



Military Leadership, Institutional Change, and Priorities in Military Spending¹

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How does political competition among domestic actors influence foreign policy choice? Studies examining these questions often focus on the role of economic or partisan interests, and how they influence the preferences of decision makers who are subject to electoral institutions and pressures of their constituents. Less attention has been paid to how the preferences of other influential but unelected actors influence state behavior. I examine the influence of one such group by looking at how American military leaders shape decisions on military spending and force structure, while also examining how these decisions have been affected by changes to the institutions governing civil–military relations. Results indicate that military leaders occupying key positions can influence defense spending priorities in favor of their respective branches. Results also suggest the influence of military leaders has changed and is conditional upon the institutions governing the relationships between civilian decision makers and military leaders.

How does political competition between domestic interests impact a state's foreign policy? Previous research has examined how various domestic interests, like partisan or economic interests, have shaped the preferences of domestic actors in democratic states and, in turn, influenced the state's actions in the international sphere (Fordham 1998, 2002; Clark 2003; Arena and Palmer 2009; Milner and Tingley 2010). While such studies have enhanced our understanding of the domestic sources of foreign policy choice, they invariably focus on the divergent incentives of elected officials representing different societal interests. However, beyond this “first” layer of elected policymakers lies an additional layer of actors who also play an important role in crafting and executing foreign policy. Key players in the policy-making process, like the military, are conspicuously absent from studies examining foreign policy choice.

This article addresses this gap in two ways: First, I examine the influence of American military leaders on defense policy outcomes. Several scholars have discussed the influence of military leaders in the policy-making process (for example, Hilsman 1987; Betts 1991; Rhodes 1994; Allison and Zelikow 1999; Nagl 2002; Halperin, Clapp and Kanter 2007). These studies often highlight the competition between military leaders over resources, but there is little empirical work on the subject. Further, studies of civil–military relations have not conducted quantitative analyses aimed at evaluating the systematic impact of military leaders on foreign policy choice (for example, Huntington 1957; Holsti 2001; Gelpi and

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Feaver 2002). The American military provides a convenient context in which to examine these questions—since the end of World War II, the American military has had an increasingly prominent role in the foreign policy-making process of the United States (Bacevich 2004).

Second, I examine how the influence of senior military leaders has been affected by changes in the institutions governing their relations with civilian policymakers. Although scholars have examined how institutions influence the foreign policy choices of democracies (for example, Reiter and Tillman 2002; Clark and Nordstrom 2005), there are additional institutional constraints to consider, which determine the ability of lower-level political actors (like military leaders) to influence policy by establishing their role in the policy-making process. Specifically, I focus on the 1986 Goldwater-Nichols Act. The influence of military leaders in the foreign policy-making process has often been marked by fierce competition between each branch of the military over resources. The Goldwater-Nichols Act was intended to strengthen civilian control over the military and to alleviate the problems arising from interservice competition. As such, it represents a major change in the institutional structures governing civil–military relations and the means by which military officials are able to influence policy (Bourne 1998; Locher 2002). Developing a better understanding of the impact of these institutions is essential given that military officials operate outside of the electoral processes that subject civilian politicians to public accountability.

This study also has implications for our understanding of the national security policy-making process. Realist and statist scholars have argued that states pursue a singular national interest (Krasner 1978; Waltz 1979). In spite of the numerous studies exploring the influence of domestic politics on state behavior (for example, Fordham 1998; Howell and Pevehouse 2005; Kriner 2010), there is less work aimed at understanding those factors that shape the perceptions of domestic actors over security threats and how to best address those threats.² Evidence indicating that even elements of the military clash over policy issues like force posture suggests something important about the degree to which national security can be objectively defined. It also suggests that other factors like organizational interests may contribute to shaping actors' preferences over national security policy and just what constitutes the "national interest".

I find evidence that military leaders occupying key positions influence defense spending priorities in favor of their respective branches. The analysis also suggests the influence of military leaders has changed over time and is conditional upon the institutions governing the relations between civilian policymakers and military leaders. Generally, I find that controlling a greater share of key military leadership positions is positively correlated with the amount of money that a branch receives, but that this relationship is most robust for the post-Goldwater-Nichols period. The Goldwater-Nichols Act also appears to have had the opposite effect when looking at specific positions, like the Chairman of the Joint Chiefs of Staff. Holding this position in the pre-Goldwater-Nichols period is positively correlated with branch spending, but it is negatively correlated with spending in the post-Goldwater period. These findings shed new light on the role played by, and influence of, lower-ranking officials in the foreign policy-making process. Additionally, these findings suggest that preferences and perceptions concerning national security and defense force posture are viewed, at least in part, through the lens of organizational interests. This article proceeds as follows: First, I review the literature on interservice rivalries. Second, building upon the arguments found in the qualitative literature, I draw on bureaucratic politics theory to generate more refined expectations regarding the behavior of military leaders. The third section will review the data used in this study and the

² More recent work has begun to address this issue. See Fordham and Kleinberg (2011).

operationalization of the variables. Finally, I conclude with a discussion of the results and their implications.

Interservice Rivalries

The National Security Act of 1947 was intended to curb what many civilian leaders saw as excessive competition between the branches of the military. It sought to unify the previously independent Army and Navy, and the newly created Air Force, into a single organization under a single civilian secretary. Many military and civilian leaders were appalled by the lack of coordination and excessive competition that they saw during World War II. "We must never fight another war the way we fought the last two," said President Truman, "I have the feeling that if the Army and the Navy had fought our enemies as hard as they fought each other, the war would have ended much earlier" (Clifford 1991:146). The process of unifying and restructuring the military brought about resistance by those military officials who feared the potential effects of unification. Many in the Navy's leadership believed that unification would strip the Navy of its air power and the Marine Corps, relegating it to a transportation role for the other branches. Secretary of the Navy James Forrestal opposed unification on these grounds, claiming that it would be "fatal" for the Navy (Stevenson 2008, 130).

In spite of the National Security Act's attempt to restrain interservice rivalry, problems have persisted (see Huntington 1961). Scholars have long noted the competition between the branches over the allocation of military resources. Members of each branch tend to fight for greater shares of military resources, leading to the wasteful duplication of technologies and weapons systems (Huntington 1961; Betts 1991). A former Air Force Officer and program analyst at the Department of Defense argued the problem of interservice rivalry stems from the idea that military leaders think "they're in a zero-sum game. They think that if they cancel something like the F-22, some other service...will take that money" (Wilson 2000:184). Numerous anecdotal accounts describe the preoccupation of military leaders with acquiring more resources for their respective branch. This emphasis on interservice competition over resources is closely tied to the personal incentives of officers within the military—more funding provides officers with opportunities to expand prized programs. This, in turn, provides opportunities for advancement and prestige (Betts 1991; Halperin et al. 2007).

Political and technological changes have contributed to these rivalries. The atomic bomb in particular stimulated fierce competition, as some military leaders were fearful that the new weapon would hurt their branch's standing in the defense community. Army officers in particular worried that a growing emphasis on nuclear weaponry and the Air Force's monopoly over nuclear technology would lead to sharp cuts in the Army's budgets (Hilsman 1987; Betts 1991; Halperin et al. 2007). Indeed, these fears were validated as Republican leaders in the Eisenhower administration preferred the less expensive nuclear weapons to larger and more expensive conventional forces, directing more resources to the latter at the expense of the former (Isaacson and Thomas 1986; Betts 1991; Fordham 2002). The depletion of the Army's conventional forces during the Eisenhower administration led a small group of Army officers to leak information to Congressional leaders in an effort to discredit the Air Force's emphasis on the utility of strategic bombing. It was hoped that this move would result in the restoration of resources that had been stripped from the Army in an effort to fund the growth of the Air Force's strategic bombing capabilities (Betts 1991). The apparent domination of the Air Force in this time period led some Air Force Officers to question the utility of the other branches—the Navy in particular (Huntington 1961).

Further developments eventually allowed the other branches to play a greater role in the nuclear game, but interservice competition remained an issue of concern. The development of smaller tactical nuclear weapons and missile systems allowed the Army to deploy its own nuclear weapons and allowed nuclear missiles to be deployed on Navy submarines (Betts 1991; Halperin et al. 2007). Alternatively, escalating American involvement in Vietnam expanded the missions of each branch. The Army's mission in particular grew dramatically during this period, coming on the heels of the Eisenhower administration—the “lean years of massive retaliation” for the Army (Nagl 2002:126). Accordingly, Army commanders resisted implementing changes that would give other branches a greater role in Vietnam. Strategies and tactics proposed by the Marine Corps were viewed as particularly threatening—its proposed counterinsurgency program would have conflicted with the Army's preferred methods of waging war, potentially threatening the Army's dominant position and inflated budget (Nagl 2002). Other branches made similar efforts to expand their role during the war, fighting to secure operational autonomy. The end result was that each branch essentially fought its own individual war in Vietnam (Huntington 1988; McMaster 1997).

The National Security Act of 1947 represented the first attempt to curb the interservice competition of the World War II era by unifying the military services into a single department under a civilian secretary. It also established the basis for the current military hierarchy by creating the Joint Chiefs of Staff (JCS), Chairman of the Joint Chiefs of Staff (CJCS), and the several unified combatant commands (for example, European Command, Central Command). The combatant commands were intended to oversee unified combat forces and are composed of personnel from multiple branches of the military, and each is commanded by a four-star officer (CINC) who can be drawn from any branch. However, the service chiefs—the heads of the individual branches of the military—continued to dominate the military's hierarchy at the expense of the CINCs (Huntington 1988; Kester 1988; Locher 2002). Consequently, control over the military hierarchy was largely centralized in the JCS.

The Defense Reorganization Act of 1953 represented another early attempt to restructure the chain of command and was aimed at giving the CINCs greater authority, but it had little real impact (Huntington 1988; Kester 1988; Locher 2002). It was not until the 1986 Goldwater-Nichols Act that serious change was imposed on the structure of the US military. Before Goldwater-Nichols, the military chain of command effectively ran from the CINCs, to the JCS, to the Secretary of Defense and the president. Goldwater-Nichols restructured the chain of command to run directly from the president, to the Secretary of Defense, to the CINCs, as the 1953 legislation had intended but failed to accomplish in practice. The CJCS was made the principal military advisor to the president, the position of Vice Chairman (VCJCS) was created, and the service chiefs were removed from the operational chain of command. Their ability to interfere in operational issues was drastically diminished as compared to the pre-Goldwater period. This legislation was also meant to strengthen the CINCs, increasing their access to top policymakers (Locher 2002). As the CINCs commanded forces composed of personnel from multiple branches, it was believed that increasing their access to top policymakers would promote greater cooperation between the services. However, complaints of interservice rivalry have remained in the post-Goldwater period, with many insisting that military officers are driven largely by parochial concerns and organizational interests (Wilson 2000; Franks 2004). These claims suggest that Goldwater-Nichols may not have eliminated the problem of interservice rivalry, but simply altered how that rivalry played out.

Bureaucratic Politics and Interservice Rivalry

This anecdotal evidence is a useful starting point and generally suggests that military leaders use their positions to advance the interests of their branch. The bureaucratic politics literature provides a firmer theoretical framework in which to develop more precise expectations regarding the means by which military leaders influence policy.

Bureaucratic Politics Theory

Bureaucratic politics theory sees policy as the product of interactions between several different individual actors, defined according to their roles within particular organizations.³ The position that an individual actor holds determines the sorts of powers that are available and also shapes that actor's preferences on policy issues. An actor's goals are often influenced by (if not outright defined by) their position and the organizations to which they belong (Allison and Halperin 1972; Moe 1989; Betts 1991; Allison and Zelikow 1999; Halperin et al. 2007).⁴ For example, the armed forces view national security through the lens of military power, and individual services view national security through the lens of their own service's well-being. According to Allison and Halperin (1972:48):

Members of an organization, particularly career officials, come to believe that the health of their organization is vital to the national interest. The health of their organization, in turn, is seen to depend on maintaining influence fulfilling its mission, and securing the necessary capabilities. The latter two interests lead to concern for maintaining autonomy and...maintaining or increasing budgets.

An actor's position determines an actor's preferences and power to influence policy. Position is a relative term derived from an actor's stance vis-a-vis other players, agencies, and interests. Position within a hierarchy is emphasized as it relates to what Allison (Allison and Zelikow 1999) refers to as "action channels" or the rules that determine the regularized pathways of communication and input into the policy-making process. Action channels, "vest and weight particular interests and perspectives by distributing formal powers, information, access, and bargaining advantages to players with predictable predispositions in regularized policy-making processes," (Allison and Zelikow 1999:5808). The head of a department must watch out for the well-being of that department. And while lower-ranking individuals may share similar views, their ability to influence policy is limited by their lower standing within the organization. For example, it is the CJCS, not the VCJCS, that advises the president. Consequently, we should expect positions closer to the top of an organization's hierarchy to be commensurate with greater power. This power stems from the senior official's ability to choose what information gets reported to decision makers. This does not mean that lower-ranking officials have no power—they can impact decisions by influencing the flow of information as it moves from the ground up (Hammond 1986; Allison and Zelikow 1999; Halperin et al. 2007). However, the power of any single actor to significantly influence policy outcomes in this way should diminish as alternative sources of information increase. Finally, it is important to emphasize the ability of bureaucrats to influence policy decisions even though bureaucratic actors may not necessarily be the ones who make the final decision. As scholars of bureaucratic politics (Betts 1991; Allison and Zelikow 1999; Halperin et al.

³ It should be noted that actors occupying unofficial positions can be influential as well.

⁴ Also see the literature on epistemic, or expertise-based, communities (for example, Haas 1992). Scholars have argued that groups of individuals with such expertise come to view their interests in the context of their area of specialization, seeking to advance those interests through the consolidation of bureaucratic power.

2007), and of epistemic communities (Haas 1992) have argued, power and authority may be delegated in situations where the decision makers themselves lack expertise. Although civilian officials have substantial influence in the budgeting process, they are often unprepared to assess the needs of particular agencies whose needs are determined by highly specialized experts. This is particularly true concerning the military given its technical and specialized nature.

Applications to Military Leadership

Bureaucratic politics theory offers important insights into the dynamics underlying interservice competition. Theory predicts that all bureaucratic organizations should be subject to this kind of wrangling over resources, and the military in particular provides an excellent test subject given its emphasis on rank, structure, and hierarchy. After the World War II, the guidance of military officials became essential to policymakers. The sophisticated nature of military capabilities and America's expanding global commitments have led to an increasing role for military leaders, leading some scholars to point to the increasing "militarization" of American foreign policy (Bacevich 2004). Accordingly, military leaders have become important provisioners of expertise and would seem to qualify as key players in the game of national security.

Previous empirical research applying the bureaucratic politics framework to questions of interservice rivalries and their impact on policy is limited. Rhodes (1994) provides perhaps the only quantitative study to examine these issues. Building on Allison's (1969) bureaucratic politics model, Rhodes (1994) evaluates whether the Chief of Naval Operations' (CNO) background in one of the Navy's three unions (that is, surface sailors, submariners, and aviators) impacts naval spending and force posture. The CNO, driven by organizational interests, should use his influence to allocate greater resources to his respective union. Rhodes tests this using several indicators—the portion of procurement budget dedicated to aircraft, surface warship hulls as a share of new construction, and several others—ultimately finding little support for the bureaucratic politics model.

Several aspects of Rhodes's (1994) treatment of bureaucratic politics theory merit further attention. First, Rhodes focuses solely on the CNO, but other high-ranking naval officers occupy key positions, allowing them the kind of opportunities to influence policy that Allison (1969) argues matter in bureaucratic politics. Naval officers serving as CJCS or as a CINC might also influence spending priorities. Failing to account for the influence of these other positions may bias Rhodes' results against findings in line with the bureaucratic politics framework. Second, Rhodes' study might suffer from omitted variable bias. Failing to account for the influence of other high-ranking naval officers occupying key positions is just one example. Not controlling for the preferences of civilian leaders can also confound the results. Finally, the limited scope of Rhodes' study suggests that his findings may be a weak basis on which to evaluate the broader validity of the bureaucratic politics framework. Beyond its limited sample size, Rhodes' study may only speak to the peculiarities of the Navy. Looking at a longer time period and at multiple branches of the military can help us to establish the extent to which his conclusions are generalizable.

For the purposes of this project, the actors in the model are individual military officers. Theoretically, we should expect these actors to use their positions to advance the interests of their respective organizations (for example, the Army). Theory also dictates that not all military personnel have an equal opportunity to influence policy—only actors occupying important positions within the military hierarchy. Holding positions within the broader

organizational structure of the military gives these officers access to both opportunities and power. The number of such positions is fundamentally limited, restricting the number of individuals involved in significant decision-making processes. The opportunities for each branch to influence the flow of information can increase or decrease according to how many of these positions that branch controls.

The power of an actor to influence policy is largely a function of the extent to which they consolidate their power within a broader organizational framework. I have described the theoretical expectations suggesting that any information these actors give in an advisory capacity should reflect organizational interests. However, for the purposes of this analysis, we are really interested in the aggregate effect of these individual actors. As a logical extension, multiple actors holding the same preferences should be better able to advance the cause of their organization than a single individual. Given a limited number of individuals to whom civilian leaders can turn to for expert advice, the more positions that are held by officers from the same branch will limit the variety of information available. Holding a greater share of positions within the military hierarchy should give a branch a greater ability to influence policy by controlling more of the information flow. The most important positions in the military hierarchy are the CJCS, VCJCS, the JCS, and the CINCs.⁵

While a branch always has a representative among the JCS, its control over other positions fluctuates. Over the years, the CJCS has been held by individuals from each branch of the military. Similarly, a branch may control five CINC positions, or only three in other years. A branch whose officers occupy five CINC positions should be better able to influence policy than if its officers only occupied three CINC positions.

But overall power and control are not simply a function of the number of positions held. The authority vested in particular positions also matters. This is especially important in the military as the chain of command determines the action channels through which officers can influence policy. Higher-ranking officers should be better able to influence policy than their subordinates. Because civilian leaders frequently consult several senior military leaders, the ability to control information in this way is not perfect, but the frequency with which the higher-ranking officers interact with civilian policymakers should be greater than that of lower-ranking officers. Accordingly, the number of positions controlled and hierarchical power come together to determine a branch's overall power within the military hierarchy:

Hypothesis 1. *The greater a branch's overall power and control within the military hierarchy, the greater that branch's ability to influence policy.*

Alternatively, the CJCS is one position that may be unique in its influence. The principal military advisor to the president and top officer in the military, the CJCS is frequently consulted by political leaders as the spokesmen for the entire uniformed military. Compared to other senior positions, the CJCS is capable of engaging civilian policymakers on a more frequent basis for reasons related to seniority, prominence, and geographic proximity. Thus, control over this position might exert an independent effect.

Hypothesis 2. *Controlling the CJCS is positively associated with a branch's influence on policy.*

⁵ This is a simplifying assumption. However, these particular positions are usually highlighted by the literature.

There are also institutional and contextual factors to consider. Given the importance of the chain of command and action channels, it is essential to consider how institutional structures have impacted these relationships. The 1986 Goldwater-Nichols Act made changes to the structure of the military and altered the chain of command in crucial ways. Prior to its passage, the JCS were more influential in operational matters. Other positions, like the CINCs, had less opportunity to express their views to senior policymakers. If organizational affiliations lead actors to behave as we might expect based on bureaucratic politics theory, then we should expect a branch controlling more positions in the military hierarchy to be more influential in the post-Goldwater period where these positions are less subordinate to the JCS and have greater access to senior policymakers. As power is more centralized in the JCS prior to 1986, the JCS should act as a filter, suppressing or overriding information flowing up from the CINCs. Alternatively, after 1986, the chain of command was restructured to allow the CINCs more direct access to the president and Secretary of Defense. Consequently, controlling more of these positions should provide a greater ability to influence policy as a result of the increased opportunity to access senior policymakers. This, combined with the CJCS' elevation to be the principal military advisor to the president, suggests that controlling a greater number of positions should be more influential in the post-Goldwater period.

Hypothesis 3. *Greater overall power and control within the military's hierarchy should have a positive effect on a branch's ability to influence policy after the 1986 Goldwater-Nichols Act.*

Although the Goldwater-Nichols Act increased the access of the several CINCs to senior policymakers and elevated the CJCS to principal military advisor to the President, it also removed the CJCS and the JCS from the operational chain of command. These positions had exercised substantial influence over policy in the pre-Goldwater period. While Goldwater-Nichols established the CJCS as the principal military advisor to the president, it is possible that the formal loss of influence in the operational chain of command may have diminished the CJCS' potentially unique ability to influence defense policy. Thus, it is possible that we may find the CJCS to be less influential in the post-Goldwater period.

Hypothesis 4. *Holding the position of CJCS should be less influential in the post-Goldwater-Nichols era and more influential in the pre-Goldwater era.*

Having outlined the theoretical expectations and hypotheses, I will now discuss the data and operationalization of the variables.

Data and Operationalization

Operationalizing Influence

The primary variables of interest are intended to capture the extent to which each branch is positioned to exert influence on the policy-making process. Accordingly, the unit of observation is the branch year. I model the military's hierarchy as a two-mode network where each branch of the military is connected to a set of positions within the military's organizational hierarchy by the individual officers who occupy these positions.⁶ A branch is connected to an office if one of its officers occupies that office in a given year.

⁶ See Wasserman and Faust (1994) for more on two-mode networks. On centrality in two-mode networks, see Faust (1997).

First, we must define the theoretical boundaries of the network. To generate the necessary measures, it is important to set specific limitations on the positions to be included in the network. In establishing these limits, I include the following positions: the CJCS, VCJCS, and the CINCs of the combatant commands. These positions were chosen because they fit with the criteria established by the theoretical literature and serve as some of the most important and highest ranking positions in the American military that weigh in on important defense policy issues.⁷ These positions are also important because they are typically held by officers from different branches over time.⁸ Whereas the CNO is always a Navy officer, the CJCS or a CINC can be from any branch. Furthermore, these positions provide for variation in the structure of the military hierarchy; as some positions are phased out or new ones created, we can capture the fluctuations in relative influence that each branch has by capturing the variation in opportunities to exercise that influence. The creation of a new position can change the balance of power between competing branches by creating new opportunities to influence the flow of information to policymakers. Alternatively, the JCS remain constant across time (that is, there is always a Chief of Staff of the Army). Accordingly, I do not include them when calculating the centrality measures as they simply represent a constant.

To operationalize each branch's influence, I calculate two measures of degree centrality for each branch of the military from 1948 through 2009. The first is a consolidated centrality measure that includes the CJCS, VCJCS, and CINCs and is intended to capture the most general dynamics. The second measure excludes the CJCS to test the hypotheses regarding its potentially unique effects separately. Both centrality measures are modified degree centrality measures. Degree centrality is designed to capture the extent to which an actor is connected to other actors within a network. These connections are referred to as ties.⁹ Degree centrality is the count of the number of ties that an actor has within a network and is defined as

$$k_i = C_D(i) = \sum_j^N x_{ij} \quad (1)$$

Let us assume there are 12 positions in the military hierarchy as defined herein—the CJCS, VCJCS, and 10 CINCs. Degree centrality would measure the number of these positions held by each branch of the service. If Army officers held 3 of the 12 positions, then the Army's degree centrality score would be 3. Because the number of positions changes periodically, we can normalize that score to make it comparable over time:

$$\text{Normalized Degree Centrality} = \frac{\text{Positions Held}}{\text{Total Positions}} \quad (2)$$

The Army's degree centrality score of 3 would thus translate to a normalized degree centrality score of 0.25.

Degree centrality does have weaknesses that limit its applications for this project as it only calculates the number of positions that a branch controls, not taking into account the variations in power associated with those positions. For

⁷ Trask and Goldberg (1997) was the primary source for information on military leaders through 1997. Information on officials holding key positions after 1997 can be obtained in the United States Government Manual (Office of the Federal Register Various Years).

⁸ The budgetary data used in this article are only available for the Army, Navy, and Air Force. I treat members of the Marine Corps as members of the Navy.

⁹ Degree centrality was chosen because it is the most theoretically relevant centrality measure. See (Wasserman and Faust 1994).

example, given legislatively defined duties and for reasons of geographic proximity and opportunity, we should expect (all else being equal) the CJCS to be more powerful than a CINC. Degree centrality would treat the relative influence of these positions equally, and there are important theoretical reasons to expect that this is not the case.

To remedy this problem, I use a weighted degree centrality measure that allows me to account for the variations in the power of specific individual positions, as well as the number of positions a branch controls. This measure is taken from Opsahl, Agneessens and Skvoretz (2010) and is defined as:

$$C_D^{w\alpha}(i) = k_i \times \left(\frac{s_i}{k_i} \right)^\alpha = k_i^{(1-\alpha)} \times s_i^\alpha \quad (3)$$

Where $C_D^{w\alpha}(i)$ represents the weighted degree centrality measure of actor i , conditional upon tuning parameter α . And k_i and s_i represent the total number of ties and average strength of ties for actor i , respectively. Because the number of positions changes over time, I use a normalized value for k_i as described above.¹⁰ I code the CJCS as having a power of “3,” the VCJCS as “2,” and the CINCs as “1.”¹¹

Table 1 shows an example of how the proportion of positions controlled and the average power of those positions impacts the weighted centrality score. Let us assume there are 12 total positions—the CJCS, the VCJCS, and 10 CINCs. Let us further assume the Army controls the CJCS and three CINC positions, the Navy controls the VCJCS and three CINC positions, and the Air Force controls four CINC positions. Each branch controls four of the 12 positions. Accordingly, each branch’s standardized degree centrality score would be approximately 0.33 as shown in Table 1. We might expect the Army’s control of the CJCS and three CINC positions to provide it with greater influence than the Air Force’s control of only four CINC positions. The average power of these positions in this example is 1.50 for the Army, 1.25 for the Navy, and 1.00 for the Air Force. The last column in Table 1 shows the weighted centrality scores corresponding to each branch. Although each branch controls four positions, the weighted centrality score also accounts for the average power of those positions, allowing me to more finely distinguish between each branch’s ability to influence policy.

Additional Variables

To analyze a branch’s influence on policy, I use two measures of military spending as dependent variables. The first variable is each branch’s obligational

¹⁰ I fix α at a value of 0.5 as I have no theoretical reasons to emphasize the number of positions or power of a position over the other.

¹¹ As a simplification, I hold these scores constant across the entire time span covered by the data. There is some justification for this given that the relative frequency with which these positions interact with senior decision makers, as well as their geographic proximity to the centers of decision making, suggests that there remain disparities in the extent to which CINCs can influence policy. For example, the headquarters for Central Command and Southern Command are located in Florida, and European Command is headquartered in Germany. However, this clearly does not account for the possibility that certain positions may become more or less important over time. For example, specific CINCs might become more important and influential in decision-making processes if the United States is involved in some sort of military conflict within that CINCs operational jurisdiction. A more detailed account of how the weighted measure is constructed is available in the online appendix.

TABLE 1. Example Breakdown of Weighted Centrality Score

<i>Branch</i>	<i>Standard Degree Centrality (k_i)</i>	<i>Average Power of Positions (s_i)</i>	<i>Weighted Centrality</i>
Army	0.333	1.50	0.703
Navy	0.333	1.25	0.642
Air Force	0.333	1.00	0.574

(*Note.* Values for α are held at 0.5 when calculating weighted centrality measures.)

authority, adjusted for inflation.¹² As an alternative dependent variable, I use each branch's procurement spending. This helps account for the fact that influence may vary across spending categories. Total branch spending encompasses a variety of categories like operations and maintenance, housing, etc. Military leaders might prioritize certain spending areas over others, and procurement provides a useful alternative category for the purposes of this analysis—military leaders should seek to acquire newer weapons systems and technologies to more effectively compete with their military rivals and to be better able to complete their assigned missions.

I use aggregate values for defense spending. When discussing military spending, we often speak in terms of level, making aggregate values more intuitive than changes. Using a change variable does not allow the influence of the previous year's spending to vary; instead, it algebraically imposes a coefficient of 1 on the influence of the previous year's spending. Using aggregate values and including a lagged dependent variable relax this constraint. The lagged variable also helps to more directly control for the influence of the previous year's spending. Finally, other operationalizations, like each branch's proportion of total defense spending, introduce severe spatial correlation problems. Figure 1a and b plot obligational authority and procurement spending over time. While broad patterns of spending are often similar, there is also substantial variation between branches. Particularly, there are points where spending on one branch increases while spending on others decreases, or where one branch receives significantly more than the others.

A dummy variable is included identifying whether the CJCS is from the observed branch. This will help to determine whether the CJCS exerts a unique effect on policy, and serves as an additional means of evaluating the hypotheses. The centrality measures are recalculated to exclude the CJCS in models including the CJCS dummy variable.¹³

I include a dummy variable for the Goldwater-Nichols Act, coded 1 for years after 1986 to account for the institutional changes outlined above.

I use fixed effects for the Army and Air Force, with the Navy serving as the omitted category to account for the possibility that each branch differs systematically from the others. For example, the Navy might have more money than the Army because the materials and supplies it requires generally cost more. Figure 1 offers support for this idea, indicating that the Army regularly receives less in obligational authority and procurement as compared with the other branches.

¹² Information on spending comes from the Department of Defense (2011) Obligational authority was chosen over budgetary authority and outlays for several reasons. First, it captures the liabilities that the military incurs in a given year, while budgetary authority may include funds that are never actually spent. Outlays represent actual payments made in a given year, but these figures may represent payments for liabilities incurred several years ago. This may be the case with large projects that are completed over several years.

¹³ Most Chairmen assume their duties at the beginning of October, but many (eight of 17) were appointed earlier in the year. To address these differences, I code each individual's first year as Chairman to be the first year in which they served at least 4 months in the position.

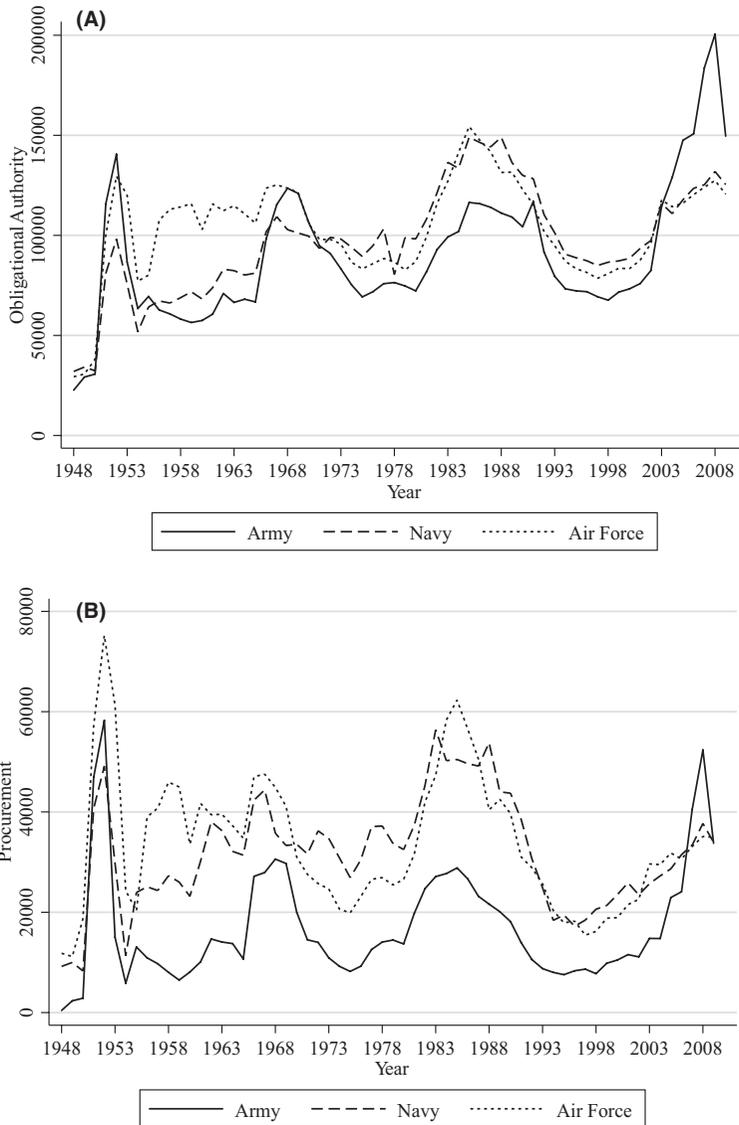


FIG. 1. Obligation Authority and Procurement Spending by Branch, 1948–2009 (In Millions of Constant 2000 Dollars)

I control for US involvement in War to account for corresponding increases in military spending (Sarkees and Wayman 2010).¹⁴

The Reagan administration saw unusually high military spending levels. We can see in Figure 1 that Reagan era spending levels constitute a distinct outlier—being even greater than those associated with Korea and Vietnam in some cases. Failure to adequately control for such increases could result in significant omitted variable bias, given that spending levels are so high during this

¹⁴ I extend the coding of this variable as 1 for each year from 2001 through 2010 to control for the ongoing military operations in Iraq, Afghanistan, and the broader War on Terror. Using the stricter interstate war coding provided by Sarkees and Wayman (2010) does not alter the results in any statistical or substantively meaningful way.

time period. Accordingly, I control for the Reagan presidency as it represents a notable outlier that should be accounted for.¹⁵

Temporal dynamics may also impact spending in several ways. Politicians have expressed different preferences over how to pursue America's global military commitments. During the early years of the Cold War Republicans favored less expensive nuclear forces to more expensive conventional forces (see Huntington 1961; Hilsman 1987; Fordham 2002). Because the Air Force had a monopoly on the delivery of nuclear weapons in the early years of the Cold War and technological developments later enabled the other branches to compete more effectively in this area, we should expect time to have a unique negative effect for the Air Force. I include a time variable (Year) and an Air Force-specific time variable (Nuclear Tech) to help account for such factors.

Democrats and Republicans have held different preferences over military spending (Isaacson and Thomas 1986; Fordham 2002, 2007). I include two variables that identify whether or not the presidency and Congress are controlled by Democrats (Democratic President and Democratic Congress). Evidence also suggests that the preferences of Democrats and Republicans over military spending have changed over time (Trubowitz 1998; Fordham 2007). Democrats were the more supportive party of military spending in the early years of the Cold War, but this pattern changes in the 1960s and 1970s, and the parties' positions reversed—Republicans came to support, and Democrats oppose, higher levels of military spending. Which party controls each branch of government should be an important influence on defense expenditures. Failing to account for the temporal changes in each party's preferences could result in model misspecification and omitted variable bias and the misleading finding that partisanship has no impact on spending priorities.

Studies of defense spending often control for the impact of deficit spending to capture the additional flexibility that deficit spending can provide (for example, Hartley and Russett 1992; Mok and Duval 1992). To account for these effects, I include Deficit as% of GDP as a control (Office of Management and Budget 2010).

Analysis

Before discussing the results there are two points to address. First, the variables for centrality and the CJCS are lagged 2 years. Marra (1985:369) discusses the timing of the budget process, noting that work on the defense budget starts 15–18 months before the beginning of the fiscal year. Consequently, a 2-year lag on the centrality variables is appropriate given that military leaders are most involved in the budgeting process at the early stages.

Second, the Congress and president variables are not lagged. Scholars usually lag these variables by 1 year to reflect the fact that budgets are submitted to Congress several months before the onset of the fiscal year. However, many scholars have not addressed the fact that the officially recorded defense spending figures for a given fiscal year can be misleading. It is common for multiple supplementary spending packages to be passed after the beginning of a given fiscal year, which are subsequently recorded as a part of the fiscal year for which they were appropriated, even if the fiscal year has already begun. Thus, a significant portion of the change between time t and time $t-1$ may actually be the result of spending during time $t+1$, suggesting different causal process in terms of the influence of political actors.

This practice is utilized often. In 2003, Senator Chris Dodd (D-CT) argued that the Bush administration's defense budget estimates were deliberately under-

¹⁵ Omitting the Reagan variable has no impact on the results for the CJCOS variable or interaction term. The centrality variable maintains the expected direction, but it and its interaction are not statistically significant.

estimated to mask the true cost of American military operations (Government Printing Office 2003:18478). Supplemental spending packages during wartime have at times exceeded the amounts provided for military operations through the usual budget process (Daggett 2006). Supplemental bills have been passed at least once per year since 1981, and for non-trivial amounts. Often such bills will authorize an additional 10–20 billion in supplemental funds (Government Accountability Office 2008).

Most models of defense expenditures examine changes in defense spending from a previous year—either with a change dependent variable or a lagged dependent variable. Many scholars examining a variety of budgetary issues have argued the previous year’s budget serves as a starting point from which additions or cuts may be made (for examples, see Marra 1985; Berry and Lowery 1990; Hartley and Russett 1992). As such, the variation explained from year to year is often much smaller than the total amounts being spent. The average change in a branch’s obligational authority in the data is approximately \$1.7 billion. Considering that these supplemental spending packages often amount to several billion dollars, there is ample reason to believe that these dynamics are influencing changes seen in the data. Unlike military leaders, political leaders can intervene in the budgeting process at nearly any point in time.¹⁶

Results

Table 2 shows the results for the six base models. I use a cross-sectional time-series structure, wherein each branch constitutes one of the panels. I also use panel-corrected standard errors to control for spatial correlation between panels (Beck and Katz 1995). A lagged dependent variable is included to control for the influence of the previous year’s spending/serial correlation.

Models 1 and 4 show the results of the base models that exclude the variables of interest, while the remaining models test for the independent effects of the centrality and CJCS variables. These results fail to generate any evidence that either the centrality variable or the CJCS variable exerts an independent effect on spending in either category. This is not particularly surprising, as the hypotheses outlined above suggest that influence may be conditional upon the institutional changes imposed by the Goldwater-Nichols Act. It should also be noted that the flipping signs on the centrality coefficients are likely not simply the result of including the CJCS variable in the model, but also because I recalculate the centrality measures to exclude the CJCS position for the models that include the CJCS variable. This is to ensure that whatever effects are associated with the CJCS are in fact the independent effects of that position. If the CJCS is exerting a unique effect on spending, then the combined centrality measure may be washing out potentially divergent relationships between the positions included in the measure and spending.

The control variables generally perform as expected.¹⁷ Results indicate the Army receives, on average, less money than the Navy, while the Air Force

¹⁶ As a robustness check, I ran the models with the lagged Congress and president variables. The coefficients on centrality, CJCS, and the CJCS interaction term all remain highly significant and in the expected directions in the obligational authority model. The centrality interaction term falls out of significance in the procurement model as well. However, in the obligational authority and procurement models, the substantive effect of the Democratic Congress variable weakens considerably and fails to reach significance. Given previous research on the subject (Fordham 2007), there is serious reason to question this finding, and it may indicate the causal process captured by the unlagged specification is providing a better picture of what is driving spending, given that I also control for the influence of military leaders during the early stages of the budgeting process and the influence of the previous year’s budget.

¹⁷ Two-tailed significance tests used unless otherwise specified.

TABLE 2. Regressions Predicting Obligational Authority and Procurement—Independent Effects

	Models 1–3			Models 4–6		
	Obligational Authority			Procurement		
	(1)	(2)	(3)	(4)	(5)	(6)
Centrality		4156.7 (4960.9)	-6813.3 (7499.3)		2340.1 (2851.1)	-1894.5 (4461.2)
CJOS			799.8 (1340.9)			582.6 (752.7)
Army	-958.7 (1552.8)	-1379.6 (1604.0)	-1555.2 (1596.9)	-4310.4 (1239.3)***	-5015.1 (1242.2)***	-5179.6 (1287.0)***
Air Force	7281.8 (2586.8)***	8497.7 (2745.8)***	9730.9 (2958.0)***	3475.7 (1654.8)**	4084.9 (1729.8)**	4573.4 (1870.2)**
Nuclear Tech	-190.8 (70.37)***	-222.2 (73.29)***	-251.3 (79.18)***	-95.90 (45.86)***	-112.9 (47.13)**	-124.8 (50.75)**
Year	806.7 (184.4)***	788.7 (178.4)***	798.9 (179.0)***	403.1 (113.4)***	371.2 (109.1)***	372.5 (109.4)***
Goldwater-Nichols	-4317.6 (4802.6)	-2820.3 (4688.6)	-2343.4 (4728.1)	-2934.6 (2863.2)	-1915.1 (2783.1)	-1723.4 (2797.9)
War	6760.0 (2809.1)**	5965.0 (2729.2)**	6163.9 (2744.2)**	2918.1 (1695.6)*	2421.1 (1638.6)	2518.1 (1650.3)
Reagan	16750.5 (4856.2)***	16736.5 (4681.7)***	16696.8 (4692.3)***	11106.2 (2933.0)***	11214.1 (2810.8)***	11240.3 (2816.6)***
Democratic	15800.3 (5184.5)***	18944.7 (5188.3)***	18652.5 (5191.5)***	9333.7 (3061.9)***	11579.8 (3066.1)***	11500.8 (3066.9)***
President						
Democratic	-474.1 (152.3)***	-569.8 (152.3)***	-559.8 (152.5)***	-230.2 (90.78)**	-294.6 (90.56)***	-291.6 (90.61)***
President						
* Year						
Democratic	20604.5 (7901.0)***	19608.2 (7618.7)**	19663.8 (7637.1)**	14162.1 (4868.2)***	13171.5 (4671.1)***	13092.2 (4694.2)***
Congress						
Democratic	-441.5 (197.2)**	-422.5 (190.1)**	-424.2 (190.5)**	-266.0 (120.9)**	-249.3 (115.9)**	-247.3 (116.3)**
Congress						
* Year						
Deficit (% GDP)	717.1 (730.9)	615.3 (706.7)	574.5 (709.1)	392.6 (435.0)	328.5 (417.8)	313.2 (419.3)
LDV	0.794 (0.0540)***	0.766 (0.0538)***	0.763 (0.0539)***	0.702 (0.0665)***	0.665 (0.0656)***	0.659 (0.0666)***
Constant	-12665.2 (8237.4)	-12000.4 (8592.3)	-5909.7 (9202.2)	-9463.9 (5012.5)*	-8648.1 (5254.2)*	-6208.1 (5823.7)
R ²	0.854	0.848	0.848	0.795	0.802	0.802
Observations	183	180	180	183	180	180

(Notes. Panel-corrected standard errors in parentheses.

* $p < .1$, ** $p < .05$, *** $p < .01$.)

receives more. However, the nuclear technology variable is negative and significant in all models, indicating the Air Force's budget declines over time. The Reagan variable is positive and significant at the .01 level in all models. The high level of significance and the magnitude on this coefficient reemphasize the degree to which the Reagan administration constitutes an outlier in the data. The war variable is positive and significant at the .1 level or less using a two-tailed test in all models except 5 and 6 where it is significant at the .1 level using a one-tailed significance test. The party variables also perform as expected. Democrats spend more during the early years of the Cold War, but the interaction variables indicate that Democrats spend less on the military over time. This result is in line with previous research (Fordham 2007).

Table 3 shows the models that look at the conditional hypotheses. Models 1 and 3 show the effect of the consolidated centrality measure. Although neither the constituent centrality measure nor the interaction term is significant in model 1, we are also interested in the interaction effect.¹⁸

The interaction effect in model 1 is significant at the .1 level using a one-tailed test. Similarly, in model 3, the interaction effect of centrality in the post-Goldwater period is positive and significant at the .05 level for procurement spending. Models 1 and 3 indicate that controlling a greater share of the military hierarchy is positive and significantly associated with spending in the post-Goldwater period, although the pre-Goldwater period fails to attain significance. Using the 2011 military hierarchy as a guide, these results translate into a gain of approximately \$949 million in obligational authority or \$867 million in procurement spending for a branch that gains control of one additional command position. These results provide some support for the idea that the Goldwater-Nichols Act did lead to changes in the ability of service members to influence spending decisions. They also provide some conditional support for the expectation that military leaders use their positions to bolster their particular branch.

To account for the potentially unique effect of the CJCS, I recalculate the centrality measure used in models 1 and 3 to exclude the CJCS. This new centrality measure only includes the VCJCS and CINCs. I then run models 1 and 3 again using the new centrality variable, the CJCS dummy variable, and their respective interaction terms. As with the models in Table 2, the differences in the centrality coefficients between models within the same spending category are largely the product of the fact that the variable itself has been recalculated to exclude the CJCS. These results are shown in models 2 and 4.

The coefficient on the CJCS variable in model 2 is positive and significant at the .05 level in the pre-Goldwater period, and negative and significant at the .05 level in the post-Goldwater period. This indicates that holding the position of CJCS in the pre-Goldwater period was correlated with an increase of approximately \$3.5 billion. These results provide support for the hypotheses regarding the Chairman's unique independent effect on spending, while also suggesting that the Goldwater-Nichols Act made the Chairman a less influential position. However, it does not appear that the CJCS has a discernible impact on procurement spending in either period. Caution should be exercised in interpreting these results. Despite this negative interaction coefficient for the post-Goldwater period, the Chairman's influence may have increased in other less tangible areas, like decisions to use military force.

The centrality coefficients in both models 2 and 4 are significant and negative, indicating that the greater a branch's representation and power within the military hierarchy, the less money it receives in the pre-Goldwater period. Although the magnitudes on the centrality coefficients may seem striking, they are meaningless without additional contextualization. The average change in the

¹⁸ For calculating interaction effects, see Wooldridge's (2003:329) approach.

TABLE 3. Regressions Predicting Obligational Authority and Procurement—Conditional Effects

	<i>Models 1–2</i>		<i>Models 3–4</i>	
	<i>Obligational Authority</i>		<i>Procurement</i>	
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>
Centrality	391.0 (5915.0)	−30912.4 (10885.8)***	−1716.4 (3393.9)	−16773.4*** (6314.8)
Centrality * Goldwater-Nichols	13173.0 (10371.3)	32476.1 (13017.4)**	14107.2 (5832.4)**	24314.5 (7435.6)***
CJCOS		3541.0 (1642.2)**		1243.3 (958.3)
CJCOS*Goldwater-Nichols		−6465.6 (2802.1)**		−777.6 (1603.4)
Army	−986.7 (1682.6)	−729.8 (1612.9)	−4387.6 (1273.7)***	−4299.0 (1282.8)***
Air Force	8153.6 (2788.7)***	12966.0 (2970.9)***	3938.7 (1730.9)**	6068.1 (1883.4)***
Nuclear Tech	−199.6 (76.74)***	−311.4*** (78.53)	−93.54* (47.79)	−140.7*** (50.41)
Year	733.5*** (180.4)	716.4*** (178.7)	323.3*** (105.6)	307.7*** (104.5)
Goldwater-Nichols	−8468.0 (6258.1)	−13027.0 (6637.9)**	−7960.3 (3567.3)**	−10794.5 (3802.6)***
War	5934.7 (2654.4) **	6707.4 (2629.1)**	2442.0 (1547.0)	2782.0 (1526.6)*
Reagan	20846.5 (5572.4)***	25360.1 (5867.2)***	15635.2 (3223.4)***	18188.6 (3381.5)***
Democratic President	18631.9 (5060.7)***	18004.9 (4959.2)***	11071.9 (2908.8)***	10833.4 (2838.8)***
Democratic President * Year	−556.7 (148.8)***	−535.4 (145.9)***	−279.3 (85.89)***	−270.7 (83.87)***
Democratic Congress	22080.6 (7693.8)***	23516.0 (7570.1)***	15865.6 (4578.9)***	16842.0 (4500.0)***
Democratic Congress * Year	−444.8 (186.2)**	−433.3 (182.8)**	−269.9 (110.2)**	−269.3 (107.9)**
Deficit (% GDP)	791.3 (701.6)	908.9 (695.0)	503.2 (401.3)	590.8 (396.5)
LDV	0.781 (0.0542)***	0.769 (0.0524)***	0.686 (0.0632)***	0.684 (0.0624)***
Constant	−11920.4 (8441.2)	3304.9 (9311.7)	−8154.1 (5039.7)	−1225.4 (5695.1)
R^2	0.850	0.858	0.810	0.818
Observations	180	180	180	180

(Notes. Panel-corrected standard errors in parentheses.

* $p < .1$, ** $p < .05$, *** $p < .01$.)

centrality variable from one year to the next is approximately 0.07; assuming an average power equal to 1, a change in centrality of 0.07 would roughly equate to a branch gaining or losing one position in the 2011 military hierarchy. This equates to a loss of roughly \$2.2 billion in obligational authority during the pre-Goldwater period and a gain of \$109 million during the post-Goldwater period. Substantively, the impact of such a shift depends on the relative power of positions held and the number of available positions. For any given year, a branch may expect to gain or lose somewhere in the range of \$109–\$327 million dollars in the post-Goldwater period if that branch gains or losses between one and three individual leadership positions.

Alternatively, while the interaction terms are both positive and highly significant for both obligational authority and procurement models, the interaction effects in both models are positive, but neither interaction effect is statistically significantly different from 0. However, the lack of significance on these interaction effects only indicates that the effect itself is not statistically significantly different from 0. In addition to the impact of centrality at any given time, we are also interested in learning something about the difference between the two time periods.

Figure 2 shows the predicted values of obligational authority in the pre- and post-Goldwater periods from model 2, Table 3.¹⁹ The pre-Goldwater period is marked by the negative slope, while the post-Goldwater period has a slight positive trend. It should be noted that the year variable is set to the median value for each time period in order to account for the fact that the impact of institutional changes may not be immediately apparent at the point of change. Holding this variable constant would also not provide an accurate long-term picture of the effects of the institutional changes under consideration, as it would likely take some amount of time before the effects of such changes would manifest. Figure 2 indicates that predicted values of obligational authority at lower levels of centrality remain statistically indistinguishable from one another. However, once we reach the mean value of centrality (0.59), the two lines become statistically significantly different. Substantively, this suggests that branch's whose officers control a minority of available leadership positions may be unable to exert sufficient influence to guard against losses, regardless of the institutional structures. This is further reinforced by the fact that there is some allowance for variation in time to impact spending levels as well. However, once a branch's share of leadership positions increases, that branch becomes better able to secure spending/guard against potential losses. Intuitively, this makes sense—the Goldwater-Nichols act may have given military leaders greater opportunities to influence spending, but those branches that control an extremely small proportion of leadership positions may not be able to exploit those opportunities effectively. Only once a branch has attained a sufficient number of leadership positions can it effectively exploit the increased opportunities for access that Goldwater-Nichols provided.

As a robustness check, I ran the models from Table 3 again, this time using the percentage change in spending as the dependent variable in place of aggregate spending levels. Structural inequalities between the branches might mean certain branches always spend more in the aggregate. Using the percentage change measure standardizes the dependent variable across all three branches. The results are presented in Table 4.

The results in Table 4 largely support the findings from the previous models. Models 1 and 3 indicate that controlling greater share of the available leadership positions in the post-Goldwater correlates with a positive and statistically signifi-

¹⁹ Control variables were held at their respective means or modes. The Army dummy serves as the active category.

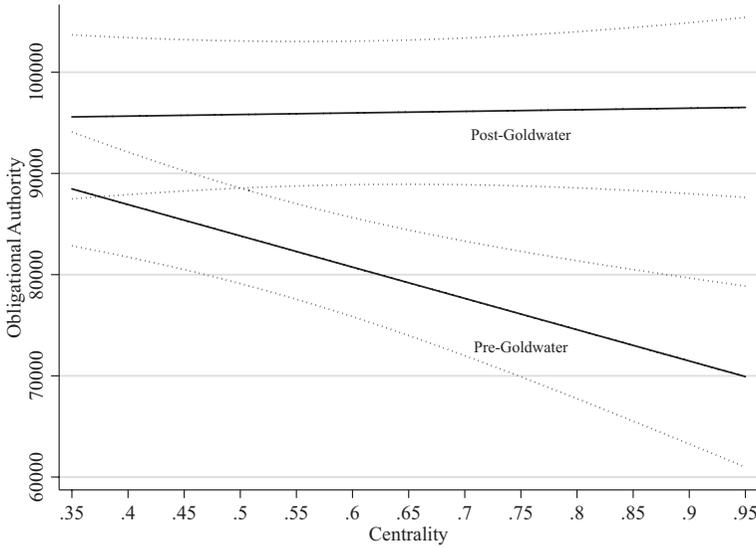


FIG. 2. Predicted Effect of Centrality and Goldwater-Nichols Act on Obligational Authority (In Millions of Constant 2000 Dollars). 90% Confidence Intervals Shown

cant percentage increase in spending. The interactive effect from model 1 suggests that a 1 unit increase in centrality correlates with increases of 42.9% points in branch spending and 179% in procurement spending. These effects are significant at the .05 and .1 levels, respectively. Once again assuming an average power of 1, this translates to an increase of 3% in obligatory authority and 12.5% in procurement for each individual position a branch gains or loses.

Models 2 and 4 provide further support for the results presented in Table 3. The centrality variable has a negative coefficient for both spending categories in the pre-Goldwater period, but only the coefficient on obligatory authority is statistically significant. Alternatively, the interactive effect for both categories is positive for the post-Goldwater period. The effect for obligatory authority is approximately 22% and approximately 118% for procurement. Assuming an average power of 1, this suggests an average increase of approximately 1.5% for obligatory authority and 8.3% in procurement spending for each position that is lost or gained by a branch in the post-Goldwater period. However, these interactive effects are not statistically significantly different from 0.²⁰

One possible explanation for the negative slope for the pre-Goldwater period is that the service chiefs coordinate the efforts in an attempt to balance against any branch that gains a disproportionate share of command positions. Before 1986, the service chiefs were more influential in operational issues. To some extent, this is reflected by the changes in the effect of the CJCS variable in the models above. The lack of significance on the interaction effects in these models could indicate that the service chiefs are still able to influence spending, but that CINCs are now better able to exert their own balancing through their control of command positions in the field, thus nullifying the previous dynamic and possibly allowing for some marginal gains to be had from each field position that a branch controls. Thus, members of the JCS may still seek to curb the influence of branches that acquire a sizable share of the total number of command positions, but their influence has been diminished by Goldwater-Nichols.

²⁰ I include several robustness checks in the online appendix where I repeat the analyses from Tables 2 and 3 using a change variable as well as a percentage change variable as substitute dependent variables. These results are similar, providing further support for the relationships found herein.

TABLE 4. Robustness Check—Conditional Effects with Percent Change Dependent Variables

	<i>Models 1–2</i>		<i>Models 3–4</i>	
	<i>Obligational Authority</i>		<i>Procurement</i>	
	(1)	(2)	(3)	(4)
Centrality	2.217 (11.74)	−55.56 (23.13)**	67.54 (67.44)	−160.1 (120.8)
Centrality * Goldwater- Nichols	40.73 (25.54)	77.89 (33.47)**	111.5 (106.4)	279.0 (131.5)**
CJCOS		6.397 (2.864)**		37.37 (20.65)*
CJCOS * Goldwater- Nichols		−6.597 (4.678)		−38.24 (36.23)
Army	3.081 (2.665)	3.715 (2.546)	25.93 (20.14)	30.01 (19.81)
Air Force	0.412 (3.200)	8.380 (4.004)**	−49.59 (24.26)**	−20.54 (27.76)
Nuclear Tech	0.0307 (0.0944)	−0.148 (0.100)	1.528 (0.752)**	0.896 (0.812)
Year	0.204 (0.477)	0.153 (0.479)	−1.038 (1.836)	−1.328 (1.841)
Goldwater-Nichols	−8.072 (15.96)	−17.54 (17.18)	−3.637 (60.39)	−48.33 (62.93)
War	11.71 (7.069)*	13.20 (7.097)*	33.45 (25.04)	39.02 (25.29)
Reagan	36.20 (14.53)**	45.29 (15.64)**	101.2 (55.41)*	142.8 (58.51)**
Democratic President	39.45 (13.76)**	39.24 (13.61)**	123.0 (48.83)**	121.6 (47.86)**
Democratic President * Year	−0.907 (0.400)**	−0.888 (0.396)**	−2.664 (1.434)*	−2.584 (1.402)*
Democratic Congress	34.52 (19.83)*	38.25 (19.75)*	78.29 (72.96)	95.91 (71.94)
Democratic Congress * Year	−0.789 (0.472)*	−0.799 (0.469)*	−1.626 (1.716)	−1.658 (1.700)
Deficit (% GDP)	1.936 (1.831)	2.205 (1.829)	7.206 (6.673)	8.596 (6.634)
LDV	−0.122 (0.111)	−0.143 (0.111)	−0.153 (0.113)	−0.173 (0.113)
Constant	−30.86 (17.52)*	−4.668 (19.80)	−81.40 (68.29)	19.87 (84.50)
R ²	0.309	0.331	0.183	0.202
Observations	180	180	180	180

(Notes. Panel-corrected standard errors in parentheses.

* $p < .1$, ** $p < 0.05$, *** $p < .01$.)

The qualitative literature supports the idea that the services try not only to advance their own interests, but also to curb the influence of other branches (for example, Huntington 1961; McMaster 1997). Such trends also find support in the data. For example, from 1962 to 1963, the Army's share of total positions increases from approximately 0.3 to 0.4. However, taking the 2-year time lag into account, its budget was cut by approximately \$56 million during the corresponding 1964–1965 fiscal years. Similarly, there were no other major changes in this time period—the Army had held the CJCS position since 1961, and there was no change in the control of the presidency or in Congress during this time period. The shift from Republican to Democratic presidencies should have already factored into changes well before the 1964 and 1965 fiscal years. More broadly, the Army comes to control a plurality of the available positions in the data from the early to the mid-1960s. The proportion of positions controlled by the Army increases from a low of 0.22 during 1960 to a high of 0.4 through the mid-1960s. Despite the Army's relative dominance during this time period, its budget decreases by approximately \$250 million over this broader time period.

These trends in the data correspond to a period when the other services perceived the Army to be growing in influence. The Air Force in particular perceived the Army's growing influence to be a threat to its own standing as it had been the dominant branch during the Eisenhower administration (Huntington 1961; Betts 1991). This trend continued through 1964 as the Air Force and Navy attempted to stonewall Army requests for additional resources and funding to be delivered to military advisors in Vietnam. They attempted to block the provision of the additional resources requested by Army commanders, delaying recommendations on the issue to Secretary McNamara and President Johnson, protesting that the need for such equipment had not been appropriately justified (McMaster 1997). McMaster (1997:114) states, "[Air Force Chief of Staff] Lemay and [Chief of Naval Operations] Greene questioned the need for more Army aircraft in South Vietnam because they believed that Westmoreland's request represented a surreptitious attempt to expand the Army's air arm."

These dynamics suggest the possibility that the Goldwater-Nichols Act did not actually cure the problem of interservice rivalry. If organizational affiliations drive individual preferences in the way bureaucratic politics theory suggests, then allowing a larger number of actors access to top policymakers may have only changed the ways in which the competition unfolds. The Goldwater-Nichols Act might have left the service chiefs less able to curb the influence of branches that control a large share of the organizational hierarchy. In which case the CINCs might be highly parochial and also have greater opportunities to push their views in the post-Goldwater period, leaving the playing field more evenly matched than in the pre-Goldwater period.

Alternatively, these results might indicate that despite the increased power of the CINCs after Goldwater-Nichols, their position as CINCs in charge of unified commands makes them slightly less parochial. This would potentially account for post-Goldwater period's nearly flat slope in Figure 2—the CINCs now have a greater ability to influence spending, but are less parochial than the service chiefs; thus, we do not find a more aggressive positive slope for the post-Goldwater period. This possibility also points to some limitations of the bureaucratic politics framework. An individual's specific position may at times play a more important role than their broader organizational affiliation in determining preferences. For example, officers with aviation backgrounds might be inclined to support increased budgets for air power, regardless of the branch in question. Betts (1991) has also noted this limitation of the bureaucratic politics framework, suggesting that cross-cutting organizational loyalties make it difficult to generate precise hypotheses of individual preferences and ultimately force researchers to focus on the individual level rather than on broader organizational influences. Ultimately, further research is required to better understand how such competing organizational affiliations shape individual preferences.

Furthermore, the significance of the centrality variables, while controlling for the influence of political parties, supports the expectation that the composition of the American military hierarchy exerts an independent influence on military spending priorities. While there is some reason to believe that military leaders are selected on the basis of political goals and future expectations, civilian leadership in the executive can interfere only so much without eliciting a backlash from military leaders and from Congress. Qualitative studies have shown in greater detail how military leaders can resist the efforts of rival branches and civilian leadership through simply stonewalling or by reaching out to sympathetic legislators or the press (for example, McMaster 1997; Wilson 2000; Locher 2002; Halperin et al. 2007). Betts (1991) has also described how Congress has made repeated attempts to ensure the independence of military leaders, seeking to curb the executive's ability to stifle protests and to ensure the access of Congressional leaders to information and opinions from military leaders. Betts also

argues that most appointments to high-ranking military positions have been characterized by the appointment of career professionals, and less by more purely political appointments (Betts 1991).

Overall the results presented above do suggest that military leaders have been able to influence spending in favor of their respective branches and that this ability has been conditional upon institutional arrangements. In spite of the lack of significance on the independent effects of the centrality and CJCS variables in Table 2, models 1–4 in Tables 3 and 4 suggest that branches that controlled a greater share of leadership positions in the military's hierarchy received more money in the post-Goldwater period than before. Alternatively, these results also suggest that some positions have exerted a unique and independent effect—the influence of the CJCS seems to have been greater in the pre-Goldwater period as the models indicate that the branch that held the position of CJCS tended to receive more money during this time period. This effect has seemingly diminished in the post-Goldwater period, as holding the Chairman's position is associated with less spending as compared to before.

Conclusions

The results of this study provide a few important findings. First, while several studies have examined the role of domestic political competition in shaping foreign policy decisions, few have accounted for the role of military officials in this process. Although the study of military conflict is quite prominent in the field of political science, attempts to incorporate military actors into our quantitative models have been few. Consequently, this study represents a further step in the development of a better understanding of the role played by domestic political interests in determining state behavior by explicitly accounting for the influence of military leadership. More broadly, this study also suggests that future research should attempt to look for similar dynamics in other bureaucratic organizations in the government. This study focuses specifically on the military as it is historically viewed as an egregious case of bureaucratic competition, but theory would predict similar scenarios to play out in other organizations. Accordingly, the allocation of resources in other areas—the allocation of foreign aid among competing programs, for example—may be impacted by bureaucratic politics in a similar way.

Second, the results of this study further indicate that the ability of military officials to influence policy outcomes is affected by domestic institutional structures. The Goldwater-Nichols Act appears to have had important consequences in determining which actors were able to influence defense policy, and how much influence they were able to exert. The implications of these findings are important and suggest that power among American military leadership has been somewhat decentralized since the passage of this legislation. This legislation represents the greatest effort to reorganize the structure of the American military since the National Security Act of 1947. Any attempt to reorganize the institutions governing the American military takes an enormous amount of time and is quite costly in terms of political capital. Imposing significant changes on the ways in which military leaders can influence policy is not something that can be done overnight, but is something that takes decades to accomplish and is likely to have implications for decades to follow.

Finally, these results also speak to the subjectivity of national security concerns. The notion that military leaders will use their control of the military's organizational hierarchy to benefit their particular branch need not be interpreted as something nefarious, but this suggests something important about the degree to which national security and foreign policy can be conceptualized in terms of shared strategic interests. Although the idea of divergent preferences over national security policy is not new, this study underscores this

concept by providing some empirical evidence of the parochial nature of America's military leadership. If even those individuals charged with the planning and execution of the state's defense are inclined to pursue more narrow interests, then it seems all the more likely that politicians may be prone to significantly varied conceptualizations of just what constitutes the "national interest." The existence of similar variation among military leaders suggests that the processes shaping preferences over national security issues may be far more complex than we might expect.

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