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Managing Competing Stakeholder Interests: A Case Study of Military Procurement

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Abstract

Conflicts of interest represent an increasing problem in organizations, given the expansion of stakeholder concerns, needs and expectations. Existing remedies to address these conflicts largely involve aligning management incentives with the interests of investors, or by recusing parties with special interests from the decision-making effort. Both circumstances depend on a primary stakeholder and decision maker. However, increasingly complex situations involving multiple stakeholders in organizations exist. This added complexity heightens uncertainty that facilitates the pursuit of self-interest. Ironically, a potential remedy may involve ensure the presence of competing conflicts of interest versus trying to minimize them. A case study of military procurement suggests competing interests can mitigate self-interest.

Key words: Conflicts of interest, ethics, military procurement, stakeholders, organizational theory, agency theory

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A conflict of interest arises when an individual or organization confront multiple interests, desires, goals and/or objectives that could result in a lapse in executing fiduciary responsibilities (e.g., Eisenhardt, 1989; Handfield & Baumer, 2006). The potential for conflicts of interest emerges when there is imperfect information and intermediaries exist (Walter, 2004), but the presence of a conflict of interest is independent of acting on it. Conflicts of interest in public corporations have evolved from the growing separation between managers and owners of businesses with modern corporations. Research flowing from economics and finance (e.g., Fama, 1980; Jensen & Meckling, 1976; Spence & Zeckhauser, 1971) addresses conflicts of interest in a principal/agent dyad with monitoring and aligning incentives (Eisenhardt, 1989). The application of agency theory assumes agents are rationale, tend to pursue self-interest, and are risk adverse (Bloom & Milkovich, 1998), and they are less applicable for situations involving uncertainty, such as those with multiple stakeholders and conflicting goals (Eisenhardt, 1989; Hill & Jones, 1992; Walter, 2004).

Uncertainty of outcomes facilitates the ability of a decision maker to favor one stakeholder over another, when it also suits their self-interest. These situations are increasingly common in organizations that confront stakeholder proliferation. Broadly, evidence suggests the number of employees experiencing pressure to compromise standards in order to achieve performance goals continues to increase (Ethics Resource Center, 2014; Economist, 2016). For example, headlines about Volkswagen emission scandals, employees of Wells Fargo creating fraudulent customer accounts, and at Mylan where executives profited from a 600 percent price increase in the cost of its EpiPen dominate the news (Kouchaki, 2016; Kozarich, 2016). Another example is the disclosure that the sugar industry paid Harvard scientists, in 1967, to obscure a

link between sugar and heart disease (O'Connor, 2016). Decades of research examined saturated fat rather than sugar and likely contributed to a greater risk of heart disease (American Heart Association, 2016). These examples highlight the failure of incentives without a system of controls can lead to organizational failures (Clements, 2016). When decision makers face multiple stakeholders, they run the risk of showing bias towards stakeholders that align with their self-interest (Walter, 2004). Broadly defined, a stakeholder is any individual or group that can affect or is affected by the actions, decisions, policies, practices, or goals of an organization (Freeman, 1984).

While the importance of conflict of interest from multiple stakeholders gains appreciation in organizational settings, concepts associated with the balance of power between nations (Kaufman, Little & Wohlforth, 2007) or branches of government (Redish & Nugent, 1987) become increasingly relevant. The organizational environment relating to representative democracies has evolved over a longer period of time and resulting organizational structures can potentially inform the management of self-interest. Specifically, competition over diverging interests can result in outcomes derived from finding compatibility across diverse interests to focus on common interests (Ansari, Fiss, & Zajac, 2010). Structural separation of responsibility in organizations has been recognized as a means for managing competing demands (Meglio, King, & Risberg, 2015; O'Reilly & Tushman, 2004). However, this research focuses on innovation and not mitigating self-interest. Therefore, the purpose of this article is to examine how a system of competing interests may mitigate acting on self-interest in organizational settings.

In exploring this idea, organizational theory is leveraged to develop a proposition evaluated with case analysis. Given that a combination of uncertainty and information

asymmetry is a pre-condition for conflicts of interest, the examination of military procurement is an appropriate focus of study. First, in the United States, military procurement has developed in parallel to government institutions and potential conflicts of interest clearly exist. For example, laws intended to reform military procurement reform date back to 1808, when Congress passed the "officials not to benefit" provision (Harman, 1995). Military procurement also displays significant uncertainty in that the underlying goal is to provide deterrence. However, it is unknowable if less spending or spending on different weapons systems could achieve similar results. Further, the context is significant, as the 2016 U.S. Department of Defense (DoD) budget requested over \$107 billion for procurement and \$69 billion to develop and test weapon systems. Overall, examining military procurement offers the contribution of extending the examination of conflicts of interest from financial gain to also consider other aspects, such as professional advancement.

THEORY AND PROPOSITIONS

Research studying stakeholder conflicts of interest tends to focus on striving to mitigate or resolve them (e.g., Ahn & Skudlark, 1997). Some scholars consider the benefits of inclusive and informed discussion among stakeholders as a critical component of decision making processes. For example, dialogue among stakeholders is presented as an iterative process in policy making that leverages insights from conflicts of interest (Nabyonga-Orem et al., 2008). While stakeholder conflict is rarely framed as a favorable element in the process of decision making, negative emotions emanating from an act of confrontation (e.g., voicing conflicting interests) can signal the need for reflection (Sekerka, McCarthy, & Bagozzi, 2012). Importantly, negative emotions from confronting conflicting interests can signal the need for reflection that can address conflicting interests and promote ethical decisions (Fishbach & Dhar, 2005; Lavine, 2012;

Schaller-Demers, 2008). However, competing interests have not clearly been developed as a means to mitigate self-interest, though research has begun to recognize that greater awareness of competing interests can limit self-interest (cf. Adobor & McMullen, 2013).

Referring to classic organizational theory, Max Weber (1964) outlined how rationalization contributes to the formation of public and private bureaucracies based on systematic processes and principles to eliminate favoritism. While Weber viewed bureaucracies as the most efficient form of organization, he contends that bureaucratization could become an irreversible form of control that he termed an 'iron cage" (Weber, 1964). More recent scholars have argued that the impetus for bureaucratization has shifted from rationalization to institutionalism (DiMaggio & Powell, 1983). Under institutionalism, isomorphism leads organizations to adopt similar structures through coercive, mimetic and normative processes (DiMaggio & Powell, 1983). While the processes overlap to some extent, they relate to organizational responses to: 1) legitimacy (coercive), 2) uncertainty (mimetic) or models of what is acceptable (Jarley, Fiorito, & Delaney, 1997; Scott, 1995), and 3) normative processes of professionalization (Mizruchi & Fein, 1999). As a result, once organizations emerge, powerful forces work to make them similar to one another and constrain their ability to change (DiMaggio & Powell, 1983). In the case of bureaucracies, this fosters a clear division of labor and chains of command (Weber, 1964).

As bureaucracies grow, they exceed their ability to process information, and a decreased ability to monitor subordinates (Hill & Hoskisson, 1987) contributed to the development of multi-division or M-form organizations (Chandler, 1962). What followed was a bureaucratic expansion where organizations replicated bureaucratic structures in a hierarchy across multiple divisions. Thompson (1967) observed that organizations display multiple levels that relate to

three levels of an organization—institutional, managerial and technical (Thompson, 1967). Within these levels, observed organizational structure tends to be modeled on each other and other organizations in their environment. This outcome is driven by concerns of legitimacy (DiMaggio & Powell, 1983; Thompson, 1967).

Generally, market forces influence organizational structure. However, for defense organizations, government has also had a significant effect (Chandler, 1962, p. 384). The combined implications of these institutional and organizational forces apply to the structure of military procurement. At the institutional level, the complexity of tasks has led to rationalization and workforce professionalization within multiple bureaucracies. However, military procurement responsibilities have evolved within a political environment organized around three separate branches of government (e.g., Executive Branch, Legislative Branch and Supreme Court). The underlying logic was to diffuse power and separate responsibilities into a system of checks and balances. For example, public policy and politics have been described as competition among self-interests where coalitions determine outcomes (Bonardi, Hillman, & Keim, 2005; Pfeffer & Salancik, 1977). If an important part of the task environment, then this institutional logic should be observable within military procurement due to isomorphism. Further, if competing interests are respected at the institutional level, they will likely be replicated to enable collective restraint of self-interest.

Once a system of competing interests is established, organizational theory would predict also predict that an organizational structure of competing interests at the institutional level would be replicated across different divisions and organizational levels (e.g., Chandler, 1962; DiMaggio & Powell, 1983). Assuming the replication of competing interests is incorporated at multiple levels, a similar organizational structures will appear that the managerial level (military

services) that provides an interface between institutional and technical (program office) levels. Further, isomorphic forces suggest the technical level responsible for effective performance will also incorporate competing interests. As a result, individuals with different hierarchal, functional and divisional backgrounds will have different goals and interests that create schemas of appropriate behavior (Burke & Reitzes, 1981; Floyd & Lane, 2000) to ensure decisions depend on a heterogeneous group of stakeholders (cf. Meghani & Kuzma, 2011) with competing interests. Since the task environment reflects a tripartite system, competing interests will go beyond a simple dyad, and this will require greater stakeholder engagement that curtails self-interest. The preceding logic suggests:

Proposition 1: A system of competing interests at the organizational task environment will be reflected at the institutional level of military procurement.

Proposition 2: A system of competing interests at the institutional level will be replicated at other organizational levels of military procurement to mitigate self-interest.

METHODOLOGY

The research design involves a case study founded on theoretical propositions (Yin, 1994) to examine relationships between theoretical concepts and observations (Campbell, 1975). The context of military procurement was selected as it has a defined institutional environment that has evolved over a period of time to enable observations. Additionally, the institutional climate reflects a zero sum game due to budget limitations (Gansler, 1986) that drive conflict between programs where gains for one program come at the expense of another. Further, many aspects of the institutional environment are publicly observable. However, managerial and technical levels of military procurement display needed information asymmetry necessary for conflicts of interest. For example, taxpayers and other stakeholders have limited insight into procurement processes managed on their behalf, and mistrust is fanned by negative media portrayals,

including financial management issues that reflect an inability to properly account for billions of dollars (Walker, 2002). As a result, case information is supplemented by personal experience of one of the authors, or the application of participant-observation to supplement publicly available information (Yin, 1994). The first author has multiple decades in military procurement, including the F-22 program that is frequently incorporated in the case analysis. The major disadvantage of participant-observation introducing bias was mitigated by the addition of a co-author. Overall, the research design relies on multiple sources of evidence to examine propositions driven by theory in a relevant context.

CASE SUMMARY AND ANALYSIS

In the following sections, information is summarized on military procurement at the institutional, managerial, and technical levels of associated organizations. At each level, stakeholder saliency (i.e., power and legitimacy) is discussed (Mitchell, Agle, & Wood, 1997) to identify competing interests. For example, the role self-interest plays in influencing decisions is developed by outlining how other stakeholders are influenced. The intent is to explore whether expectations that competing interests mitigate self-interest can be observed (e.g., Hambrick & Finkelstein, 1995). The primary stakeholders in determining U.S. defense spending are referred to as an "iron triangle" (Adams, 1982) involving Congress, major defense firms, and the DoD. The different stakeholders operate in the same task environment and they are summarized in Figure 1. The Marine Corps is not separately listed as a military service, because the Navy manages military procurement for the Marine Corps. In the following subsections, the interests and methods each group uses to influence military procurement are summarized at the institutional level.

Additionally, to enable examination of the propositions, the organizational structure within the DoD is also reviewed at the managerial and technical levels.

---- Insert Figure 1 about here ----

Congress

Interest in defense spending by Congress has increased over time, and it also reflects changes in internal structure to separate responsibilities. For example, the 1959 Russell amendment created the authorization (i.e., requirement) process to complement appropriation (i.e., budget) process, and this doubled the number of committees and staffers involved with defense spending (McNaugher, 1989). Differences in defense spending bills from the Senate and House are reconciled in conference with the same bills then passed by both chambers. Disillusionment over the U.S. engagement in Vietnam also contributed to additional oversight with congressional staffs on the four defense committees more than doubling (Gansler, 1980). Congressional interest in defense spending takes two forms—direct and indirect. The primary methods for Congress and other institutional stakeholders use to influence each other and defense spending are summarized in Table 1.

---- Insert Table 1 about here ----

Direct

Congress has direct engagement primarily with the DoD through annual budget testimony and the requesting of reports that tend to increase. For example, DoD officials testified before approximately 100 committees in 1985, and 56 officials from the Air Force alone appeared before committees in 2009 (Mayer, 1991; SAF/LL, 2009). Another indication is a steady increase in the number of reports requested from the DoD (McNaugher, 1989) and the Government Accountability Office (GAO) or Congressional Research Service (CRS) reports on defense issues. For example, in 2010, the GAO completed 129 reports on defense issues and, in 2014, 143 reports were completed (GAO, 2016). These reports are often targeted at specific

programs. For example, a GAO report on the F-22 program led the DoD to complete a business case to justify the program (Atlanta Business Chronicle, 2004). In other words, GAO and CRS reports provide information to lawmakers for making effective decisions, but they also provide material for press conferences or targeted press leaks that can influence perceptions of programs. For example, a press leak linked Dennis Blair, the President of the Institute for Defense Analysis (IDA), to a conflict of interest with a subcontractor on the F-22 program (Smith & Merle, 2006) that discredited an IDA report commissioned by the Under Secretary of Defense (Acquisition, Test and Logistics) on F-22 program requirements.

Members of Congress can also express personal concerns in official correspondence or restrictive language. For example, six senators wrote Deputy Secretary of Defense England in November 2008 expressing concern about the DoD not spending funds for long-lead items for an order of F-22 aircraft (Wolf, 2008). Before subsequent testimony to the House Armed Services Committee, the DoD released funds for the purchase of long-lead items for 4 out of 20 budgeted aircraft (Gertler, 2009). Two other direct congressional strategies involve restrictive language and earmark spending. The use of restrictive language limits the use of defense spending by targeting specific programs and firms. For example, the 1984 Defense Authorization Act directed the Army to cease the creation of a second M-1 engine source to grant a legal monopoly (Mayer, 1991). Congress also restricted the export of the F-22 fighter aircraft with language in the 1998 Defense Appropriations Act called the Obey Amendment (Bennett, 2006).

Congress can also add funding to a specific program and defense firms using earmarks, or legislative provisions inserted into a larger bill that direct funding to specific uses. One justification for earmark spending offered by Representative David Obey is to avoid "anonymous bureaucrats" making "every single spending decision in government" (Kelley, 2009). While

earmarks were banned after Republicans took control of the House of Representatives in 2011, some have called for their reinstatement (Frost & Davis, 2015). One reason is that earmarks allow DoD officials to secure additional budget for programs Congress supports. In 2010, for example, the 12 annual budget bills contained an estimated 12.6 billion dollars in earmarks, including 2.5 billion dollars for 10 C-17 transport aircraft that were not officially requested (Elgin & Epstein, 2009). This is not an isolated example, as the Air Force repeatedly received additional funding for C-130 aircraft. The C-130 is built by Lockheed Martin in Marietta, Georgia, a district where powerful legislators, such as Senator Sam Nunn and House Speaker Newt Gingrich, provided funding for 251 more C-130 aircraft than the DoD requested between 1978 and 1998 (Pincus, 1998). Earmarks and other influences have been abused, and in 2015 former Representative Randy "Duke" Cunningham of New Mexico went to federal prison for taking bribes to direct funds to defense contractors (Frost & Davis, 2015).

Indirect interest from Congress results from setting policies and procedures to manage and review defense spending. Indirect Congressional impacts on policy are evident from the 2008 revision of the Department of Defense instruction (DODI 5000.2) for procurement that increased from 37 to 80 pages (116 percent), based on incorporating direction from six National Defense Authorization Acts (Systems Engineer, 2012). In 2016, the \$612 billion National Defense Authorization Act contained directives for the reorganization of military procurement within the DoD, resulting in President Obama vetoing the Act that had passed both the House and Senate (Lamarque, 2015). This suggests Congressional interest with respect to the defense budget also considers where money is spent and how military procurement is managed.

Indirect

Major Defense Firms

In his 1961 farewell address, President Eisenhower warned that the creation of a large arms industry required guarding against the rise of misplaced power (McAdams, 2016). His concern was prescient in that defense firms created a new constituency for defense spending. A dependence on defense spending is what defines defense industry membership, and it crosses multiple sectors of the economy to include aircraft, shipbuilding, and electronics (King & Driessnack, 2007). For example, in 2014, Northrop depended on U.S. defense spending for 83.8 percent of its annual (Northrop Grumman, 2015). Defense firms focus on winning contracts, protecting programs and securing additional funding, and use multiple tactics to influence defense spending, including: 1) environment shaping, 2) influencing contract awards, 3) subcontractor selection, and 4) lobbying that are discussed below.

Environmental shaping

Defense firms attempt to influence or shape their environment using different approaches, including media campaigns to bolster support for a weapon system. For example, defense contractors frequently place advertisements on Washington, D.C. subways (Farhi, 2010; Terkel, 2013) and national television (Baker, 1999). Defense contractors also take part in public events. For example, Lockheed Martin built a mobile F-22 cockpit simulator that it took to media events at locations with jobs tied to the program (Holman, 1999). Oshkosh Corporation, a maker of transport vehicles, also created a media campaign to bolster its image and to fight a protest over an Army contract it won (Tiron, 2009). If promoting a weapon system does not provide the media coverage a defense firm wants, they often buy positive coverage. For example, Rockwell subsidized people promoting the B-1 bomber in the press, including the editor of the Washington Alert newsletter (Kotz, 1988). Another example comes from Lockheed Martin placing full-page

advertisements in Washington newspapers saying that 95,000 jobs depended on funding for F-22 aircraft (Dilanian & Vanden Brook, 2009).

A more targeted approach to shaping the environment of defense firms is revolving-door employment, or follow-on jobs for Congressional and DoD personnel. Due to retirement or other reasons, government personnel often go to work for defense firms, resulting in a situation where government agencies serve as placement services for the defense industry they oversee (Lehman, 2009; Wright, 2013). Defense firms are interested in hiring retired military and others who can offer access to decision-makers working in Congress and at the DoD (Wayne, 2005). For example, Lockheed Martin, in 2008, hired former Senator Dan Coats and retired General John Conaway as contract lobbyists (Dilanian & Vanden Brook, 2009). However, the scale of this revolving door is much larger. In 2006, Lockheed Martin employed over 200 former DoD executives, including Mr. Edward "Pete" Aldridge, a former Secretary of the Air Force and Under Secretary of Defense (Dilanian & Vanden Brook, 2009). While there are legal limits to working on the same programs or having direct contact with prior programs, associated rules are difficult to enforce and residual influence does not have a clear boundary.

Influencing contract awards

The primary method to influence contract awards is to "co-opt" other firms into forming alliances. Alliances and joint ventures can align the interests of different defense firms for a specific military program and combine needed capabilities to have a more competitive offering (King, 2006; Kovacic & Smallwood, 1994; Langlois, 2003). Defense firms forming alliances can also reduce costs. For example, an alliance between BAE, Northrop Grumman, and Lockheed Martin on the F-22 and F-35 programs is estimated to reduce aircraft costs 1 to 3 percent (King,

2006). Defense firms can also attempt to "buy in," or quote a low price on a contract in an attempt to win a contract (Gansler, 1980).

The practice of buying into a program and incorporating changes is implicitly encouraged by the DoD, as lower individual program budgets allow more programs to start and it increases sunk costs that are likely to sustain program funding. For example, the GAO has found that Navy contractors routinely made low-price (low-ball) proposals to obtain work and the practice has contributed to cost overruns (GAO, 1990, 2001). There are structural reasons for defense firms to low-ball defense contracts (Edwards & Kaeding, 2015). First, initial defense program contracts often lead to more lucrative production contracts, so firms may intentionally underestimate development costs for a specific program (McNaugher, 1989). A second reason firms can bid low is that development contracts are typically structured as cost-reimbursement contracts. Under cost-reimbursement, overruns that represent allowable and reasonable costs under a contract are reimbursed by the government. This means as long as defense firms meet a standard of "best effort" only the negotiated percentage of profit for a defense firm is at risk. Third, firms can make money by proposing future changes to the original contract that raise contract funding. The DoD rarely keeps requirements constant, and firms can depend on future changes that drive program costs higher. For example, the Navy's Littoral combat ship averaged 75 changes a week (Lehman, 2009).

Another arrow in a defense firm's quiver to influence contract awards involves protesting to the GAO when a firm loses a competition for a contract. The number of protests by defense firms to the GAO is growing, as the dollar value of contracts open to protest was lowered below 10 million dollars in 2008. Even after accounting for this modification, the number of contract protests still grew over 17 percent between 2007 and 2008 (Brueller, King, & Robotham, 2012).

For example, the current Boeing KC-46 tanker was delayed for several years due to contract protests (King, 2015). One reason for the rise in protests may be attributed to the fact that there are far fewer contracts involved in each award, creating a "make or break" situation for a firm. For example, Northrop Grumman's winning of the Long Range Strike contract to develop a new bomber in 2015 likely kept them viable (King, 2015) and it was protested by Boeing (Seligman, 2015). There is also nothing in place to discourage firms from protesting a decision. While protest outcomes vary by year, between 2010 and 2014 roughly 40 percent of protests resulted in some form of relief (GAO, 2014).

Subcontractor selection

Perhaps the primary tool defense firms use to protect program funding involves the selection of subcontractors. Specifically, defense firms spread work around to increase political support for a program. As a result, approximately 80 percent of work on defense programs is outsourced to subcontractors, as subcontract awards cannot be protested (Mayer, 1991). The overall impact of increased subcontracting is that major defense firms perform less of the actual management, development, and production of weapon systems for the contracts they are awarded. This further complicates the management and oversight of these programs, as subcontractor work on average is spread across 45 states and 250 Congressional districts (King & Dreissnack, 2007; Mayer, 1991). For example, the B-1 program supported several thousand companies across 48 states and employed an average of 40,000 people between 1982 and 1988 (Kotz, 1988); the F-22 program supported over 1,100 firms in 40 states that employed up to 95,000 people (Dilanian & Vanden Brook, 2009; King & Driessnack, 2007); and the C-17 program employed over 30,000 workers in 43 states (Elgin & Epstein, 2009).

The subcontractors used on a program are generally treated as proprietary information. However, the Navy shared subcontractor information on aircraft carrier production, and 90 percent of the members of Congress with over 100 million dollars of subcontracts in their district supported carrier production funding (Mayer, 1991). While subcontracts in a lawmaker's district can never guarantee political support, it does provide leverage. For example, after noting that Senator Claire McCaskill did not support C-17 production, Boeing criticized her in the media and provided information on at risk jobs to the St. Louis Labor Council, contributing to Senator McCaskill's eventual support (Elgin & Epstein, 2009). The preceding discussion suggests subcontractor selection may implicitly have some political motivations.

Lobbying

Defense firms face few lobbying restrictions and every major defense contractor has a Washington, D.C. office. Defense firms attempt to influence Congress by tracking congressional votes, having employees attend committee hearings, and providing positive experiences. For example, Lockheed Martin had a staff of 36 lobbyists and contracted with an additional 41 in 2008 (Dilanian & Vanden Brook, 2009). Lockheed Martin also filled one floor of an office building in Crystal City near the Pentagon and Capitol building with F-22 and F-35 aircraft simulators, so lawmakers, staffers, foreign dignitaries, and reporters could learn about and "fly" the planes (Lockheed Martin, 2016). The amount of money targeted toward this is startling. In 2008, Lockheed Martin and its four main suppliers spent \$65 million to lobby Congress (Dilanian & Vanden Brook, 2009).

Defense firms also use money to potentially influence government officials. For example, it is common for a defense firm to make a charitable contribution in honor of a Congressional or DoD official. It is likely that such donations create positive feelings that may subconsciously

influence recipients (Goldstein, Griskevicius, & Cialdini, 2011). However, money is also paid directly to political parties and members of Congress. For example, Lockheed Martin and the firm's employees contributed over 11 million dollars to each political party in 2007 and 2008 (Dilanian & Vanden Brook, 2009). After funding on the F-22 program was threatened in 2009, Lockheed Martin increased its spending on lobbying in the first quarter of 2009 by 97 percent to over 6 million dollars (Cole, 2009). Unfortunately, this is not uncommon. For example, in the 1980s AVCO doubled its 1983 political contributions from 1981 levels when its M-1 engine contract was threatened, and it continued to make contributions after it was assured a sole source contract (Brooks, 1983). Defense firms typically make additional political contributions when elected officials reconcile differences between House and Senate bills (Mayer, 1991), or when they are perceived to have the biggest impact. This is consistent with business lobbying in general (Drutman, 2010) with 60 percent of Fortune 500 firms participate in a political action committee (Ansolabehere, De Figueiredo, & Snyder, 2003).

Department of Defense

The DoD sets the institutional level and processes used to determine requirements and funding for military procurement that are applied by each military service (e.g., Air Force) at the managerial level, and weapon system program offices at the technical level. In reviewing the DoD, the initial focus is on institutional level processes and associated processes and organizational structure. Then the organization and methods used at the managerial level, using the Air Force as an example, and associated methods to influence levels of funding for military procurement are discussed. Finally, the organization of weapon system program offices (technical level) is reviewed.

Institutional Level

The institutional processes for managing military procurement are divided into three areas: 1) budgeting, 2) requirements management, and 3) procurement management. The budgeting process within the Department of Defense is called Planning, Programming, Budgeting and Execution (PPBE). The precursor to the current PPBE process was established under Secretary of Defense Robert McNamara beginning in 1961 (Grimes, 2008). The PPBE process is managed by the Office of the Secretary of Defense. The Under Secretary of Defense (Policy) has primary responsibility the Planning phase through the dissemination of approved national strategy documents in coordination with the Joint Chiefs of Staff (JCS). This input is used in the Programming phase to collect input from the military services and defense agencies to submit budget requests, or five year Program Objective Memorandum (POM) to support national security strategy within established fiscal constraints to create the Future Years Defense Program (FYDP). The programming phase ends with the Secretary of Defense or Under Secretary of Defense signing Program Decision Memorandum (PDM). The Budgeting process is managed by the Under Secretary of Defense (Comptroller) and it reviews and modifies budget requests with the Office of Management and Budget (OMB) to form the DoD's Budget Estimate Submission (BES) that becomes part of the President's budget request submitted to Congress each February. The Execution phase is managed by the Under Secretary of Defense (Acquisition, Test and Logistics) as part of procurement oversight discussed below.

Submissions for military procurement need to have a validated requirement from the Joint Capabilities Integration and Development System (JCIDS) process that is managed by the CJCS and reviewed by the Joint Requirements Oversight Council (JROC) chaired by the Vice Chairman of the Joint Chiefs of Staff (VCJCS) and the vice chairman of each military service.

The JROC validates the need for a material solution that drives new military procurement and is part of the oversight of Major Defense Acquisition Programs (MDAP) as part of the Defense Acquisition Board (DAB). The JROC also validates key performance parameters used to evaluate weapons system performance during testing. Without constraint, the requirements would want the most capable system. The risk is called gold-plating or making a system more effective then needed. This risk is balanced by having cost and budget information separately managed and then creating a zero-sum budget where different programs compete.

Oversight of procurement processes is chaired by the Under Secretary for Defense (Acquisition, Test and Logistics) and it bridges the requirements and budgeting processes. Progress through procurement milestones (e.g., development, production) is reviewed and approved by the DAB. The DAB tracks procurement reports and metrics and implementation of procurement processes. The DAB is supported by Overarching Integrated Product Teams (OIPT) with representation from primary stakeholders (e.g., program managers, users, defense firms) to identify and resolve issues, and make recommendations before DAB meetings. DAB membership also includes the VCJCS and the Service Secretary for each military service, as well as other Under Secretaries of Defense.

Managerial level

The military services at the headquarters level reflect the managerial level within the DoD, and the discussion here primarily focuses on the Air Force. However, as part of Secretary of Defense Robert McNamara formalizing the budget process, he also changed the structure of military service procurement to mirror each other (McNaugher, 1989). Within the Pentagon there are two separate headquarters with the Air Staff under the Chief of Staff of the Air Force (CSAF), the top

uniformed military officer, and the other under politically appointed civilians (Secretariat), see Figure 2.

---- Insert Figure 2 about here ----

The organizational structure of the military services mirrors the structure of the DoD with requirements managed under the CSAF, similar to the JCS. For example, requirements in the Air Force are managed by the Deputy Chief of Staff for Strategic Plans and Programs (AF/A8). Meanwhile, the procurement and budgeting process are managed by the Secretariat for each military service. For example, in the Air Force, the Assistant Secretary of the Air Force (Acquisition; SAF/AQ) provides oversight of procurement and gives program offices direction using a Program Management Directive (PMD). Additionally, SAF/AQ works with the Assistant Secretary of the Air Force (Financial Management & Comptroller; SAF/FM) to develop budget estimates. Within SAF/AQ, program execution and programming are also separated into current year budget program responsibilities handled by a Program Executive Officer (PEO) and future year budgets handled by a Program Element Monitor (PEM) within directorates dedicated to similar weapon systems (e.g., fighter/bomber, transport). While responsibilities are divided, the underlying goal of each military service is to spread available budget across as many programs as possible (Gadeken, 2005). As a result, military services advocate for their programs, and use multiple approaches to increase program funding, including: 1) sunk costs, 2) information management, and 3) questionable behavior. Each of these topics is reviewed below with examples.

A primary strategy to secure additional funding involves making it difficult to terminate a program by maximizing sunk costs through concurrency or excess production capacity.

Concurrently developing and producing a weapon concurrency is justified by the need to rapidly

field a weapon system to counter a threat, or it represents a risk based decision. However, concurrency often drives some inefficiency or higher costs that drive additional program funding. For example, concurrency led to higher costs from the need to retrofit delivered F-22 aircraft to address problems found during flight testing. Investment in excess production capacity also increases sunk costs. For example, the B-2 bomber plant in Palmdale, California was designed to make 36 B-2 bombers a year, or more than the total number purchased (Greider, 1998). Similarly, F-22 production capacity was purchased for 36 aircraft per year, but the program only used two-thirds of that capacity before the program was cancelled in 2009 and final aircraft delivered in 2012. A justification for investing in excess capacity is to allow a surge capability to meet increased demands during a war. However, this represents a "phantom" capacity because skilled labor and critical suppliers with long lead times constrain increased production. For example, attempts to increase tank production during the Arab-Israeli conflict in the early 1970s were thwarted by a shortage of steel castings from a supplier (Gansler, 1980).

Another option involves aggregating demand by partnering with another service or foreign nations in joint programs. Joint programs lower duplication across services, enable interoperability with allies and can lower logistics costs through standardization, as well as offering increased purchasing power and production efficiencies. For example, the F-35 Joint Strike Fighter program combines purchases of several thousand planes from eight international partners and the Navy, Marine Corps and Air Force. However, the unintended consequences of such arrangements can be costly, and delays on the F-35 program led the Navy to buy additional F/A-18 aircraft (Mizokami, 2016). Additionally, oversight of the F-35 program is provided by 2,600 to 3,000 people for an annual estimated cost between \$70 and \$300 million that rivals the cost of a single F-35 aircraft (Lardner, 2016).

Another method used by military services to protect programs involves information management. This takes several forms, but it typically involves control and use of information to sustain existing programs. One approach is to advocate a program by releasing positive information. For example, when he was the Air Force's top uniformed officer, General Welch flew the B-1 in January 1987, declaring it to be "the most advanced bomber in the world" (Kotz, 1988, p. 225). Similarly, General Jumper flew the F-22 in January 2005 and said: "the Raptor does everything we had hoped it would do, plus some" (Powell, 2005). These steps send a clear message that a program is favored. Additionally, advocacy can go beyond military need to claim economic benefits. For example, estimates of the number of jobs that depended upon the F-22 program ranged from 25,000 in direct contractor work to 100,000 for indirect economic impacts (Thompson, 2008).

Another approach is to limit release of information or obscure details, such as classifying information to prevent its disclosure. However, similar outcomes can be accomplished by providing vast amounts of data or conveying it in an overly technical manner (Benson et al., 2015), and through timed release. For example, the announcement of a \$17.2 billion dollar cost increase for the F-35 program was delayed until after Congress agreed to terminate F-22 production (Inside Defense, 2009).

Given the stakes, questionable behavior sometimes occurs and it often involves a grey area of lobbying members of Congress. While the executive branch of the government is restricted from lobbying members of Congress by a 1919 law (Title 18 U.S. Code), this rule is routinely ignored and rarely enforced (Mayer, 1991). In some cases, lobbying is actually encouraged. For example, Representative John Murtha, as the chairman of the House Defense Appropriations subcommittee, suggested that DoD leadership prod House and Senate lawmakers

to finish conference work on the 2010 defense budget (Oliveri, 2009). A significant bargaining chip the military uses to influence Congress involves deciding where to base a weapon system. A military base can add \$2 billion to a state's economy each year (Greider, 1998), and there are multiple examples of how basing decisions impacted congressional support of a weapon system. In one case, Senator Bob Dole of Kansas was critical of the B-1 program until McConnell Air Force Base (Kansas) was selected as a B-1 base (Kotz, 1988). In the case of the F-22 program, bases in Hawaii and Nevada were provided with less aircraft than planned, or a full unit was split between the bases to gain support of lawmakers in each state (Cole, 2006). Splitting aircraft into partial squadrons was inefficient, as not enough spare parts and support equipment was procured to operate the aircraft at different locations.

Technical level

At the technical level of military procurement, the focus is on a weapon system program office, or the organization responsible for executing a provided budget to field a weapons system that meets requirements. Within a program office, responsibilities for performing needed tasks is divided between a program manager, financial manager, and a contracting officer, see Figure 3. The contracting officer is the person with the authority to solicit sources, select sources, and prepare and award contracts, as well as administer and terminate a contract (FAR 2.101, 2016). As a result, contracting officer is the only person with the ability to direct the activities of a defense firm and interpret and modify the conditions of a contract. Before awarding a contract, a contracting officer needs to determine that the price of a contract is fair and reasonable. Making this determination largely depends on cost estimates, available budget, and appropriate use of budget that falls within the purview of a financial manager. Financial managers develop estimates for budget submissions to military services (managerial level), evaluating the cost of

contract proposals, and tracking the spending of provided funding. Meanwhile, a program manager has overall responsibility for a program and provides a single point of contact for stakeholders. As a result, program manager training explicitly recognizes the need to balance multiple stakeholders (DAU, 2016: 166).

---- Insert Figure 3 about here ----

Although each role resides within a program office, the personnel filling these roles operate in a matrix organization where a contracting officer and financial manager work for a program manager, but also functional organizations outside the control of a program manager. This is due in part that conflict within program offices and with external stakeholders is common. With responsibility, comes some authority granted by a Program Management Directive (PMD) that provides direction and guidance, as well as enables calling on the support of other organizations. This places program managers at the center of competing interests and the responsibility to balance available budget and time to meet established requirements. Program manager decisions integrate the interests of stakeholders at higher organizational levels, using commands, and the defense contractor providing needed capabilities. However, program managers are constrained in their ability to direct the activities of a defense contractor and must convince a contracting officer of the need and available funding for a change. For example, the Antideficiency Act initially enacted in 1884 prohibits government personnel from entering into contracts that are not fully funded, and administrative actions against violations are enforced (Cohen, 2013; GAO, 2016).

Case Analysis

As outlined in the prior sections, stakeholders in military procurement operate within a web of stakeholder interests. The stakeholders within the DoD's overall organizational task environment

form an "iron triangle" around military procurement where adjustment of the 'angles' from different stakeholders contributes to mutually acceptable outcomes. As a result, military procurement depends on each primary stakeholders only having partial control on outcomes (McNaugher, 1989). This system of checks and balances is also evident within the DoD where responsibilities for military procurement are divided to replicate a system of competing interests observed at the institutional level at the managerial and technical levels, see Table 2.

---- Insert Table 2 about here -----

The observed separation of responsibilities in DoD processes and organizational structure are replicated from the institutional to managerial and technical levels of the DoD's organizational structure. The separation of responsibilities provides different methods of oversight and begins to address problems of relying on a single chain of command to address internal problems (Reed, 2014). This is achieved through individuals having multiple avenues to raise concern and this constrains. Restated, multiple chains of command is consistent with a military tradition of trusting that someone will recognize and support your efforts if you are right (Reed, 2014). As a result, conflicts of interest in military procurement, when observed as a whole, appear to create a stable system that operates from resolving diverging interests and helps to mitigate self-interest.

However, this conclusion is heavily dependent on counterfactual logic, or lower level of problems. Fortunately, evidence of wrong-doing in military procurement is limited. In the last two decades, the authors are aware of two cases. First, high-level ethical shortcomings were demonstrated in Darleen Druyun's rise and fall within the Pentagon's military procurement hierarchy (Merle, 2004) that ended with her pleading guilty to corruption charges (Palmer, 2005). More recently, a decade of corruption associated with ship refueling and resupply

instigated by a defense contractor, Glenn Defense, came to light within the Navy in 2016 after an internal investigation (Edwards, 2016). While problematic, the introduction to this article lists multiple examples of similar problems within corporations within just the last year.

While questionable behavior associated with military services lobbying is also covered in the case description, the two examples involving corruption have two primary things in common. First, they become public. This relates to the observation by Benjamin Franklin that the only way for three men to keep a secret is if two of them are dead. Having three or more parties involved in a decision drives increased information sharing that reduces information uncertainty observed in principal-agent dyads. This relates to the second observation, each of these problems were largely identified and investigated as a result of involved stakeholders. Therefore, an understanding of a larger common objective facilitates awareness among stakeholders (Butcher & Clarke, 2003) and, when information is combined with diverging interests and goals, the resulting competing interests to mitigate self-interest.

DISCUSSION

Organizations evolve in a path-dependent manager, and the dyadic relationship between investors and managers in modern corporations can be traced to the 17th century Dutch Vereenigde Oost-Indische Compagnie (VOC; Adams, 1996). However, principle-agent problems allows for undesirable behavior that contributes to organizational instability (Adams, 1996; Eisenhardt, 1989). Meanwhile, the formation of representative democracies depending on a tripartite system that balances power between executive, legislative and judicial branches has created an alternate organizational environment in government organizations. In considering self-interest in military procurement, evidence suggests that increased stakeholder engagement in a tripartite system that leverages competing interests can mitigate self-interest better than a

dyadic system. Further, corporate governance in other national settings, such as Germany and Japan, where banks and labor play a more significant role in corporate governance (Fiss & Zaja, 2004) suggest a system of competing stakeholder interests can be applied in the corporate governance of modern corporations. This insight has implications for research, managers, and policy that are summarized below.

Research implications

Examining conflicts of interest represents a key topic of ethics research (Slocum, 2012), and the examination of conflicts of interest in military procurement suggests two primary research implications. First, the results support the importance of an organization's environment on its organizational structure. For example, evidence suggests the structure of organizations evolve in a path dependent manner that mirrors its external environment across different divisions and organizational levels. This is consistent with expectations from organizational theory, and specifically institutional theory (DiMaggio & Powell, 1983).

Second, the examination of conflicts of interest in military procurement reinforces the importance and application of stakeholder theory in organizational design (e.g., Freeman, 1984; Goodpaster, 1991). While considering stakeholders is not universally accepted as necessary (Jensen, 2001), evidence suggests that decisions that balance at least three powerful stakeholder groups can help mitigate self-interest. This extends insights into countervailing forces for self-interest beyond monitoring and aligning self-interest through financial incentives from agency theory (Eisenhardt, 1989). Organizational problems from self-interest insufficiently addressed through monitoring and incentives may be avoided by designing a system of checks and balances from dividing responsibilities across different parts of an organization's structure. This could provide an option for loyal dissent beyond professional exit (Reed, 2014). Overall, this suggests

the need for organizational theory to examine how organizational structure can be used to mitigate organizational problems. Finally, it also suggests an important area for future research is to consider implications to agency theory of integrating multiple perspectives.

Managerial implications

Greater consideration of stakeholder beyond shareholders in other national settings suggests that managers could benefit from greater stakeholder engagement to avoid wrongdoing, associated media coverage, and reputational losses by considering alternate organizational structures. In military procurement, a clear separation of responsibilities where people are aware of the different roles and perspectives expected of them, and this can drive engagement by multiple stakeholders needed to mitigate self-interest. If managers set up a system intended to have different perspectives, then they need to ensure make sure people are aware of their roles (e.g., Floyd & Lane, 2000). Further, making sense of multiple stakeholder cues requires effort (Dutton, Ashford, Lawrence, & Miner-Rubino, 2002; Eisenhardt & Beourgeois, 1988). Combined these observations suggest the need for individual preparation to manage competing interests. Acting ethically is often a daunting task without skills and processes to support it. Improved organizational outcomes from managing competing stakeholder interests likely depend on associated training and development (e.g., Driscoll, 2001; Sekerka, 2009).

Policy implications

The review suggests maintaining multiple stakeholders with divergent interests can mitigate self-interest in military procurement and this has potential implications for commercial and defense policy. With respect to commercial policy, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 enacted significant changes to financial regulation in the U.S. in response to excesses that contributed to the 2008 financial crisis. Part of the law depends on improved

whistleblower protection to identify employer wrong-doing (National Law Review, 2016). However, it does not appear that this successfully mitigated Wells Fargo opening fraudulent customer accounts, as employees that were fired after calling an internal ethics hotline have formed a class action lawsuit (CNN, 2016). Instead of applying reforms to an existing dyadic system, it may be worth considering the application of a tripartite system of corporate governance.

Returning to defense policy, another cited reason for President Obama vetoing the 2016 National Defense Authorization Act is that it would eliminate procurement oversight by the Under Secretary of Defense (Acquisition, Test and Logistics) to give military services more power in managing military procurement (Wright & Herb, 2015), and similar language appears in the Senate version of the 2017 National Defense Authorization Act (Maucione, 2016). If the institutional level of the DoD is modified to eliminate a stakeholder needed to balance self-interest, this may weaken the system of competing interests that mitigates self-interest. Simply, an improved understanding of military procurement is likely needed before reforms can be effective. For example, an examination of recent reforms suggests that they have been largely ineffective in slowing cost growth (Green, King, & Rappaport, 2000).

It may also be possible to further leverage rivalry between military services to mitigate self-interest by assigning personnel across different services. For example, a Navy officer was assigned to manage the Air Force's cruise missile program by Defense Secretary Laird in 1972 to help ensure the Air Force would be unable to sabotage the program (Kotz, 1998), as a cruise missile competed for resources with piloted aircraft that were better supported at the managerial level. Additionally, the current management of the F-35 program rotates between the Air Force and Navy to provide balance (JSF.mil, 2016), and avoid one service making decisions along its

preferences for the program. Assignment of personnel across services would also likely lower information asymmetry that may further mitigate self-interested behavior between services.

Limitations and Future Research

A research limitation of the current study involves a reliance on author experiences and development of a 'case study' of conflicting stakeholder interests in military procurement that may have limited generalizability. Information collected on military procurement suggests a system of checks and balances may help to mitigate self-interest. However, the inclusion of additional stakeholders with corporate governance in Germany and Japan suggests the ideas developed here could be applied more widely. Future research can further examine information management and its implications using triangulation of methods and contexts to confirm this conclusion and to identify boundary conditions. For example, the relevance of competing interests in mitigating self-interest may depend on a common goal.

Conclusion

Conflicts of interest in U.S. military procurement ensure that multiple stakeholder perspectives are considered and this can mitigate self-interest. Better understanding and leveraging conflicts of interest in military procurement appears to facilitate effective management of public funds. Ideas developed here may also enable better corporate governance. Hopefully, associated awareness and better management will allow people serving in government and commercial organizations to display integrity and improve public welfare.

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Table 1: Stakeholder actions to influence defense spending

Congress	Major Defense Firms	Military Services
Congress Direct Testimony Reports Correspondence Restrictive language Earmarks	 Major Defense Firms Environment shaping Media campaigns Advertisements Revolving door employment Influencing contract award 	Military Services Sunk costs Concurrency Excess capacity Joint Programs Information management
Indirect	 Alliances (co-opt) Low-ball bids (buy-in) Contract protests Subcontractor selection	 Positive events Timing of information release Classifying information
	Lobbying	Questionable behavior

 Table 2: Summary of Case Evidence

Proposition	Case Evidence
A system of competing interests at the organizational task environment will be reflected at the institutional level of military procurement.	 In 1959, Authorization process is created to separate requirement (authorization) from budget (appropriation) Separation of three processes (requirements, budget, and program oversight) within the DoD and managed by different organizational divisions Separation of DoD hierarchy into military (i.e., JCS) and civilian (politically appointed secretaries) leadership
A system of competing interests at the institutional level will be replicated at other organizational levels of military procurement to mitigate self-interest.	 Separation of responsibility for requirements, budget and program oversight across different divisions (e.g., military services), and military and civilian leadership Creation of cross-functional teams in a matrix organization within weapon system program offices that separate responsibilities Contracting Budget Execution

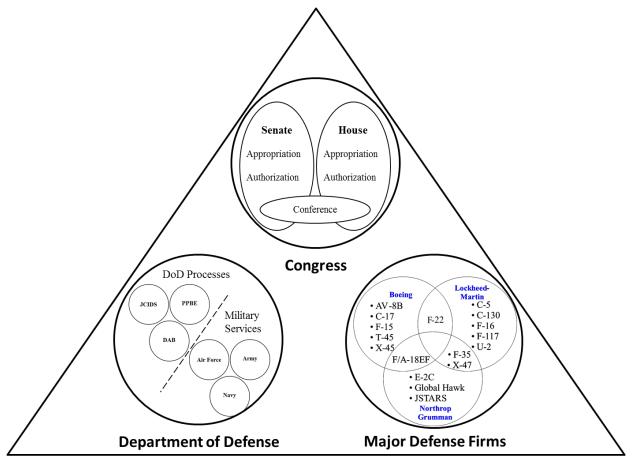


Figure 1: Military procurement institutional stakeholders (iron triangle)

Note: Major defense firm diagram (bottom right) is of aircraft alliances from King (2006)

Figure 2: Separation of responsibilities for military procurement in the Air Force

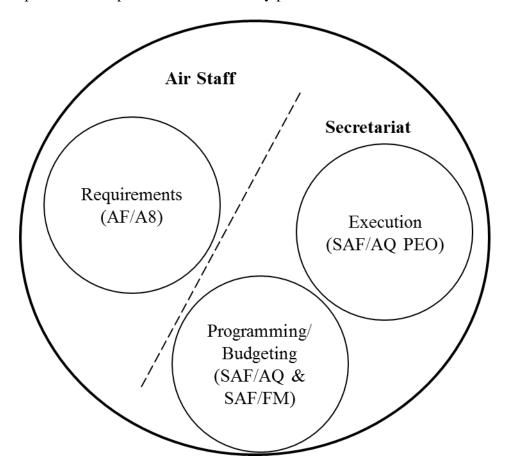


Figure 3: Separation of responsibilities for military procurement in program offices

