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COMMENTARY

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Increasing the Efficacy and Efficiency of Accounting and Control Systems in the Department of Defense

A more effective and efficient use of resources is a common theme today in both the private and public sector. It is not clear to us, however, that the methods for creating efficacy and efficiency in the private sector are directly transferable (or even adaptable) to the public sector. In this commentary we discuss the general characteristics of the federal government that mitigate directly against creating more effective and efficient accounting and control systems. Our specific focus is the Department of Defense. We present fundamental differences among the military services that could impact proposed changes. We provide an example of a system that was implemented across the military services. Finally, we discuss some reasonable goals for increasing efficacy and efficiency and some factors critical to achieving success.

Within the Department of Defense, there are currently programs underway to reduce costs by creating common accounting and control systems across the Air Force, Army, Marine Corps, and Navy. Although creating commonality sounds commendable, it is questionable whether it is either a good idea or one that has any chance of being implemented. Why be concerned with the accounting and control systems in this single organization? Note that the Department of Defense had a budget authority of approximately \$260 billion for the 1993 fiscal year, about 20 percent

of the federal budget and about five percent of Gross Domestic Product.¹ The Department of Defense employs approximately 950,000 civilians. Over 100,000 of these employees comprise the civilian financial management workforce. Approximately 74,000 of these employees are working in jobs specifically identified as financial management.² Increasing the effective and efficient use and management of these resources can represent a sizable impact to the taxpayer.

PROBLEMS IN THE MANAGEMENT OF FEDERAL AND DEPARTMENT OF DEFENSE ACCOUNTING AND CONTROL SYSTEMS

There is a well-developed body of research that discusses fundamental differences in the

¹These percentages are only approximate. At this writing, Defense budget authority is expected to decline below \$250 billion for fiscal year 1994 and beyond, while the total federal budget and Gross Domestic Product are expected to increase. Hence, these percentages will decline.

²Employment figures are drawn from the Defense Central Personnel Data File. The Department of Defense financial management workforce data are estimates developed by the Center for Naval Analysis from data supplied by the Defense Manpower Data Center.

organizational assumptions and characteristics in the profit and nonprofit sectors.³ Although this is a very rich literature, there is little evidence that it has affected either decision making in the federal government or the design and operation of accounting and control systems in the Department of Defense. The relevance of this literature is that it argues forcibly for recognition of the fundamental differences between the two sectors to ensure that methods highly successful in one sector are not used naively in the other under the assumption of transferability. It is our experience that past administrations, in attempting to "fix" processes in the federal government by the wholesale adoption of private sector solutions, usually ignore fundamental differences between the two sectors—the very characteristics that generated the problems.

Characteristics of Federal Management of Accounting and Control Systems

Federal management of accounting and control systems has several characteristics that are obvious to the interested observer. These characteristics include

- **Complex social equity considerations.** Considerations of social equity are important in decisions affecting accounting and control systems as well as in other areas of government expenditure. Examples are small business and minority set-asides and the desire for industry "competitiveness" in federal government procurement.
- **Long lead times for projects.** The lead time for developing accounting and control systems and acquiring the necessary hardware can be very long. A decade is not an uncommon figure in the authors' experience. In the private sector, this length of time would entail the entire lifetime of a system, not just its development and acquisition lead time.
- **Fiduciary management dominates financial management.** Government managers take a fiduciary view rather than a managerial view. Preventing fraud, waste, and abuse with government funds

is almost always more important than employing those funds to solve problems.

- **Lack of strategic planning.** Strategic planning is not an institutionalized process in the federal government.⁴ Management systems are organized on a project basis. Any new accounting and control system is viewed as a project to solve a particular problem and not as part of an ongoing problem-solving process.
- **Dysfunctional reward systems.** Pay and status in the federal government are directly linked to size of budget and staff controlled by an individual manager and not to the results produced by that manager with that budget and staff.

The case of the Social Security Administration's benefit payout system is an example of the effect of social equity considerations on accounting and control systems. The Social Security Administration's automated benefit payout system was state-of-the-art when installed in the 1960s, but by the early 1980s it was generating numerous errors and customer complaints because of capacity and technological constraints. In the mid-1980s, Congress authorized an upgrade to the system but balked at the award of the entire contract to a single major supplier of automated accounting and control systems. This system was subsequently split into seven components so that multiple organizations could be rewarded contracts. Clearly, Congress was not looking at the problem from the point of view of efficiency. They focused on the issue of social equity. Additionally, they saw the award of a large contract to only one company as making the computer systems industry less competitive.

³Examples of the literature include Euske and Euske (1991) and Scott (1987).

⁴Although the Planning, Programming, and Budgeting System (PPBS) in the Department of Defense was created more than 30 years ago to address this and other problems, the planning portion of PPBS has become, at best, an intermediate-term system. For various reasons not germane to this discussion, PPBS does not scan the long-run, external environment for potential problems and opportunities.

The considerations of social equity and diverse goals within the government contribute to the creation of complex systems with long lead times. Negotiations must take place before Congress or federal administrators can arrive at a solution accepted as fair by all. Federal government procurement practices have institutionalized these political negotiations into a complex competitive bidding system costly to the government, vendors, and ultimately to the taxpayers.

Fiduciary concerns influence the decision process. In the private sector, it is often cheaper to replace an obsolete system than to continue paying the costs to operate it. The government manager, however, perceives a different set of costs than a private sector manager. In the federal government, one of the major categories of costs for a new system is those costs associated with justifying the new system. Because of the extensive system of checks and balances required for spending public money, justifying a new system involves considerable administrative time and expense. The manager must divert a large share of the staff's energies into tedious paperwork to meet the requirements of the system of checks and balances. This administrative cost is difficult to compute explicitly, but we believe it is significant. Thus, the true cost of replacing a government system tends to be much higher than for a similar system in the private sector.

Managers in the federal government and the Department of Defense are acutely aware of the effect of the fiduciary concerns. Programs started during the Bush administration, such as the Defense Business Operations Fund and Corporate Information Management, are attempts to address the effects of fiduciary concerns, among other issues. These programs, although valuable, are in some ways examples of questionable transference of profit-sector methods to the public sector. The basic idea behind both programs is to run the Department of Defense "like a business." If being "like a business" helps individuals to eliminate waste and work more effectively and efficiently, that is beneficial. However, such programs can be dysfunctional in that trying

to be "like a business" masks fundamental elements of the government environment. For instance, the Defense Business Operations Fund is implicitly based on the premises of consumer sovereignty and free competition. These premises simply do not apply to all of the areas in which the program is being used.⁵ If military specifications (MILSPECs) are required, consumer sovereignty is lost; if only a single internal provider of goods and services is available, free competition is eliminated. Without consumer sovereignty and free competition, it is unclear whether the Defense Business Operations Fund is viable.

Corporate Information Management, championed by a political appointee hired from General Motors and modelled after the General Motors' information management program, has two thrusts. The first is to reduce duplication and unnecessary redundancy in information systems and computer hardware in the Department of Defense—a very sensible effort. The second is reengineering "business" practices. Reengineering is worthwhile as long as the reengineering takes into account fundamental elements of the government environment; however, it is not clear that care is being taken to keep such key elements visible.⁶

The strategic planning process in the federal government is weak. There is general acceptance in the private sector of the necessity of top management involvement in strategic planning in order to have successful financial management systems. However, the federal government has problems of continuity in top management that private industry does not have.

The entire top management structure of the federal government can change every four

⁵See testimony by James L. Blum, Deputy Director, Congressional Budget Office before the Subcommittee on Readiness of the Committee on Armed Services of the U.S. House of Representatives, May 13, 1993.

⁶Our purpose is not to support or condemn any particular program currently underway that is designed to increase effectiveness and efficiency in the Department of Defense; rather, our purpose is to improve understanding of what it takes to increase effectiveness and efficiency.

years. It might be argued that this should not be a problem. After all, corporate management teams change frequently, and they are still able to set up strategic planning procedures. But the process by which changes occur in corporate management is different from government. In government, a new management team comes to power by discrediting the policies of the old team. By implication, the old team is incompetent and replacement is the only cure, analogous to an unfriendly corporate takeover. In most corporate management changes, however, the old management team has had a mentor relationship with the new team. Because change is more gradual and orderly, there is much greater continuity in policies and procedures. The new management team understands those policies and the procedures derived from the policies. The new corporate management team does not require the setup time that a new government administration requires before they can become fully functional.

The result in the federal government is that planning, if any, is dependent on individual management styles. It is not a routine procedure in the organization. Perhaps the current incumbent in a job sees a need for long-range planning and pursues it. That individual's successor may be unfamiliar with the situation and may have a different set of priorities, abandoning the plans in process before they can have any effect. This problem is exacerbated by the high turnover in high-level government management (Collins 1982, 37).⁷ As Collins argues,

Average tenures were so short that even fully qualified civilians and military men found it almost impossible to promulgate cohesive policies and programs, much less pursue them to successful conclusions (105).

Even if the rate of management turnover were lower, the long-range planning process would still be difficult to establish in government, due to the absence of mentor relationships and an institutionalized planning process. It can be argued that the Chief Financial Officers Act passed by Congress in 1990 directly addresses this problem by insti-

tutionalizing the preparation of five-year financial plans (Jones and McCaffery 1992). Although creation of plans is mandated, mentoring relationships are lacking and the periodic abrupt changes in power remain.

The determination of pay for a given position is a function of a number of factors, such as number of individuals supervised, location of the individuals, and tasks performed by the individuals. In our experience, however, managers increase their pay and status within the federal government by increasing the number of personnel and amount of resources they control. For instance, doubling the number of individuals who operate an accounting and control system from 100 to 200 will most likely result in more compensation for the manager of the system. Conversely, reducing the number of personnel necessary to operate an accounting and control system will most likely lead to a decrease in compensation for the manager of the system. Workers face a similar situation in that increases in efficiency may lead to their being relocated or discharged. Such an incentive structure does not support increasing efficiency.

Some people view these problems as isolated symptoms that can be corrected merely by solving each one individually. Corporate Information Management, the Defense Business Operations Fund, and the Chief Financial Officers Act are examples of such thinking. The symptoms, however, are not independent; they are interdependent characteristics of the process surrounding federal financial management. Any solution to the problems of federal accounting and control systems management must address the considerations that generated them. Solutions not considering this fundamental aspect of federal accounting and control systems management will surely fail, and they have.

⁷Collins presents statistics on Department of Defense political appointees' tenure in office from World War II through 1982. The average terms of office for the different political positions listed ranged between 1.7 years and 4 years. The longest tenure in office was 10 years. The shortest term in office was 2 months.

Some Differences in Department of Defense Cultures

Even if the characteristics that affect the federal government are understood, specific characteristics and traditions of the military services inhibit planned change and integration. The characteristics and traditions are not problems *per se*; ignoring them, however, can make them problems. In *The Masks of War*, Carl Builder (1989) describes the different identities and personalities of the three military services. We do the same here, but we focus on those elements that have ramifications for alternative approaches by the services to accounting and control systems, and these are discussed in the next section.

The Navy views itself as possessing two strong characteristics: stature and independence. These two characteristics make the Navy a very tradition-oriented service; it carries on the honored traditions established by the Royal Navy hundreds of years ago. Perhaps the most important part of this tradition is that of independent command at sea, whereby the captain of a ship sent on a long mission was responsible for every action and consequence that fell under his command. The best example of this is Commodore Perry's opening of Japan in the nineteenth century, where he acted as presidential emissary, secretary of state, commander-in-chief, ambassador, and trade commissioner. Reflecting this tradition, the Navy tends to rely on decentralized control of activities with independence of action expected at lower levels of the organization.

The Army sees itself as the artisans of war, forged by history and the nature of land combat into a mutually supporting brotherhood of guilds. Builder argues that the three branches of combat arms (infantry, artillery, and armor) are guilds, because they function as associations of craftspeople who take great pride in their skills instead of possessions or positions. These three guilds function as a brotherhood because they must depend on each other in combat since no one branch can provide all the elements of combat power. Additionally, the three branches have a common

family bond, the Army, with the primary motivator for members of the Army being service to their country. Due to this interrelationship of the combat arms, decision-making in the Army tends to be centralized. Moreover, because the Army is more sensitive than the other services to the necessity of not appearing as an internal threat, it tends to be the most cooperative in responding to external requests.

The Air Force views air power as the decisive instrument of warfare. Since air power is sustained and nurtured by modern technology, the Air Force becomes the embodiment of technology in supporting its mission of air power. This focus on technology pervades the Air Force: quality is chosen over quantity and decisions are analytically based and supported by technology. The Air Force uses its technology to maintain centralized control over issues of mission importance.

Because these characteristics and traditions of each service result from the different service personalities, the services can be expected to treat "common" systems in different ways. Of course, service personality is not the sole cause of the military departments treating common systems in different ways; the military departments are very large organizations, and organizational inertia is a significant factor in inhibiting change.

The Three Faces of a Common System

The differences among the military services do appear to influence the efficacy and efficiency of implementing and operating accounting and control systems. We use the implementation and operation of the Productivity Enhancement Capital Investment (PECI) program to illustrate the impact of service differences. Because this program was instituted over a decade ago, there has been sufficient time for the impact of the differences to be evident. The PECI program is a funding program administered by the Defense Productivity Program Office. The program was established in 1979 to improve the capital stock of Department of Defense industrial facilities. It was designed to enable managers to make

timely investments in equipment and facilities, which increased outputs of an organization in relationship to inputs.

The program had separate funding sources depending upon the cost of investment. Projects costing less than \$100,000 were eligible for "fast payback" funds parked at the respective military departments. The departments evaluated projects using investment criteria and dispensed funds according to available resources and productivity strategies. Funding could be received within six months of a request. Projects costing more than \$100,000 were eligible for the Productivity Investment Fund (PIF), which was administered by the Defense Productivity Program Office. There was a competitive review of projects submitted by the military departments and defense agencies prior to funding and a *two-year* time lag between submission and funding.

The two programs were created to be complementary in nature to assist with the design of a capital investment program aimed at productivity enhancement. Equipment that improved productivity of individual employees could usually be purchased using the "fast payback" funds, while PIF could be applied towards projects that improved the productivity of entire work units.

An analysis of these two programs (Whipple and LaPatra 1983), completed after the programs had been in operation for four years, argued that the programs had the potential to significantly impact productivity of the military services. The analysts also argued that it was too early to evaluate the program. This somewhat optimistic evaluation completed during the early stages of a federal program is not unique to the analysis of PECEI and PIF.⁸

Although PIF was administered centrally in the Department of Defense, PIF implementation structure was determined by the individual services. The decentralized implementation structure allowed for service diversity in operating programs.⁹ The differences in program management were very clear-cut.

Consistent with its tradition of being cooperative and responsive, the Army kept the

program visible and free of rough spots. The Army ran the program from its central headquarters. Personnel were available to consult, educate, and generally assist users. Major commands used incentive programs and simplified administration, and local resource managers marketed the program and provided consultation and training in documentation. The Army had an integrated program management structure, so that PIF "snowballed" into a significant funding program.

The Air Force received far less funding from the PIF than Army, but the program was managed efficiently with a balanced approach. Air Force financial managers were adept at analyzing the selection criteria of the Office of the Secretary of Defense and documenting PIF projects to maximize funding; PIF was used most often for military construction projects. Although the dollar amount of the Air Force program was modest, it was managed for high effectiveness. The Air Force management was technically efficient with a rapid response time.

The Navy spread management of the program across three different offices, which not only made coordination difficult but also diffused program responsibility. The program was not well known within the Navy, and users were untrained in technical aspects of the

⁸Similarly, there are those who argued that the Grace Commission during the Reagan administration had the potential to increase the efficacy and efficiency of the federal government. Likewise, there are those who argue that the programs initiated and legislation passed during the Bush administration, such as the Defense Business Operating Fund, Corporate Information Management, and the Chief Financial Officers' Act of 1990, discussed previously, will increase the efficiency of the federal government. Even more recently, the "Reinventing Government" program unveiled by President Clinton in September 1993 is seen as the means to increase the efficacy and efficiency of the federal government. Today, however, few would argue that the Grace Commission had any real impact. In our view, it is too soon to evaluate the results of the initiatives begun during the Bush and Clinton administrations.

⁹The authors researched the impediments to usage of the PIF portion of Department of Defense's PECEI program. The research focussed on the military departments within the Department of Defense. The results of that project are reported in Boger et al. (1988).

program. In general Navy had a limited commitment to PIF. Consistent with its traditions, it used decentralized program control.¹⁰

It is interesting to contrast Navy program management with that of the Marine Corps, a component of the Department of the Navy. Although the Marine Corps seldom requested PIF funds, program management was well defined. Responsibility was centralized at Commandant, Marine Corps, and implementation instructions were explicit. Marine Corps' internal review practices resulted in the most accurate accountability data of all program participants.

Each military service implemented a common system differently. It is not an exaggeration to say that the implementation differed to the extent that, moving from service to service, an individual might not recognize, much less be able to use, the common program. However, it would be inaccurate to suggest that a service tried *not* to be as effective and efficient as possible. But it is clear that the inherent differences among the services did affect the efficiency and effectiveness of the program.

INCREASING EFFICACY AND EFFICIENCY

The characteristics of the military services and of accounting and control systems in the federal environment can inhibit orderly and necessary change. Systems or proposals for systems that ignore these characteristics are usually not successful. However, designing a system to function within the constraints imposed by these interdependent characteristics, although not a trivial problem, can result in increases in efficacy and efficiency.

For instance, an example of a common accounting and control system that has a high probability of working is the one used for civilian pay in the Department of Defense. Historically, each service administered its own civilian pay system. Currently, a single civilian pay system is being implemented for the entire Department of Defense by the Defense Finance and Accounting Service, which was created in 1991 to increase the efficacy and efficiency of the services' accounting opera-

tions. In contrast to PIF, which was implemented differently by each service, the civilian pay systems—the computers, facilities, and personnel—were essentially taken away from the services to be run by the Department of Defense. The plan being implemented specifies that each service will feed data to a common system and not run its own version of a common system. It is likely the new system will survive the change of administration that occurred in 1993 because of the major modification to the structure of the organization. Put another way, the radical realignment of the "ownership" of resources has *probably* institutionalized the change. However, even with the major organizational and legal changes in place to decrease waste and increase effectiveness and efficiency, achieving that end is not a foregone conclusion.

How else, besides radical realignment of resources, can systems that increase efficacy and efficiency be institutionalized? Probably not by edict, given that the edicts are changed from administration to administration. Our experience is that changes have been institutionalized within the military services by successfully converting one or more of the following groups:

- the officer corps, particularly the flag officers (i.e., admirals and generals),
- the career civilian government managers,
- the government workforce.

Each of the three groups has the power to effect system success by recognizing the char-

¹⁰Navy participation in PIF is difficult to characterize. While program usage was much smaller than Air Force or Army, a head-to-head comparison is unfair because a Navy reorganization occurred after the inception of the program. The component that had been tasked with PIF management, Navy Material Command, was abolished in the reorganization. The large users of PIF traditionally had been subcomponents of the Navy Materiel Command. After the reorganization there was a general halt in PIF participation; regulations were no longer applicable, and program knowledge was dispersed. Additionally, other sources were available to obtain funding for PECL-type projects. However, disregarding the impact of the reorganization, other management aspects affected Navy participation; only those aspects are addressed in this commentary.

acteristics previously discussed and incorporating them into the proposed change.

High-ranking officers control the flow of resources within the services. System change and implementation can be either fostered or hindered by the resource allocation process. If supported, the new system may be able to be on line before a change in administration. If hindered long enough, the new system never gets completely implemented, the administration changes, and the system becomes lost in the flurry of initiatives from the new administration. Not only do the high-ranking officers control resource allocation, they also provide the strategic direction for the organization. The officers, as a group, are the highest level permanent management in each service.¹¹ The civilians they answer to are mostly political appointees that change with each new administration or political *faux pas*.

Career civilian government managers tend to be the permanent management staff of individual government facilities, particularly outside of the Washington, D. C. area; their military supervisors rotate on a two- to three-year cycle. Civilian managers often can stall a project until new military supervision is in place or until a new administration is elected. On the other hand, the career civilian managers can support a program and foster change before a new local military manager is in place or a new administration is elected. The longevity of career government managers is such that they can realize the delayed payoffs resulting from the long lead times for projects. This is in contrast to local military managers and political appointees, whose tenure is much shorter and whose reward structure is not likely to focus on long-term payoffs.

Finally, the civilian workforce of nearly one million individuals in the Department of Defense has the power to make or break a system. They work in virtually all the organizations in the Department of Defense. By working to the rule, they can destroy most any system. Yet, if the workforce gives its full support, even a weak system might succeed. To help garner this support, the incentive system must reward those individuals who become

more efficient and possibly work themselves out of specific jobs. Gaining the support of the civilian work force is one of the apparent strengths of Clinton's effort to "Reinvent Government" (Salwen 1993).

In the capital investment program example, career managers essentially brokered the program. They sold the program to senior officers and developed the implementation strategies for the respective services. In those services where the program was a viable source of capital investment, senior officers determined the amount of command involvement. They set the investment strategies and gave support for the program. Where the program was ineffective, there was a lack of interest from senior officers, career managers, and the civilian workforce. It was not until senior officers became aware of the lack of participation in PECI that program involvement increased.

Accounting and control systems in the Department of Defense can be changed and improved. The civilian pay system is an example. The system has been structured so that there is strong central control over system resources. This has reduced the variability inherent in most financial management systems that the services "fit" into their respective missions. This was possible, at least in part, because the civilian pay system does not have a strong institutional flavor: civilian pay for the Navy is not appreciably different from the Army or Air Force. On the other hand, capital investment programs do have strong mission-related differences, and individual implementation of a common system permitted the distinct service personalities to have a strong influence. For these systems to work, both senior officers and career managers need to be brought on board in the early stages of planning. Their involvement is necessary both to tailor the system to the services' require-

¹¹The importance of this group and their ability to set a tone for the organization can be seen in the "Tailhook" episode. Senior officers apparently had knowledge of the behaviors exhibited at the annual conventions and, at least passively, allowed behavior to continue that some individuals consider to be inappropriate.

ments and to implement the system within the institutional structure. These two groups may not be able to alter the characteristics of federal financial management, but together they have the resources to address the problems created by the characteristics.

To reiterate our earlier point, without accounting for the interdependent characteristics of the processes surrounding federal financial management, increasing the efficacy and efficiency of accounting and control systems will be difficult to achieve. Individuals may argue that the characteristics presented are substantially different from those found in the private sector. Clearly, there are private sec-

tor organizations in the service sector that have diverse and seemingly independent goals yet are still able to operate with a high degree of efficacy and efficiency. However, in the private sector each decision has a potential impact on the long-run profitability and ultimately the survival of the organization. This is not the case in the federal government—the focus in the federal government is on mission-related goals, not long-run profitability. Unless the interdependent characteristics of federal financial management are acknowledged and incorporated in the planning process, common systems will continue to be uncommon in the Department of Defense.

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