	39.9%	.52%	21.1%
United Technologies	33.5%	32.6%	2.3%	32.0%

* Data on contracts covers 1970-79; data on sales covers years as noted in Table I.

FOOTNOTES

1. Morton J. Peck and Frederic M. Scherer, *The Weapons Acquisition Process: An Economic Analysis* (Boston: Harvard Graduate School of Business Administration, Division of Research, 1962); J. Ronald Fox, *Arming America: How the U.S. Buys Weapons* (Boston: Harvard Graduate School of Business Administration, 1974); Gordon Adams, "Disarming the Military Subgovernment," *Harvard Journal on Legislation*, 14, No. 3, April 1977; Richard Kaufman, *The War Profiteers* (Garden City, NY: Doubleday, Anchor Books, 1972); Phylis S. McGrath, *Redefining Corporate-Federal Relations*, A Report from the Conference Board's Division of Management Research (New York: The Conference Board, Inc., 1972); Lester Milbrath, *The Washington Lobbyists* (Chicago: Rand-McNally Inc., 1963); David Sims, "Spoon-Feeding the Military—How New Weapons Come to Be," in *The Pentagon Watchers*, ed. Leonard Rodberg and Derek Shearer (Garden City, NY: Doubleday, 1970); Harmon Zeigler and Wayne Peak, *Interest Groups in American Society*, 2nd ed. (Englewood Cliffs, NJ: Prentice Hall, 1972); Charles Jones, *Introduction to the Study of Public Policy* (New York: St. Martin's Press, 1970); Paul Cherrington and Ralph Gillen, *The Business Representative in Washington* (Washington: The Brookings Institution, 1962); and Congressional Quarterly, *The Washington Lobby*, 3rd ed. (Washington D.C.: The Congressional Quarterly, 1979).

2. The only partial substitute would be to count advertising pages over a given period of time in specific publications and multiply by the publication's advertising rates. In spite of a vast expenditure of effort, this procedure would have produced only partial and imperfect data. CEP did make a preliminary effort of this kind earlier; see "Advertising to the Military," *Economic Priorities Report* (New York: Council on Economic Priorities, Nov./Dec. 1972).
3. Aggregate data is now reported by DoD in U.S., Dept. of Defense, *Geographic Distribution of Subcontract Awards*, Washington Headquarters Services, Directorate for Information Operations and Reports. For 1979, moreover, DoD maintains a print-out of first and second tier subcontractors for most major prime defense contractors. This data will not continue to be maintained, however. Other researchers have noted this problem: Barry S. Rundquist, "On Testing a Military Industrial Complex Theory," *American Politics Quarterly*, 6, no. 1, Jan. 1978, p. 45. Some journalistic or partial data is available by regular reading of *Aviation Week & Space Technology* and *DMS* (Defense Marketing Service).
4. We received no response at all from eight of the 15 companies: General Dynamics, McDonnell Douglas, Rockwell, E-Systems, Hughes, LTV Corporation, Litton and TRW.
5. Several elements led to the elimination of some firms. Our original list numbered 29, an impossibly large number. We reduced the list to 15, eliminating companies which were very small or specialized, or for which little data on Government relations are available. This latter decision may have left out firms which did considerable Government business, but which felt little need for massive Government relations apparatus. However, we felt that their omission would not affect our findings. We focused instead on major, long-term dependent contractors, whose Government relations practices had higher visibility. Our list of 15 was further reduced to eight, in order to make the volume of data manageable.
6. If one averages the ranking of these companies over the past ten years, Lockheed has averaged 2.0; McDonnell Douglas 3.1; General Dynamics 4.0; United Technologies 5.1; Boeing 6.1; Grumman 7.4; Rockwell 10.0; and Northrop 16.5. The other 32 position in the top 10 over this period were occupied by General Electric (10); Hughes Aircraft (7); Litton Industries (5); AT&T (4); Raytheon (2); Tenneco (2); LTV (1); and Textron (1). Average rank for these companies was General Electric 4.4; Hughes 9.5; Litton 10.4; AT&T 11.9; Raytheon 12.5; Tenneco 18.4; LTV 20.1; and Textron 16.6.
7. There are several ways to estimate defense dependency of a firm. One is to calculate DoD and NASA contracts as a proportion of annual sales. Since contract awards are paid out over several years, however, and since fiscal years for companies and the Government rarely match, this figure does not reflect actual defense dollar cash flow to the firm in any given year. It does, however, suggest a range of dependency over time. The other method computes total Government sales as a proportion of total corporate sales. This figure, not always disclosed by the company, includes non-defense as well as defense contract dollars. In spite of this limitation, it provides an accurate measure of Government cash flow to the firm over a set period of time. A similar limitation applies to the relation between foreign military sales contracts and company disclosure of overseas sales. In addition, company disclosure of overseas and export sales includes both commercial and military sales, making it difficult to determine company dependency on overseas defense markets.

3

Selling Weapons: A Parable

Description and analysis, the essential tools of the researcher, both reveal and distort reality. They stop the action and transpose many dimensions into a two-dimensional listing of facts and figures. Inevitably, they shift the emphasis from reality as process to reality as-structure.

Yet in this study it is primarily process that interests us. Our focus centers on the practices that contractors have developed to influence Government policy. Description and analysis alone cannot show how these blend together to affect a single DoD decision. This can only be done through narrative. To fill this gap we have invented a case study. It is hypothetical and fictional. No actual events, pesons or corporations are described.[1]

Jack Wilson, sitting at his desk in San Jose, was a company man. He had started his career with General Electronics International in 1947, after war-time service in the Air Force. He had had only two brief stints elsewhere. Once, when GEI lost a major contract, he spent two years in Boston with United Electronics. Later, GEI seconded him for three years to the Air Force at Wright Patterson Air Force Base as a liaison officer on the company's supersonic-swing-wing (RPV) program. Promotions had come steadily—from engineer to production manager, to division chief for missile programs, and now, to corporate vice president for Government relations. With steady raises, increasing corporate perks, and more power, Jack had developed a loyalty, a family feeling about GEI that would never die. He expected to retire, at least as a vice president, or even—who knows . . . .

Samuel T. ("Chuck") Fuller had to go some day, leaving the

president / chief operating officer job open. Chuck, too, had had a full career. In the 1930s, fresh out of Stanford Engineering, he had created a defense electronics firm, ERW, in the suburbs of San Jose— California's famous Silicon Valley. The sudden boom in Pentagon missile spending had made the firm's fortune and Chuck's career. Having engineered ERW's merger with Fargo Electronics, Chuck went to Washington as the second deputy to the Pentagon's Director for Defense Research and Engineering, one of the Pentagon's most powerful jobs. After four years with the Administration, Chuck had returned to California and GEI which had by then absorbed ERW/Fargo as part of a corporate diversification program. Chuck rose rapidly to the top and would retire in two years.

A key to promotion, Jack knew, was the procurement of a major Pentagon contract, which would establish him as the heir apparent for the top job.

Yet Jack knew that there was another strong candidate—and another route. Bruce Collins, the former astronaut and vice president for commercial markets, had tried to diversify GEI by developing commercial markets. His efforts had succeeded. If DoD contracts were slow in coming, GEI could build its future in commercial aviation.

For Jack, however, there was no choice. GEI's defense programs had been run separately from commercial business since the War. Company management had simply closed them off. Jack couldn't re-tool as a commercial man overnight.

Things were at a crucial point for GEI's defense work, moreover. Production on the giant Thunderbird ship defense missile for the Navy was tailing off. Jack had design crews, researchers, engineers, looking for work. The end of the Thunderbird contract might force the company to lay them off. With any luck—for them—they would go to work for Thor Election, or Rubicon, or another industry competitor, making the next contract even harder and more expensive for GEI to bid on. It could be worse though. GEI didn't have to worry about maintaining expensive overhead costs. The Navy owned the building and machinery at Plant 5803 outside San Jose. GEI simply used it at minimal rent. If the Thunderbird contract ended, GEI could always give the plant back to the Navy.

Still Jack needed a better option. With a new contract and a continued flow of defense funds into the company, he wanted to help create a humming production facility.

Jack knew he needed more information. What did the Navy think it wanted? What could the company make? He reached for the phone and set up a meeting with George ("Smiley") Cooper, Director of GEI's advanced research and development office, fondly called the "Junk Works" around GEI because it was located next to San Jose's city dump. He sat down with Cooper and went over the projections. They had to know what the Navy had up its sleeve, what new missile systems they were thinking about. Cooper knew a lot on this score. For the past ten

years, about $15 million a year had flowed into the Junk Works from the Pentagon's Independent Research and Development program. GEI scientists used the money to fund new weapons research ideas—ideas they could sell back to the Pentagon. As long as the ideas that came back were promising, the Pentagon kept a loose hand on the money reins.

For the past five years, Cooper had also been a member of the Navy Science Board's Advisory Committee on Ship Defense Systems. This Committee brought together everybody—Navy people, Green Aerospace, Rubicon, the McDavis Group, GEI. Most of the big contractors had a scientist or engineer member of the group, which was designed to pool ideas on ship defense systems. The Navy used it as a sounding board, while the industry people used it to get to know each other and the Navy and to push new ideas.

Several years ago, Cooper had done a concept paper at the request of the Committee chairman. One of his old friends, Deputy Asst. Navy Secretary for R & D, Duffy McNee, had taken a real interest in the proposed system: a new, all-weather missile with a 75-100 mile range, which could carry nuclear or conventional weapons. Just the thing the Navy (and GEI) needed, thought Cooper. For three years he had been using IR&D to develop the concept, and it was near time to move toward real R & D contracts.

There was some risk in pushing this missile, Cooper told Jack. The Navy had to be convinced. GEI's competitors, moreover, had seen Cooper's paper and could be working on their own designs. Rubicon Aerospace was said to be forging ahead. On the other hand, a success in pushing this system would make GEI's Missile Division golden for a decade to come. Cooper and Wilson agreed they needed more information on how to sell the Navy and on the work of competitors. Cooper went off to call Assistant Secretary McNee.

Jack began sounding out some other key contracts. First, he called Buff Johnson, his deputy and Government liaison officer in GEI's Washington office, which had been established ten years ago as a central location to gather information on Pentagon and NASA contracting and to guide GEI's out-of-town staff when they came to Capitol Hill for testimony and meetings with key members of Congress. Buff had many useful sources. Every couple of weeks, he would have lunch (Dutch treat, under the new entertainment guidelines from the Pentagon) with old friends in the Navy's Research Office. It had been seven years since he had retired from the staff there, moving immediately to GEI. But he had kept up his contacts.

He had also spent time on the Hill. While contracting for the Navy, he had met many of the staff of the House and Senate Armed Services Committees who worked on Naval R & D and procurement. He knew that they were important to getting future defense programs funded. His job now was to keep them informed on GEI programs and to keep a close ear to committee attitudes toward the defense budget. Though not officially registered as a lobbyist—the law was very loose—he did a fair

amount of lobbyist's work.

Jack asked Buff for information about his Pentagon network. Had he talked recently with McNee or junior civilian and military people? Did he know where future ship missile defense systems were heading? Who was in charge of this work? Were there special advisory groups GEI ought to be in? Buff found the answers—the Navy group working on ship defense was impressed with GEI's progress using IR&D money. But there were other competitors in the field, and he did not know how far along they were, or how interested the Navy was in their work. Jack urged Buff to pin down more detailed information. He also asked him to do some sleuthing in ADPA. GEI, along with other major defense firms, belonged to the American Devense Preparedness Association, a trade group committed to serving "the defense needs of our nation." Jack asked Buff to attend the next meeting of ADPA's Missiles Committee to determine who among GEI's competitors had drawn a bead on the market.

Jack then focused in on Navy Research and Development. What kind of missile designs could they be sold? He made a call to Tony Lakeland at the Naval Weapons Center at China Lake. Lakeland had been with GEI's missile division for five years before moving to China Lake as an R & D Program Director. Jack suggested they meet for lunch when he came to GEI's China Lake office the following week. He knew that if GEI was to get in on the ground floor, he had to have some influence over the missile specifications the Navy would draw up in preparing its request for bids for R & D contract work. The discussion with Tony gave him useful information and even more useful input into Navy thinking.

After these preliminary calls Jack started to plan for a Washington trip. He put Buff to work on the schedule after clearing the trip and the program with an enthusiastic President Fuller. A courtesy visit to Deputy Assistant Secretary McNee was in order, which Cooper arranged. Buff set up detailed discussions with McNee's staff. In addition, there were meetings with the ADPA committee secretary and a friendly visit to the Aerospace Industries Association to discuss forthcoming changes in Federal procurement policy.

Buff also arranged some meetings with Hill staffers, though it was early in the missile program to think about a Congressional focus for GEI's effort. Jack did meet with Congresswoman Claire Sampson from San Jose. GEI had made steady contributions to Sampson's last three campaigns through its Good Government Fund, a Political Action Committee, and Buff had friendly access to Sampson's legislative assistant. As Representative from GEI's district and a member of the Defense Appropriations Subcommittee which would consider the money requests for Navy missile R & D, Sampson was doubly important to GEI. The Defense Subcommittee was famous on the Hill for going through Pentagon requests with a fine-toothed comb. In his visit, Jack explained that he was on a general information gathering