

**WHY THE PENTAGON  
WASTES MONEY**

**AND HOW TO FIX  
THE PROBLEM**

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## > EXECUTIVE SUMMARY

The U.S. defense budget is challenged perhaps as never before in modern times from without and within. The 2010 bipartisan Budget Control Act (BCA) imposed minimum reductions of some \$480 billion over the next ten years. There is also the possibility of an additional cut in defense spending of around \$500 billion over the same ten-year period if the provision in the BCA for sequestration is triggered in January 2013. Defense officials have characterized this additional decline in spending as nothing short of catastrophic. Within the defense budget there is the imperative to modernize elements of the force that are relying on equipment and systems 30, 40 and even 50 years old. There is also the growing cost of so-called defense entitlements that are must-pay bills but which limit the availability of resources for critical investments.

To meet these internal and external challenges, the Department of Defense has been pursuing a two-pronged strategy of seeking greater efficiency in defense activities and reforming the acquisition process. Efficiency measures have resulted in some \$200 billion in savings through personnel reductions, base closures and organizational reforms. Acquisition reform has focused on reining in the requirements process, curbing the use of high risk technologies, improving management techniques and increasing the use of competitive contracting.

The problem is that current reform efforts focus only on part of the problem and the portion that may be least amenable to rapid or radical change. In truth, the development and procurement of advanced weapons systems is inherently a costly and risky business. Current acquisition reform efforts are largely directed at addressing cost growth and

technical failures associated with the acquisition of major weapons systems. But even if the acquisition system were functioning perfectly, pressures from within the defense budget would necessitate a serious effort to cut costs.

There are a host of hidden cost drivers that act as a significant tax on the effective utilization of defense resources while not providing clear benefits. These include: excessive regulation and specifications, barriers to full and fair competition, poor cost accounting and inadequate cost analyses, outdated supply chain management techniques and the uneconomical funding for programs. Many of these same factors make it difficult to reduce costs by applying commercial best practices to defense activities. In addition, they act as impediments to efforts by non-traditional defense companies to enter the sector, thereby reducing the potential pool of competitors for defense contracts, as well as reducing opportunities for the transfer of innovative products and processes into defense production.

Numerous studies and many reform efforts have shown that substantial cost savings can be realized by addressing these hidden cost drivers. Reducing the regulatory burden on defense activities alone could save tens of billions of dollars a year. Taken together, the savings could be between \$45 and \$95 billion a year. Addressing the array of hidden costs in the defense budget could secure sufficient savings to offset the impact of sequestration. Moreover, these savings could be realized without any reduction in the size or capability of the U.S. military.

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## > INTRODUCTION

U.S. defense strategy has always been a balancing act between requirements and resources. Sometimes the scales are tipped in favor of requirements, as has been the case since September 11, 2001. And other times it shifts in the direction of resource constraints, as in the aftermath of the end of the Cold War.

It seems clear that the scales are now tipping rather dramatically in the direction of reduced defense budgets. The 2010 bipartisan Budget Control Act (BCA) imposed minimum reductions of some \$480 billion over the next ten years. The certainty of significantly reduced defense spending has already had a clear impact on defense planning. Although senior Pentagon officials claim that the new defense strategy with its “strategic pivot” to the Asia-Pacific region and abandonment of the two major theater conflict sizing criterion for U.S. forces was driven by changing circumstances, the truth is that this change was necessitated by looming cuts in the defense budget. Now the military services are struggling to come up with ways of responding to the operational requirements of the new strategy -- and particularly to the strategic pivot -- with the resources available.

There is also the possibility of an additional cut in defense spending of around \$500 billion over the same ten-year period if the provision in the BCA for sequestration is triggered in January 2013. Defense officials have characterized this additional decline in spending as nothing short of catastrophic. They have made it clear that the newly-promulgated defense strategy would be rendered unsustainable in the face of these further deep spending cuts.<sup>1</sup>

There is no question that maintaining a capable national defense is expensive, although increasingly less so in terms of both share of Gross Domestic Product (GDP) and percentage of federal spending. This remains true despite the fact that defense spending has declined over the past 60 years from around 40 percent of the nation’s GDP and nearly 60 percent of all federal spending, to a little more than 4 percent of GDP and less than 20 percent of federal spending today. Nevertheless, the cost of national defense is harder to bear given the current U.S. economic situation. Moreover, pressures on defense spending are likely to increase in ensuing decades as a result of the retirement of the Baby Boom generation and with that the reduction in national economic productivity and the inevitable rise in entitlement spending.

External pressures on the defense budget are only one part of the problem. There are also internal pressures and issues that combine to challenge the ability of the Department of Defense (DoD) to effectively manage the resources provided so as to produce the most cost-effective defense posture. The growing cost of must-pay personnel bills such as military health care, retirement pay and other benefits



^ A C-17 undergoing maintenance at Robins Air Force Base.

are squeezing the dollars available for operations and acquisitions. The defense budget is subject to the pressure of what might be termed internal entitlements.

In addition to the challenges posed by internal entitlements to the most effective use of defense resources, DoD also must struggle with an acquisition system that some have described as broken. The past several decades have given rise to a litany of examples of failed programs, cost overruns and other inefficient expenditures of resources. The U.S. Army alone has spent more than \$30 billion over the past two decades on major weapons acquisition programs that had to be terminated due to a combination of spiraling costs and lack of adequate achievement, and all the services together have lost around \$100 billion.<sup>2</sup> As the House Armed Services Committee (HASC) formally concluded in 2006:

Simply put, the Department of Defense acquisition process is broken. The ability of the Department to conduct the large scale acquisitions required to ensure our future national security is a concern of the committee. The rising costs and lengthening schedules of major defense acquisition programs lead to more expensive platforms fielded with fewer numbers.<sup>3</sup>

Were defense budgets not declining, it would still be incumbent on the Department of Defense to fix the acquisition system. This problem takes on a new, strategic significance in light of current fiscal realities.

Everyone is in agreement regarding the need to get defense costs under control in order to avoid what is colloquially termed a defense train wreck. Each new administration has come into office with a commitment to make defense spending more efficient and fix what is wrong with the

acquisition system. By one estimate, there have been some 130 studies since World War Two on how to reform the defense acquisition system.<sup>4</sup>

The Obama Administration entered office with a reform plan focused in large part on solving the problem of escalating costs in major defense programs. In 2009, Congress passed the Weapon Systems Acquisition Reform Act (WSARA) intended to improve the oversight and management of major defense acquisition programs. WSARA's primary focus was on exerting better oversight through the creation of new senior management positions, adding administrative activities and increasing reporting requirements. The hope was that by more tightly controlling the requirements process, the selection of technologies, the expenditure of funds, the development of products and the testing of new platforms and capabilities, costs could be reduced and the chances of a successful outcome increased.<sup>5</sup>



^ Secretary of Defense Leon Panetta and then-Under Secretary of Defense for Acquisition, Technology and Logistics, Ashton Carter, at a defense briefing.

The Department of Defense also looked to increase efficiencies in major cost areas other than weapons system acquisition. Then-Secretary of Defense Robert Gates announced a series of efficiency measures under the overall rubric of “Better Buying Power (BBP).” The key elements of this initiative included a greater focus on affordability in defense programs, increasing competition for work, expanding the defense acquisition workforce and preventing program cost growth by reducing reliance on cost-plus-fee contracts.<sup>6</sup>

The problem is that the Obama Administration reforms only focus on part of the problem and the portion that may be least amenable to rapid or radical change. Some elements of the current reform effort, such as constraining requirements, can have a material impact on acquisition costs. For other elements such as a preference for fixed price over cost-plus contracts it is likely to take years before it is known if they will result in lower costs. Moreover,

as recent studies suggest, companies may respond to the additional risk associated with fixed price contracts by increasing their initial bid price thereby creating a situation in which there is lower cost growth but no net savings to the government.<sup>7</sup>

Ironically, there are elements of the reform effort such as additional oversight and reporting, shortening the length of time for contracts to promote additional competition and emphasizing bid price over technical competence that are unlikely to result in major savings and could well cause costs to escalate and performance to decline. In truth, the development and procurement of advanced weapons systems is inherently a costly and risky business.

Both WSARA and BBP were largely directed at addressing cost growth and technical failures associated with the acquisition of major weapons systems. But even if the acquisition system were functioning perfectly, pressures from within the defense budget would necessitate a serious effort to cut costs. Multiple studies and analyses have found that the rising cost of entitlements such as health care within the defense budget are exerting additional pressure on the investment accounts. When these costs are combined with the additional burden placed on operations and maintenance resources due to an aging equipment base, the result is an inevitable and serious detrimental impact on even a perfectly functioning acquisition system.

According to Dr. Ashton Carter, then-Under Secretary of Defense for Acquisition, Technology & Logistics, the Pentagon spends about \$200 billion per year on logistics, \$80 billion on supplies, \$20 billion on transportation and \$80 billion on installations. Maintenance-related activities alone cost the Pentagon approximately \$100 billion a year. If the goal was to save the department money, Dr. Carter noted, it was important to go where the money is.<sup>8</sup>

As DoD has struggled to deal with its cost problems and to extract savings from its myriad processes and activities, it is becoming increasingly clear that the department does not always fully appreciate the range of factors associated with the cost characteristics of defense programs. For example, in 2009 the Pentagon undertook an initiative to insource work being performed by private companies to the government workforce and public segment of the defense industrial base. At the time, it was believed that the public sector would provide equal result at a lower cost. Yet, over the past several years it has become clear that this assumption often was proven incorrect. One reason for this was the failure to adequately account for all the cost drivers associated with a given contract or activity.<sup>9</sup>

The Department of Defense has been excruciatingly slow to adopt the techniques used in the private sector that have transformed commercial activities on a global scale such as just-in-time delivery, end-to-end supply chain management,

enterprise resource planning and anticipatory demand planning. As a result, and despite significant efforts in some areas, DoD still suffers from such problems as excess inventories of parts and material.<sup>10</sup>

Another problem in managing costs is the lack of standard methodologies and common procedures for collecting and analyzing data. Moreover, cost assessments are often extremely sensitive to input assumptions such as time horizon, scale of the activity under analysis, operational tempo, etc.

In addition, there are a host of hidden costs that act as a significant tax on the effective utilization of defense resources while not providing clear benefits. Some of these are:

- **Excessive regulation and specifications.** As noted in a recent report by the HASC Panel on Business Challenges in the Defense Industry there is an enormous regulatory burden on defense activities as well as a number of laws that, however well-intentioned, impose a large cost penalty on defense companies.<sup>11</sup>
- **Barriers to full and fair competition.** Current law requires that the public defense industrial base maintains a capability to perform “core” maintenance functions. In addition, the so-called “50-50” rule requires the services to spend not less than half their depot maintenance resources in government facilities whether or not this is the most cost-effective solution. In addition, even where public-private competitions are allowed, the methodologies employed to measure costs are often inadequate to provide a useful comparison.
- **Legislative requirements that increase costs.** Laws such as the Buy America Act and the Berry Amendment which restrict from whom weapons makers and maintainers can obtain materials and parts necessitate that companies resort to higher cost solutions. Similarly, export control policies restrict foreign sales of products and services which shrink the ability of producers to spread costs across a greater number of items.
- **Uneconomical funding for programs.** Most weapons systems are procured over a number of years and maintained in the force for decades. Yet, in many cases the way Congress appropriates money for these programs prevents the use of strategies that would allow for major savings. Multi-year procurements have been shown to save hundreds of millions of dollars. Advanced appropriations for highly complex weapons systems can achieve similar results. However, these approaches are exceptions rather than the rule in defense acquisitions.

Many of these same factors make it difficult to reduce costs by applying commercial best practices to defense activities. In addition, they act as impediments to efforts

by non-traditional defense companies to enter the sector thereby reducing the potential pool of competitors for defense contracts, as well as reducing opportunities for the transfer of innovative products and processes into defense production.

The prospect of sequestration has motivated a search by some in Congress and the Executive Branch to identify alternative cost cutting approaches that would provide significant savings from the defense budget without requiring draconian cuts to programs and personnel. Some observers have suggested that Congress doesn’t need to find all \$500 billion this year to avoid sequestration. It only needs to find \$40 billion to \$50 billion to postpone further cuts.<sup>12</sup>



^ Maintenance on the inside of the internal weapons bay of an F-35C Lightning II at Naval Air Station Patuxent River.

The Department of Defense needs a multi-faceted strategy for reducing costs. Such a strategy must be anchored in a real appreciation of the full range of factors that drive defense costs. The current acquisition reform effort is focused on changing well-recognized cost drivers such as gold-plated requirements, immature technologies, poor oversight and contract management and the lack of competition for contracts. There are a host of non-traditional or hidden defense cost drivers that cause tens of billions of dollars of unnecessary expenditures annually.

The goals of this study are to identify the hidden cost drivers in the defense budget, assess their contribution to rising prices being paid for national defense and propose a set of reforms to reduce this “tax” on the defense budget. Reforms that reduce the burden of these hidden costs could result in rapid savings equal to the initial requirements of sequestration.

The Department of Defense is the largest cabinet department with the biggest budget. It spends a great deal of effort, manpower, time and dollars seeking to manage programs, oversee contracts, track costs and prevent waste, fraud and abuse. It is ironic, therefore, that it does such a poor job of accounting for its expenditures and managing its costs. To some extent this is a function of the sheer size and complexity of the department as well as the inherent difficulty of many of its missions. In part, too, it is a legacy of policies that permitted each military service and many defense agencies to create independent approaches, systems and standards by which to address programs and costs.

Another reason for DoD's problems is the way resources are allocated and distributed. For example, funds for the construction of a major surface combatant are appropriated in a single year even though the actual release of such funds will occur only incrementally and over a period of several years. It is no wonder that despite nearly a decade of effort, the Pentagon now says it will not be prepared for a department-wide financial audit until 2017.

There are numerous examples of wildly varying cost estimates for major acquisition programs that reflect disagreements over input assumptions.

- **Joint Strike Fighter.** DoD initially assessed the life-cycle costs for the F-35 Joint Strike Fighter (JSF) – the costs associated with actually operating and sustaining the approximately 2,500 aircraft in the planned fleet – would slightly exceed \$1 trillion over 50 years. This figure is terribly dependent on assumptions regarding the size of the infrastructure base for the F-35 and inflation rates over five decades.<sup>13</sup> A similar phenomenon occurred when the Air Force revised its 2010 estimate of F-35 life-cycle costs for 2011. The new, higher estimate reflected changes in input assumptions such as four additional squadrons, almost 3,000 more personnel and the cost of lifetime modernization of the aircraft. However, while projecting future costs for some new capabilities, the analysis failed to consider any cost reductions associated with economies of scale resulting either from the multi-service and international character of the program or due to a common logistics, maintenance, training and supply chain infrastructure.<sup>14</sup>
- **Ground Combat Vehicle.** The Pentagon's Cost Assessment and Program Evaluation (CAPE) office declared that the Army's new Ground Combat Vehicle was likely to cost a lot more than the ceiling price established for that system: \$17 million a copy versus between \$9 and

\$10.4 million. According to an Army source, the discrepancy between the two figures was due to "different methodologies" used to estimate costs.<sup>15</sup>

- **Lima Army Tank Plant.** This same service has been in a running argument with General Dynamics regarding the costs of shutting down and then restarting the Lima Army Tank Plant. The Army's analysis suggests that the costs of shutting and restarting LAMP would not exceed \$800 million while continuing to run the facility even at a minimum level would require up to \$2.1 billion. General Dynamics has different figures: \$1.6 billion to restart the facility versus \$1.3 billion to keep it operating.<sup>16</sup>
- **Military Transport Planes.** An excellent example of the power of input assumptions to radically alter cost estimates is provided by the recent debate on the life-cycle costs of operating the C-27J versus the C-130J/H. Three different Air Force analyses produced a range of answers from a high of \$308 million per aircraft, a middle estimate of \$200 million and a low case of \$111 million.<sup>17</sup> As one of these studies argued, the results of the three analyses were extremely sensitive to the input assumptions regarding such factors as annual flying hours, number of aircraft per base, personnel levels and spare parts utilization rates.<sup>18</sup>

Clearly, there are many factors other than the price of labor and materials that impact the cost of defense goods and services. Some of these are inherent in the enterprise or the mission but others are impediments to cost-effective acquisition. The challenge of determining the true cost of defense products and activities wherever they occur is rendered all the more difficult when there is no agreement on cost methodologies, the cost categories to be included in assessments or the actual figures to be used. If DoD is to get control over its expenditures and reduce its costs while maintaining desired capabilities it will be critical to establish cost estimates that are full and accurate, to employ common costing methodology and to recognize the presence of hidden cost drivers.

### > #1: THE REGULATORY BURDEN

The sheer volume and complexity of the regulatory jungle confronting all Americans and all sectors of the economy makes it difficult to identify those that have the greatest impact. In addition, many regulations were promulgated to meet a perceived need or correct a problem. Hence, the burden imposed by regulations must be weighed against their costs.

But it is clear that the regulatory burden is extremely high. The cost of regulations to American business and their impact on the overall economy is enormous. According to a 2010 study by the Small Business Administration, the “tax” imposed on the U.S. economy by government regulations was \$1.75 trillion or about 12 percent of GDP.<sup>19</sup> A 2007 study concluded that the cost in that year was similarly large, \$1.1 trillion.<sup>20</sup> A third analysis of the effect of all federal regulations promulgated since 1949 concluded that the impact was to reduce U.S. GDP in 2007 by more than \$11 trillion (\$14 trillion versus \$25 trillion).<sup>21</sup>

To the enormous volume of general regulations confronting private business must be added those developed by Congress and DoD specifically for the defense industry. Much of the defense regulatory environment was created to prevent fraud and abuse, such as the legendary \$600 toilet seat. There are also additional regulations that are unrelated to the Pentagon’s effort to ensure that it receives the best possible price, dealing with such topics as the management of classified work, exports of defense products, support for minority businesses and the relationship between the public and private segments of the defense industrial base.

A 2005 study of the performance of the defense acquisition system observed that the DoD management model is based on a lack of trust; oversight is preferred to accountability.<sup>22</sup> As a result, the oversight process is both complex and highly restrictive; it leads both the government and private sector to risk-avoidance behaviors that reduce innovation and increase costs in defense activities.

But the value of protecting the taxpayer against contractor fraud, espionage or the illegal export of defense products must be balanced against the cost of this oversight as well as its impact on the speed and effectiveness of the acquisition system and the defense supply chain. The increased weight of regulations adds to the cost of all defense activities but particularly that for major weapons systems, operations and sustainment and logistics. Consequently, the rising cost of regulations can result in a reduction in DoD’s ability to acquire the desired quantity of defense products and services.

In 1994, then-Secretary of Defense William Perry directed Coopers and Lybrand to conduct an analysis of the cost premium on defense activities resulting from the DoD regulatory environment. This study concluded that the average regulatory cost premium across companies large, medium and small was 18 percent. In some instances, the cost was as high as 25 percent of the final price. It is important to emphasize that this is the additional premium DoD must pay over and above the regulatory costs for the same item or activity in the commercial marketplace. The study concluded that, “. . . the DoD regulatory environment imposes a substantial cost premium throughout the defense sector – which ultimately is absorbed by DoD in the form of increased unit costs for military equipment and services.”<sup>23</sup>

This study was by no means the only one to conclude that there is a heavy regulatory burden on defense activities. Other studies identified a DoD regulatory cost premium between 13 and 40 percent of the particular defense activities studied.<sup>24</sup> A 2001 study by the RAND Corporation examined the impact on costs if a selected set of research and development (R&D) and production programs were restructured along commercial lines. The cost savings that could be achieved ranged between 3 and 34 percent for R&D programs and from 7 to 60 percent for production programs.<sup>25</sup>

The defense department’s current acquisition reform effort seeks to achieve savings on the order of 10 percent on major weapons acquisition programs by a combination of restrictions on requirements, closer oversight of company activities, greater use of fixed price contracts and increased competition. These policies amount to “tweaking” the current system rather than pursuing fundamental reforms. The studies cited above suggest that a serious effort to reduce the regulatory burden on the defense industry could achieve significantly greater savings.

The report of the House Armed Services Committee’s Panel on Business Challenges within the Defense Industry concluded that the oppressive regulatory environment not only adds significantly to the cost of platforms and services, but erects barriers to entry and full competition that reduce innovation and limits competition. One area is the explosion of paperwork, reporting requirements and demands for data. The report points out that the War Department’s original request for proposals from industry to build the first airplane was two pages and the winning response by the Wright Brothers “is noteworthy for its brevity, focusing on engineering requirements and contractor compliance.” By way of contrast, the report provides statistics on the most recent major aircraft proposal, that for the new aerial refueling tanker. The winning proposal by Boeing was 1,233 pag-

es long with a 70-page basic contract and 27 attachments with 1,163 additional pages. Many of these attachments addressed areas unrelated to the development and production of the aircraft. This increase in reporting requirements costs both the company and the government money.<sup>26</sup>

The “Great Wall” of DoD regulations may do particular harm with respect to the government’s ability to access the innovative talent and ideas of small businesses. This problem is particularly evident when it comes to cutting edge areas such as information technology, micro-electronics and software. Not only are the costs associated with compliance extremely significant to small companies but so too are the economic consequences should the government be able to gain rights over the intellectual property a company produced with private resources.<sup>27</sup>

There has been a major increase in auditing and reporting requirements over the past several decades. Much of this increase has been well-intentioned, motivated by the desire of lawmakers and government officials alike to root out waste, fraud and abuse. However, there are clear costs associated with the audit and reporting process, both to the government’s side and that of the private sector companies. Decades of audits and reports have shown that the vast majority of companies are honest and that waste, fraud and abuse constitute a relatively small “tax” on defense spending. But all companies, honest or not, must pay the costs of increased audits and reporting requirements. At this point in time the cost of compliance needs to be scrutinized as a potentially significant area in which budget savings could be found.

## > #2: BARRIERS TO FULL AND FAIR COMPETITION

Current acquisition reform efforts have focused much of their energy on increasing competition for defense contracts. This involves both conducting more frequent competitions and seeking to increase the number of companies able to compete.

Yet, there are many impediments to the creation and maintenance of an effective competitive environment in the defense industrial sector which is different from all other sectors of the economy in a number of ways. It has many suppliers but only a single buyer, the Pentagon, thereby constituting a monopsony market. DoD has a large number of unique requirements for the products and services it buys thereby limiting the purchase of commercial items.

It also has the power to impose changes in the design of a military system not only during the design and development period, but even during production. Finally, DoD can alter the quantity of products and services to be purchased and even cancel a procurement outright for convenience, although it can incur termination liabilities. All of these factors act as barriers to entry into the marketplace.

There is clear evidence that competition between the public and private sectors, known as A-76 competitions, can improve both the effectiveness and efficiency of defense sustainment and logistics. Between 1997 and 2007, such competitions are estimated to have reduced DoD’s operating costs by \$9 billion while also reducing manpower by 40 percent. While Congress imposed a moratorium on such competitions in 2008, the Pentagon recently asked permission to institute revised A-76 competitions.<sup>28</sup>

Even as DoD is seeking to increase competition for contracts for defense products and services, it and Congress are expanding the protected space for non-competitive defense activities. This protected space consists primarily of the maintenance, sustainment and overhaul work performed by the organic or public defense industrial facilities as well as activities that are defined as inherently governmental.

Over the past three years, the Obama Administration has imposed new and onerous policy, regulatory and contracting burdens on private defense companies. It expanded the definition of inherently governmental functions – those that can be performed only by government employees.<sup>29</sup> DoD took this even farther, pursuing a policy of insourcing to the public defense industrial base work that had long been conducted in the private sector and did so based, in many cases, on murky business case analyses or on the unproven assertion that the same work could be performed at less cost in a government facility.<sup>30</sup>

The recently-enacted 2012 National Defense Authorization Act (NDAA) further extends the role of the public defense industrial base at the expense of the private sector. For example, it requires DoD to establish an “appropriate mix” between military, civilian and private contractors while mandating that cost not be the primary consideration in rebalancing the workforce. The NDAA significantly broadens the definition of depot-level maintenance to include all aspects of software and eliminates exclusions for special access programs. It also expands the definition of core by including new “critical functions,” “associated logistical capabilities,” and technical data.<sup>31</sup> Since the NDAA otherwise maintains the protected status of the private defense

industrial base, the results can only be a reduction in the maintenance and sustainment work available to private companies.

Congress has chosen to protect the role and place of the public sector depots and their workforce in two important ways. First, it has mandated that what is termed core work on weapons systems must be performed in government-owned and operated facilities in order “to ensure a ready and controlled source of technical competence and resources necessary to ensure effective and timely response to a mobilization, national defense contingency situations, and other emergency requirements.” According to the law, “the Secretary of Defense shall require the performance of core logistics workloads necessary to maintain the core logistics capabilities.” Core workload is defined in terms of man hours needed in order to maintain the capabilities defined by the law.<sup>32</sup>

The other way that Congress has provided for public sector workers is by the “50-50” rule. This requires at least 50 percent of depot-level maintenance dollars be spent on work by government employees in government facilities – depots and air logistics centers. Unlike the core requirement, the 50-50 rule has no performance standards, skills metrics or capability requirements associated with it; the rule simply looks at dollars spent. As a result, each of the military services is often required to send maintenance, repair and overhaul (MRO) work to a public depot even if a private sector depot could perform it better and more cheaply, in order to maintain the 50-50 split of dollars expended. Or, private sector firms are required to subcontract to the public depots so that the dollars expended can be counted on the government’s side of the ledger for the purpose of meeting the 50-50 target.<sup>33</sup>

In addition, the organic industrial base is protected by federal laws that unfairly skew business case analyses in its favor. For example, 10 U.S.C. 2461 states that “no function of the Department of Defense performed by Department of Defense civilian employees may be converted, in whole or in part, to performance by a contractor unless the conversion is based on the results of a public-private competition.” The law appears to explicitly acknowledge a private sector cost advantage insofar as it mandates that no work performed by government workers be outsourced to the private sector unless the estimate of savings to be realized is equal to or exceeds the lesser of: a) 10 percent of total value or b) \$10 million.<sup>34</sup>



^ CH-47 Chinook maintenance at the Corpus Christi Army Depot – just one of many military depots and logistics centers located around the country.

There is clearly a rationale for the requirement to preserve a minimum or core capability in the public sector for emergencies as defined in federal legislation. The value of the idea of core work became evident as both the public and private sector depots ramped up to support the conflicts in Iraq and Afghanistan. However, there is no clear justification for the 50-50 rule. Congress simply has chosen to protect public sector workers even if they are less capable and less productive than their private sector counterparts. Indeed, without a connection to some standard for the work to be performed by the public sector depots, it is difficult not to conclude that the 50-50 rule is simply a way of bolstering the levels of employment in the public or organic depots. Therefore, this rule constitutes nothing more than a sop to the public sector unions.

It is not simply the private sector or the American taxpayer who bears the cost of the way the 50-50 rule protects public sector jobs. It is the warfighter who potentially suffers. If maintenance dollars are misspent trying to meet some arbitrary tax intended to protect the public sector workforce this means that fewer weapons systems will be repaired and returned to the warfighters who need them. In an era of rising costs for operations and sustainment activities in DoD and tightening defense budgets, it is no longer reasonable to have laws that unfairly protect government workers at the expense of all the other stakeholders. It is also an inefficient way to operate, one that reduces competition and hence raises the costs of MRO work to the government.

### > #3: ANTIQUATED SUSTAINMENT PROCESSES AND PROCEDURES

It is odd that an acquisition system which seeks to maintain maximum flexibility and makes use of “prerogative of the state” to change its mind for its own convenience, is commonly seen as being slow and unresponsive to the needs of the customer. So significant were these problems that over the past decade the Department of Defense has had to develop institutional workarounds to the acquisition system. Two of the most significant of these are the Rapid Equipping Force which seeks to provide essential equipment to all units preparing to deploy, and the Rapid Fielding Initiative which focuses on meeting urgent operational needs of forces already deployed. Both organizations seek to make maximum use of commercial off-the-shelf capabilities and innovative technologies developed outside the traditional acquisition process. These innovative organizations have proven so valuable that the Army is examining ways to institutionalize them after the current combat operations end.

The above are but two examples of DoD’s recent attempts to reform its antiquated acquisition practices and procedures. Over the past decade, DoD has tested a number of forward thinking acquisition and sustainment approaches with a proven record of reducing costs. The failure to make greater use of such measures is another hidden tax on the defense budget.

One progressive approach to sustainment contracting is the use of Performance-Based Logistics (PBL). The genius of the PBL system is that rather than paying for parts and labor hours, the government contracts with the private sector for specific outcomes, such as aircraft availability, for a specified price. The private companies – actually teams that almost always include public sector depots or air logistics centers – are incentivized to invent techniques, tools and procedures that improve performance while lowering costs.

There is more than enough evidence to demonstrate well-structured support contracts employing PBL standards and methods save money, improve readiness and increase weapons system availability to the warfighter.<sup>35</sup> The Aerospace Industries Association reviewed some 220 ongoing PBL agreements and concluded that these efforts have demonstrated material availability above 95 percent and commercial, world-class response times of 2-4 days (versus a DoD average of 16 days). Moreover, for a selected subset of 30 programs, the association was able to document an average cost reduction of 11 percent.<sup>36</sup>

An innovative approach to managing DoD supply chains is the use of private sector prime vendors and supply chain integrators to manage large, ongoing acquisition and distribution of commodity items and complex sets of packaged products. The use of prime vendor and supply chain integrator contracts saves DoD money in a number of ways. First, only a single contract is written. As a result oversight of the management of change orders is simplified. Second, the government benefits from the ability of the prime vendor to reduce costs through volume purchases. Third, the government saves money because of reduced requirements for stocks of materials or products and, consequently, reduced need for warehouse space and personnel. There is also an indirect savings of both resources and time when a supply chain integrator is employed to handle complex, multi-component systems.

Despite clear evidence that techniques such as PBL-based sustainment contracts and prime vendor contracts save money and improve support to the warfighter, DoD has failed to press the services to make broad use of such contracts. Similarly, defense agencies have an inconsistent record of creating prime vendor and supply chain management contracts. The number of PBL-based contracts remains relatively small.

### > #4: INEFFICIENT SUPPLY CHAIN MANAGEMENT

At one time, the military set the standard in supply chain management. Today, that standard is set by commercial companies and the Pentagon is struggling to close the gap. The globalized economy developed as a result of two revolutions, one in the worldwide free movement of capital and the other a transformative revolution in supply chain management. This supply chain revolution was built on several pillars: an integrated global information technology network, end-to-end visibility, demand forecasting based on accurate and timely data, flexible use of the full array of transport modalities and modern enterprise resource planning (ERP) and activity management software tools.

The efficiency of a company’s supply chain can make an enormous difference to a public company’s financial success. In general, the cost of a product supply chain has a greater impact on company cash flow and profits than labor or materials costs. A highly efficient supply chain results in reduced working capital requirements, improved asset utilization, lower inventories, reduced operating costs, improved on-time delivery, lower order error rates and lower transportation costs. According to a variety of sources, sup-

ply chain efficiency measures typically can yield double digit savings in the categories identified.<sup>37</sup>

A good example of what can be achieved by integrating supply chains is the program to support the HMMWV, or Humvee. Called “Customer Pay,” it involved a collaboration on the part of the Humvee’s manufacturer, AM General, the Defense Logistics Agency, the Army’s Tank and Automotive Command (TACOM) and the three depots where repair and maintenance work was performed. AM General acted as the supply chain manager, responsible for ensuring that the right parts got where they were needed when they were needed. AM General was able to leverage both the private sector and government supply chains as well as the company’s unique insights into how the demand for parts was changing over time.

Customer Pay not only dramatically improved the flow of parts to the depots but at the same time it reduced the overall cost to the government. The program allowed the depots to reduce the amount of parts they kept on hand. AM General was also able to reduce significantly work stoppages caused by parts being unavailable. An independent audit concluded that the program saved almost \$40 million in its first year.<sup>38</sup>

In 2008, the Defense Science Board’s Task Force on Defense Industrial Structure for Transformation stressed the importance of completely restructuring the DoD logistics system into one that is modern, world-class and data-centric. The Task Force went on to declare that:

This requires a shift from a “supply push” to a “demand pull” system based on: send and respond and secure, integrated, end-to-end IT (*information technology*); logistics R&D funding to develop alternatives that improve speed and reduce costs throughout the life cycle; competing (public versus private) for all “non-inherently governmental” logistics work; and use of performance-based logistics, warranties and other gainsharing incentives on all systems (both legacy and new) to increase availability while reducing support costs. Existing commercial logistics systems offer depth of experience in the areas of logistics innovation and proven effectiveness on which DoD can build.<sup>39</sup>

Efficient supply chains are critical to the U.S. military both to support the warfighter but also to manage the cost of defense. Good supply chain management reduces costs by limiting inventories of spare parts, increasing the flow of MRO work and sustaining high availability rates for platforms and systems.



^ One example of successful Performance-Based Logistics is the M-1 Abrams tank.

The Department of Defense is struggling to create and sustain effective and efficient supply chains. In some areas, such as Class I (subsistence) and Class VIII (medical) supplies, progress has been made. But in other areas, such as the supply chain for spare parts, there continue to be major problems. The Government Accountability Office (GAO) has documented at great length a wide range of deficiencies in the way DoD manages programs and activities beyond those associated with the generation of requirements or the oversight of major new acquisitions. The six so-called high risk areas identified by GAO are: Financial Management, Weapon Systems Acquisition, Supply Chain Management, Business Transformation, Business Systems Modernization and Support Infrastructure Management.<sup>40</sup> Difficulties in these areas contribute materially to problems in tracking and managing costs.

A recent study of the Air Force’s sustainment system concluded that the spare parts supply chain, in essence, was broken.

To a severe extent, the supply chain’s ability to provide spare parts to the maintenance organizations is ineffective and disrupts depot maintenance and parts repair. There are mismatches between direct support to production activities and the growth of requirements at the production level. Importantly, a modern enterprise resource planning tool, although promised as “forthcoming,” is not available, despite being desperately needed. Finally, and disappointingly, despite repeated requests for key measures of effectiveness and efficiency, the only well-defined metric supplied was for aircraft availability, and

many more organizations than just the ALCs [*Air Logistics Centers*] impact aircraft availability. The ALCs make the current situation work, but the full spectrum of resources needed to make an effective and efficient organization is not available.<sup>41</sup>

Another area in which DoD logisticians and supply chain managers struggle is the implementation of modern ERP and supply chain management systems. A GAO study observed that the Pentagon has already invested billions and is expected to spend billions more to deploy ten major ERP systems intended to replace around 500 legacy systems.<sup>42</sup> Unfortunately, according to Asif Khan, GAO's Director of Financial Management and Accountability, "DoD's ERP implementation has been impaired by delays, cost increases, failures in delivering the necessary functionality, and a lack of compliance with required standards. Delays in implementation have extended the use of existing duplicative, stovepiped systems, and the need to fund them." Among the programs with major difficulties, delays and cost overruns, according to Khan are the Air Force's two premier supply chain management and ERP systems, the Expeditionary Combat Support System and the Defense Enterprise Accounting and Management System.<sup>43</sup> Similar problems have been reported with the Army's Logistics Modernization Program, the Marine Corps' Global Combat Support System and the Navy's Personnel and Pay System ERP.<sup>44</sup>

Given the vast number of DoD maintenance and sustainment programs it is hard to estimate the total savings that would accrue to the department as a result of improved supply chain management. However, there are numerous examples of programs that have saved tens of millions of dollars by streamlining their supply chain and reducing excess inventories.

## > #5: POOR COST DATA AND INCOMPLETE COST ANALYSES

Mountains of data related to cost are collected by the Department of Defense. Virtually all contracts with the private sector require extensive reporting of costs to a level of detail and specificity unknown in the commercial world. Yet, as documented in a number of authoritative studies by both public and private institutions, the department has an extremely hard time accurately establishing the costs of many of its activities, especially those related to work performed by the organic or public defense industrial base. One area that has been a particular problem for decades is the estimate of the sustainment costs for aircraft, what is often referred to as costs per flying hour (CPFH). Since com-

parisons of CPFH is a significant consideration in policy debates over investments in different aircraft, the inability to accurately account for aircraft costs can have a serious impact on defense planning.<sup>45</sup>

The defense department has suffered from a similar problem with respect to its decisions to insource sustainment work being done by the private sector. Without any evidence at all, the Air Force made the assumption that it could save 40 percent in labor costs by insourcing – even though the best historical evidence showed no more than a 20 percent savings in the best of cases.<sup>46</sup> A recent study by the Government Accountability Office of DoD insourcing decisions was highly critical of the department's failure to develop cost data that was complete and accurate.<sup>47</sup> Critics of the way DoD conducts business case analyses prior to making an insourcing decision have accused the Pentagon of stacking the deck in favor of the public sector depots and logistics centers by not including all the costs associated with the government workforce.

A study by the Center for Strategic and International Studies brings this problem to light in a remarkably clear and compelling fashion. The study examined the manner in which DoD conducted business case analyses associated with insourcing decisions. It concluded that DoD's approach to making comparisons between public and private sector work was fundamentally flawed because of the Pentagon's inability to accurately account for the costs associated with operations at the organic industrial base. Ultimately, the study suggested that there was no basis for DoD's assertion that it could save money by insourcing. The study makes the point that critics of insourcing, in general, and of the department's methodology for conducting business case analyses, in particular, had been making for almost two years. "If the true cost of the public performance of commercial services cannot be determined, any budget-driven insourcing decision becomes immediately suspect." It then goes on to ask the proverbial \$64,000 question: "How can DoD claim it is saving 40 percent, or 25 percent, or any amount via insourcing private sector positions when it does not know how much the newly insourced function will cost?"<sup>48</sup>

There is evidence that suggests that government-directed business case analyses may be understating the true costs of the public defense industrial facilities. In a recent report, the authoritative Congressional Budget Office (CBO) reported that "overall, the federal government paid 16 percent more in total compensation than it would have if average compensation had been comparable with that in the private sector." For those with a high school education,

the total differential was 36 percent and for the group with bachelor's degrees it was 15 percent. Appropriately, those with advanced degrees – read policy makers – actually received less in salary than their private sector counterparts but made up for it in benefits.<sup>49</sup>

The greatest cost difference was in benefits – health care, retirement and paid vacation. According to the CBO, “average benefits were 46 percent higher for federal employees whose highest level of education was a bachelor's degree than for similar private-sector employees and 72 percent higher for federal employees with no more than a high school education than for their private-sector counterparts.”

Based on this new information, how can the Obama Administration justify its efforts to grow the size of the federal government? Even more important, how can the Department of Defense continue its insourcing activities, giving private sector work to the public defense industrial base? DoD has published its defense priorities and choices document which assumes a \$60 billion savings from greater efficiency. The CBO analysis suggests that insourcing actually makes DoD less efficient.

Most of the work DoD is attempting to insource involves a workforce, albeit skilled, with high school or associate degrees, the group where the cost differential between public and private sector workers is the greatest. Claims by public sector facilities that they are cost competitive versus the private sector now must be considered suspect. Yet, the military services have conducted business case analyses that frequently conclude that the public sector can do the work more cheaply than the private sector. For the Air Force to claim that public facilities are 40 percent cheaper than their private sector counterparts, it must be assumed that the public sector workforce is 76 percent more efficient (40 percent plus 36 percent labor cost premium).

Even the Department of Defense is beginning to recognize the reality that the federal workforce, both civilian and military components, is extremely expensive. A 2010 memorandum by the office of Cost Assessment and Program Evaluation on estimating the full cost of civilian and military manpower noted: “The DoD composite rates, as published by the USD(C)/CFO [*Office of the Undersecretary of Defense (Comptroller)/Chief Financial Officer*], used to calculate manpower costs for program and budget submissions do not account for the full costs of military or DoD civilian personnel. For example, the outlays for compensation costs and for retirement and medical accrual ac-

counts for active duty (AD) military personnel represent only a fraction of total Federal outlays.”<sup>50</sup>

Poor cost data and incomplete analysis make it difficult to conduct credible business case analyses or to accurately assess potential costs and savings associated with decisions to insource or outsource logistics and sustainment work. In view of the growing body of evidence that public sector employees are significantly more expensive than their private sector counterparts, serious savings in labor costs alone could be achieved by expanding the scope of public-private competitions.



^ Construction of Virginia-class nuclear submarine.

## > #6: LIMITED LONG-TERM ACQUISITION AND FUNDING STRATEGIES

The private sector knows how to keep the costs for goods and services low. The keys are: buy in volume, manage production process to avoid excess expenditures, control design changes, avoid large inventories and take advantage of workforce learning. Whether it is successive generations of personal computers or cell phones, automobiles or even transport aircraft, these techniques allow industry to reduce unit costs. Many of these same techniques also contribute to reduced costs across the supply chain.

In too many instances, DoD does not act in ways that enable industry to exploit these well-known practices to produce defense products at lower cost. If anything, the Pentagon does the opposite. It takes decisions that not only nullify efforts by industry to constrain costs but inevitably cause those costs to increase.

This situation is rendered all the more problematic by the changing nature of demand for defense products. Until the 1990s, DoD demand generated large production runs for aircraft, ships, combat vehicles and missiles. By the first decade of the 21st century, the quantity of platforms ordered in each of these categories had declined by between 66 and 95 percent.<sup>51</sup> This is in contrast to the commercial electronics and computer sector which has seen continuing improvements in productivity and reduced unit costs due in large part to continuous and rising demand.

The defense department is not the sole contributor to instability in the defense program resulting in increased costs. Much of the responsibility rests with Congress which at times imposes sudden and even radical changes to program plans and funding profiles, restricts strategic sourcing options, imposes increasingly burdensome reporting and testing requirements or constrains efforts by DoD to increase competition or reduce excess infrastructure.

Despite all these limiting factors, some acquisition programs have been allowed to pursue funding and production strategies similar in character to those employed in the commercial world. As a result, they have been able to reduce costs while even increasing the quantities acquired.

Two contracting strategies that have been employed to reduce costs are multi-year procurements and block buys. A multi-year procurement is a single contract for two to five years' worth of procurement of a given item, without having to exercise any contract options. A block buy is similar in nature to a multi-year procurement but with fewer statutory hurdles to meet. A wide range of acquisition programs have used one or both of these techniques including the Virginia-class nuclear submarine, C-17 and C-130 transport planes, F-22 fighter, Abrams and Bradley vehicle upgrades, DDG-51 destroyer, CH-47 and UH/MH-60 helicopters, V-22 tiltrotor, E-2C surveillance plane, AEHF satellites and the Tactical Tomahawk weapons control system. This may seem like a significant segment of DoD's acquisition portfolio, but, in dollar terms, the value of multi-year procurements, for example, constitutes only about 10 percent of the department's annual acquisition budget.<sup>52</sup>

Both multi-year and block buys offer the prospect of cost reductions. In fact, current law requires that approval of a multi-year procurement must be based on the ability to achieve "substantial savings." Cost savings can be achieved in a number of ways: purchase of parts and materials in economic order quantities; contractor optimization of workforce and facilities use; limits on design changes; use of improved production processes; and reduced contracting

and administrative requirements. Cost savings targets for multi-year procurements have varied from around 5 to 15 percent. In the case of the Virginia-class SSN, the combination of multi-year and block buys that froze technology design resulted in nearly a 20 percent reduction in per unit price. According to one former senior Pentagon acquisition official, simply stabilizing the annual buy of T-45 jet trainers by the Air Force, Navy and Marine Corps through a multi-year procurement would have saved DoD over \$600 million.<sup>53</sup> The Air Force is now implementing a new satellite acquisition strategy based on buying satellites in blocks of two or more, thereby saving money and maintaining the industrial base.<sup>54</sup>

Another, less common, strategy for reducing costs or increasing the quantity of platforms or products purchased is the use of advanced appropriations. An advanced appropriation is one in which funding for the entire procurement cost of a ship would be approved by Congress in a single decision, but the procurement cost of the ship approved in a given year would be divided into several portions, or increments, that would be scored across several budget years starting with the original year of procurement. In essence, Congress commits to full funding of an acquisition program or other activity but only provides part of the funding in any given year until construction is completed. The use of advanced appropriations is common in many government departments other than DoD; the fiscal 2012 Federal Budget included more than \$180 billion in advanced appropriations.<sup>55</sup>

Advanced appropriations by themselves may not directly achieve cost savings. However, by placing major procurements on a predictable path and smoothing out variations in year-to-year funding, they can support industry efforts to more efficiently use its workforce and facilities. Moreover, together with multi-year procurements for platforms that require two or more years to complete, they can achieve substantial cost reductions. Consequently, advanced appropriations could be particularly useful to the Navy in reducing costs of its shipbuilding program or expanding the number of platforms acquired for a given level of resources.<sup>56</sup>

In an era of declining defense budgets, few new starts and the increasing complexity of military technologies, the use of alternative acquisition and funding strategies holds the promise of both saving money and increasing the quantities of platforms and systems that can be procured. The Department of Defense needs to look to a major expansion in the use of multi-year and block buy contracts. Both DoD and Congress need to reexamine the issue of advanced appropriations for selected programs, notably Navy shipbuilding.

## > REDUCING THE HIDDEN TAXES ON DEFENSE

As discussed at the start of this paper, DoD cost assessments exist in a murky world of shifting assumptions, poor cost tracking, competing objectives and unpredictable changes in policy, strategy and budgets. It is not surprising, therefore, that it is difficult even for DoD itself to determine fully and accurately the sources of cost growth in major acquisition programs and sustainment activities. It is also a challenge for the program offices to identify targets for cost reduction efforts or develop a workable strategy. But even when these steps are successfully accomplished, exogenous factors such as a change in quantity of items to be procured, rising costs for labor and materials or new concept of operations can wash out cost reductions.

For these reasons, among others, the tendency in DoD when pursuing cost reductions is to take the easier path of increasing oversight, expanding regulations and tightening contract requirements. Yet, study after study has concluded that there is relatively little in the way of real savings to be achieved via this strategy. Indeed, there are strong reasons to believe that we have reached a point at which the costs imposed on both the government and private sector by increased oversight and regulation actually exceeds the value of any programmatic cost reductions.

Consequently, it is time to consider an alternative or adjunctive strategy for defense savings based on reducing the hidden taxes present throughout DoD's acquisition, logistics and sustainment activities. The preceding discussion suggests that there exists the potential for significant, even dramatic savings from addressing these areas:

- **Reducing the regulatory burden.** Multiple studies over several decades have concluded that the regulatory burden on defense adds between 10 and 20 percent to the cost of programs and activities. Reducing this hidden tax by half could save between \$20 and \$30 billion a year. The RAND Corporation's study of the cost of regulation on the defense budget concluded that at least 3.5 percent of expenditures could be saved. This would result in cost reductions of around \$10 billion a year.
- **Easing barriers to full and fair competition.** The lack of full and fair competition, particularly in logistics and sustainment activities, both limits DoD's ability to reduce its costs of operations and, along with the regulatory hurdles, deters new entrants into the defense marketplace. Experience in expanded public-private competitions demonstrates average cost savings of 31 percent as well as efficiency gains even when the competition is won by a public sector entity. Full and fair competition for the approximately \$200 billion a year

DoD spends on logistics and sustainment could conceivably see cost reductions of 5-15 percent (\$10 - \$30 billion) a year.

- **Modernizing antiquated sustainment policies and procedures.** The use of modern sustainment contracting methods to support sustainment activities has been shown to have a significant impact over time on DoD's costs. Based on past experience, the expanded use of PBL-based contracting, increased use of prime vendors and greater reliance on supply chain integrators could save between \$5 and \$10 billion a year.



^ Efficient supply chains are critical to the U.S. military both to support the warfighter and manage the cost of defense.

- **Creating a 21st Century supply chain.** A highly efficient supply chain results in reduced working capital requirements, improved asset utilization, lower inventories, reduced operating costs, improved on-time delivery, lower order error rates and lower transportation costs. According to a variety of sources, supply chain efficiency measures typically can yield double-digit

savings in the categories identified. Supply chain efficiencies ripple through an enterprise's entire cost structure. Since DoD spends some \$200 billion annually on logistics and sustainment, reforms in this area could readily yield \$5 to \$15 billion in cost reductions.

- **Improving DoD's cost accounting methodologies and practices.** It is of vital importance that DoD and all its components have full, accurate and current data on its costs as well as expenditures. Improved cost tracking and full accounting of costs can save money by allowing acquisition officials to conduct accurate business case analyses and select the most cost-effective contract bids. In conjunction with full and fair competitions, improved cost accounting could result in \$5 to \$10 billion in savings.

- **Making greater use of innovative acquisition and funding strategies.** Long-running procurement programs can benefit from the use of acquisition strategies such as multi-year procurements, block buys and advanced appropriations. Historical experience suggests that these techniques can save between 5 and 10 percent of total acquisition program dollars, or from \$10 to \$20 billion a year.

Taken together, the savings that could be achieved by addressing the hidden costs in the defense program could be between \$45 and \$95 billion a year. Addressing the array of hidden costs in the defense budget could secure sufficient savings to offset the impact of sequestration. Moreover, these savings could be realized without any reduction in the size or capability of the U.S. military.

POTENTIAL COST SAVINGS (PER YEAR)	
Reducing the regulatory burden	\$10 billion
Easing barriers to full and fair competition	\$10 - \$30 billion
Modernizing sustainment policies and procedures	\$5 - \$10 billion
Creating a 21st century supply chain	\$5 - \$15 billion
Improving DoD's cost accounting methodologies and practices	\$5 - \$10 billion
Making greater use of innovative acquisition and funding strategies	\$10 - \$20 billion
<b>Total Estimated Potential Savings</b>	<b>\$45 - \$95 billion</b>

## > GLOSSARY OF TERMS

ALC	Air Logistics Centers	HMMWV	High Mobility Multipurpose Wheeled Vehicle
BBP	Better Buying Power	JSF	Joint Strike Fighter
BCA	Budget Control Act	LATP	Lima Army Tank Plant
CAPE	Cost Assessment and Program Evaluation	MRO	Maintenance, Repair and Overhaul
CBO	Congressional Budget Office	NDAA	National Defense Authorization Act
CPFH	Costs Per Flying Hour	PBL	Performance-Based Logistics
DoD	U.S. Department of Defense	R&D	Research and Development
ERP	Enterprise Resource Planning	TACOM	U.S. Army Tank and Automotive Command
GAO	Government Accountability Office	WSARA	Weapon Systems Acquisition Reform Act
GDP	Gross Domestic Product		
HASC	U.S. House of Representatives Armed Services Committee		

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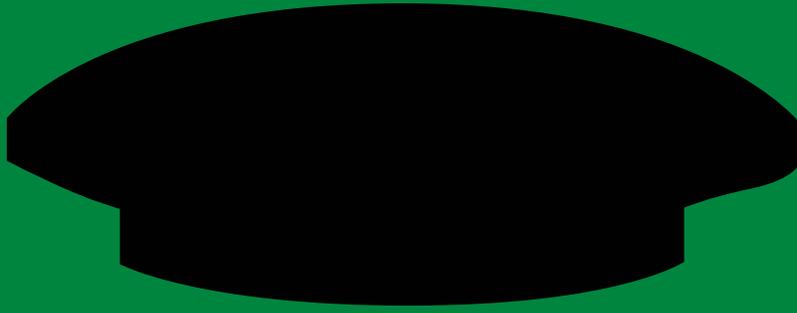
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