

Performance-Based Logistics

A Process Analysis for the Defense Logistics Agency

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July 2015

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Executive Summary

This report examines the history, results, and prospects of the Defense Logistics Agency's (DLA) effective use of Performance-Based Logistics (PBL), in order to improve DLA's use of PBL in its operations. The study team worked with DLA to review data associated with DLA's current and past use of PBL, reviewed the literature on the use of PBL, analyzed Federal Procurement System data from PBL contracts that were performed for other parts of the Department of Defense (DoD) and by international customers utilizing the U.S. foreign military sales process, interviewed PBL practitioners, and discussed PBL practice with oversight groups. The following pages comprise the findings of our work.

Performance-Based Logistics is a common commercial practice, notably used by the airline industry. However, PBL and the broader notion of contracting for outcomes is a relatively recent development in federal and defense acquisition. The DoD's first significant use of PBL began at the end of the 1990s. A major early example is in the DoD's PBL Guidebook: it cites the Total System Performance Responsibility (TSPR) approach to sustaining the F-117 Nighthawk by the Air Force and Lockheed Martin in 1999.¹ PBL received legal and political support in the 2001 Quadrennial Defense Review and the National Defense Authorization Act in Fiscal Year 2001; the former advocated the use of PBLs and modern efficiency measures, and the latter revised the Federal Acquisition Regulations (FAR), utilizing performance-based acquisition as the preferred acquisition strategy for services.

Even as PBL approaches continued to grow in use, the success and effectiveness of PBL contracts were disputed for much of the 2000s. A study conducted by Deloitte Consulting, LLC demonstrated that PBL generally saves the government money and provides superior outcomes for large scale systems support; however, the question of how the DoD can use PBL most effectively is complicated by several factors, including the way maintenance activities are organized and funded.² For this reason, figuring out how to use PBL effectively has been designated a priority in the Department's Better Buying Power initiative. The situation of the Defense Logistics Agency is a case in point. DLA supports maintenance activities of the military services by procuring and distributing consumables, spare parts, and depot level repairables. The nature of DLA's activities does not lend itself to the classic examples of large scale systems-level PBL that are most widely discussed in previous literature. This study, therefore, departed from the case study approach used in previous studies, and instead it applied an approach of rigorous data analysis across many PBL contracts by using public data.

This report addresses how PBL can be used effectively as part of an integrated strategy that complements the Department's organic sustainment capabilities while leveraging private sector expertise in areas such as inventory management, identifying and implementing process efficiencies, and materiel changes to reduce costs. Our findings have been categorized into three areas: a comparison of DLA PBLs to those of the rest of DoD, recommended actions to enhance PBL use based on the challenges faced by DLA and DoD, and the addressable markets for PBLs. Additionally, while there are detailed recommendations in Section 9, this report's three major goals are to enhance trust between DoD and vendors, increase the institutional understanding of PBL strategies and usage in

¹ Department of Defense, "PBL Guidebook: A Guide to Developing Performance-Based Arrangements," (Washington, DC: U.S. Government Printing Office, May 2014), [http://acqnotes.com/Attachments/Performance%20Based%20Logistics%20\(PBL\)%20Guidebook%20-%2027%20May%202014.pdf](http://acqnotes.com/Attachments/Performance%20Based%20Logistics%20(PBL)%20Guidebook%20-%2027%20May%202014.pdf)

² See the discussion of Contracting Regulations for more details.

the Department, and continue to refine policies that govern contract managers' use of PBL. Finally, we note five markets that will respond most favorably when addressed by PBLs: poorly performing programs/systems, sole-source environments, commercially-sourced programs/systems, highly complex programs/systems, and small fleets.

1. Introduction

This overview briefly covers the importance of Performance-Based Logistics (PBL) contracts to the Defense Logistics Agency (DLA). In an austere budget environment, cost saving measures are imperative, and PBLs have been identified, with strong analytical support, as a relevant method to achieve this objective. Under the current round of Better Buying Power reforms, the state of each component's PBL contracting is more prominent.

DoD has pursued Performance-Based Logistics contracts for nearly two decades and achieved both cost reductions and higher availability rates. These practical results were validated by the 2010 Proof Point Study that demonstrated the potential for benefits achieved by increasing effective use of PBLs³. In 2012, Better Buying Power 2.0 called for such an increase. The status of PBLs is regularly examined as part of BBP reviews, which have become more frequent under BBP 3.0. However, DLA PBLs have been largely absent from the review process.

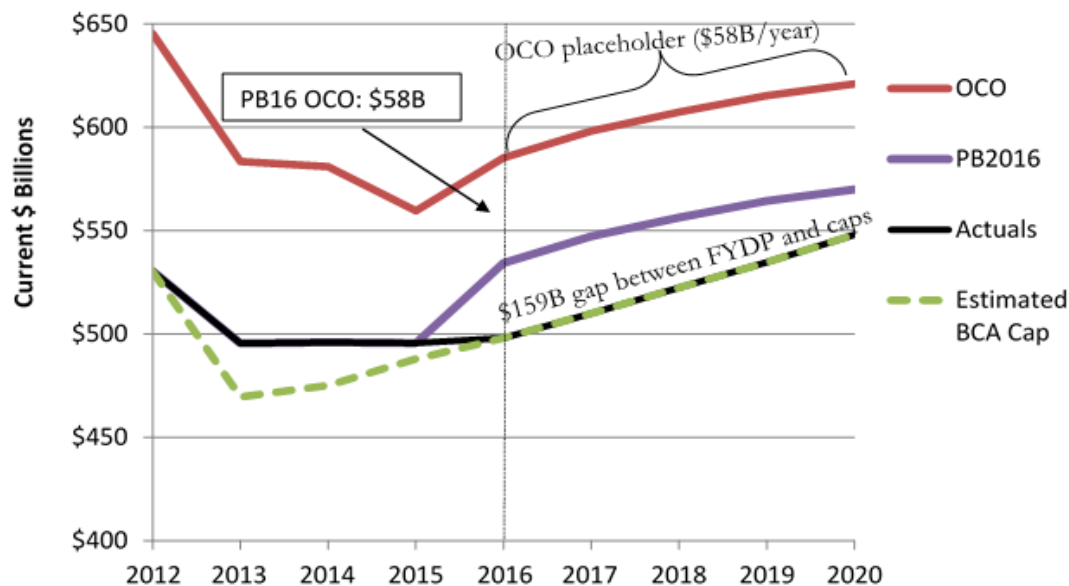
1.1. The Overall Department of Defense (DoD) Budgetary Environment

The Defense Logistics Agency exists inside a much larger budget ecosystem, which has a significant effect on its resources and priorities. In order to contextualize the push for greater use of PBLs, this section summarizes the current pressures in the overall federal budget environment and on the Department of Defense's budget. Collectively, the data in the three figures below show why proven cost-saving measures like PBLs are fundamentally important and will remain so over the coming years.

The Budget Control Act Caps

Today's primary tension in the budget comes from the interaction between budgets requested by the President and budget caps created by the Budget Control Act of 2011 (BCA).

Figure 1-1: The Budget Control Act Caps and the President's 2016 Budget



³ ["Proof Point Project: A Study to Determine the Impact of Performance Based Logistics \(PBL\) on Life Cycle Costs" Report](#) (ODASD (Materiel Readiness), November 30, 2011)

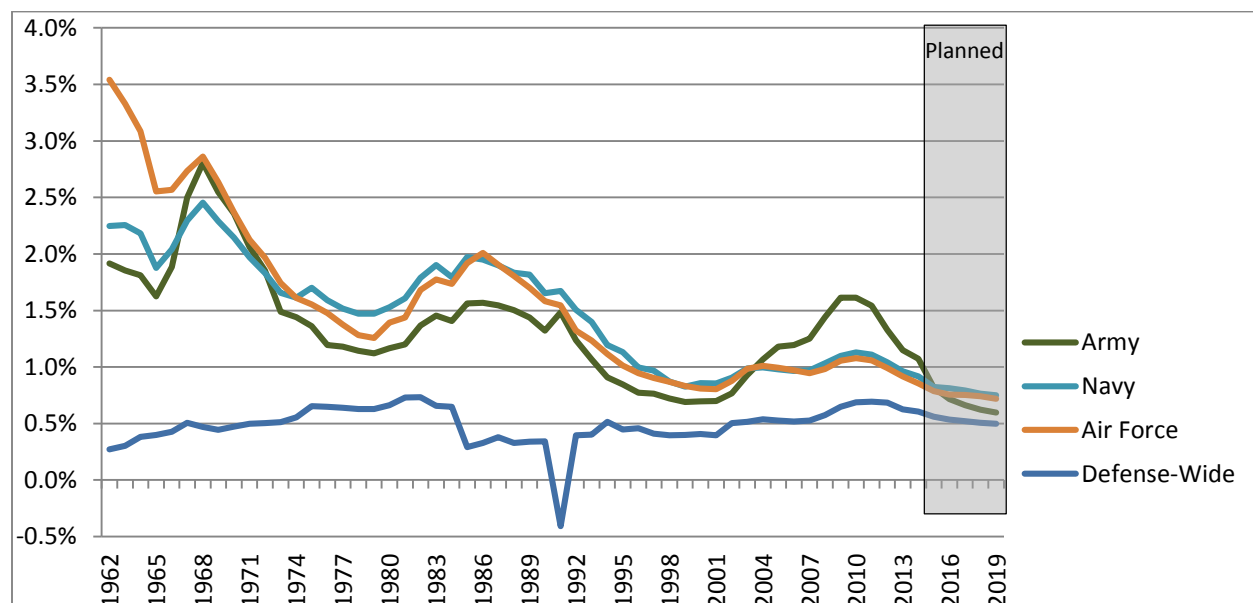
In July 2011, Congress and the administration enacted the BCA as a mechanism to reduce deficits in exchange for raising the debt limit. The Budget Control Act implemented an immediate overall spending reduction of approximately \$1 trillion across the Federal Government. Of those cuts, \$497 billion came from DoD. The second tranche of debt limit increase—\$1.4 trillion—was offset by \$1.2 trillion in automatic cuts over 9 years, mainly to discretionary spending. These budget cuts were enforced through the application of budget caps, split equally between defense and non-defense accounts. These two reductions account for the nearly \$1 trillion cut from the ten-year defense program.

These budget caps, also known as the sequester caps, placed a ceiling on defense spending that DoD, Congress, and the administration are still trying to manage. The red dotted line in the slide above shows the budget caps on defense mandated by the BCA (as amended) in current billions of dollars. In 2013, sequester kicked in, indiscriminately cutting \$31 billion out of the appropriated budget. The Bipartisan Budget Act provided a small amount of relief in 2014 and 2015, flattening the projected decline in defense funds. Despite this relief, in both the 2014 Quadrennial Defense Review and the 2016 budget request, DoD declared unequivocally that the budget caps it was operating under would not support the current military strategy, even if additional risks were accepted in multiple areas.

Larger Trends in Military Spending

Since 1962, spending by the three military departments have generally been tracked with one another, rising and falling together as a percentage of the GDP. Spending by Defense-wide accounts has been steadier, driven by periodic transfers of functions from the Military Departments to defense agencies, including DLA. Typically, these transfers produce increases in Defense-wide costs along with commensurate savings in the Military Departments. Those savings are often forgotten, even as the visibility of the increased costs remain.

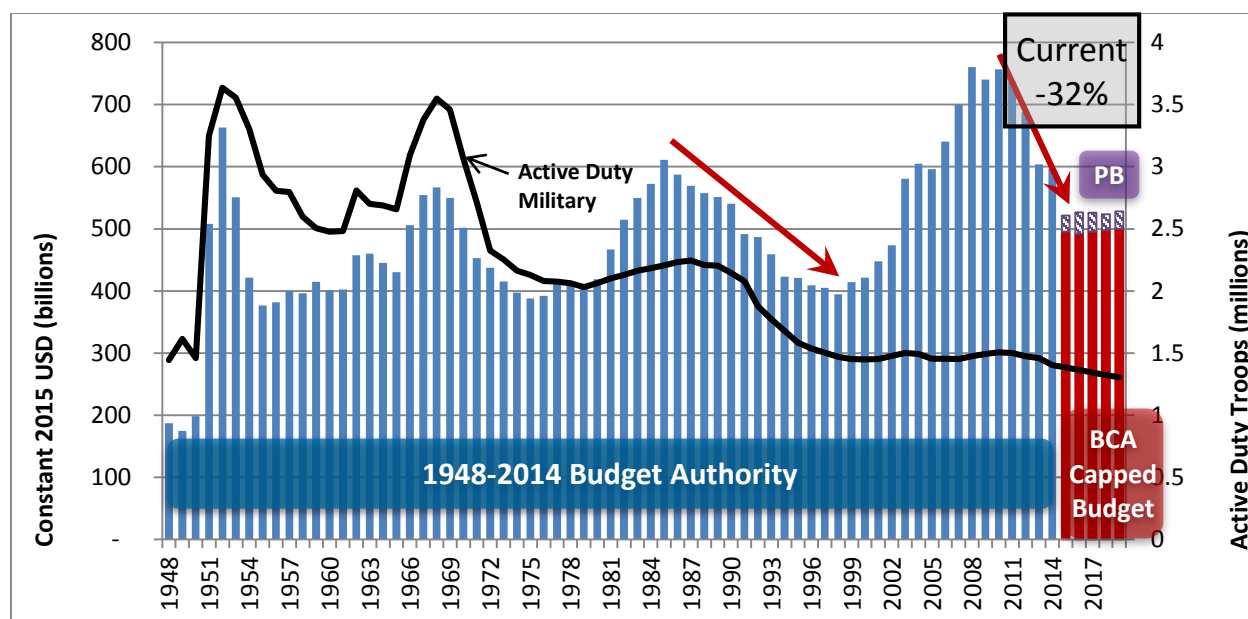
Figure 1-2 - Outlays by Military Departments as % of GDP



Sources: 1962-2012 Office of Management and Budget, *Historical Tables*, July 2014. Available at <http://www.whitehouse.gov/omb/budget/historical>; 2013-2024 Congressional Budget Office, *Updated Budget Projections 2014-2024*, April 2014; and incorporating updates from Congressional Budget Office, *The 2014 Long-Term Budget Outlook*, August 2014; Service data from DoD Greenbook FY2015

DLA trends are generally along the lines of the overall Defense-wide trends. Defense-wide trends have also been hit by the draw down, but in terms of percentages, the projected decline is less steep.⁴ As a proportion of total Defense spending, Defense-wide spending is at record high levels, a trend projected to continue.

Figure 1-3- The Sequester Drawdown in Context



Sources: Department of Defense, *National Defense Budget Estimates for FY 2015 (Green Book)*, Office of the Under Secretary of Defense (Comptroller), March 2014; Pat Towell and Amy Belasco, *Defense: FY14 Authorization and Appropriations*, Congressional Research Service, January 8, 2014. Available at <http://www.fas.org/sgp/crs/natsec/R43323.pdf>.

This chart shows the DoD budget from 1948 to 2019, showing all four drawdowns in defense spending in constant dollars since World War II. The drawdowns following the Korean War, Vietnam War, and Cold War are in line with the current drawdown from the wars in Iraq and Afghanistan when looking at the percent change from peak to trough. However, there are two significant differences between the current drawdown and those that came before. First, each of the previous drawdowns also had a concurrent increase in active duty troop levels (the black line), whereas the current drawdown saw nearly a 90 percent increase in spending with almost no corresponding increase in active duty troop levels. This makes it significantly more difficult to draw down spending, as there is no increase in troops to divest. Second, the trough after previous buildups reliably returned to below \$400 billion (in constant 2015 dollars). In this drawdown, the budget is expected to bottom out around \$500 billion. However, increased internal DoD cost in military pay and benefits and growth in operation and maintenance spending are driving down the purchasing power of the defense dollar. Thus, while the floor of the current drawdown may be \$100 billion higher than previous floors, DoD is not necessarily getting more purchasing power for it.

⁴ Defense-wide outlays includes DLA trends

1.2. Performance-Based Logistics in the Better Buying Power Initiatives

Better Buying Power (BBP) initiatives are, in part, a response to the overall DoD budget environment. The first Better Buying Power was issued in 2010, and version 2.0 was issued in 2012. Under BBP 2.0, the guidance was to “Increase effective use of Performance-Based Logistics.”

This was undertaken by issuing the ASD (L&MR) Guidance memo of November 2013 and the release of the PBL Guidebook in May 2014. The BBP 2.0 Implementation Directive set a requirement for an annual PBL baseline status briefing. In 2014, the baseline status briefing requirement was changed to a quarterly schedule. These briefings did not include any discussion of DLA PBLs through the time of the release of the next iteration of BBP in late 2014.⁵ A continued focus on PBLs is seen in remarks made at the rollout of Better Buying Power 3.0 initiatives in September, 2014 at CSIS, where Under Secretary of Defense for Acquisition, technology and logistics, Frank Kendall, stated:

Increasing effective use of Performance-Based Logistics is a carry-over from [BBP] 2.0. We have made some progress in this. We have gotten out some good guidance to our workforce and we are getting some good training out; however, **we are not improving our performance in this area as much as I would like to see. We are not doing more PBL type contracting.** I think that that is in large part because of the difficult year we had in [Fiscal Year] ‘13. Between sequestration, furloughs, and everything else, the workload on our contracting people in particular was pretty excessive. But it is a harder way to do a contract. It takes a little bit more work than some of the other more straightforward ways, but it gets results. We need to do more of it, so we are going to continue to emphasize PBLs.⁶

Under BBP 3.0, the public statements shifted emphasis to increasing savings and other benefits extracted through PBL contracts, rather than focusing on increasing the number of PBL contracts awarded. This was reflected in a wording change in the BBP summary slides from “increase” PBL contracting to “enhance” PBL contracting. In a statement made on April 9, 2015, Under Secretary Kendall explained that “counting how many PBLs we have is not the right metric. We want to make sure the ones we have are effective.”⁷ His statement highlights that in the current budgetary environment, finding monetary savings through the use of PBL remains a top priority.”

⁵ Expert Interview.

⁶ Statement by Frank Kendall. Better Buying Power 3.0 – A Discussion with Under Secretary Frank Kendall. Center for Strategic and International Studies, Washington, D.C. September 19, 2014. Emphasis Added

⁷ Statement by Frank Kendall. Q&A following Department of Defense Press Briefing on Better Buying Power 3.0. Pentagon Briefing Room. Arlington, VA. April 9, 2015.

2. Current PBL Policies

The true metric of how much is being saved by PBLs, let alone what other benefits have been achieved, has not been available above the program level despite the number of PBLs peaking in the middle of the 2000s.⁸ As a result, the requirements and best practices for the creation of PBL contracts are better understood than the benefits and savings. This section examines the policies influencing the use of Performance-Based Logistics at the Federal, Department of Defense, and Defense Logistics Agency levels. Policy recommendations can be found in the Recommendation and Best Practices section of this paper.

2.1. Definition

The Performance-Based Logistics Guidebook of the Department of Defense defines a PBL contract as follows: “Performance-Based Logistics (synonymous with performance-based product support) achieve outcomes through performance-based arrangements that deliver Warfighter requirements and incentivizes product support providers to reduce costs through innovation.” Instead of defining performance-based logistics contracts, the Federal Acquisition Regulations (FAR) define performance-based acquisition as “an acquisition structured around the results to be achieved as opposed to the manner by which the work is to be performed.”⁹

For the purposes of this study, PBL is defined as an approach to acquiring a combination of goods and services from a contractor that agrees to provide a set of contractually-specified logistical outcomes in return for payment. This payment is calculated according to a negotiated payment schedule where the contractor is incentivized to achieve performance improvements. This definition includes two key elements that distinguish PBLs from other kinds of contracted support approaches. First, that the contracted outcomes are generally understood to be logistical in nature. This distinguishes PBLs from other kinds of performance-based contracts, which may focus on outcomes such as training and are not inherently logistical in nature. Second, a PBL must include at least some element of service such as supply forecasting, inventory control, or engineering support. Without such a service element, it does not provide sufficient scope for the contractor to make meaningful performance improvements. Since the point of entering into a PBL is to improve performance and/or reduce costs, providing the contractor with a scope for performance improvement and tying the contractor’s incentives to achieving those improvements is a critical element of PBL.

2.2. The Proof Point Study and Supporting PBL Tenets

The 2010 “Proof Point” study, chartered by the Assistant Secretary of Defense for Logistics and Materiel Readiness, examined the impact of performance-based arrangements on Life Cycle Costs.¹⁰ The study tested the following hypothesis: “Sustaining materiel via Performance-Based Logistics arrangements delivers improved readiness at reduced life cycle costs.” It examined this hypothesis through a two-tiered approach. The first examined 21 programs to determine the cost per unit of performance. The

⁸ Expert interview

⁹ Department of Defense, “PBL Guidebook: A Guide to Developing Performance-Based Arrangements,” (Washington, DC: U.S. Government Printing Office, May 2014), [http://acqnotes.com/Attachments/Performance%20Based%20Logistics%20\(PBL\)%20Guidebook%20-%2027%20May%202014.pdf](http://acqnotes.com/Attachments/Performance%20Based%20Logistics%20(PBL)%20Guidebook%20-%2027%20May%202014.pdf)

¹⁰ [“Proof Point Project: A Study to Determine the Impact of Performance Based Logistics \(PBL\) on Life Cycle Costs” Report](#) (ODASD (Materiel Readiness), November 30, 2011)

second consisted of a “financial deep dive” and a “statistical deep dive” to assess linkages between PBL strategies and changes in cost.

The analysis of these two tiers demonstrated a positive correlation between strong adherence to the ten PBL “tenets” created by the University of Tennessee and realized cost savings. Thus, the study concluded that PBL arrangements reduce the cost per unit of performance while improving system, subsystem, and component readiness. However, the study also found that in order to be successful, these arrangements require “standard repeatable processes.”¹¹

Figure 2-1 Tenets of PBL Contracting

<u>Tenets Tied to Arrangement</u>	<u>Tenets Tied to Organization</u>
1. Acquire clearly defined Warfighter-relevant outcomes	1. PBL knowledge and resources are maintained for Government team and product support providers
2. Use measurable and management metrics that accurately assess the product support provider’s performance against delivery of targeted Warfighter outcomes	2. Leadership champions effort throughout their organization(s)
3. Provide significant incentives to support provider that are tied to achievement of outcomes	3. Involvement of everyone with vested interests in outcomes
4. Firm Fixed Price (FFP) contracts are generally preferred contract type	4. Supply chain activities aligned to desired PBL outcomes
5. Provide sufficient contract length for product support provider to recoup investments on improved product	5. Risk management is shared between government, customer, and support provider

Source: University of Tennessee as reported by Deloitte

2.3. PBL Policies in Statute and Regulations

Federal law and regulations directly advocate for and seek to advance the use of performance-based acquisition. The 2001 National Defense Authorization Act reformed the FAR to ensure that performance-based acquisition was the preferred method for acquiring services.¹² The language of the FAR not only expresses the preference for performance-based acquisition, it also created an order of precedence for services contracts that placed performance-based contracts and task orders above other methods. FAR 7.105 states, “Acquisition plans for service contracts or orders must describe the strategies for implementing performance-based acquisition methods or must provide rationale for not using those methods.” Similarly, FAR 16.505 (a) (3) states,

¹¹ Ibid.

¹² <http://www.gpo.gov/fdsys/pkg/PLAW-106publ398/html/PLAW-106publ398.htm>

“Performance-based acquisition methods must be used to the maximum extent practicable, if the contract or order is for services.”

More recently, the 2013 NDAA required the composition and maintenance of a guidance document on life-cycle management that maximizes competition and value to the Department of Defense. The legislation also requires a Product Support Manager to oversee the support of major systems. Their responsibilities include developing a support strategy, using predictive analytics to maximize support and reduce costs, ensuring the use of the most cost effective methods, maximizing small business participation, and continually reviewing and ensuring the best methods for support. The law lists PBLs as a type of contract support strategy.

Outside of expressing the support and expectation of performance-based acquisition, federal regulations do little to direct how to craft a performance acquisition. In fact, the entirety of instructions in the FAR regarding the crafting of acquisition agreements is less than 400 words.¹³

DoD policies and regulations, like the FAR, encourage the use of PBL contracts; however, DoD’s resources provide much greater detail on the crafting of a contract. DoD Directive 5000.01 enhances the scope in which contract officers might use performance-based acquisition, beyond just services to include “acquiring and sustaining products and services whenever feasible.”¹⁴ It separately notes that PMs should optimize system availability; best use public and private sector capabilities, including partnerships; and minimize the logistics footprint through PBL strategies.¹⁵ DoD Directive 5000.02 Enclosure 6 similarly strengthened the instructions to use PBLs by specifying the use of PBL contracts in relation to the 2013 NDAA. When the 2013 NDAA, specifically section 2337 of Title 10 of the U.S. Code, stated that the product support manager is responsible for selecting a product support arrangement that will efficiently support systems, it listed PBL contracts as one of five support strategies. DoD 5000.02 specifies that PMs should “employ effective performance-based logistics (PBL) planning, development, implementation, and management in developing a system’s product support arrangements,”¹⁶ thus strengthening instructions for its use. In addition to the DoD Directives, the Better Buying Power initiative, now in its third iteration, has called for increased and effective use of performance-based logistics.¹⁷

This guidance was slightly altered to “Enhance effective use of Performance-Based Logistics” for the formal April 19, 2015 release of BBP 3.0. During the question and answer period, Mr. Kendall clarified that he made the change because “counting PBLs is not the right metric, we want to make sure the ones we have are effective.” Instead, BBP 3.0 guidance states, “ASD(L&MR) will continue to work with the Services and other DoD Components to develop common ways to measure PBL effectiveness, including benefits and savings, and to use those measures to track results. Results of this effort will be reported to Under Secretary of Defense for Acquisition, Technology, and Logistics, (USD(AT&L)) and the [Business Senior Integration Group] on a quarterly basis.”¹⁸ In addition to stressing the enhanced use of PBL contracts, DoD provides guidance to PMs at a detailed level. The primary text in this regard is the PBL Guidebook, published in May 2014 and scheduled to be updated by October 2015. The guidebook provides detailed instructions, including a business case example, on how to work through the twelve steps needed to successfully implement a PBL contract while remaining compliant with DoD and Federal regulations. There are other examples of DoD guidance resources, which include a tool to analyze a

¹³ Word count of FAR 37.6. Section 32.10 does provide details on how to manage performance-based payments, but not how to craft a contract.

¹⁴ <http://www.dtic.mil/whs/directives/corres/pdf/500001p.pdf> pg. 7

¹⁵ Ibid., 7.

¹⁶ DoD 5000.02 pg. 113

¹⁷ <http://bbp.dau.mil/bbp3focus.html>

¹⁸ Kendall, Frank “Implementation Directive for Better Buying Power 30.0 – Achieving Dominant Capabilities through Technical Excellence and Innovation” April 9, 2015, pg. 9.

performance-based payment schedule provided in the Defense Federal Acquisition Regulation Supplement (DFAR), two classroom courses and ten distance learning and online courses at DAU, and a “a dedicated team of skilled PBL experts to assist and train the Components’ program offices and sustainment organizations in developing and managing PBL arrangements.”¹⁹

2.4. DLA PBL Policies

DLA’s historic policy approach to PBLs took the form of a supporting role for the PBL contracts of the other military services. More recently, DLA has begun to seek out a more direct, involved approach to creating and overseeing PBL contracts.

Defense Logistics Agency Instruction 1105, “Engagement Strategy for Performance-Based Logistics,” outlines the agency’s focus on “supporting PMs for weapon systems and troop support systems in their development and implementation of Total Life Cycle System Management product support strategies and PBL plans.”²⁰ The instructions go on to detail which lead supply chains should lead activities related to which type of system, how to engage contractors and PMs, and how to manage inventory. An underlying implication of these instructions is that DLA personnel are inherently in a support role.

The Defense Logistics Acquisition Directive (DLAD), does not counteract this underlying implication. Instead, throughout the 1112-page directive PBLs are only mentioned three times outside of definitions. The document outlines both the clearance level required to sign off on a PBL contract and a contract value benchmark, at which point certain individuals require notification.²¹

While these policy documents do not inherently indicate an active role in PBL contracting, more recent presentations of DLA personnel, available online, demonstrate an increased role in the PBL process. DLA’s own “DLA Approach” to PBLs demonstrates an enhanced conception of the role that the agency can play in contracting, unifying redundant contracts under one centralized agreement.²² A review of this strategy and recommendations are available in the Recommendations and Best Practices section.

2.5. Interview Analysis

To aid and inform our data analysis, the study team also conducted numerous interviews with PBL experts from both industry and government. The study team developed an interview list using early iterations of the PBL contract list and direct engagement with experts, including those in the first rounds of interviews, to determine the names of the vendors or major contracting commands involved. Industry experts worked for Boeing, General Electric, Lockheed Martin, Northrop Grumman, Raytheon, Rolls Royce, and United Technologies Corporation. Government experts ranged from contracting officers at major contracting commands to ground level program officers. We spoke with these individuals with the condition of general anonymity, meaning no specific programs or individuals would be listed in our report. This was intended to ensure the most candid, complete responses. In addition to informing the study team’s identification and analysis of PBL contracts, the interview process informed the study team’s understanding of PBL strategies.

¹⁹ Ibid, pg. 8.

²⁰ <http://www.dla.mil/issuances/Documents/i1105.pdf>

²¹ <http://www.dla.mil/acquisition/pages/dlad.aspx>

²² http://www.acq.osd.mil/log/mr/psm/June_2012/13_June6_DLA_PSM_Conf_PBL_Presentation_Spicer.pdf

3. Strategies for Employing PBL

The study team researched the strategies for PBL usage adopted by DLA, by various other DoD components, and by other governments. The team established that PBLs have been used in all of these areas, with strategies for PBL usage tailored to the needs of the customer. For example, some international customers have limited or non-existent organic logistics systems. For these customers, the PBL arrangement will necessarily tend to involve extensive contractor sustainment support at the system level and may include additional non-logistical elements, such as training.²³ On the other hand, DLA, as previously discussed, is not responsible for system-level sustainment as part of its mission; rather, the DLA sustainment mission supports services by managing and providing consumables, parts, and spare depot-level repairables. As a result, DLA's PBL usage focuses on supporting the level of the supply chain involving the provision and management of these items, from the simplest, such as clamps and fasteners, to the truly complex, such as helicopter rotor blades.

Each PBL customer brings not only the specific, and potentially unique, outcomes it is seeking, but also very particular requirements associated with its organic systems that the PBL arrangement will support. When developing a strategy for PBL employment, it is critical to tailor the PBL approach to best leverage the strengths of both the customer's and the contractor's systems while simultaneously aligning the interests of both sides. When interests are properly aligned, the contractor obtains its greatest rewards when the customer obtains the most favorable outcomes.

Partnership

At its core, a PBL contract establishes a partnership between the customer and the contractor to achieve contractually specified outcomes. Embedded in the nature of a PBL relationship is the need to change. Just setting up the PBL arrangement in an initial operating state involves significant change in the customer's processes; however, change is also a constant throughout the arrangement. Without change, there is no possibility for meaningful performance improvement. The study team was briefed by PBL vendors on a number of potential and demonstrated avenues for performance improvement under a PBL arrangement, including better inventory forecasting and control, improving distribution processes, investing in tooling to make maintenance work more efficient, making process improvements to reduce manpower, and investing in materiel changes to replace or improve workload-inducing parts. None of these avenues can be effectively pursued, however, unless the customer and the contractor have a strong partnership. Each avenue for improvement is likely to involve action on the customer's side as well. Only if the PBL arrangement fosters a strong partnership is the full effectiveness of the arrangement likely to be realized.

PBL Contract Length

The effectiveness of the PBL construct requires a contract long enough to plan for and make investments and process changes, as well as the time to realize results from these investments and changes. Without a contract term long enough to realize the benefits of various changes, the contractor has no incentive to invest in them. For this reason, PBL is most effective when there is significant opportunity and need for changes to improve performance and/or reduce costs. Likewise, a longer-term PBL contract can provide significant incentives for improvement to a contractor who faces little to no practical outside competition for the work. These situations arise in many areas, as is discussed later in this report. Establishing the right contract length for achieving a customer's performance improvement objectives is a key element of an effective PBL strategy.

²³ Adding non-logistical elements such as training expands the contract beyond the concept of what is a PBL as defined in this study

PBL Contract Scope

When maximizing the strengths of both parties in a contract, the scope of the contracted activity is a determining factor. One of the DLA contracts that the study team researched was the Industrial Product-Support Vendor (IPV) contract, which provides parts management product support to three Air Force Air Logistics Centers. The IPV contract was notable for its relatively narrow scope. The task under this contract was to accomplish a defined bin fill rate for a wide variety of parts at each air logistics center. However, the nature of the bin system meant that the contractor was only able to gather indirect information about actual part usage, as bin fill rates do not necessarily indicate the time or the rate at which parts are actually used. This dynamic limits the contractor's ability to forecast and manage inventory. In its early iterations, this contract also didn't address potential duplications between DLA's organic supply chain activities and those of the contractor. These issues have been and continue to be addressed by DLA and the Air Force by clarifying requirements for the usage of the DLA supply system and considering "point-of-sale" parts tracking;; however, they illustrate the criticality of correctly assigning responsibilities between government and contractor, and therefore of defining the contract scope. In general, the study team found that contractors uniformly state that the greater the scope of work they have in a contract, the more opportunities they have to achieve efficiencies and savings, and thereby earn profit. At the same time, the contract scope must complement the customer's organic systems. It would not make sense to assign a scope to contractors that duplicates the core functions of the customer's organic systems, which the customer must maintain for other reasons.

PBL Incentives

When considering strategies for the effective use of PBL, it is important to consider the range of incentives that these contracts provide and how they can be used to align the interests of the customer and the contractor. There are at least two primary incentives that exist in any PBL contract. The first is contract scope. PBL contracts generally pay a fixed price for a contractually specified outcome. As a result, the contractor earns greater profit if it can provide the required outcome at lower cost. Depending on the structure of the contract, these savings may entirely benefit the contractor (e.g. under a Firm-Fixed Price contract), or may be shared with the government customer (e.g. under a Fixed-Price Incentive contract). In a PBL arrangement, contract scope acts as an incentive to the contractor in two ways. A greater scope provides the contractor with increased revenue, always an important incentive for the contractor's finances, but it also determines how much opportunity the contractor has to achieve profit. The greater the contractor's scope of activity, the more profit-generating efficiencies the contractor can endeavor to achieve.

The second incentive is an appropriate length of the contract and opportunities to extend the PBL arrangement. The study team learned that certain international PBL customers use extensions, and the reward of option years of the PBL contract as an incentive for achieving superior performance (making the decision well in advance of the contract's scheduled expiration). The study team believes this is a best practice in many situations, not only for the incentive provided thereby, but also in the event that a contract performance is assessed as not satisfactory or marginal and options or an extension is not awarded. When this occurs, it provides the customer with the time needed to plan for an alternate acquisition approach before the contract expires. Although PBL arrangements may often exist in situations where a return to 100% organic support is not feasible, the government always has the option to move to non-PBL arrangements, making the threat of PBL termination real in almost all cases. In addition, due to DoD's extensive organic sustainment capabilities, the possibility of termination is rarely out of the question, and the incentive provided by the potential to earn a contract extension is commensurately powerful.

3.1. PBL Challenges

There are numerous challenges facing DoD's enhanced use of PBLs. We break the challenges into three categories: Trust, Education, and Regulations.

Trust

The first challenge to the enhanced use of PBLs is a lack of understanding and trust in the relationships between those trying to create PBL contracts. In many interviews with members of industry and government, the study team came across examples of frustration and distrust.

The industry's distrust grew from frustrations with the contracting process and the budgetary environment. Many vendors cited short-term contracts as a point of concern because they feared that funding would not be available during the consideration of an extension. Additionally, vendors cite contracting personnel turnover as a point of distrust, as they could switch from working with an officer that favors PBLs to an officer that doesn't favor PBLs while in the midst of a contract or an extension.

The government seemed wary of industry because of its pursuit of undue profits, and, at times, it questioned the sincerity of the industry's commitment to cost reductions. Talking with those in government from varying levels, many didn't distrust industry's intentions, but the specter of congressional investigations seemed to loom over the prospect of allowing a PBL that would give undue profits to vendors. Additionally, in one discussion, an officer with experience of managing a PBL felt that the organic PBLs (OPBL) they used had better results than when industry was doing the same work; however, it was impossible to transfer funds to the organic workers in a manner that made OPBLs feasible. The study team also heard anecdotes about both sides refusing to share data due to distrust. A lack of data makes creating a contract this complex impossible, and negotiations for these projects collapsed in the cases in which these anecdotes occurred.

There also seemed to be examples of distrust of the government system itself. One government officer noted that in 2010, contracting officers lost their ability to engage in "alpha contracting." This type of contracting allowed for rapid contract development, as contracting officers and contractors could meet and hash out the details of a contract in person. The removal of this ability not only implied a distrust in the contracting officer's ability, it also inhibited open communication between the contracting officer and the contractor, which enhanced opportunities for distrust.

Education

DoD faces a challenge in creating the needed institutional wisdom or PBL education in the workforce to help enhance the use of PBLs. PBL contracts are more complicated than traditional contracts because they require a contracting officer to develop incentive structures to drive contractor behavior, instead of selecting an item to purchase. When the complexity of the agreement is coupled with operating in the current declining budget and contracting environment, finding the time and courage to attempt a new type of contract is difficult for a contracting officer. Institutional knowledge and familiarity would help officers produce successful contracts more frequently. NAVSUP WSS serves as an example of the benefits of institutional experience. This contracting center was noted by the industry for having a strong institutional knowledge of PBLs, and it received 13 of the 27 PBL Awards during the 2005-2013 period.²⁴

Conversely, another interview with a government officer noted that when asked to set up a PBL for a contract, the team responsible for overseeing the system support was given two days of training on how to execute a PBL contract. While any amount of training is helpful, the study team argues that practical experience and deeper education would elicit better results for PBLs.

²⁴ "Supporting Naval Aviation through Performance Based Logistics." *The Naval Aviation Enterprise Air Plan*, 32, September 2013. <http://www.public.navy.mil/airfor/nae/Air%20Plan/Sep13%20Air%20Plan.pdf>

Regulations

The study team heard from several interviewees about regulatory hurdles that constrain PBL implementation including issues associated with the color of money and length of contract. These challenges are linked, as the color of money or type of funding allotted for PBL contracting was understood to make contracting officials reluctant to enter into longer contracts. Many interviewees noted the benefits of using working capital fund dollars instead of operations and maintenance (O&M) dollars, as the former appeared to allow for longer, more flexible contracting. The latter, conversely, resulted in contracting officers offering one year contracts with multiple one year extensions, although the recommended best practice for a robust PBL is a contract five years in length.²⁵

The CSIS study team reviewed the laws and regulations surrounding the color of money issue and did not find an inherent one year limit for contracts funded using O&M funds. Instead, the team found that contracting officers' perception of restrictions on O&M funds may be causing them to depart from PBL best practices.

²⁵ <https://acc.dau.mil/adl/en-US/550412/file/68356/Learning%20Asset%20PBL%20Tenets%20Guidebook%20Second%20Edition%20June%202012%20Final.pdf>

4. High Leverage Areas of Opportunity for PBL

In discussions with PBL experts and practitioners inside government and within the supporting vendor base, CSIS sought to gain an understanding of the potential addressable market for PBLs in the form of two questions: where could PBLs be used that they are not being used today? And what areas are best suited for PBLs? The interviewees raised a number of potential areas in which PBLs could, or should, be used, but there were five that were either mentioned repeatedly, or were logical outgrowths of the discussions that CSIS had with the various experts and practitioners:

- Poorly performing programs/systems
- Sole-source environments
- Commercially-sourced programs/systems
- Highly complex programs/systems
- Small fleets

Poorly Performing Programs/Systems

Many of the vendor interviewees for this study suggested that programs or systems that were performing poorly, on any combination of measures of reliability, availability, or cost, were ideal targets for use of PBLs. Because of the poor performance, attachment to the status quo would potentially be less than normal, which would help to overcome institutional and cultural skepticism of PBLs. That lack of attachment to the status quo could potentially also give vendors more leeway to propose significant changes in order to improve availability/reliability and cut costs. And poorly performing programs/systems would have the greatest potential for cost savings and readiness improvements, which could serve as exemplars for the potential of PBLs to provide those benefits.

Sole-Source Environments

A major focus of Secretary Kendall's efforts to promote competition under Better Buying Power has been to find a way to gain the benefits of competition even in uncompetitive environments. With so many of DoD's biggest programs operating in sole-source environments (either due to a limited industrial base on the development end or data rights issues on the production/sustainment end,) finding ways to nonetheless gain the benefits of competition is critical for DoD to reduce costs and improve performance. PBLs may be one method to simulate the benefits of competition in sole-source environments.

Used properly, PBL contracts provide powerful incentives to vendors to provide the exact outcomes envisioned from a well-executed competition: reduced costs and improved performance. Though other incentive-based contract types can work toward those same ends, numerous interviewees from multiple perspectives told CSIS that PBLs not only provide powerful incentives, but also powerful tools (in the form of freedom to make long-term investments and innovate, the latter emphasized primarily by vendor interviewees) towards reducing costs and improving performance. In this way, PBLs can provide some of the benefits expected from competition even in a sole-source environment.

Commercially-Sourced Programs/Systems

Another area where interviewees believed that PBLs could be used effectively was with programs or systems that were commercially-sourced, either in whole or adapted from an existing commercial platform/system. In either case, a PBL would be desirable because it would take advantage of existing supply chains and sustainment expertise from the commercial sector, rather than trying to "reinvent the wheel" and build from scratch. Commercially-sourced programs and systems would also likely have more robust cost and maintenance data available, which could help provide a more robust understanding between DoD and the vendor on realistic cost and performance metrics.

Especially given the current policy push towards innovation and leveraging innovative technologies to incorporate into DoD systems where the Department may control little to none of the intellectual property required for key aspects of sustainment of the technology, PBL can be a strategy for sustaining subsystems and components that are not easily supported by organic DoD systems.

Highly Complex Programs/Systems

Several interviewees brought up the possibility of highly complex programs and systems as ideal targets for future PBLs. The vendor experts that CSIS spoke to believed that PBLs could be particularly effective in areas where DoD is at a structural disadvantage in recruiting and retaining the skillsets needed to achieve the desired cost and performance in sustainment, such as in IT systems and software development. While DoD needs to have some organic capability in these domains, it is challenging for the government to build and maintain a workforce capable of taking primary responsibility for the sorts of highly complex IT and software infrastructure that operates many modern platforms and systems. If sustainment of these highly complex programs and systems is to be contracted out, then a PBL may make sense as a way to incentivize better cost and performance, especially given that traditional contract structures have not proven successful in controlling costs and incentivizing performance in many DoD IT contracts.

Small Fleets

Smaller fleets (whether platforms, systems, or subsystems) represent another area that may be ripe for use of PBLs. By the nature of the way that the organic DoD sustainment infrastructure is set up, the largest programs (with the largest fleets, and thus the largest workloads) are inevitably going to be the primary drivers of how that infrastructure is set up and decision on resource allocation. Smaller fleets are often thus left to work within a system set up for these larger fleets, because allocation of limited resources often will not allow for specialized adaptations for smaller fleets that represent a relatively minor share of overall workload. A PBL could solve this problem, by shifting the burden on to a vendor and letting them make investments in order to develop a sustainment infrastructure that reflects the particular needs of a small fleet.

Smaller fleets are also subject to the “small fleet, high demand” issue, which is well suited for a PBL environment. Numerous vendors have reported instances where they were able to achieve extremely high levels of reliability and availability on PBL-based sustainment contracts, only to have the government argue that they do not need availability levels that high, and didn’t want to pay for levels that high. By comparison, vendors reported that for small fleets, availability/reliability targets are often very high, simply because there isn’t much excess capacity. PBLs, which incentivize vendors to find ways to achieve high levels of reliability/availability, can thus be well suited for “small fleet, high demand” environments.

The next section of this report will examine how PBL contracts are being used by both DLA and other DoD components before moving to an examination of how PBL can be used more effectively.

5. Methodology and Data Sources

Information for this study was gathered through two avenues: interviews with experts on Performance-Based Logistics from both industry and government, and an analysis of data on PBL contracts from the Federal Procurement Data System (FPDS). The study team chose this mix of qualitative and quantitative methods because of the groundbreaking nature of this work. Many characteristics relevant to the implementation and outcomes of PBL contracting are not collected in FPDS or any other centralized source. During the first, exclusively DLA focused, stage of this study, that problem could be addressed by working directly with the three relevant DLA contracting branches. However, as the focus of the study expanded, earning cooperation from vendors and government officials outside the DLA's authority, interviews became critical to the study team's understanding of PBL literature and in giving insight into where and how FPDS could be brought to bear. Details regarding the Defense-Industrial Initiatives Group's (DIIG) general processing of the data and the methods for each respective track are below.

5.1. Initial Look at DLA Contracts

The first phase of this project was conducted by reaching out to the three branches of DLA most directly involved with performance-based contracting. The initial survey resulted in a short list of DLA PBL-like contracts, although not all of those contracts would appear on the official PBL list later. Nonetheless, they all adhere to some of the tenets of PBL contracting and gave further insight into the discussions of boundaries and definitions contained within this report.

5.2. Creation of the PBL Contract List

A major effort of the second phase of this study was the compilation of a comprehensive list of PBL contracts; however, upon searching FPDS, the study team was unable to replicate the PBL list received from DLA branches in its initial attempt. This first round of independently generating PBL lists was reliant on the description section of each contract transaction; thus, the study team's ability to identify PBL contracts depended on whether or not contracting officers included a detailed description or, in some cases, any description at all.

As the direct text search proved incomplete, the study team pursued other avenues to find contracts for both DLA and the other DoD components, such as requesting data from government and corporate sources, searching through all DoD Contract announcements on www.defense.gov/contracts, searching PBL contracts as listed on the web service govini.com, and searching all contracts described as PBL in FPDS for non-DLA components. Each method produced a list of PBL contracts with varying degrees of overlap. The results found through govini.com contained 22 unique contract IDs, and searching through FPDS contract descriptions resulted in roughly 100 contract IDs for non-DLA components. The most successful government outreach effort resulted in an official PBL list for all of DoD. The PBL Office at the Assistant Secretary of Defense for Logistics and Materiel Readiness (ASD (LM&R)) provided a DoD-wide list of active PBL contracts for the other components. Searching through DoD Contract announcements provided a list of over 100 PBL contract actions, including one PBL contract of DLA's.

With these data, the study team is confident in its ability to analyze a dataset that is or very closely matches the universe of active PBL contracts. The greatest limitation of this approach is that the robust official government list exclusively contains PBL contracts that were still active in 2014. As a result, obligations to contracts within the study population are highest in recent years and notably lower during the middle of last decade, which vendor interviews identified as a prior high water mark for PBL contracting. The study team acknowledges the gap but believes that the gap primarily affects a study of changes over time in PBL contracting, particularly in absolute dollar terms. Instead, the analysis compares the different characteristics and spending of DLA and other DoD component PBL contracts over the same sample time period.

5.3. Data on Defense Contracting from FPDS

After identifying the PBL contract list, the study team analyzed the population using approaches to the data developed in prior studies. For nearly a decade, DIIG has issued a series of analytical reports on federal contract spending for national security across the government. These reports are built on FPDS data downloaded in bulk from [USAspending.gov](https://www.usaspending.gov). DIIG now maintains its own database of federal spending, including years 1990-2014, that is a combination of data download from FPDS and legacy DD350 data. For this report however, the study team only analyzed Fiscal Years (FY) 2000-2014, as data before FY 2000 requires mixing sources and is thus less reliable. Descriptions of our unique methods for handling the data are contained within Appendix B.

Inherent Restrictions of FPDS

Since the analysis presented in this report relies extensively on FPDS data, it incurs four notable restrictions.

First, contracts awarded as part of overseas contingency operations are not separately classified in FPDS. As a result, the study team does not distinguish between contracts funded by base budgets and those funded by supplemental appropriations.

Second, FPDS includes only prime contracts, and the separate subcontract database has historically been radically incomplete, accounting for less than half of the expected obligations. Therefore, only prime contract data are included in this report.

Third, reporting regulations require that only unclassified contracts be included in FPDS. We interpret this to mean that few, if any, classified contracts are in the database. For DoD, this omits a substantial amount of total contract spending, perhaps as much as 10 percent. Such omissions are probably most noticeable in R&D contracts and therefore are likely not a significant concern for this study.

Finally, classifications of contracts differ between FPDS and individual vendors. For example, some contracts that a vendor may consider as services are labeled as products in FPDS and vice versa. This may cause some discrepancies between vendors' reports and those of the federal government.

Constant Dollars and Fiscal Years

All dollar amounts in this data analysis section are reported as constant FY 2014 dollars unless specifically noted otherwise. Dollar amounts for all years are deflated by the implicit GDP deflator calculated by the U.S. Bureau of Economic Analysis, with FY 2013 as the base year, allowing the CSIS team to more accurately compare and analyze changes in spending across time. Similarly, all compound annual growth values and percentage growth comparisons are based on constant dollars and thus adjusted for inflation.

Due to the native format of FPDS and the ease of comparison with government databases, all references to years conform to the federal fiscal year. FY 2014, the most recent complete year in the database, spans from October 1, 2013 to September 30, 2014.

6. DLA Recent Track Record with Performance-Based Logistics Contracts

This section analyzes past and current DLA contracts identified by DLA branches in response to an official data call. These contracts are not necessarily official PBLs but they do align with criteria set forth in the PBL Guidebook. This section is focused exclusively on contracts that the study team was informed of by a series of interviews with DLA personnel. Possible PBL contracts later identified within FPDS do not have the level of detail on PBL arrangements or performance needed to support this analysis. By that criteria, there are seven contracts. Because a number of them are on the same task/platform or are specifically follow-ons to others, this analysis will divide the contracts into three groups:

- Customer Pay (CP)/Integrated Logistics Partnership (ILP)
- Tire Privatization Initiative 1 (TPI 1)/Tire Privatization Initiative 2 (TPI 2)/Tire Successor Initiative (TSI)
- Hub & Blade, Supplycore Inc./Hub & Blade, Hamilton Sundstrand

All of the identified DLA PBL contracts were awarded under either Firm Fixed Price or Firm Fixed Price with Economic Price Adjustments contract types, and all were awarded under Indefinite Delivery Contract (IDC), Indefinite Quantity Contract (IQC), or Indefinite Delivery/Indefinite Quantity (IDIQ) contract vehicles. All seven were primary supply contracts, rather than service contracts or a combination of the two. CPI/ILP were awarded on a sole source basis, and while parts of the two Hub & Blade contracts were awarded competitively, the PBL portions were awarded on a sole source basis. By contrast, TPI 1/TPI 2/TSI were awarded after full and open competition.

The following sections discuss the adherence of DLA PBL contracts to policy guidelines as well as the performance of these contracts. For more detailed descriptions of the size and scope of the contracts, which has been updated since the first deliverable with new information from FPDS.

Customer Pay/Integrated Logistics Partnership

ILP and its predecessor, CP, were both supply-based DLA PBL contracts for management, storage, and delivery of inventory for HMMWV (Humvee) repair and recapitalization (RECAP). The vendor, AM General, LLC, acted as an integrator for DLA, Army, and contractor inventory. AM General, LLC controlled delivery to multiple depot production lines, integrating purchasing for both the Army and USMC.

These two contracts were largely seen as successful in achieving cost savings and desired availability. Under the PBL, the problem of HMMWVs coming off of the production line unfinished, due to unavailable parts, was virtually eliminated, saving over \$75 million. Better inventory management resulted in a 76 percent reduction in Army-owned RECAP inventory, saving over \$86 million, and overall RECAP costs were reduced by between 7 and 9 percent. Overall material availability exceeded 99 percent for each depot work station.

While the contracts were, on the whole, a net benefit, the Army and USMC accrued many of the benefits, while DLA shouldered many of the costs. The experience of CP/ILP shows that better inventory tracking within DLA, specifically to ensure existing stocks are utilized before additional parts are ordered, is necessary to achieve greater savings within DLA. Also, the metrics for these contracts, as befits a supply-centric contract, were focused on cost and availability, but there was no true element measuring Humvee performance – the contract could measure whether the Humvees were being repaired and recapitalized faster and more cheaply, but not whether the repairs and recapitalization were being done “better.”

[Tire Privatization Initiative 1/Tire Privatization Initiative 2/Tire Successor Initiative](#)

TPI 1 and 2, and their successor, TSI, are supply-based DLA PBL contracts that call for the contractor (Michelin for TPI 1 and 2, SAIC for TSI) to act as an integrator to procure, store, and distribute tires for nearly all U.S. ground vehicle and aircraft.

TPI 1 and 2 achieved an estimated savings of \$173 million over the life of the two contracts, and they consistently met performance requirements. These efforts were critiqued, however, because an OEM served as the prime contractor and supply chain integrator for most of DoD's tires and made sourcing decisions when multiple manufacturers' tires were approved for use. This gave rise to a perception of favoritism by other manufacturers.

TSI split the procurement and logistics portions of the contract: multiple long-term contracts were signed with tire suppliers, who were selected by the government, and a single long-term contract was signed with a logistics provider (SAIC), authorized to administer the government tire contracts under FAR Part 51. This revised structure was designed to address the conflict of interest concerns described above, as well as increase pricing transparency. Additionally, based on lessons learned from TPI 1 and 2, TSI was designed to add more flexible contract support for forward stocking capability for Combatant Command customers that can be scaled based on global events. These and other changes between TPI and TSI are estimated to save in excess of \$22 million.

[Hub & Blade, Supplycore Inc./Hub & Blade, Hamilton Sundstrand](#)

The two Hub & Blade contracts, to two different contractors, are DLA PBL contracts for customer direct/storefront operations for Warner Robbins Air Base, with the goal of correcting significant support challenges, as well as DLA direct support for worldwide customers. Both of these contracts started in June 2014, and CSIS does not have enough data to begin evaluating the performance and lessons learned at this time.

The major change resulting from this effort is a move from DLA stocking to contractor stocking. As with the other supply-based DLA PBL contracts, the metrics in the Hub& Blade contracts focus on price and ordering speed, with no metric focusing on the performance of the parts or the systems they go into.

7. Performance-Based Logistics Contracts Analysis Across DoD

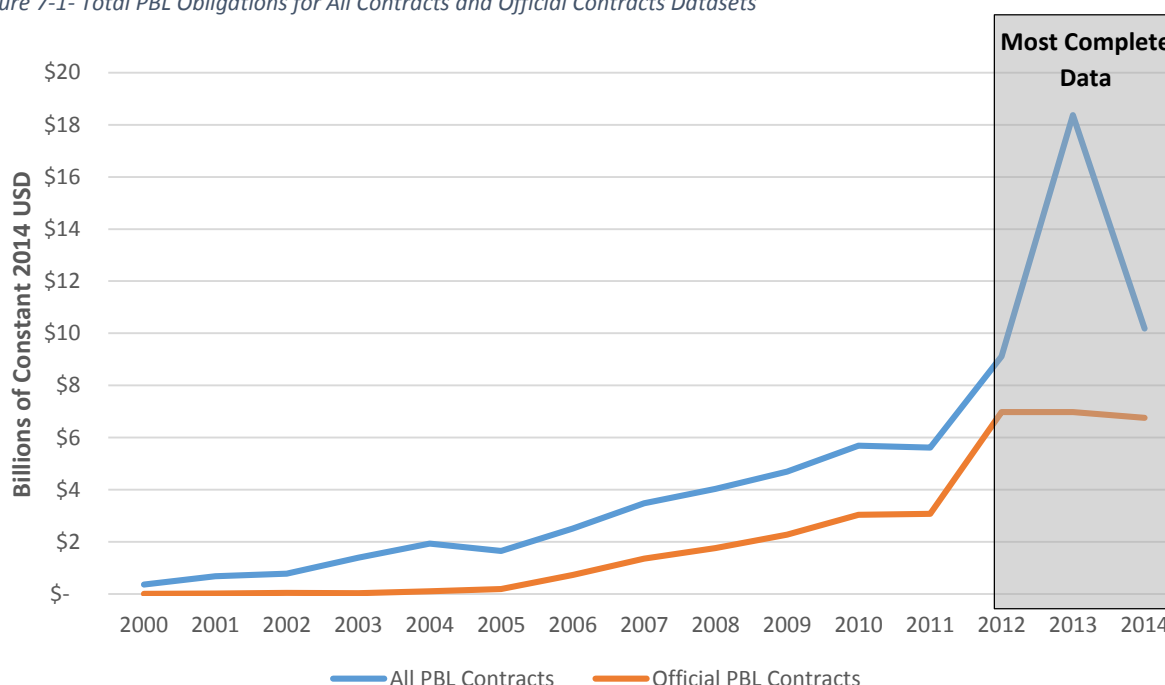
The following looks at the characteristics of PBL contracts based on over 100 contracts identified within FPDS. As noted in the methodology section, the study team searched through numerous sources to find a comprehensive list of active PBL contracts. Our sources include an official list provided by ASD (L&MR), an official list provided by DLA, PBL contracts announced on DoD's website, PBLs found through a search of FPDS, and PBLs found through a search of the website govini.com. In this section, we will study the data through two lenses: examining all the data of all contracts found, and examining the data exclusively from the official PBLs provided by the government.

It is important to recognize that the data, particularly in the latter category, are biased heavily toward recent years, as the ASD (L&MR) provided PBL contracts that were all still active in FY 2014. This means that trends in whether obligations are increasing or decreasing are not meaningful. Instead, we seek to understand how the data break down relative to itself. The study team examined the PBL data in the context of competition, contract duration, contract vehicle, and contract product or service area.

7.1. Overall PBL Obligations

This first section examines the overall PBL obligations of both datasets in order to establish the nature of the sample. While the trends in this data are not indicative of the larger trends in PBL contracting, as noted above for the bias, it is important to understand the study population.

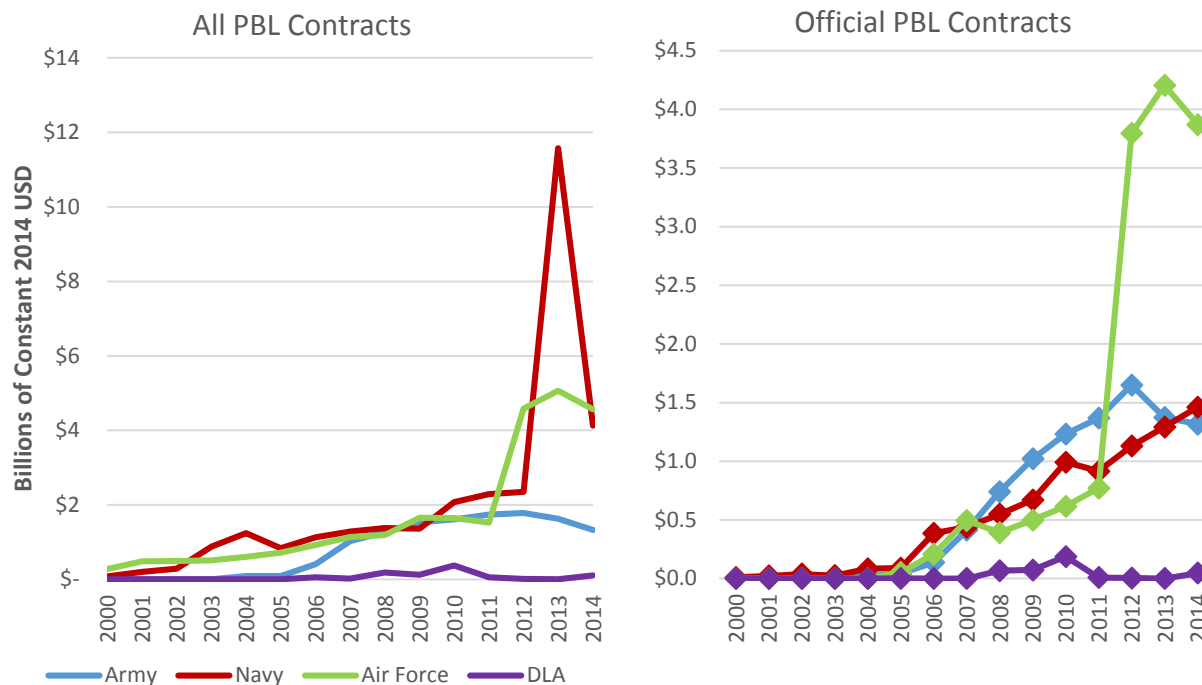
Figure 7-1- Total PBL Obligations for All Contracts and Official Contracts Datasets



CSIS analysis of FPDS Data

As demonstrated above in , both datasets show similar growth through the study period of fiscal years 2000 to 2014. The 14-year constant annual growth rates for the datasets are 27 percent for All Contracts and 60 percent for Official Contracts. The total obligations for the All Contracts dataset in 2000 is \$360 million and \$10.2 billion in 2014. The total obligations for the Official Contracts dataset in 2000 is just under \$10 million, and it grows to \$6.8 billion in 2014. The year with the single greatest difference between the two datasets is 2013, when obligations varied by over \$11 billion. This is largely driven by one Navy contract in the All Contracts dataset. Because Official Contracts data is sparse in the early years, official PBL graphs will omit prior to 2004, as in those years there is less than \$100 million in annual DoD contracting activity.

Figure 7-2- Total PBL Obligations by Component

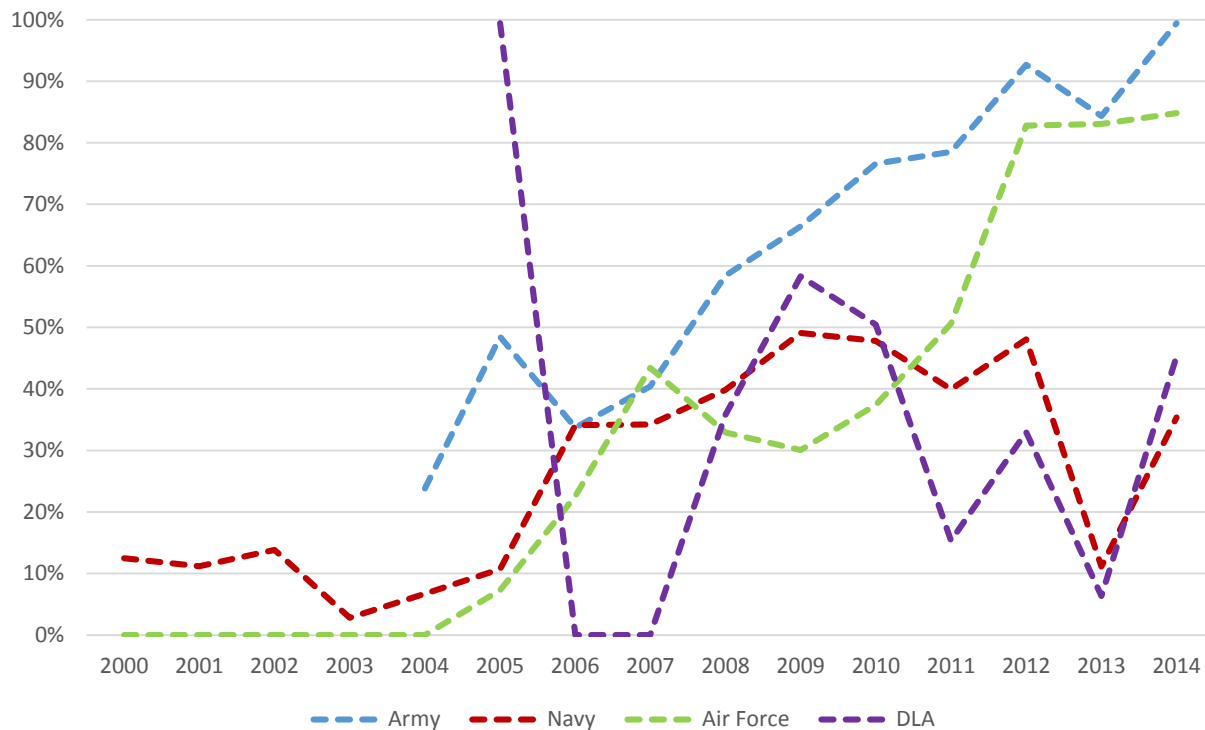


CSIS analysis of FPDS Data

The left most chart in Figure 7-2- Total PBL Obligations by Component, which shows obligations by component for the All Contracts dataset, shows that from 2007 until 2011, the three service branches have roughly equal PBL contract obligations. From 2011 to 2012, the Air Force saw a jump in PBL obligations which more than doubled its annual levels. From 2012 to 2013, the Navy saw its annual PBL levels almost quadruple. DLA PBL obligations were consistently small during the study period, peaking in 2010 just under 350 million dollars. Army and DLA did not have obligations in the beginning of the study period, with Army missing 2000-2003 data and Navy missing 2000-2004 data.

The rightmost chart in Figure 5, which details obligations by component for the Official Contracts dataset, shows a steady growth in PBL obligations for combat components, with DLA having consistently small levels of PBL obligations. The CAGRs in this dataset are higher, as the OSD PBL list is back-loaded and Air Force recorded no obligations from 2000 to 2004. Army and DLA both had the same years missing in the All Contracts dataset. One of the more important changes is in the Official Data: Army is actually dominant in the 2007 to 2011 period, despite having a lower starting point than the other two service branches. While much of the information above required detailed further analysis on the numbers, the charts clearly show that the large increase in Navy obligations depicted above is unique to the All Contracts dataset. By contrast, Air Force maintains its dramatic year-over-year increase between 2011 and 2012.

Figure 7-3- Share of Obligations in All Contracts Dataset from Official Contracts Dataset by Component



CSIS analysis of FPDS Data

Figure 7-3- Share of Obligations in All Contracts Dataset from Official Contracts Dataset by Component shows what percent of the obligations in the All Contracts dataset are from the Official Contracts dataset. The chart demonstrates that the relationship is variable. Since 2009 the official lists from both Army and Air Force have been capturing a steadily larger portion of all contracts that mention PBL. By comparison, the percentage has fluctuated for Navy and DLA. Both experienced a large drop in 2013 before recovering in 2014.

7.2. Product or Service Area

This section examines the data surrounding which product and services codes have the most PBL obligations for DoD and various service components. Aircraft; Professional, Administrative, and Management Services (PAMS); Equipment-Related Support (ERS); and Electronics and Communications (E&C).

The remaining PSAs are grouped in the Other category, except when they include sufficient spending to merit being broken out separately. All of the PSAs are listed here, with a key for decoding the acronyms:

All of the PSCs are listed here, with a key for decoding the acronyms:

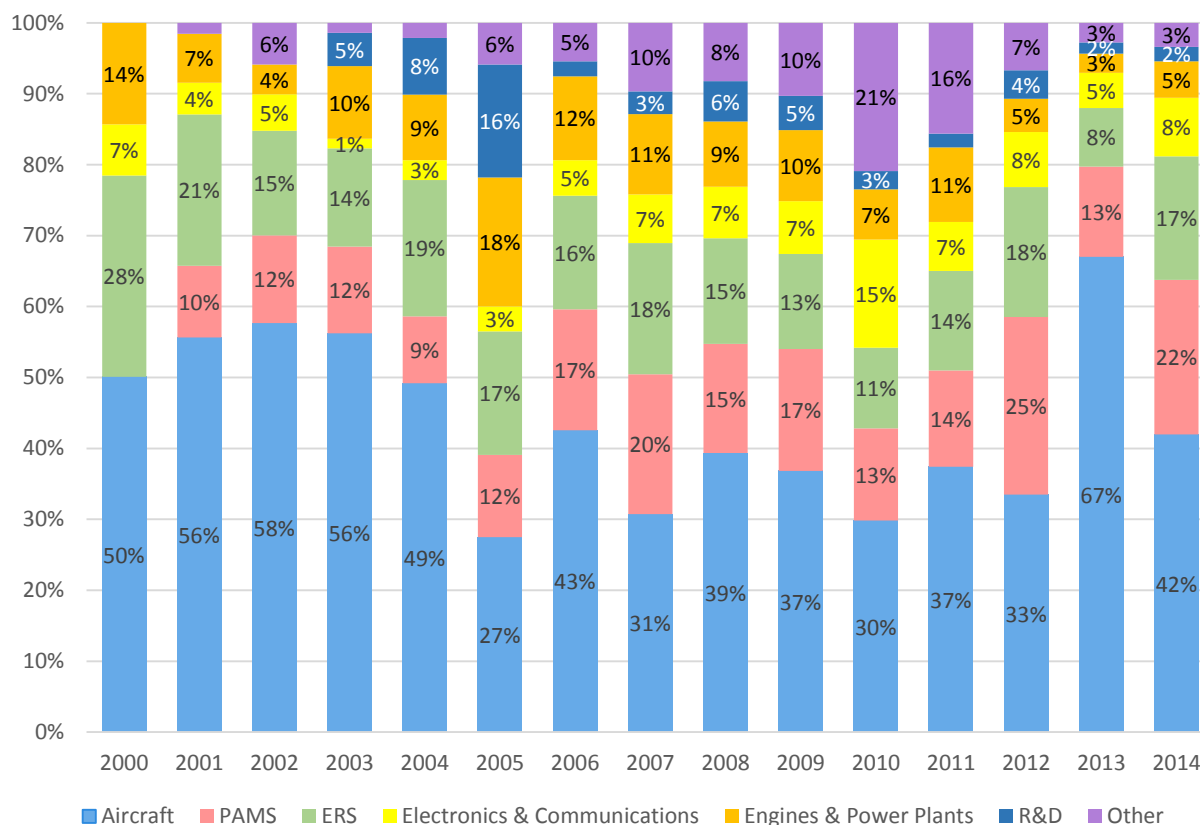
Full Name	Acronym
Aircraft	
Clothing & Subsistence	
Electronics & Communications	
Engines & Power Plants	
Equipment Related Services	ERS
Facility-Related Services and Construction	FRS&C
Fuels	
Ground Vehicles	

Information and Communications Technology	ICT
Launchers & Munitions	
Medical Services	MED
Missiles & Space	
Other	
Professional, Administrative, and Management Support	PAMS
Research and Development	R&D
Ships	

For each chart below, the categories are ordered based on the total obligations toward a PSA. The PSAs at the bottom of the chart or on the left in the legend received the most total PBL obligations during the study period. Those on the right received the least. We only display the top six PSAs in each chart. All remaining PSAs are grouped into the "Other" category. There is one exception, Figure 7-4, where one category in "Other" accounted for a small share in total, but a large share in one year. As a result, we broke out a seventh category for this chart.

Overall DoD

Figure 7-4- DoD PBL Obligations by Product or Service Area for All Contracts Dataset

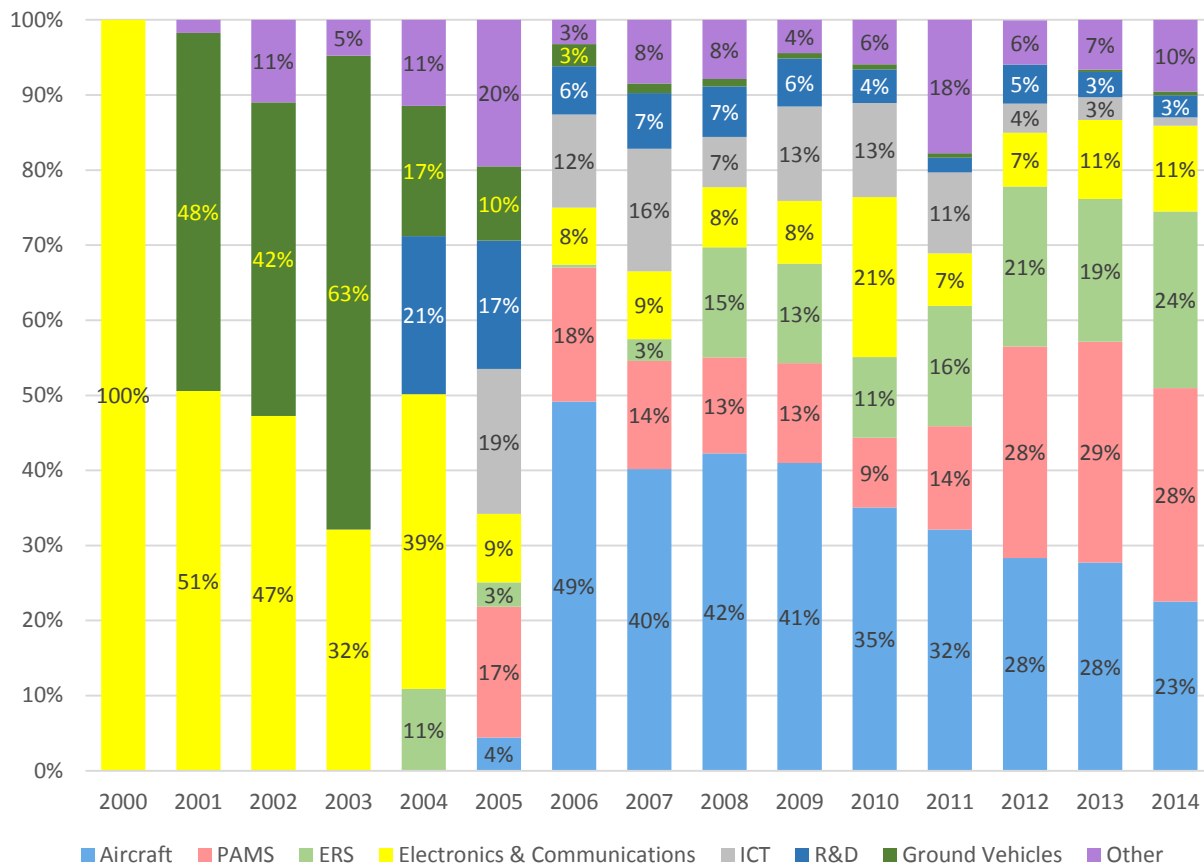


CSIS analysis of FPDS Data

As depicted above, PBL obligations primarily go toward Aircraft. This finding is unsurprising, given the origins of PBL contracting in aircraft support. The other robustly used PSAs are PAMS, ERS, Electronics & Communications, Engines & Power Plants, R&D. For these charts, Other is a summation of the nine PSAs that were too small to break out individually on this chart.

During the study period, Aircraft accounts for 46 percent of all DoD PBL obligations, followed by 17 percent for PAMS, 14 percent for ERS, 7 percent for Electronics & Communications, 7 percent for Engines & Power Plants, 3 percent for R&D, and 7 percent for other.

Figure 7-5- DoD PBL Obligations by Product or Service Area for Official Contracts Dataset



CSIS analysis of FPDS Data

Based on the Official Contracts dataset, most of the major PSAs are the same. The differences lie in Information and Communications Technology (ICT), which replaces Engines and Power plants as the 6th most obligated PSA, and in Ground Vehicles. Ground Vehicles are broken out of the Other category, as noted above, because in 2002 and 2003 they account for a large portion of PBL obligations. However, Ground Vehicles do not account for a very large share overall and would be included in the Other category if not for those two years. Ground vehicle spending is broken out below for Army and DLA, the two components that account for the vast majority of the spending.

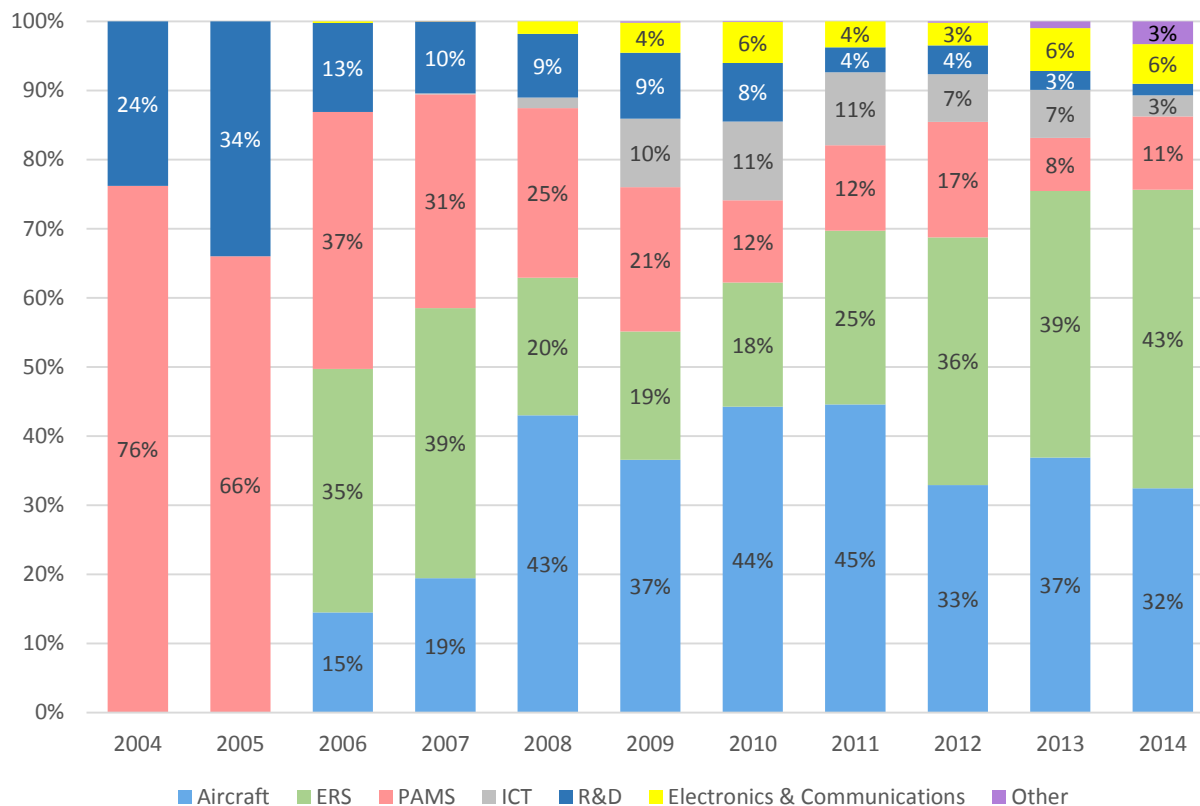
During the study period, Aircraft accounted for 30 percent of all DoD official PBL obligations, followed by 23 percent for PAMS, 18 percent for ERS, 10 percent for Electronics & Communications, 6 percent for ICT, 4 percent for R&D, 1 percent for Ground Vehicles, and 8 percent for Other.

Army

Data from both the All Contracts and Official Contracts datasets corroborate the same hierarchy of PSC PBL obligations dispersion. Aircraft, ERS, and PAMS are the top three.

There were no Army obligations toward PBL contracts during the 2000-2003 period for both datasets. The categories are ordered based on total obligations toward a PSC.

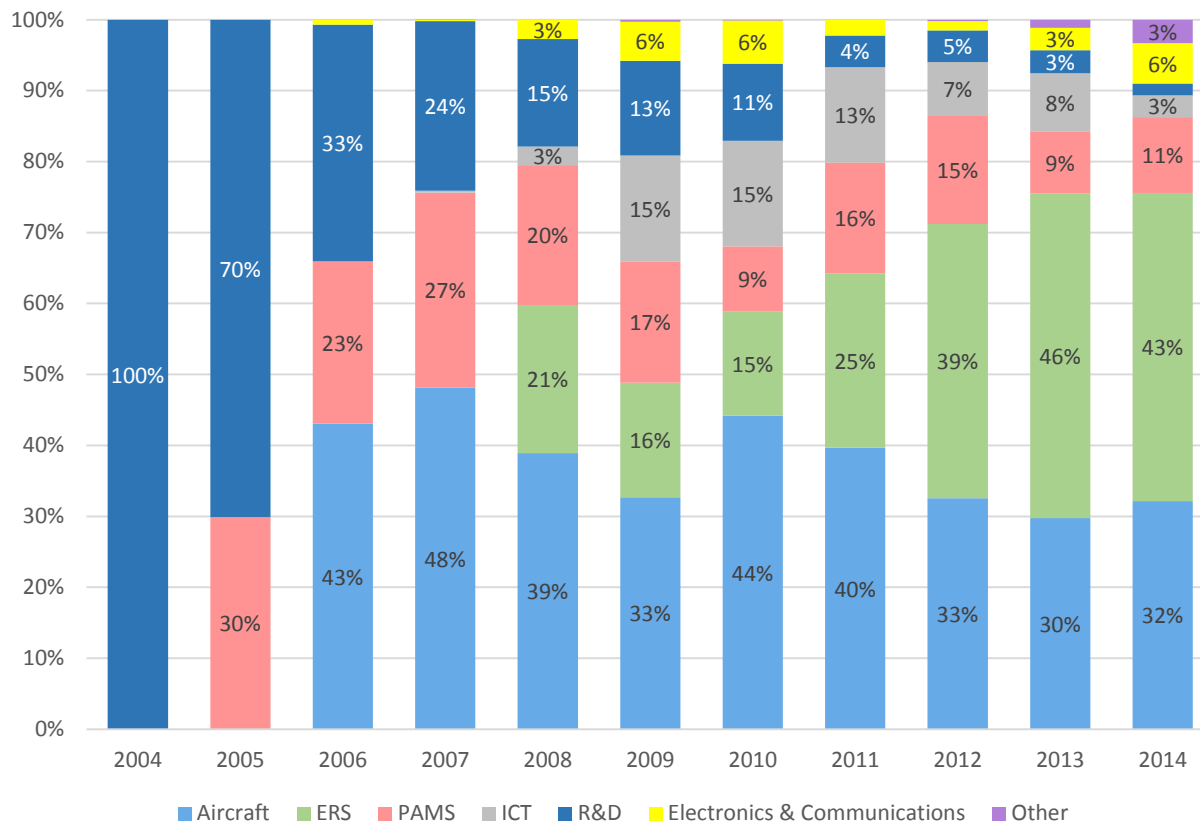
Figure 7-6 - Army PBL Obligations by Product or Service Area



CSIS analysis of FPDS Data

Similar to the overall DoD data, Army PBL obligations primarily go to Aircraft with 36 percent of PBL obligations, followed by 29 percent for ERS, 17 percent for PAMS, 7 percent for ICT, 6 percent for R&D, 4 percent for Electronics & Communications, and 1 percent for Other. In 2004 to 2005, Aircraft do not appear on the chart. However, PBL obligations during these years are minimal and much of the PAMS category is professional services in support of aircraft.

Figure 7-7- Army PBL Obligations by Product or Service Area for Official Contracts Dataset



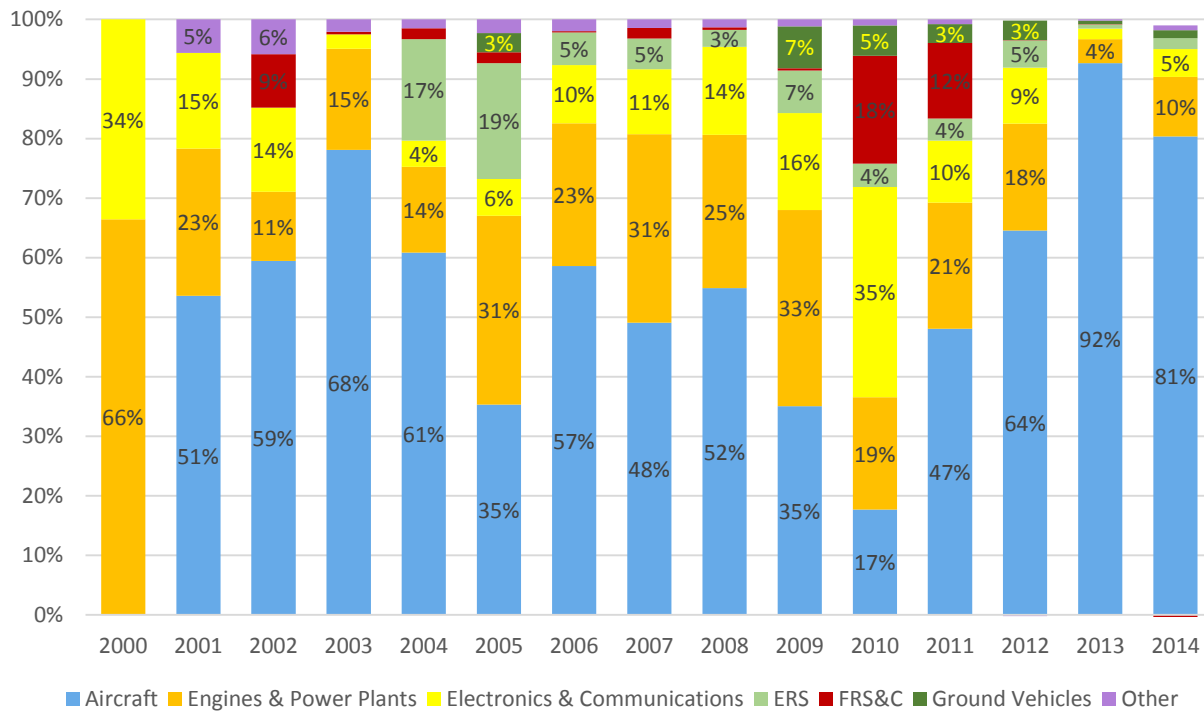
CSIS analysis of FPDS Data

In the Official Contracts dataset, as with the All Contracts dataset, after 2005 Army PBL obligations primarily go to Aircraft with 36 percent of PBL obligations, followed by 29 percent for ERS, 14 percent for PAMS, 9 percent for ICT, 8 percent for R&D, 3 percent for Electronics & Communications, and 2 percent for Other. The shares match those in the All Contracts dataset at the top end of the hierarchy, but vary at the lower end.

Navy

Both datasets corroborate the primacy of Navy PBL obligations going to the Aircrafts PSC; however, the following hierarchy is not identical. Both datasets have obligations data for all years after 2000.

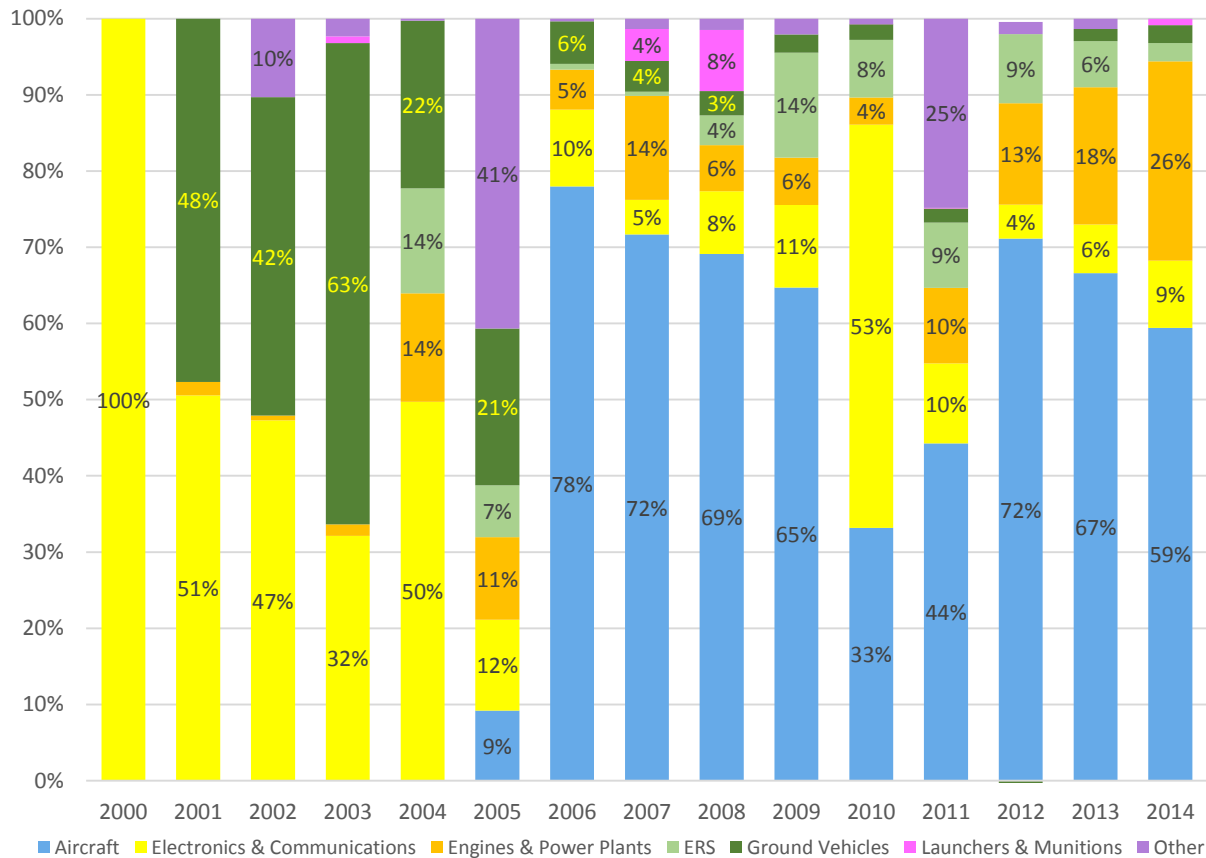
Figure 7-8- Navy PBL Obligations by Product or Service Area for All Contracts dataset



CSIS analysis of FPDS Data

Based on the All Contracts dataset, Navy PBL obligations primarily go to Aircraft and with a higher share than DoD and Army at 69 percent. Following PSCs are Engines and Power Plants with 13 percent, Electronics & Communications with 8 percent, ERS with 3 percent, Facility-Related Services & Construction (FRS&C) with 2 percent, Ground Vehicles with 1 percent, and Other with 1 percent.

Figure 7-9- Navy PBL Obligations by Product or Service Area for Official Contracts Dataset



CSIS analysis of FPDS Data

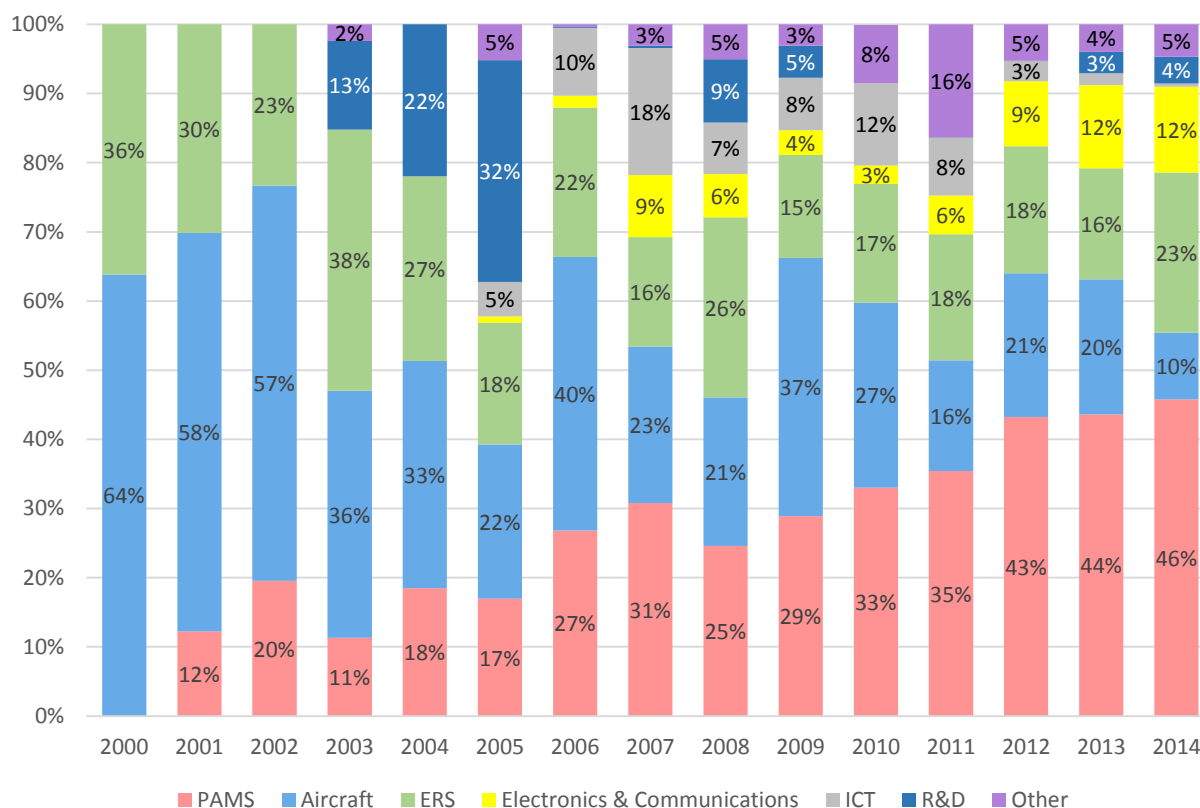
Based on the Official Contracts dataset, Navy PBL obligations again primarily go to Aircraft, but at a lower share than in the All Contracts dataset: 58 percent. Following PSCs are Electronics & Communications with 14 percent, Engines & Power Plants with 13 percent, ERS with 6 percent, Ground Vehicles with 3 percent, Launchers & Munitions with 3 percent, and Other with 2 percent.

Air Force

Both datasets indicate that the majority of Air Force PBL contracts go toward PAMS, an initially surprising find given the mission of the Air Force. However, after further investigation by the CSIS study team revealed that most of the PAMS obligations go to Aircraft and Drones. Thus the PAMS category for the Air Force, in the PBL context, should be thought of as a subset of the Aircraft category.

The All Contracts dataset contains data for all years in the study period, while the Official Contracts dataset only contains obligations data for FY 2005 through FY 2014.

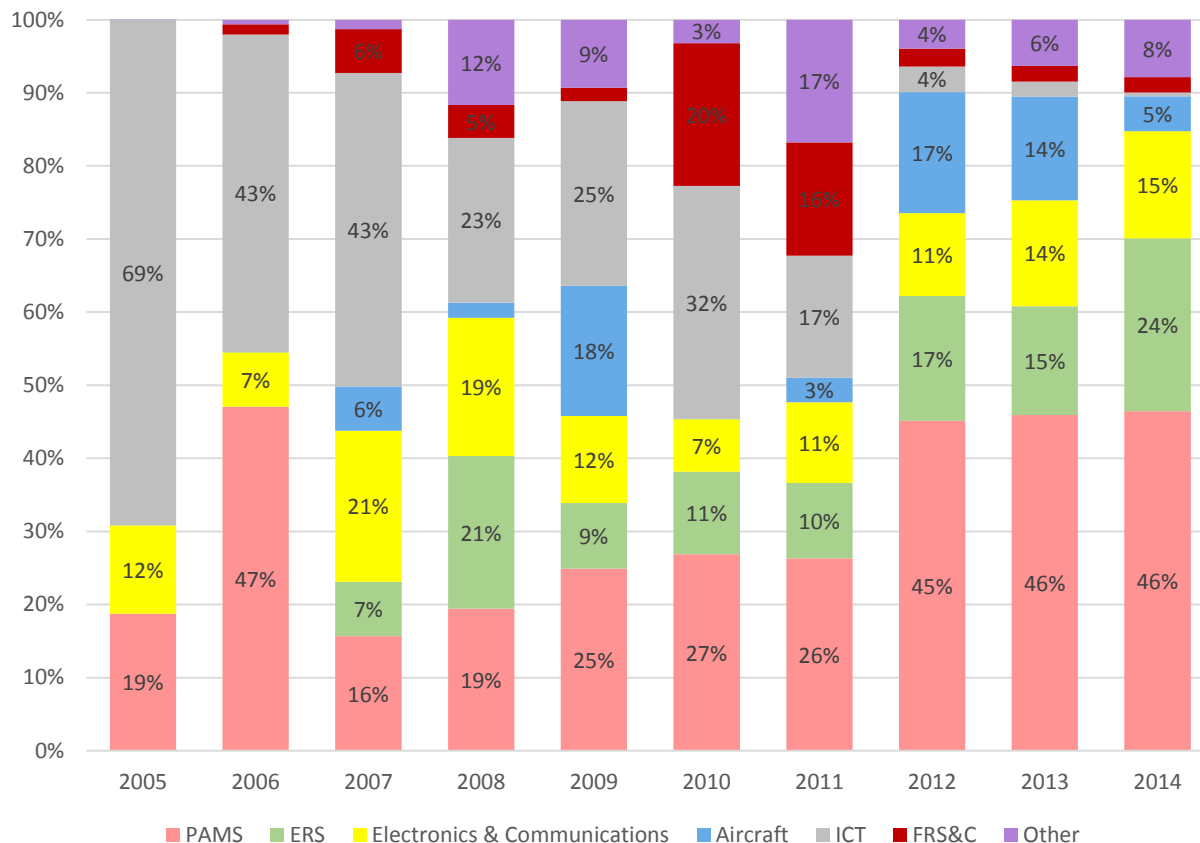
Figure 7-10- Air Force PBL Obligations by Product or Service Area for All Contracts Dataset



CSIS analysis of FPDS Data

Air Force PBL obligations, based on the All Contracts dataset, primarily go to PAMS at 37 percent of obligations. Following pertinent PSCs are Aircraft with 22 percent, ERS with 20 percent, Electronics & Communications with 8 percent, ICT with 4 percent, R&D with 4 percent, and Other with 5 percent. Separate analysis finds that PAMS obligations are going to Aircraft and Drones. While categorization shifts from products to services over the study period, there is a steady 59 percent of Air Force PBL obligations supporting Aircraft and Drones through those two categories.

Figure 7-11- Air Force PBL Obligations by Product or Service Area for Official Contracts Dataset



CSIS analysis of FPDS Data

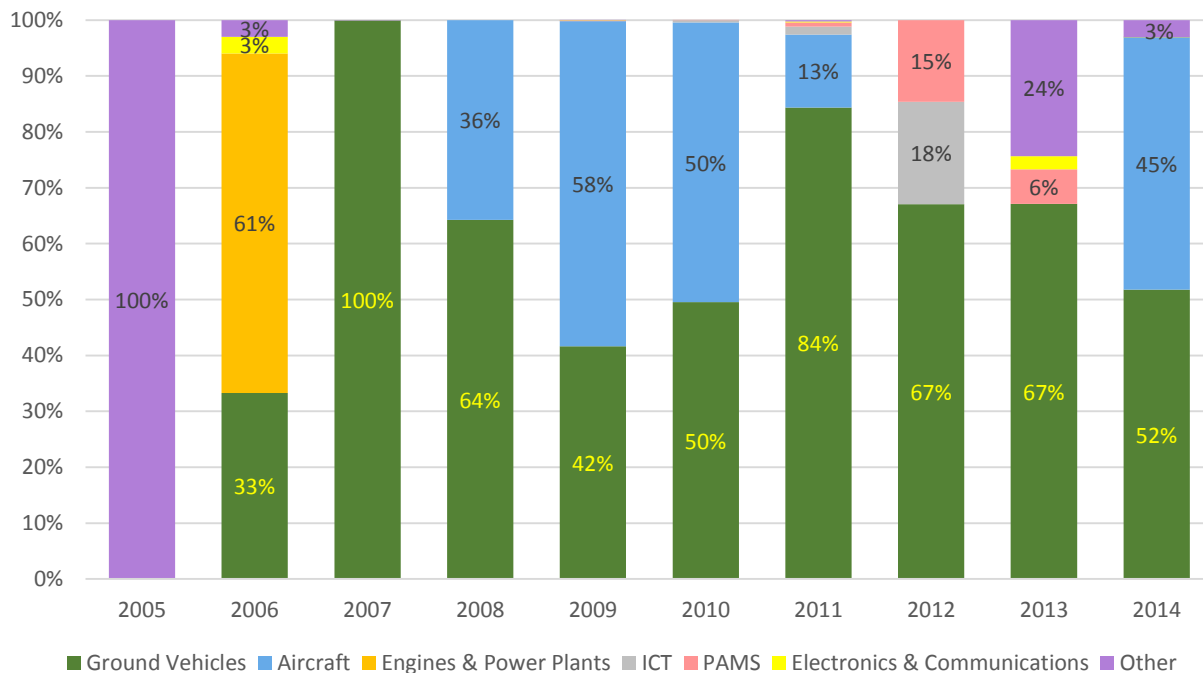
Based on the Official Contracts dataset, Air Force PBL obligations also primarily go to PAMS at 42 percent. Following pertinent PSCs are ERS with 17 percent, Electronics & Communications with 13 percent, Aircraft with 11 percent, ICT with 7 percent, FRS&C with 4 percent, and Other with 6 percent. With the understanding that PAMS obligations are going to Aircraft and Drones, when combining the obligations to PAMS and Aircraft, we can see that 53 percent of Air Force PBL obligations are toward such systems in this dataset.

DLA

Data from the two datasets indicate very different trends in what sorts of platforms or services DLA is contracting for using PBLs. The All Contracts dataset indicates a dispersal between Ground Vehicles and Aircraft, while the Official Contracts dataset indicates a dominance of Aircraft.

For both datasets, there is no significant spending before 2005, so charts only included FY 2005 to 2014.

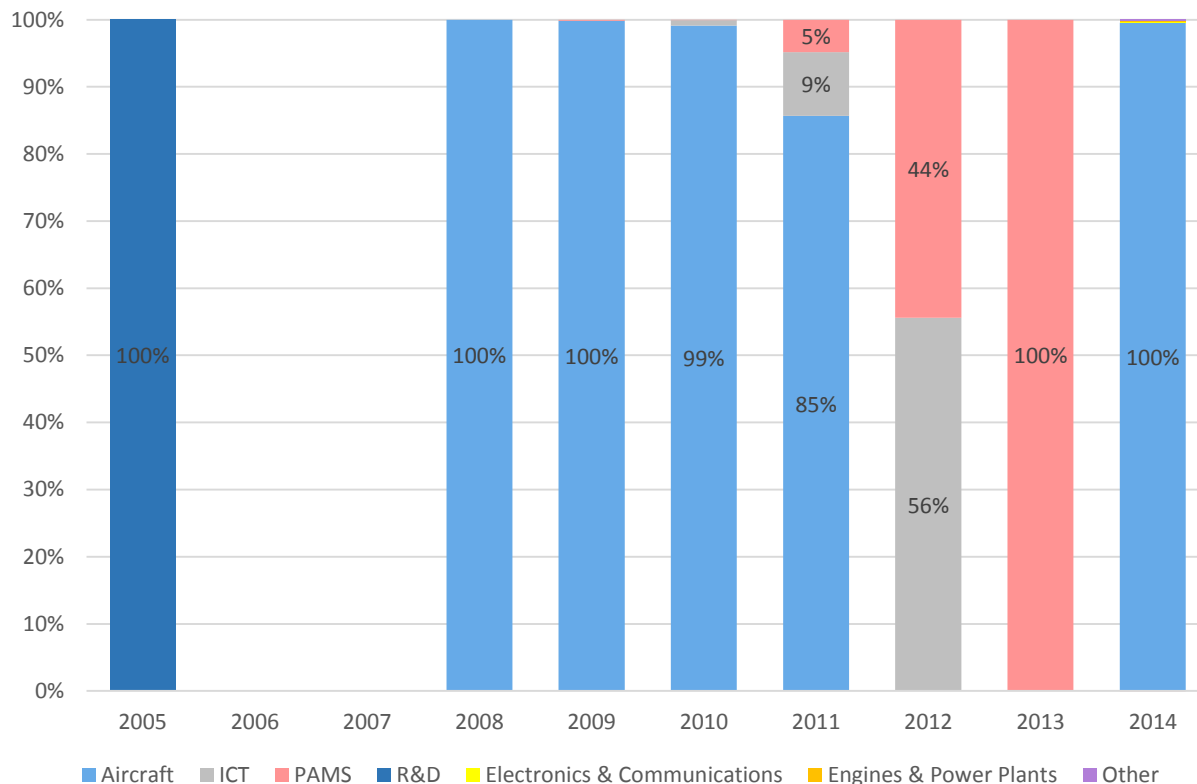
Figure 7-12- DLA PBL Obligations by Product or Service Area for All Contracts Dataset



CSIS analysis of FPDS Data

Unlike all other components, the All Contracts dataset indicates that the majority of PBL contracting dollars for DLA go toward Ground Vehicles: 54 percent. While Ground Vehicles receives the majority, Aircraft also receives a sizeable share of the obligations: 41 percent. Thus, all remaining categories only receive a combined 5 percent of the PBL obligations. In that 5 percent, Engines & Power Plants receive the most, followed by ICT, PAMS, and Electronics & Communications, in that order.

Figure 7-13- DLA PBL Obligations by Product or Service Area for Official Contracts Dataset



*

CSIS analysis of FPDS Data

The Official Contracts dataset indicates a similar focus on Aircraft to the other DoD components. In this dataset, 98 percent of DLA PBL contract obligations goes to Aircraft. Trends are hard to deduce from this dataset, as different PSCs dominate all contract dollars for various years.

A Closer Look at Product or Service Codes and PBLs

To further understand the areas in which PBLs are currently being used and where they could potentially be used more going forward, the study team utilized data from FPDS to examine past and current PBL contracts based on what was being contracted for, using government Product or Service Codes (PSCs). CSIS focused on the PSCs with the most obligations, setting a threshold of \$600 million for the entire 2000-2014 period or \$200 million in any year during that period. There were 20 PSC codes that met those thresholds, collectively accounting for over 80 percent of total PBL contract obligations over the period.

PBL contract obligations for products related to Aircraft account for nearly half of all PBL contract obligations between 2012 and 2014, with the majority of the obligations related to fixed-wing aircraft. Overall, 22 percent of all contract obligations labeled as “Aircraft, Fixed Wing” from 2012-2014 take place under a PBL contract, among the highest of any individual PSC. By contrast, only 3 percent of contract obligations labeled as “Aircraft, Rotary Wing” between 2012 and 2014 take place under a PBL contract, indicating that there may be room to increase usage of PBLs in the rotary wing realm. Other Aircraft-related PSCs that also see significant shares of overall obligations between 2012 and 2014 awarded under PBLs: “Miscellaneous Aircraft Accessories & Components” (17 percent), “Gas Turbines & Jet Engines Aircraft” (11 percent), and “Maintenance-Repair of Aircraft” (26 percent). By contrast, less than 10 percent of obligations for “Drones,” “Airframe Structural Components,” “Helicopter Rotor Blades, Drive Mechanisms, and Components,” and “Maintenance-Repair of Aircraft Components” are

obligated under PBL contracts during the 2012-2014 period, indicating possible areas of consideration for expanded use of PBLs.

Although only 5 percent of 2012-2014 PBL contract obligations are related to Electronics & Communications products, three PSCs in that category accounted for significant shares: “Electronic Countermeasures & Quick Reaction Equipment” (16 percent), “Antennas Waveguides & Related Equipment” (32 percent), and “Electric Assembly – Boards, Cards, and Associated Hardware” (15 percent). Although Electronics & Communications covers a wide range of subsystems and components, it seems likely that there is potential to expand the use of PBLs there, especially since many of those subsystems and components are likely to fall under the “Highly Complex” criteria that the study team has identified as a potential targets for expanded use of PBLs.

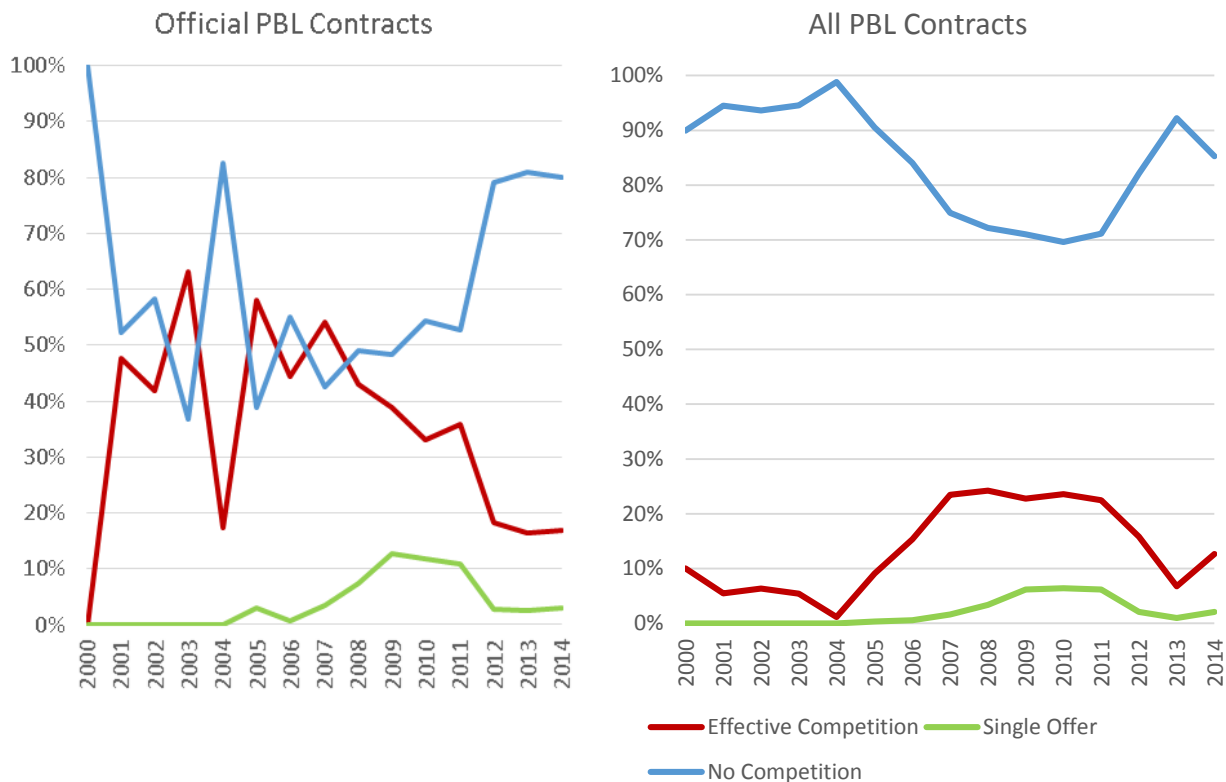
There are number of areas in which PBLs are barely used that, based on the factors identified in the “Addressable Markets” section of this study, would seem like logical targets for the expanded use of PBLs. Ground Vehicles are often either based on commercial products or rely on commercial supply chains, and may thus benefit from a PBL. Information and Communications Technology (ICT) services fall under the category of “Highly Complex,” as do “Ships,” “Missiles and Space,” and “Products”, all of which often come out of single-source contract awards. In all of these cases, less than 1 percent of overall contract obligations are awarded under PBL contract types. Engines & Power Plants, for which only 6 percent of contract obligations are awarded under PBL contracts, would seem to be a similarly promising candidate for expanded use of PBLs.

7.3. Competition

This section will analyze the competitive nature of PBL contracting through two avenues. First, it will examine the extent of competition for Overall DoD by using the All Contracts and Official Contracts datasets. The charts use three categories: no competition, single offer competition, and effective competition, which refers to competition with two or more offers. Second, it will examine the rate of effective competition by component for both datasets, which confirm that most PBL contracting does not have competitive solicitations. Further analysis showed that PBLs relied on the “only one source” exception, which is to say that the availability of only a single vendor was the key factor preventing competition in the vast majority of cases. The data do indicate that, like with other areas of acquisition, Army and DLA tend to compete a larger share of their contracts.

Effective Competition

Figure 7-14- Effective Competition Rate for DoD Wide PBL Solicitations



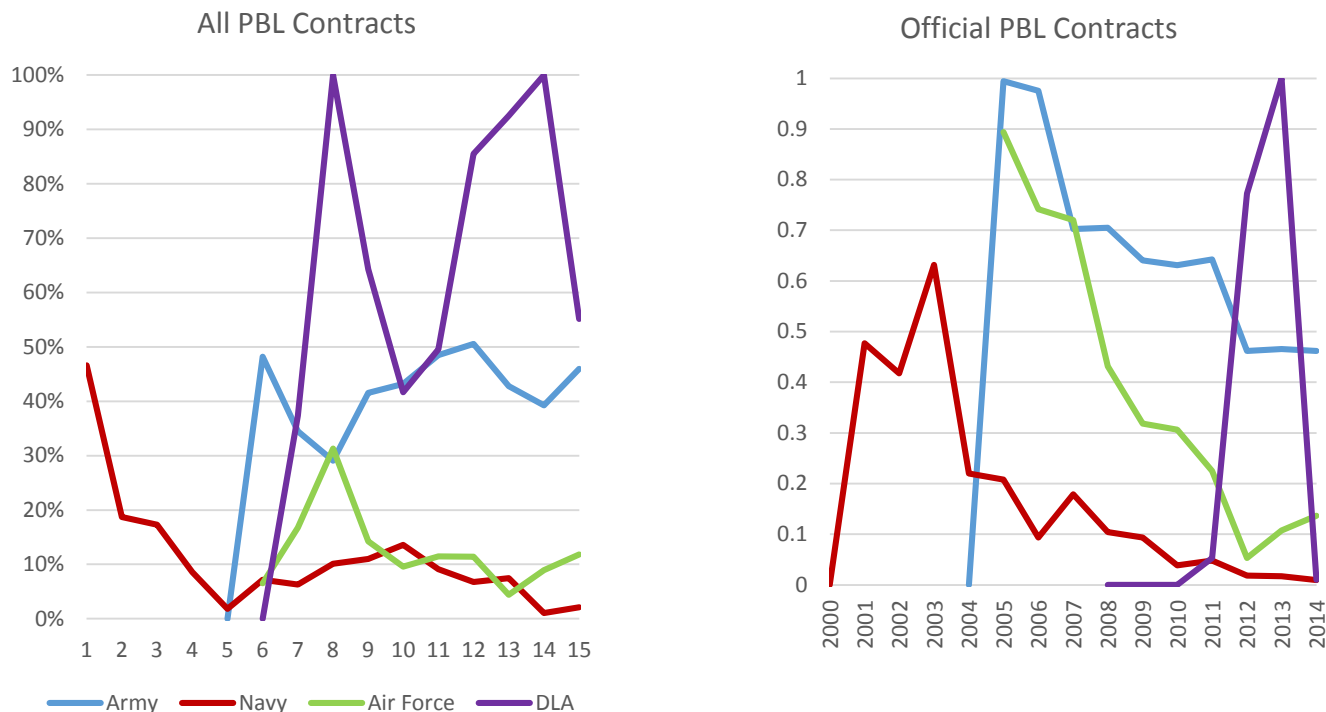
CSIS analysis of FPDS Data

During the study period, PBL contracts awarded under no competition account for the vast majority of contracts: 84 percent on average. Conversely, contracts awarded under effective competition or single offer competition account for 14 and 2 percent on average, respectively.

In 2004, the rate of effective competition started to grow from 0 percent, reaching 23 percent by 2007. The following four years (2007 to 2011) marked a plateau of high competition, with rates of effective competition consistently between 22 and 24 percent. The rate of PBL contracts awarded under effective competition fell to 7 percent in 2013 before jumping again in 2014. No such pattern occurs in the Official PBL contract on the graph on the right, suggesting that the year to year change is largely noise.

As in the All Contracts dataset, in the Official Contracts dataset the majority of PBL contract dollars are awarded under no competition; however, it is at a lower rate than in All Contracts dataset. In this dataset, during the study period, PBL contracts awarded under no competition account for an average of 61 percent of contracting dollars. Contracts awarded under effective competition account for a much greater percentage than in the previous dataset, an average of 35 percent. Contracts awarded under single offer competition were higher but similar in scope, only accounting for 4 percent on average. The rate of effective competition declined steadily after 2007, falling from 54 percent to 17 percent. Rates of no competition grew from 42 percent to 80 percent during the same period. Figure 7-15, below, depicts the rate of effective competition for PBL contracts by service component, demonstrating that, like in other acquisition efforts, DLA most effectively competes the largest proportion of its solicitations.

Figure 7-15 - Competition on PBL Contracts by Service Component



CSIS analysis of FPDS Data

During the study period, in the All Contracts dataset, DLA and Army engaged in the most effective competition for PBL contracts. On average, DLA uses effective competition to contract for PBLs 63 percent of the time, and Army does so 39 percent of the time. Data on competitive contracting for DLA and Army are only available after 2004 and 2005, respectively. Once data became available, both DLA and Army showed volatility while staying at higher levels of competitive PBL contracting.

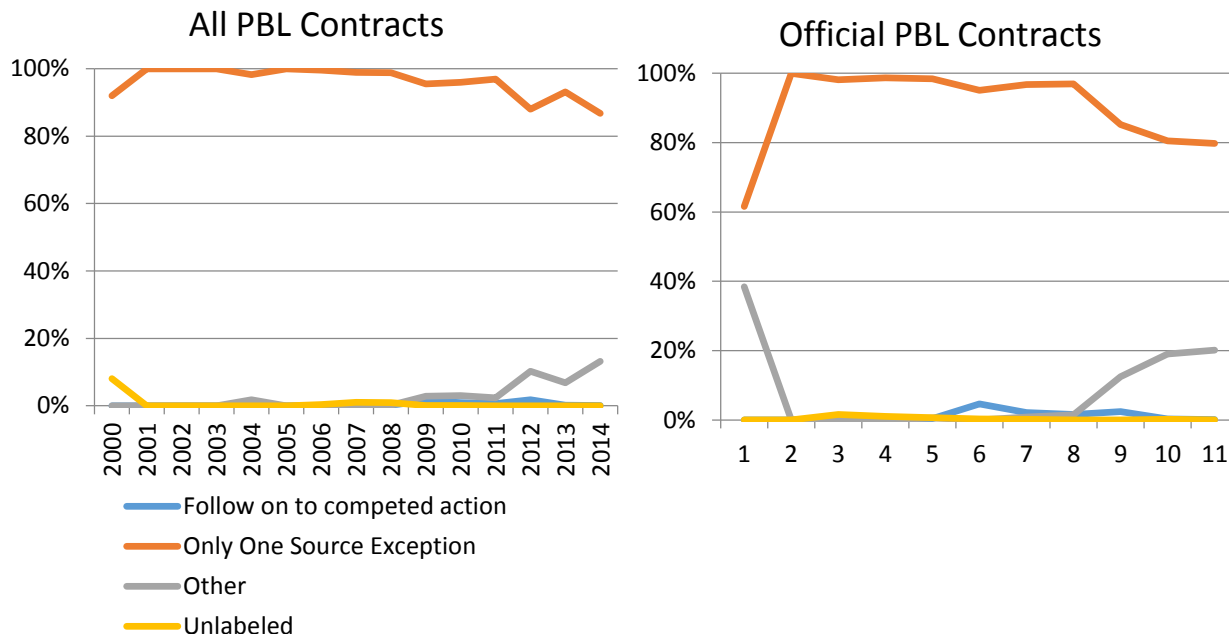
Unlike DLA and Army, the Navy and Air Force both have, on average, low rates of competitive contracting: 11 and 8 percent, respectively. The trend for Navy is notably downward, albeit with a peak in 2009. Even discounting the low data early years, Navy has a competition rate above ten percent for multiple years. As of 2014, that number had reached 2 percent.

The data are different and notably more volatile when limited to official PBL contracts. Army engaged in the most effective competition for PBL contracts, using effective competition on 60 percent of its own solicitation dollars. Navy, Air Force, and DLA use effective competition 17, 39, and 23 percent of the time on average, respectively. While Army and DLA rates of effective competition were increasing in the All Contracts dataset, in this dataset the rates of competition across all services are decreasing after 2007, and the figures for more recent years should be treated as more reliable. DLA's volatility is even greater in the smaller official dataset; however, it does seem safe to conclude that DLA, like Army, consistently uses PBLs on competed contracts at a higher rate than Navy or Air Force.

Reason Not Competed

Because the vast majority of PBL contracts are not competed, the reasons they weren't is of intense interest. There are a variety of statutory exceptions that allow for awarding a contract without competition, but CSIS groups them into three broad categories: follow-ons to competed actions, contracts where only one source is available, and all other reasons for not competing (e.g. urgency or national security).

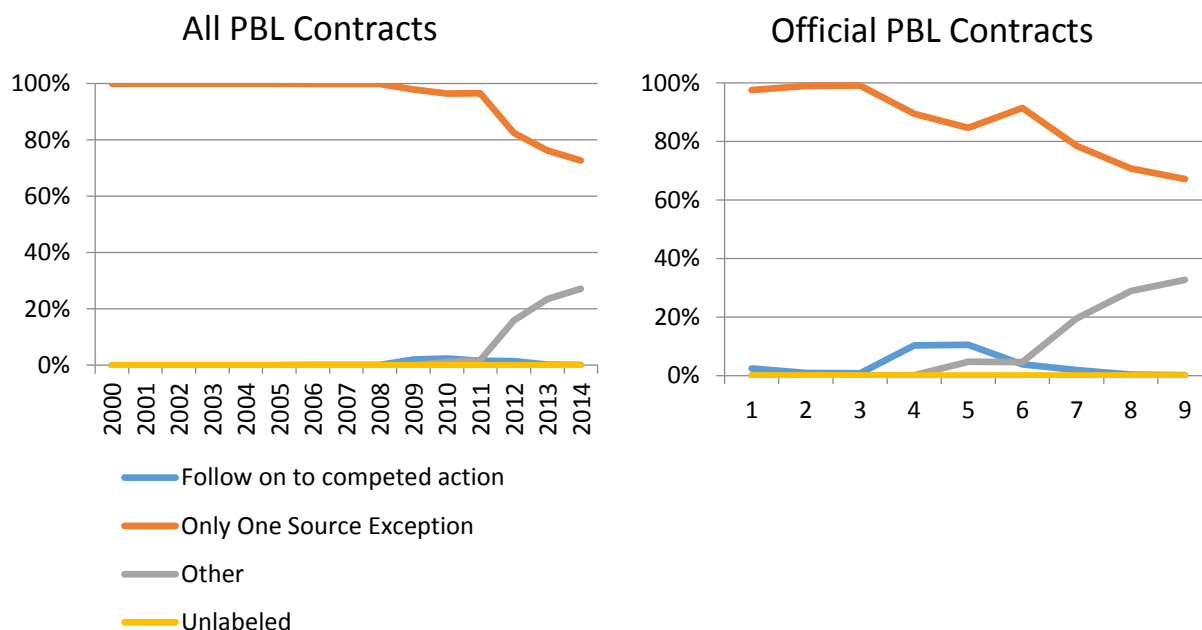
Figure 7-16 - Reason for Uncompetitive Award for DoD PBL Contracts



CSIS analysis of FPDS Data

Studying the breakdown in both all PBL contracts and official PBL contracts reaffirms earlier findings on sole-source environments: namely that there is opportunity for PBLs when only one source is available. While that preference has grown slightly weaker in recent years, over 85% of all PBL dollars and roughly 80% of official non-competed PBL dollars relied on a single source exception. The outlier service is the Air Force, in which a third of contract dollars in recent years uses a different exception.

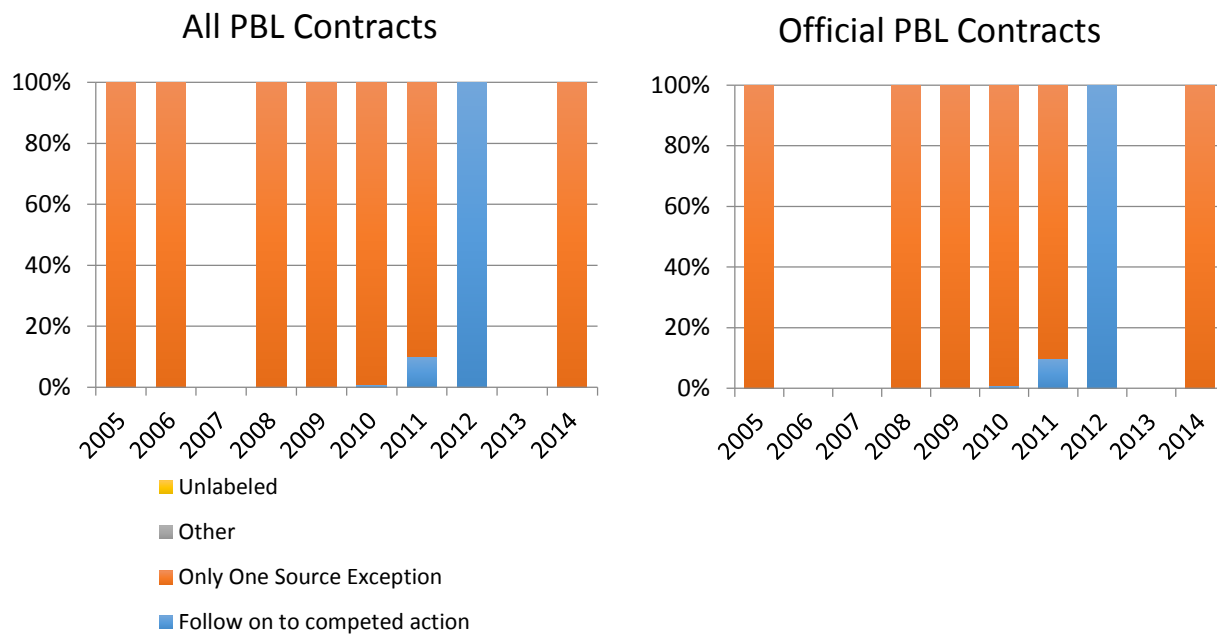
Figure 7-17 - Reason for Uncompetitive Award for Air Force PBL Contracts



CSIS analysis of FPDS Data

As seen in the charts above, roughly one third of Air Force non-competed contract dollars did not use an only one source exception. By comparison, Army and Navy are not displayed here because they show homogeneity after 2005 in their reliance on the only one source exception. DLA is an outlier to a lesser extent than the Air Force, in part because so few of its contract dollars are not competed, and as a result its shares of non-competed contracts can change dramatically from year to year in percentage terms.

Figure 7-18 - Reason for Uncompetitive Award for DLA PBL Contracts



CSIS analysis of FPDS Data

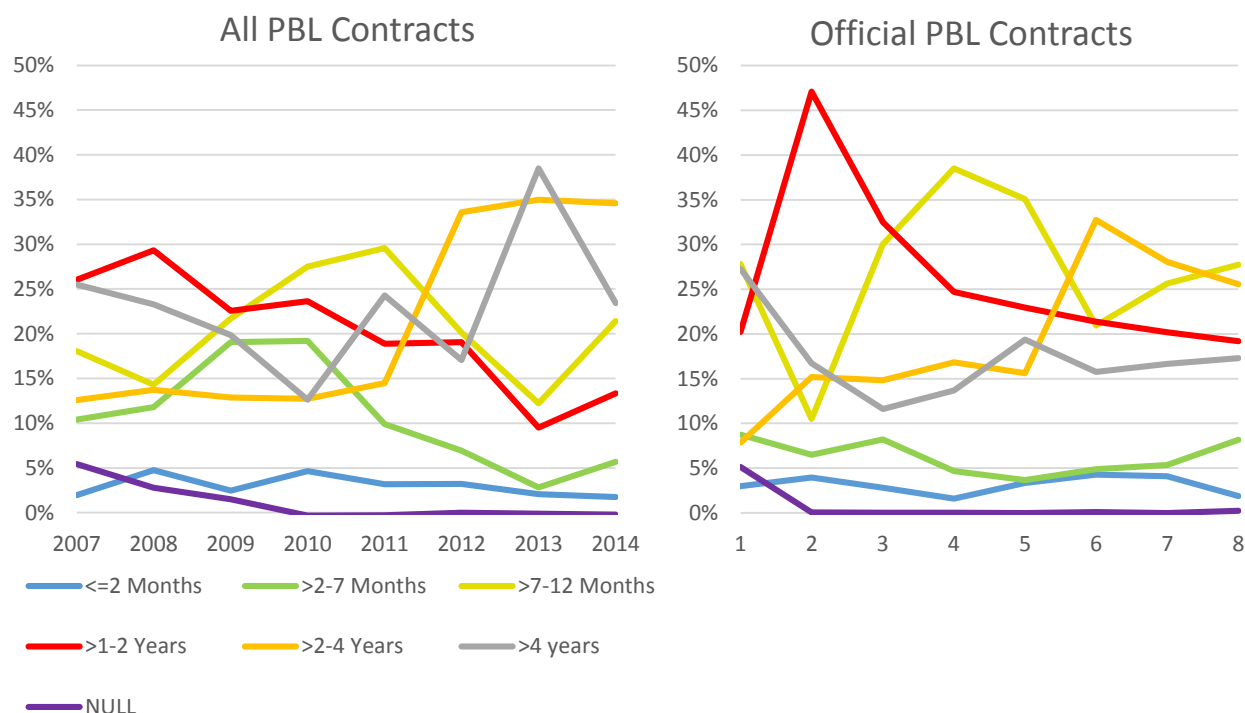
PBL Contracts are rarely classified as not competed due to the competitive status of past awards. Notably, this trend does not hold for DLA's official PBLs in 2012, despite the fact that in most cases DLA's official PBLs follow trends in other components.

7.4. Contract Ultimate Duration

This section examines the share of obligations based on the "ultimate duration" of a contract, or the maximum length of the contract as measured by the period of performance and all possible extensions at contract start. The study team broke contract ultimate duration into seven categories: less than two months, two to seven months, seven months to one year, one to two years, two to four years, greater than four years, and not classified (NULL). Due to data quality concerns for this item, the study team chose to only examine fiscal years 2007 to 2014.

Overall DoD

Figure 7-19 - DoD PBL Obligations by Contract Duration



CSIS analysis of FPDS Data

Based on the All Contracts dataset, Overall DoD PBL obligations primarily go to contracts with ultimate durations between two and four years (27 percent), followed by contracts with ultimate durations of over four years (26 percent). Conversely, 30 percent of obligations go to contracts with an ultimate duration of less than a year. The share of PBL obligations going to contracts with an ultimate duration of two-four years trended upward during the study period. The share of PBL obligations going to contracts with ultimate durations of one-two years, two-seven months, and contracts without a classification trend downward during the study period. The share of PBL obligations going to contracts with ultimate durations of four-plus years and seven-twelve months fluctuated and regularly traded positions during the study period.

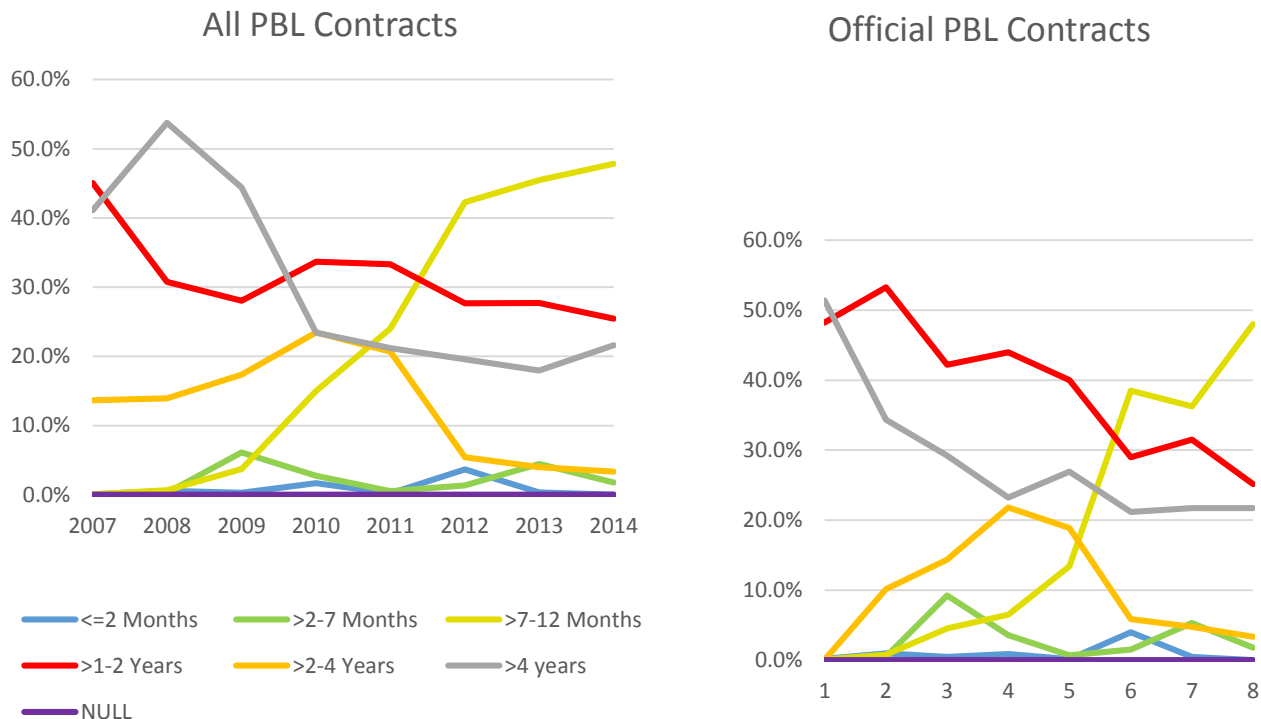
Based on the Official Contracts dataset, DoD PBL obligations primarily go to contracts with ultimate durations between seven and twelve months (27 percent), followed by contracts with ultimate durations between two and four years (24 percent). 36 percent of PBL obligations go to contracts with an ultimate duration of less than a year, and 59 percent go to obligations with less than two years. Only 16 percent go to contracts with durations longer than four years. The share of PBL obligations going to contracts with an ultimate duration of seven-twelve months and two-four years trended upward during the study period. The share of PBL obligations going to contracts with ultimate durations of over four years and those not classified trended downward during the study period, while the share of PBL obligations going to contracts with ultimate durations of less than two months, two to seven months, and one to two years remains stable. It is worth noting that there was a spike in obligations going to contracts with ultimate durations of one-two years in 2008; after this spike, however, the share falls over time to a level below that of its start.

The high market share for contracts with an ultimate duration of less than a year is surprising, given the official policy preference for longer-term PBL contracts, but this is partially explained in the upcoming section on Contract

Vehicles. Single Award Indefinite Delivery Contracts are highly prevalent among all PBLs and official PBLs. For these contracts, the ultimate duration would be the length of the task order and not the entirety of the contract vehicle. This represents a weaker level of assurance of contract tenure than it would with definitive contracts with longer ultimate durations. However, if the government customer is satisfied with vendor performance, then repeated task orders are awarded far more easily than new definitive contracts, whether or not they are competed.

Army

Figure 7-20- Army PBL Obligations by Contract Ultimate Duration



CSIS analysis of FPDS Data

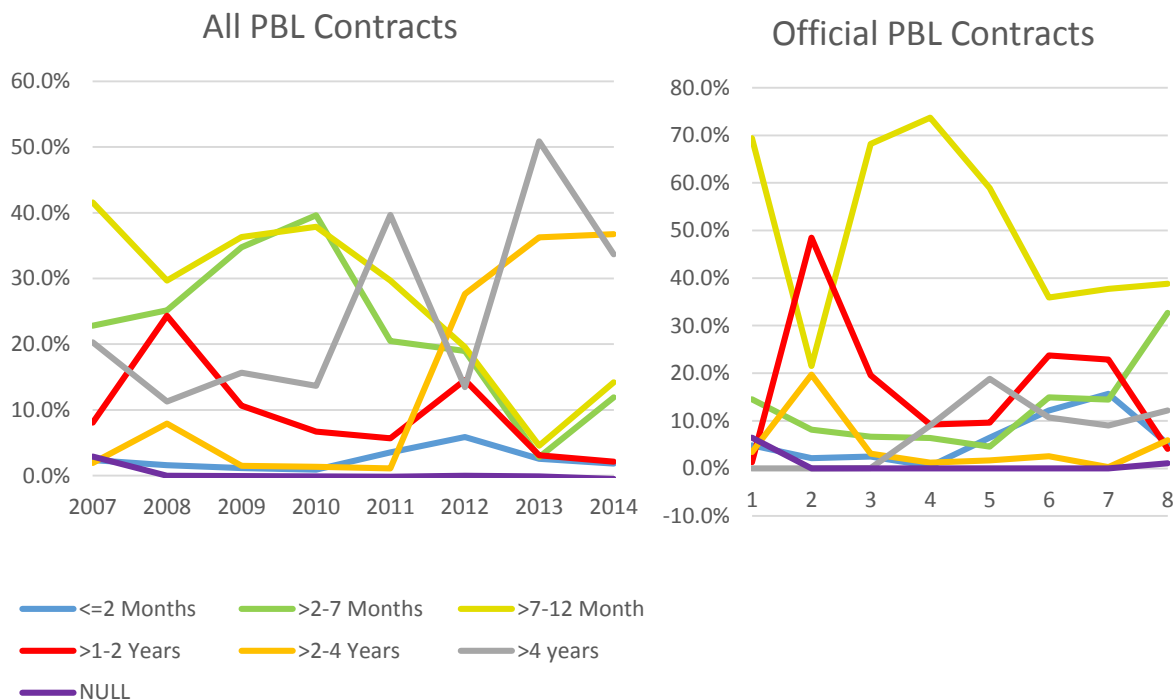
Based on the All Contracts dataset, Army PBL obligations primarily go to contracts with ultimate durations of between one and two years: 31 percent. The next highest share of obligations is for contracts with ultimate durations of over four years: 29 percent. While these two durations hold the largest share of obligations between 2007 and 2014, there is a large growth in obligations going to PBL contracts with ultimate durations of between seven-twelve months. This category of ultimate duration is actually the only category to experience growth during the period of study. The share of obligations toward contracts with ultimate durations of one-two years, two-four years, and over four years all declined. Meanwhile, the share of obligations to contracts with ultimate durations less than seven months or not classified remain the same. Total obligations to contracts with ultimate durations between seven-twelve months account for 25 percent of all obligations during the study period and nearly 50 percent of all obligations by 2014.

Trends and shares from the Official Contracts dataset closely match those of the All Contracts Dataset. In the Official Contracts dataset, Army PBL obligations also primarily go to contracts with ultimate durations of between one and two years and over four years: 37 percent and 26 percent respectively. Likewise, the share of obligations

going to contracts with ultimate durations of between seven-twelve months grows rapidly and is the only category that experienced major growth. One point to note is that in this dataset, obligations going to contracts with ultimate durations of between two-four years did grow, although not at the rate of seven-twelve months. Obligations toward contracts with an ultimate duration of one-two years and over four years declined, and obligations to contracts with ultimate durations of less than seven months or not classified remain relatively constant. The total obligations to contracts with ultimate durations between seven-twelve months account for 23 percent of all obligations during the study period and nearly 50 percent by 2014.

Navy

Figure 7-21 - Navy PBL Obligations by Contract Ultimate duration



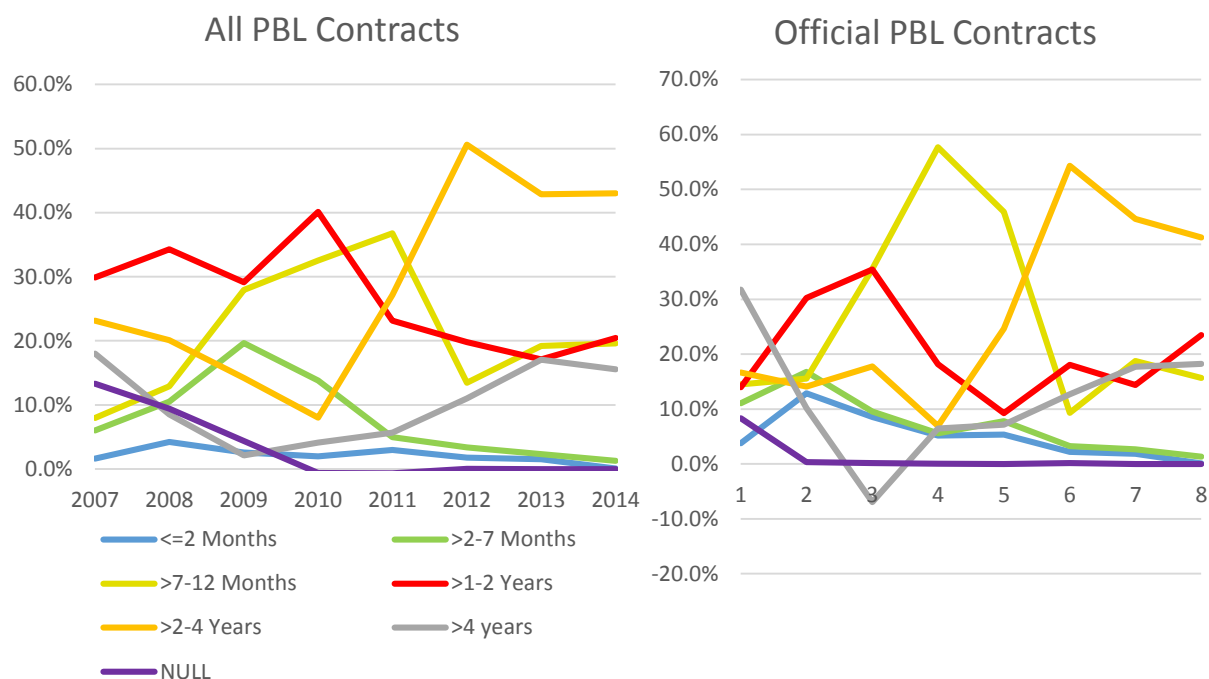
CSIS analysis of FPDS Data

Based on the All Contracts dataset, Navy PBL obligations going to contracts with ultimate durations of over 2 years grew from 2007 to 2014. Conversely, obligations going to contracts with ultimate durations of less than a year and between one-two years have been decreasing. Navy PBL obligations primarily go to contracts with ultimate durations of over four years (36 percent), followed by two-four years (25 percent). Obligations to contracts with ultimate durations that are declining – two-seven months, seven-twelve months, and one-two years – combined only account for 36 percent of contracting dollars. Non-classified contracts and contracts of less than two months remained stable over the study period, and they only account for 3 percent of the obligations.

Based on the Official Contracts dataset, Navy PBL obligations primarily go to contracts with ultimate durations of between seven-twelve months and are 48 percent of all obligations, although obligations in this category trend slightly downward over the course of the study period. The duration with the next largest share of obligations is one-two years, which only accounts for 16 percent of obligations. Obligations going to contracts with ultimate durations of two-seven months and over four years all had an upward trend during the study period, while obligations to contracts with ultimate durations of one-two and two-four years trend downward. Trends in this dataset are markedly different than they are the All Contracts dataset, which is an area for further exploration.

Air Force

Figure 7-22 - Air Force PBL Obligations by Contract Ultimate duration



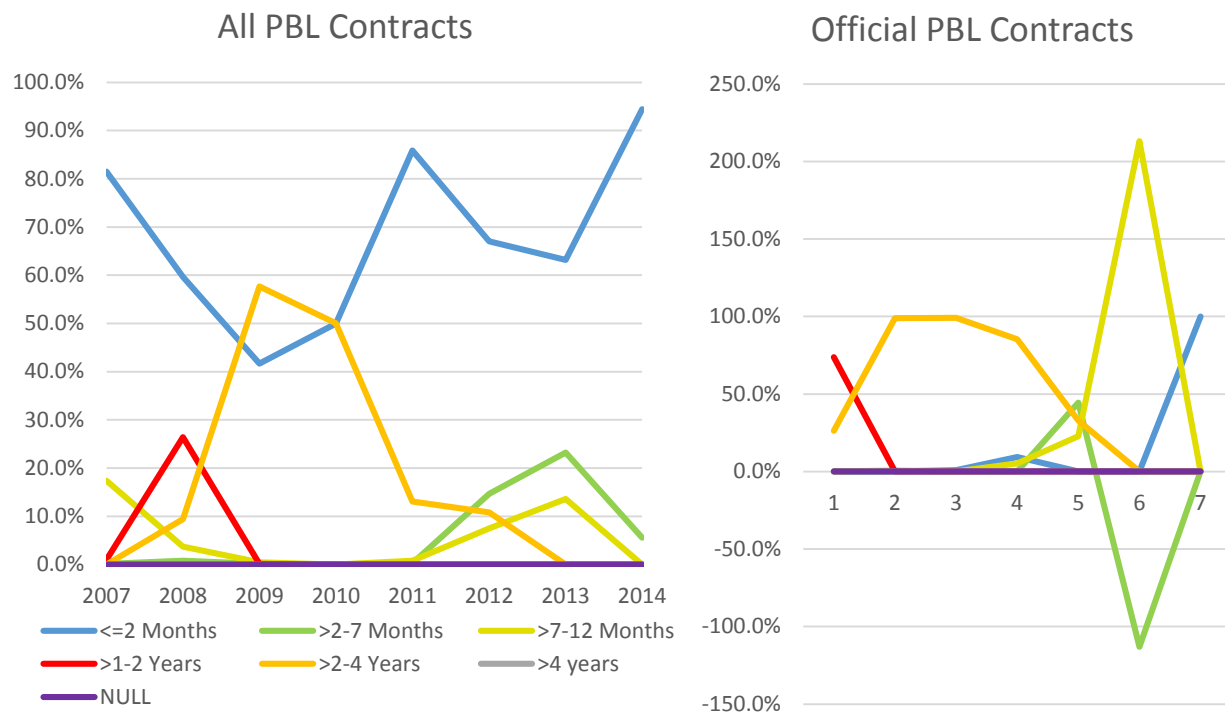
CSIS analysis of FPDS Data

According to data from the All Contracts dataset, the majority of Air Force PBL obligations go to contracts with ultimate durations of between two-four years. This is also the ultimate duration with the most dynamic growth during the period of 2007 to 2014. The other ultimate duration that experienced a growth in share was seven-twelve months. In total, the share of obligations going to contracts with ultimate durations of two-four years and seven-twelve months were 37 and 20 percent, respectively. While the share of obligations going to contracts with ultimate durations of between seven-twelve months grew, it did not hold the second largest share of obligations across the study period. Instead, obligations going to contracts with an ultimate duration of one-two years account for more: 23 percent. That said, the share of obligations going to contracts with that ultimate duration, as well as ultimate durations categorized as two-seven months, not classified, and less than two months all trend downward during the study period.

While data from the Official Contract dataset corroborate a growth of share in obligations going to contracts with ultimate durations between two-four years, there are differences in the share for ultimate durations of one-two years and seven-twelve months. For this dataset, the share of obligations going to contracts with ultimate durations of between two-four years was 41 percent, and it trends upward during the study period. Similarly, the share of obligations going to contracts with ultimate durations of one-two years and seven-twelve months trends upward, although less dramatically. Both accounted for 19 percent of total obligations, the next largest after two-four years. The share of obligations going to contracts with ultimate durations of less than seven months and over four years both decline during the study period.

DLA

Figure 7-23 - DLA PBL Obligations by Contract Ultimate duration



CSIS analysis of FPDS Data

Based on data from the All Contracts dataset, DLA PBL dollars primarily go to contracts with ultimate durations of less than 2 months: 60 percent. PBL obligations going to contracts with ultimate durations of two-four years account for the next largest share, at 32 percent. While in 2009 and 2010, the share of obligations shift toward contracts with ultimate durations of two-four years, the overall trend for this segment of the data is that DLA PBL contracts are primarily very short term.

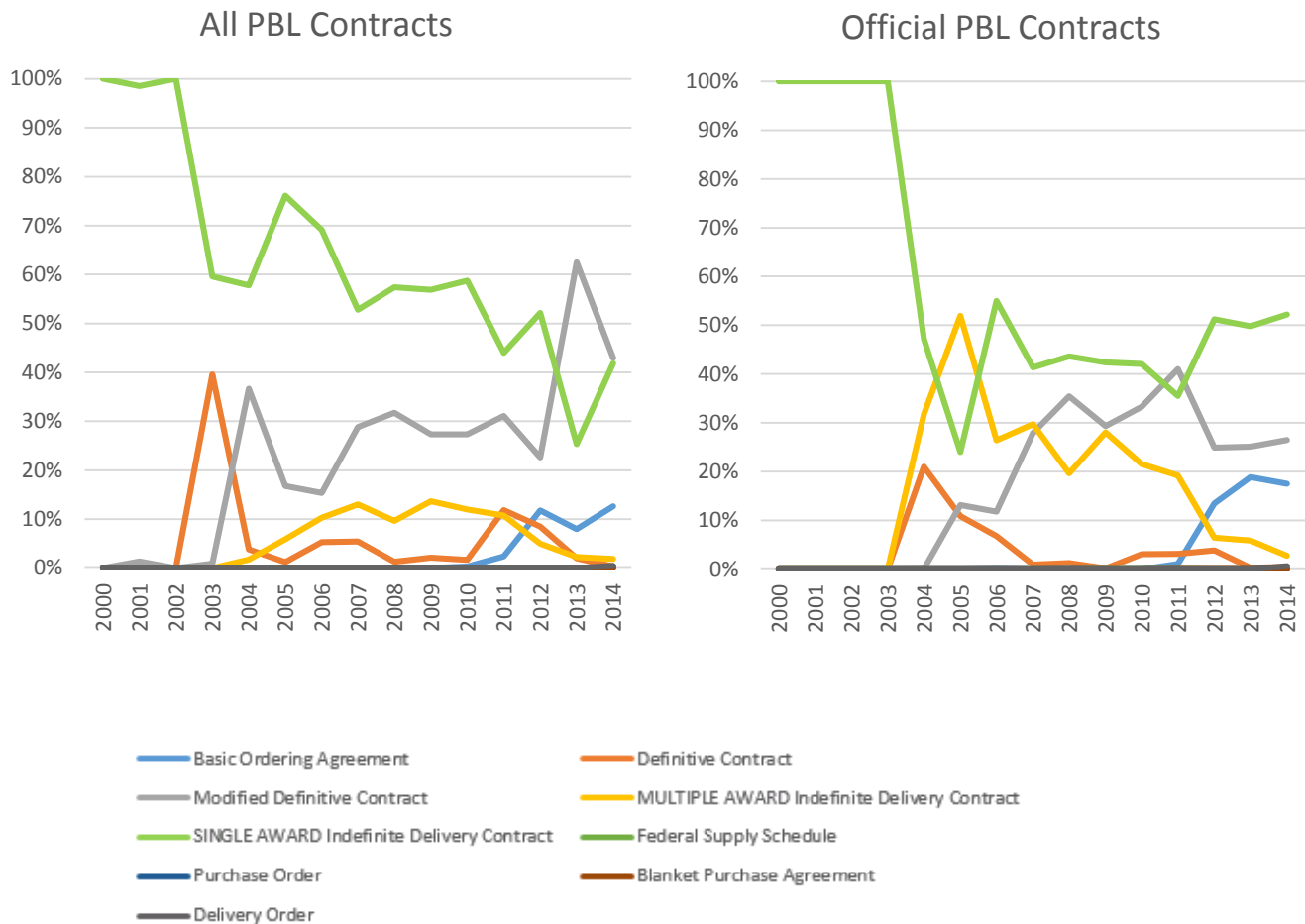
Data from the Official Contracts dataset are less conclusive. It indicates that in the beginning of the study period, DLA obligations for PBLs went primarily to contracts with ultimate durations of between two and four years. However, the data are volatile in later years, with a mix of different, shorter contract ultimate durations holding the majority of the share. A sizable de-obligation in two-seven month contracts in 2013 also greatly confuses the results.

7.5. Contract Vehicle

This section examines PBL obligations for Overall DoD, as well as the various DoD components through the contract vehicle used for the PBL contracts. Single award indefinite delivery contracts have been the primary vehicle for DoD-wide PBL contracting; however, that type of vehicle has been losing share to other vehicles in recent years. The comparatively calm aggregate pictures, shown in the figures below, mask very different trends from component to component.

Overall DoD

Figure 7-24 - PBL Obligation by Contract Vehicle for DoD from All Contracts Dataset



CSIS analysis of FPDS Data

Using the All Contracts dataset, we can see that for DoD as a whole, the majority of PBL contract dollars are shifting away from single award indefinite delivery contracts to modified definitive contracts. Overall, single award IDC contracts account for 46 percent of the obligations, while modified definitive contracts account for 38 percent. There was a spike in 2003, where 40 percent of that year's PBL obligations were contracted using a definitive contract, but besides this point, the remaining contract vehicles only account for 16 percent of the obligations for the study period.

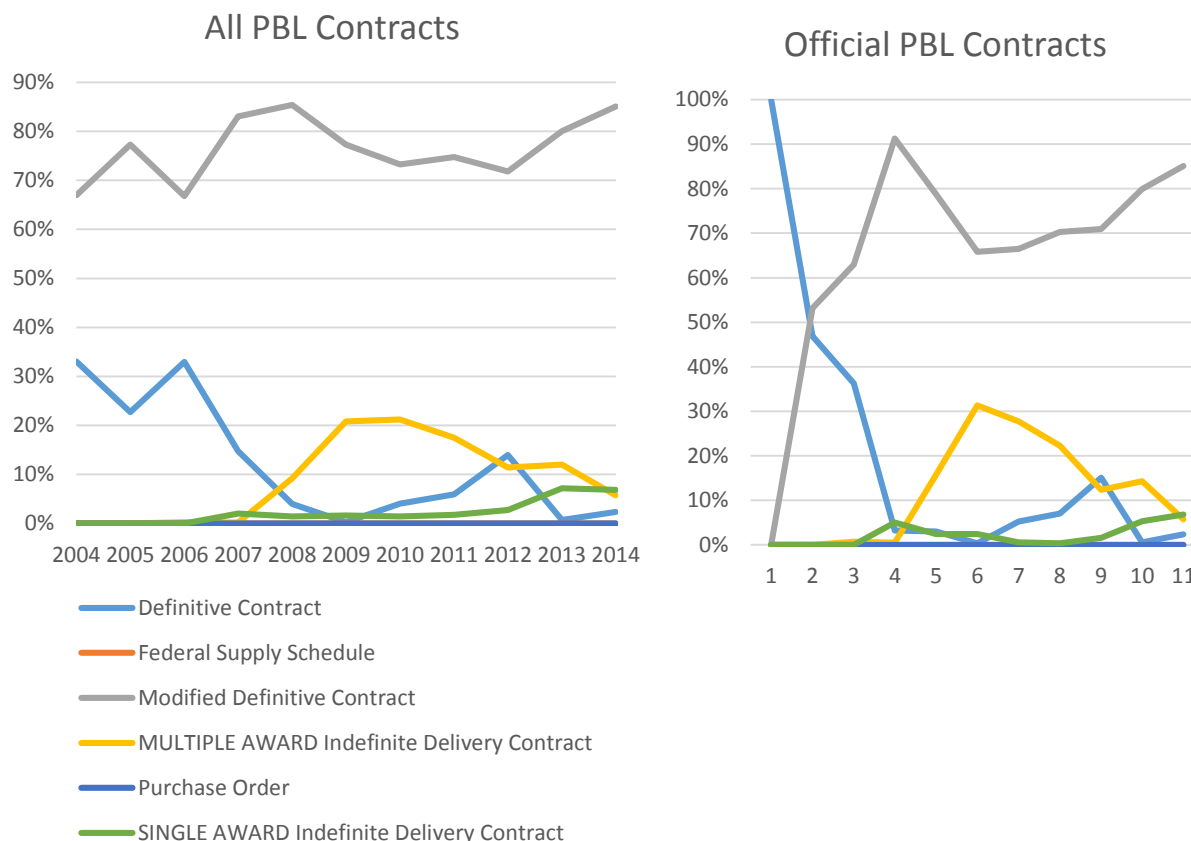
Using the Official Contracts dataset, we can see a similar trend regarding single award IDC contracts and a less pronounced inverse relationship with modified definitive contracts. In this dataset, single award IDCs account for 48 percent of obligations; however, modified definitive contracts account for 28 percent. Multiple award IDC contracts account for 12 percent of overall obligations and over 50 percent of obligations in 2005. After 2005,

however, that contract vehicle steadily lost share to modified definitive contracts, and the same trend as in the All Contracts dataset emerged.

Army

Both the All Contracts and Official Contracts datasets demonstrate that the primary vehicle for Army PBL contracting is modified definitive contracts by a large margin. Data on Army obligations for both datasets are only available for years 2004 through 2014.

Figure 7-25 - PBL Obligation by Contract Vehicle for Army from All Contracts Dataset



CSIS analysis of FPDS Data

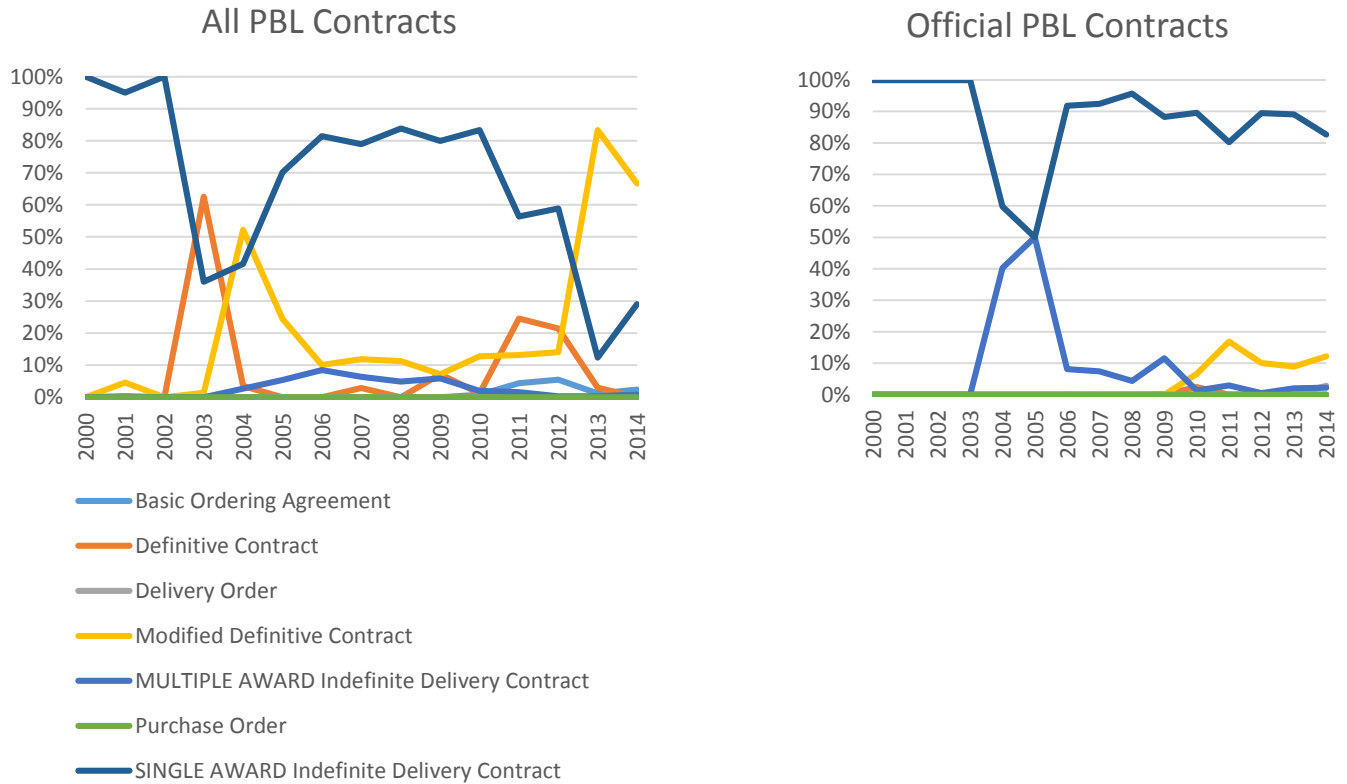
Using the All Contracts database, we can see that the Army primarily uses modified definitive contracting for its PBLs, as that contract vehicle accounts for 78 percent of all obligations. The next largest share is for multiple awarded IDCs and definitive contracts: 13 and 7 percent, respectively. Definitive contracts lose share over the study period, while modified definitive contracts gains share.

Data from the Official Contracts dataset corroborate the trend that modified definitive contracts dominate and is the contract vehicle that receives most PBL obligations. As in the All Contracts dataset, the share of obligations to this type of contract grew during the course of the study period. The share of PBL dollars going to modified definitive contracts during the study period is 74 percent, followed by multiple award IDCs and definitive contracts, with 17 and 6 percent, respectively.

Navy

The Navy's data from the All Contracts dataset and Official Contracts dataset, unlike for Army obligations, paint different pictures of how PBL obligations breakdown between contract vehicles. Data are available for all years, from 2000 to 2014.

Figure 7-26 - PBL Obligation by Contract Vehicle for Navy from All Contracts Dataset



CSIS analysis of FPDS Data

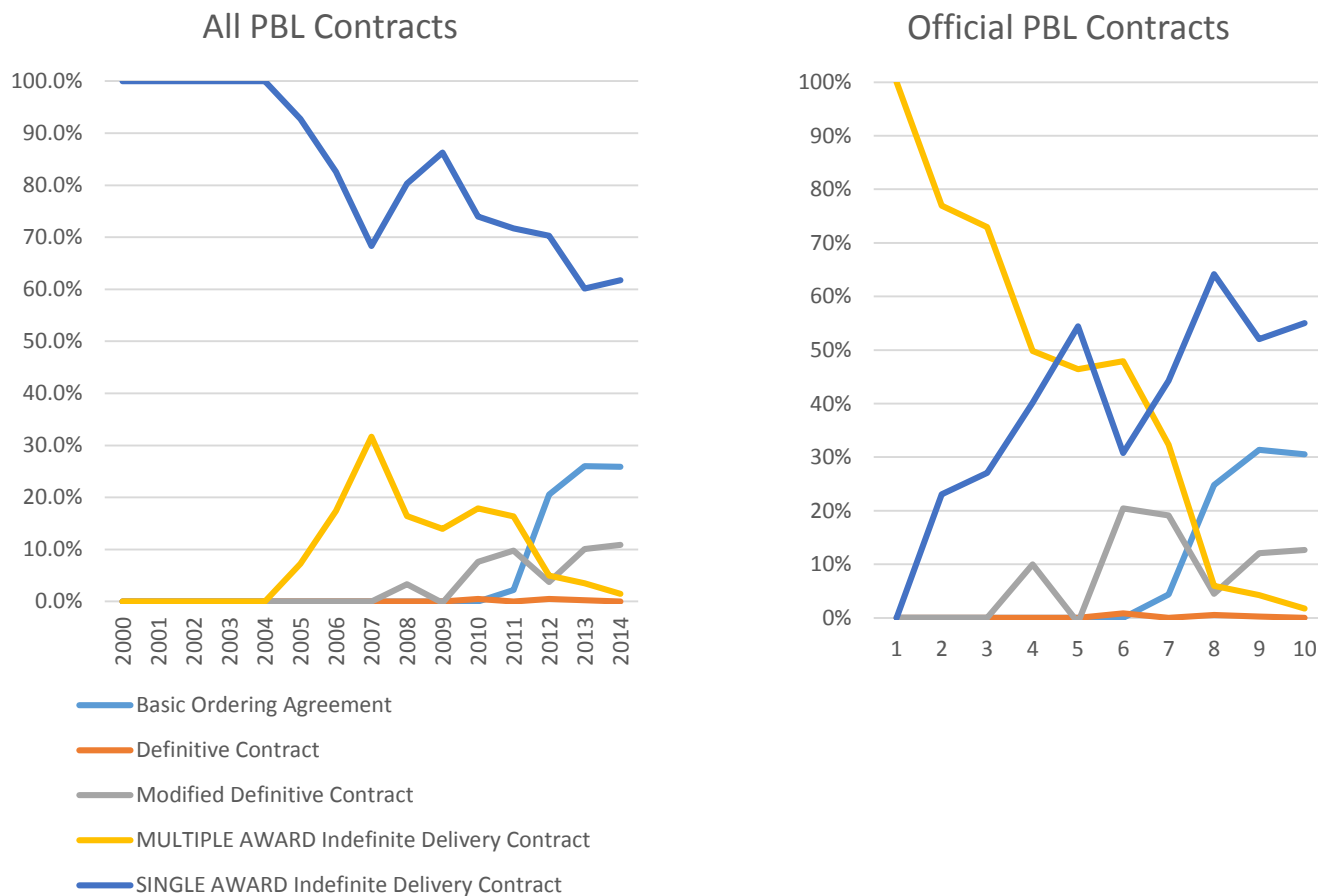
Data from the All Contracts dataset show a clear trend in the loss of share for single award IDC contracts and a growth in share for modified definitive contracts. Single award IDC contracts accounted for 100 percent of Navy PBL obligations in 2000, but fell to just under 30 percent in 2014. While it looks like they contain the single largest share of PBL contracting dollars during the study period, single award IDC contracts actually only account for 41 percent of all Navy PBL obligations. Modified definitive contracts hold the largest share at 49 percent because it held the majority of obligations in 2013, when Navy PBL obligations peaked at over \$11 billion. This one year of contracting dollars drives the majority status of modified definitive contracts. The share of modified definitive contracts Navy PBL obligations trends upward over the period.

Data from the Official Contracts dataset show a different trend than the All Contracts dataset: one in which single award IDC contracts maintain the majority share of Navy PBL contracts after losing shares quickly to multiple award IDC contracts in 2004 and 2005. Unlike the above dataset, in this dataset, single award IDC contracts account for 87 percent of all the Navy PBL obligations during the study period. The next largest were modified definitive and multiple award IDC contracts with 8 and 4 percent of obligations, respectively. In 2004 and 2005, multiple award IDC contracts took up a large share of obligations, matching single award IDC contracts at 50 percent of obligations in 2005. Afterwards, multiple award IDCs lost share, declining to 2 percent of obligations in 2014. Modified definitive contracts started to take share from single award IDC contracts after 2010; however, its share hovered around 10 percent during that stretch of time.

Air Force

Trends displayed in the All Contracts dataset and Official Contracts dataset differ greatly. Data are available for all years in the All Contracts dataset and only for 2005 through 2014 in the Official Contracts dataset.

Figure 7-27 - PBL Obligation by Contract Vehicle for Air Force from All Contracts Dataset



CSIS analysis of FPDS Data

Data from the All Contracts dataset show a fall in share of single award IDC contracts, with share being taken by a mix of other contract vehicles. In total, single award IDCs account for 74 percent of PBL obligations. After 2005, multiple award IDC contracts capture a portion of that share, holding as much as 30 percent of annual obligations in 2007 before falling to less than two percent in 2014. For the whole period, multiple award IDC contracts account for 8 percent of all Air Force PBL obligations. Basic ordering agreements, and their growth at the end of

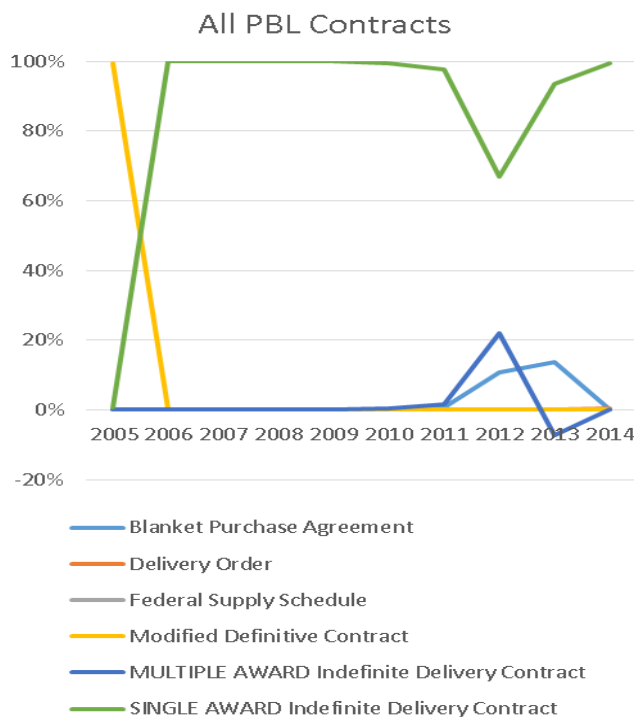
the study period, is unique to the Air Force. They account for 14 percent of all Air Force PBL obligations, the second largest share, and grow to nearly 30 percent of obligations in 2014.

Data from the Official Contracts dataset show a fall in share of multiple award IDC contracts, with shares being taken by single award IDC contracts and basic ordering agreements, the latter to a lesser degree. Obligations for this dataset are only available for 2005 onward, and they show a sharp decline in multiple award IDC contracts: from 100 percent in 2005 to less than two percent in 2014. Although multiple award IDC contracts are the sole contracting vehicle at the beginning of the study period, they only account for 13 percent of total Air Force PBL obligations, which is the third largest share. This is because the values of obligations early in the study period were smaller than those from later, when a smaller share of more obligations meant more obligations in total. Single award IDC contracts capture the most share during the study period, growing from less than one percent in 2005 to 55 percent of obligations in 2014. Air Force obligations contracted through the vehicle account for 53 percent of all Air Force PBL obligations during the study period, which is the largest share. The next largest share goes to basic ordering agreements, which holds 24 percent of total PBL obligations. As in the All Contracts dataset, this contract vehicle begins to capture shares after 2010 and grows to around 30 percent by 2014.

DLA

Data from the All Contracts dataset clearly demonstrate the DLA's overwhelming use of single award IDC contracts for PBL contracts. The Official Contracts dataset is graphically less conclusive, with large fluctuations of negative and positive shares of contracting dollars. Overall shares in Official Contracts match those in the All Contracts dataset.

Figure 7-28 - PBL Obligation by Contract Vehicle for DLA from All Contracts Dataset



Data from the All Contracts dataset clearly show the widespread, almost singular use, of single award IDC for PBL contracts. This one contracting vehicle accounts for 99 percent of all DLA PBL contracting dollars.

The annual data from the Official Contracts dataset are not displayed because it is volatile and inconclusive when it comes to trends. Instead, examining the aggregate data is more conclusive. When looking at the share of total DLA obligations by contract vehicle, we can see that, as in the All Contracts dataset before it, single award IDCs hold the majority of share at 98 percent.

CSIS analysis of FPDS Data

7.6. Comparative Analysis of DLA Contracts with the Military Branches

Examining the trends and characteristics in the data helps clarify the similarities and differences between DLA PBL contracting and PBL contracting in the rest of DoD. Unfortunately, the two datasets do not present a unified depiction of the ways in which DLA PBL contracting does or does not match the other components.

Of the four areas examined in the above data, only the trends in the contract vehicle section show a unified comparison of DLA's PBL contracting. Together, both datasets show the reliance on single award indefinite delivery contracts for PBLs. This is in line with the reliance of DoD as a whole, and also that of the Navy and Air Force. Army is unique in its preference of modified definite contracts.

All Contracts

The All Contracts dataset indicates that DLA differs from the other components in the remaining three categories. It shows DLA as the most competitive of the components, with an effective competition rate of over 60 percent. This rate is more than 20 points higher than that of the Army, the component with the next highest rate of effective competition. A 63 percent effective competition rate is also much higher than that of DoD as a whole, which is 14 percent.

The All Contracts dataset also indicates that DLA uses the shortest contracts compared to the other DoD of the components. This dataset indicates that the majority of PBL contracting dollars for DoD and its combat components went to contracts with ultimate durations of over one year, and often over four years. However, DLA PBL contracting dollars predominantly went to contracts with ultimate durations of less than two months.

Finally, the All Contracts dataset indicates that DLA is uniquely diversified in its PBL contracting efforts. The majority of PBL contracting dollars for DoD and all of its combat components go to Aircraft. Even the Air Force, which classified much of that work under the PAMS product or service code, was putting over half of its PBL contracting dollars to Aircraft. DLA, on the other hand, was predominantly contracting through PBLs to support Ground Vehicles.

Official Contracts

The Official Contracts dataset paints a different image of DLA PBL contracting, one more similar to the other components than depicted in the All Contracts dataset.

In the Official Contracts dataset, DLA now matches the behavior patterns of the other components by putting the majority of its PBL contracting dollars toward the Aircraft PSC. DoD and each combat component's PBL contracting dollars also predominantly go toward Aircraft, after factoring in the fact that that Air Force PAMS obligations are primarily going to Aircraft and Drones.

The Official Contracts dataset also indicates a much lower level of competition than the All Contracts dataset. In the Official dataset, the DLA level of effective competition is similar to that of the Navy and Air Force, 17 and 39 percent respectively. In the All Contract dataset, the vast majority of DLA PBL dollars go to competed contracts.

Finally, the Official Contracts dataset also indicates that DLA contracts for PBLs use much longer ultimate durations, as the majority of obligations go to contracts with ultimate durations of between two-four years. This is markedly different from the majority of dollars going to contracts with ultimate durations of less than two months. Interestingly, some combat components demonstrate less competition than in the All Contracts dataset. The Army's and Navy's PBL obligations primarily went to contracts with ultimate durations of between seven and twelve months. DoD and the Air Force use similar ultimate durations. Thus, in this dataset, DLA ultimate durations still differ from the Army and Navy, but they are similar to Air Force and DoD overall.

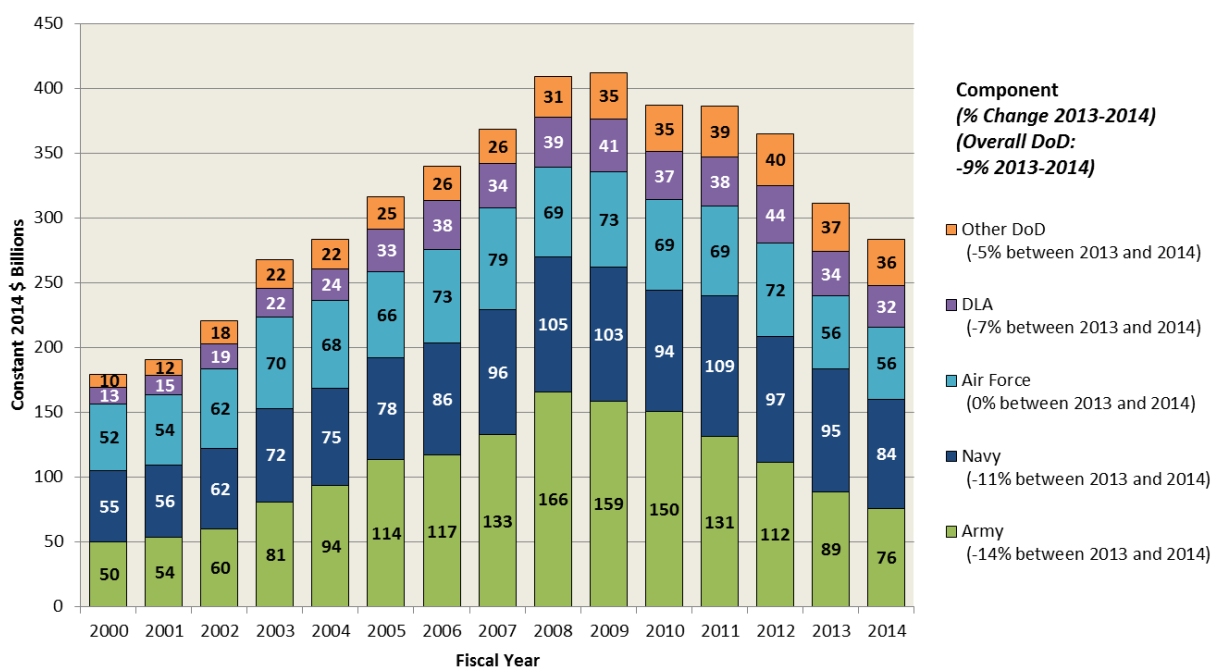
Contract Diversity Appears to be Inversely Proportionate with the PBL Spectrum

These results suggest a straightforward conclusion. The DLA sample was the only portion of the contract list where there was a specific data call for PBL-like contracts. As a result, that portion criteria for the All PBL Contracts dataset was most inclusive for the DLA. Thus the resulting disparity between All PBL Contracts results and Official PBL Contracts results suggest that more inclusive criteria is one of the main drivers for DLA's variance from the other components. Similarly, when DLA creates a contract with a greater number of PBL characteristics, it reassembles a contract created by the other services.

7.7. Overall DLA Contract Environment

Like the rest of the Department of Defense, DLA contract spending has come under pressure during sequestration—with the partial exception of Other DoD agencies. However, the drop from 2012 to 2013 is overstated due to the irregular distribution of fuel contracts. DLA contract obligations for fuels rose by almost \$8 billion between 2011 and 2012, and then returned to previous levels in 2013. The study team believes that this fluctuation is primarily the result of the timing of contracts, rather than any real fluctuation in fuel purchasing patterns. The average of \$8 billion fuels increase in 2012 and across the 2011-2013 period produced a decline of 6 percent for DLA contract obligations between 2012 and 2013 (as opposed to a 23 percent decline without accounting for the fuels anomaly). While obligations continued to drop in 2014, DLA still has comparatively more stability than the military departments, declining by only 7 percent. Air Force had the smallest decline from 2013 to 2014, but that masks the magnitude of the 2012-2013 drop.

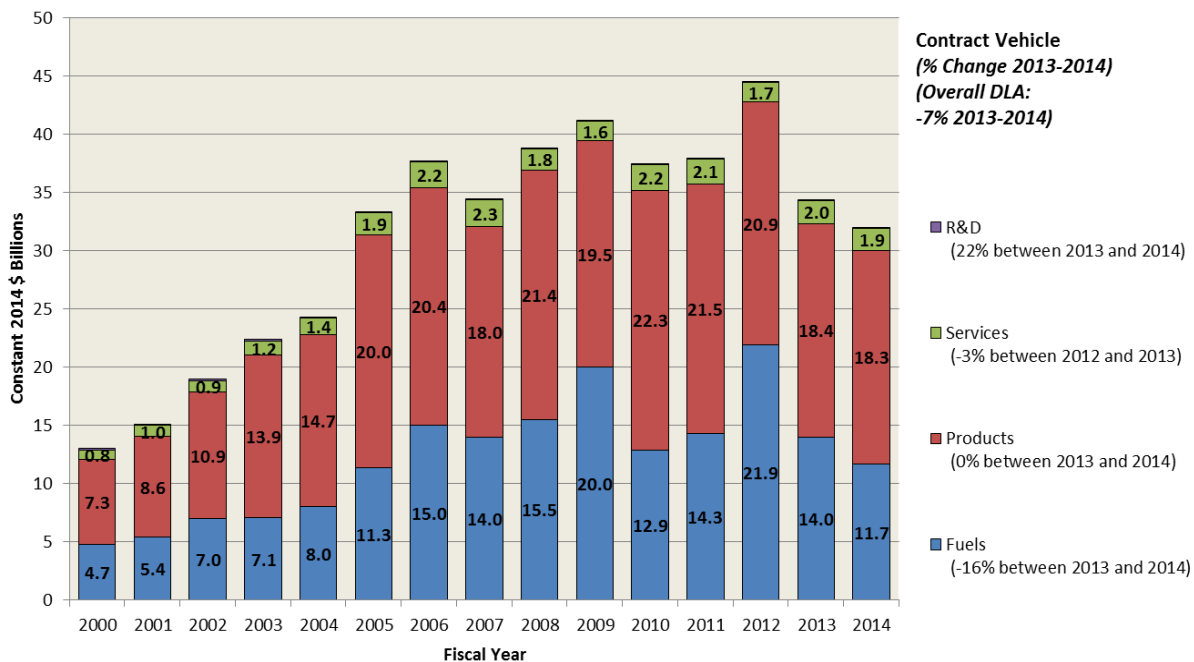
Figure 7-29- DoD Contract Obligations by Component, 2000-2014



CSIS analysis of FPDS Data

DLA Contract Characteristics that Complicate Use of Traditional PBLs

Figure 7-30- DLA Contract Obligations by Area, 2000-2014



CSIS analysis of FPDS Data

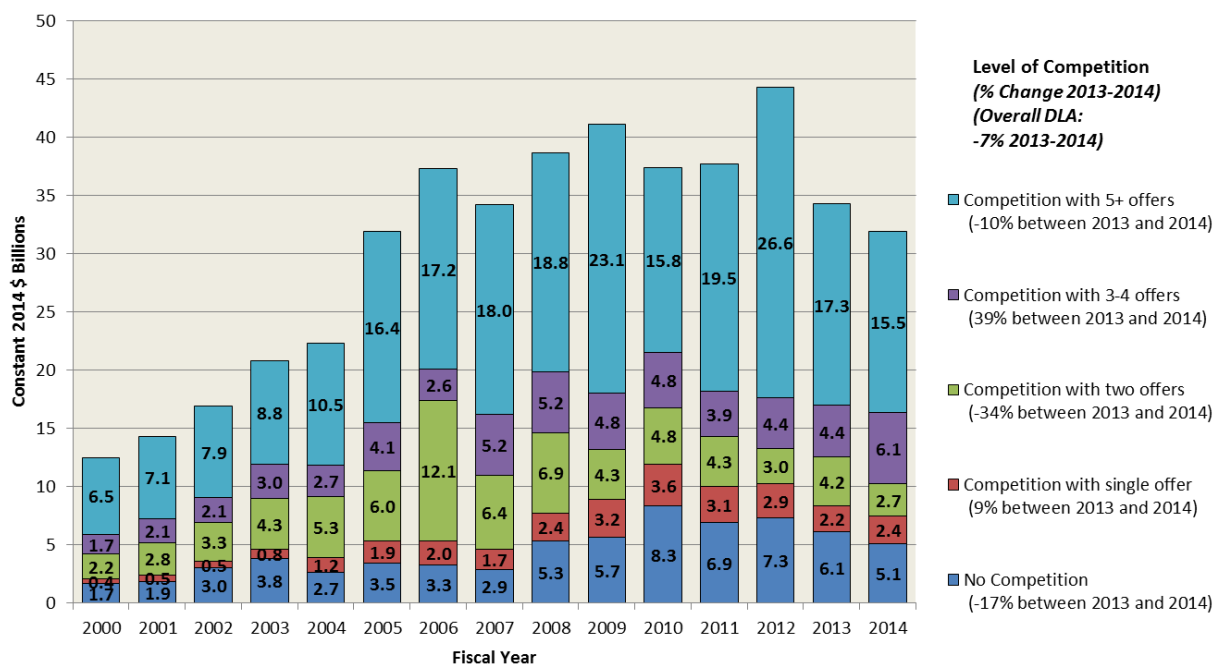
A closer look at what DLA is buying reveals both the potential for expanded PBL usage and the challenges. A third to nearly a half of DLA contract dollars each year go to fuels, a category beneath the scope of traditional PBLs. When examining remaining spending, DLA purchases are predominantly products, which are viable for PBL but not for Performance-Based Services Acquisition. However, the small portion of the spending that goes to services suggests that DLA may often not be responsible for the services related to the products it is purchasing. This can be a twofold challenge. First, it means that many DLA contracts might not be capable of meeting the definition of PBL used in this report, which requires at least some related services. Second, it means that DLA is often only dealing with one portion of the sorts of contracts that this report identifies as promising targets for expanded PBL usage. As the attempted Honeywell PBL shows, these problems are not necessarily insurmountable, but gaining the benefits of a true PBL may require expanding the scope of the project beyond simply providing parts and other subcomponent-level products.

DLA contract obligations are highly competitive, which paradoxically makes them a somewhat less target-rich environment to expand the use of PBLs. As Figure 8-3 shows, not only are a high percentage of DLA contract obligations awarded after effective competition, but the vast majority of those competitively awarded contracts receives five or more offers. In such a highly competitive contracting environment, it is likely that competitive pressures have already provided significant incentive to bidders to drive down costs and improve performance (to the degree that performance is evaluated in competition), which may imply a lower ceiling on potential cost savings and performance improvements under a PBL. That said, since 2008, DLA has still had several billion dollars a year in contract obligations that were awarded either without competition or after receiving only one offer, which means that there may be some opportunity to expand PBL usage to gain the benefits of competition in uncompetitive contracting sectors.

Overall, over 70 percent of DLA contract obligations have been awarded after effective competition in all but one year since 2000 (68 percent in 2010.) The rate of effective competition peaked in 2007 at 86 percent and has

recovered since its dip in 2010, hovering near 75 percent from 2011-2014. Interestingly, despite Department-wide policy efforts to reduce the instances of single-offer competition, the share of DLA contract obligations awarded single-offer competition actually increased from 6 to 8 percent between 2013 and 2014. In fact, the single-offer competition rate for DLA was higher in each year between 2009 and 2014 than it had been in any year prior in the study period.

Figure 7-31- DLA Contract Obligations by Competition, 2000-2014



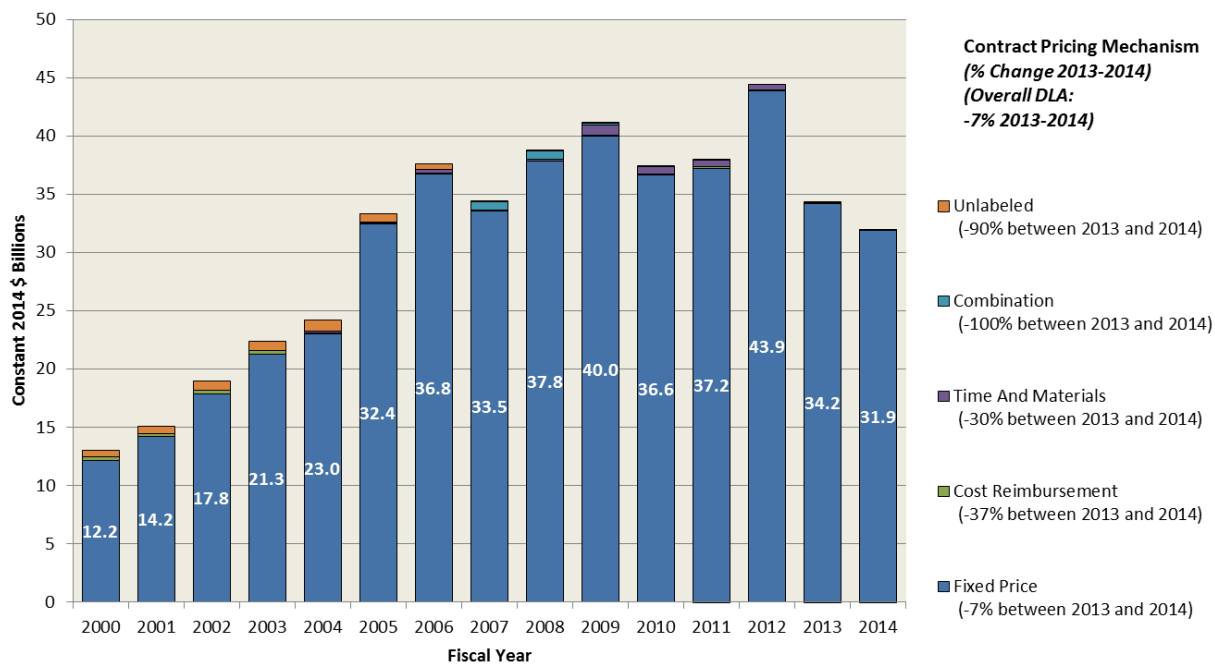
CSIS analysis of FPDS Data

DLA Contract Characteristics that Align with Official PBLs

As the data analysis and Proof Point study reinforced, PBLs are strongly associated with fixed price contracting.²⁶ The basis of fixed price is rather different than a typical transactional arrangement. Instead of buying by the part, a PBL pays for an outcome, which is often the availability of a platform or system over a set period of time. DLA's near complete reliance on fixed price contracts for all forms of contracting suggests that, in the broadest sense, adapting to PBLs preferred pricing mechanism should not pose a significant challenge.

²⁶ ["Proof Point Project: A Study to Determine the Impact of Performance Based Logistics \(PBL\) on Life Cycle Costs" Report](#) (ODASD (Materiel Readiness), November 30, 2011)

Figure 7-32- DLA Contract Obligations by Pricing Mechanism, 2000- 2014

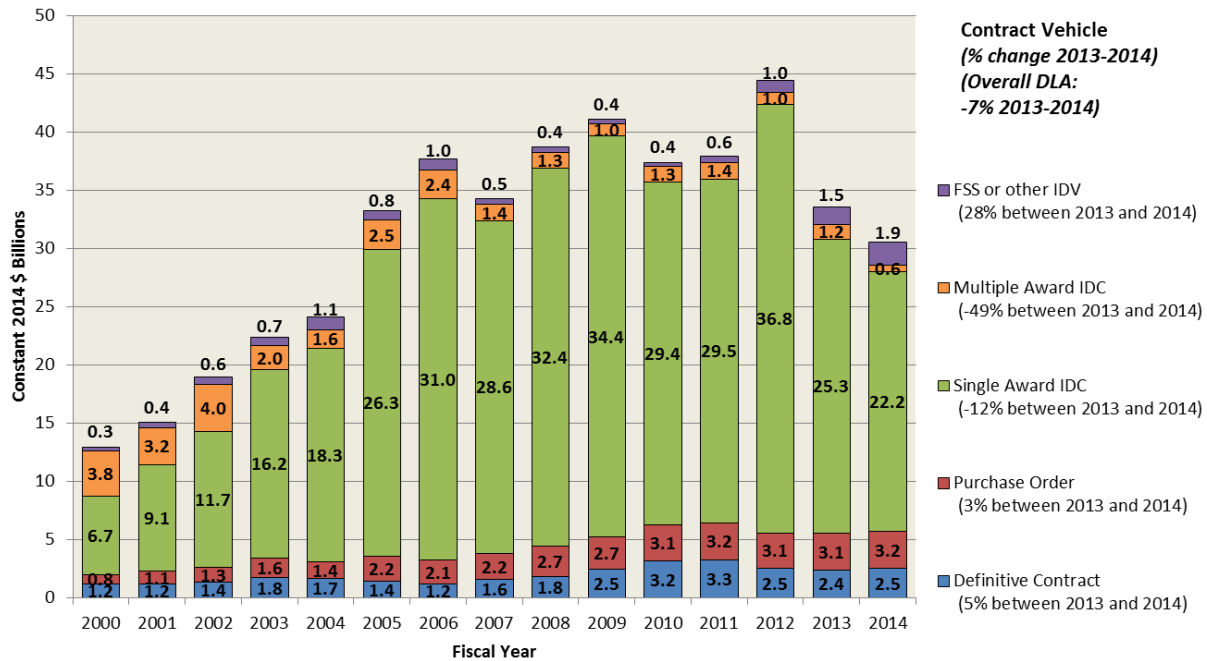


CSIS analysis of FPDS Data

Similarly, in terms of contract vehicles, DLA contracting is dominated by Single award IDCs, a common contracting type for PBLs throughout DoD. As was discussed earlier in Contract Ultimate Duration section, Single award IDCs allow the contracting office to maintain a longer relationship with a vendor, even if that vendor does not necessarily have a guarantee that their upfront investment will be rewarded through future contracts.

DLA's reliance on Single award IDCs has grown rapidly, rising from 52 percent in 2000 to 79 percent in 2005, and peaking at 84 percent in 2008 and 2009. That share remained near 80 percent from 2010-2012, but has declined sharply since, to 70 percent by 2014. This is not so much the result of significant increases in any other category (though contract obligations under FSS or other IDVs have tripled since 2010) as much as the fact that most of the declines in DLA contract obligations have come in Single Award IDC contracts.

Figure 7-33- DLA Contract Obligations by Contract Vehicle, 2000-2014



CSIS analysis of FPDS Data

In sum, while DLA faces a variety of constraints in the pursuit of more PBL contracting, the DLA's default approach to contracting is generally well suited to support future PBL efforts, with a contracting portfolio already heavy in fixed price and Single Award IDC contracts. At the same time, a heavily competitive contracting portfolio, combined with large amounts of obligations for fuels and low amounts of obligations for services, means that there may be a limit on the overall share of DLA's contracting portfolio that may be suited for a true PBL.

8. PBL Addressable Market Heuristic Analysis

The addressable market for Performance-Based Logistics contracts can be determined through multiple approaches. This report employs two high-level approaches. First, the PBL definition crafted for this report at the end of the Definition section gives additional attention to the contracts not typically addressed via PBL, or “edge cases,” raised by the DLA. Second, the study team has used PBL contract characteristics to create a heuristic scale for identifying where the groundwork has already been laid for future PBL contracting.

The heuristic is a four-part score from zero to ten that looks at how similar all DoD contracts are to existing PBL contracts. The four parts pertain to product or service code, competition, initial duration combined with vehicle, and pricing mechanism. The product or service code category is given double weight (a zero to four scale), while the remaining portions are weighted equally (zero to two scale). Classification is done on a contract-wide basis. If any part of the contract for a given year and component meets the criteria, then the score goes up for the entire contract.

Addressable PBL Market Heuristic:

Product or Service Code (Maximum 4 points):

- Four points: Uses one of the 20 product or service codes that capture 80% of known study period PBL spending, including spending by self-identified PBLs.
- Two points: Uses one of the approximately 150 product or service codes that has at least \$5 million in spending from 2000-2014, including spending by self-identified PBLs.
- Negative Two points: Uses only one of approximately 30 commodity codes. These codes refer to raw materials and agriculture products where satisfactory items are effectively interchangeable. This reduces the appeal of PBL as quality metrics are not applicable.

This characteristic is given the greatest weight because it is the only one that addresses what is being purchased. By comparing thousands of total product or service codes with the approximately 150 codes used for existing PBLs, this variable emphasizes the segment of the market that would not be breaking new ground. When expanding into areas where PBLs have not been used in the past, these heuristics can provide some guidance, but greater emphasis should be placed on the qualitative factors covered in the definition.

Competition (Maximum 2 points):

- Two points: The contract is not competed and uses an only one source exception. Competition with a single offer does not qualify for this criteria.

As is discussed in the section on Leveraging PBLs, one of the key potentials of this contracting approach is to drive down costs even when competition is not available. Those non-competed cases where only one vendor is available, as compared to urgency or national security reasons, hold the most potential because they inherently emphasize the vendor and government relationship.

Initial Duration Combined with Vehicle (Maximum 2 points, extra points are ignored):

- Two Points: The unmodified ultimate duration of the contract is four years or greater.
- One point: The unmodified ultimate duration of the contract is between two to four years.
- One point: The contract uses a single award indefinite delivery contract.

Contract duration is a critical enabler for PBLs. However, despite this variable’s importance, it is only a middling predictor of existing PBLs. Single award indefinite delivery contracts are another predictor that is commonly used with PBLs. Unlike duration, that vehicle is not specifically necessary or even preferred, but it does provide an opportunity for building a trusting relationship with a vendor that encourages capital investments—even if the duration of any given contract is limited. This variable is capped at two points because a single award indefinite delivery contract with an unmodified ultimate duration of more than four years has no theoretical advantage over other contract vehicles that also allow for considerable length.

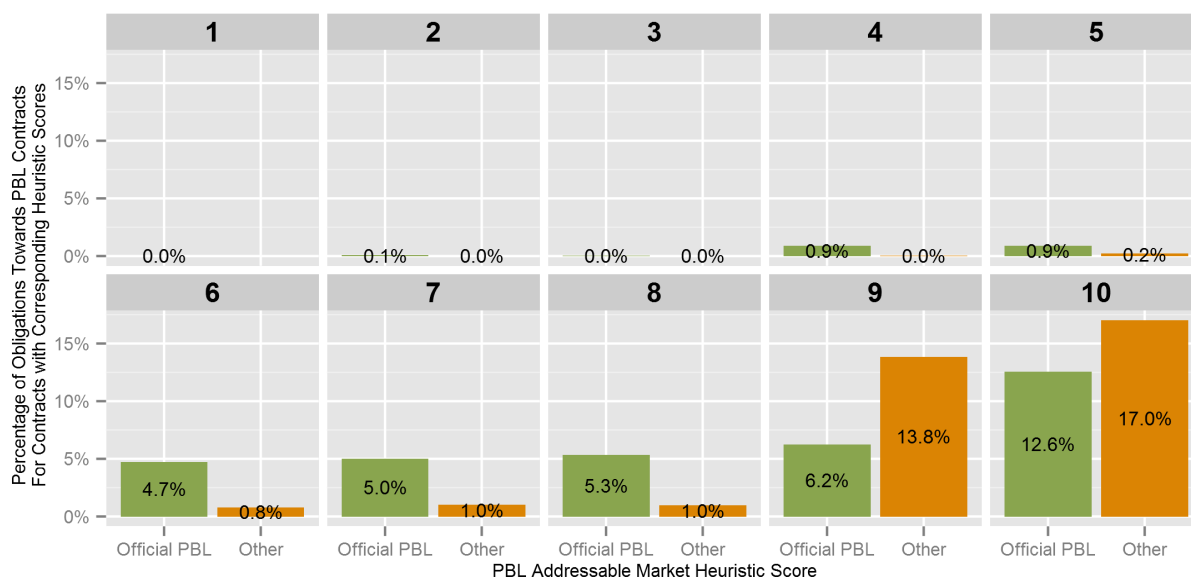
Pricing Mechanism (Maximum 2 points):

- Two Points: The contract uses a fixed price mechanism, excluding a fixed price level of effort.

Clear metrics that are relevant to the end user are a prerequisite for PBL contracting. The vast majority of PBL contracts use a firm fixed price mechanism, although this approach is very different from traditional transactional fixed price purchases. Interviews with international defense officials reinforced the idea that performance-based contracting does not have to be limited to fixed price contracts, but in the case of the United States it is still a useful indicator that the government believes it has a firm grasp on what it is buying.

The following graph is a benchmark for how effective these scores are at identifying existing PBL contracts. For contract spending from 2012-2014, when the PBL list is most reliable, the total spending of contracts with each score is pooled. After that, the percentage of spending that goes to official PBLs and other PBL identified-contracts is calculated. For example, for contracts with a heuristic score of six points, five percent of all spending goes to official PBLs.

Figure 8-1- Percent of Obligations going to PBLs by Heuristic Score, 2012-2014



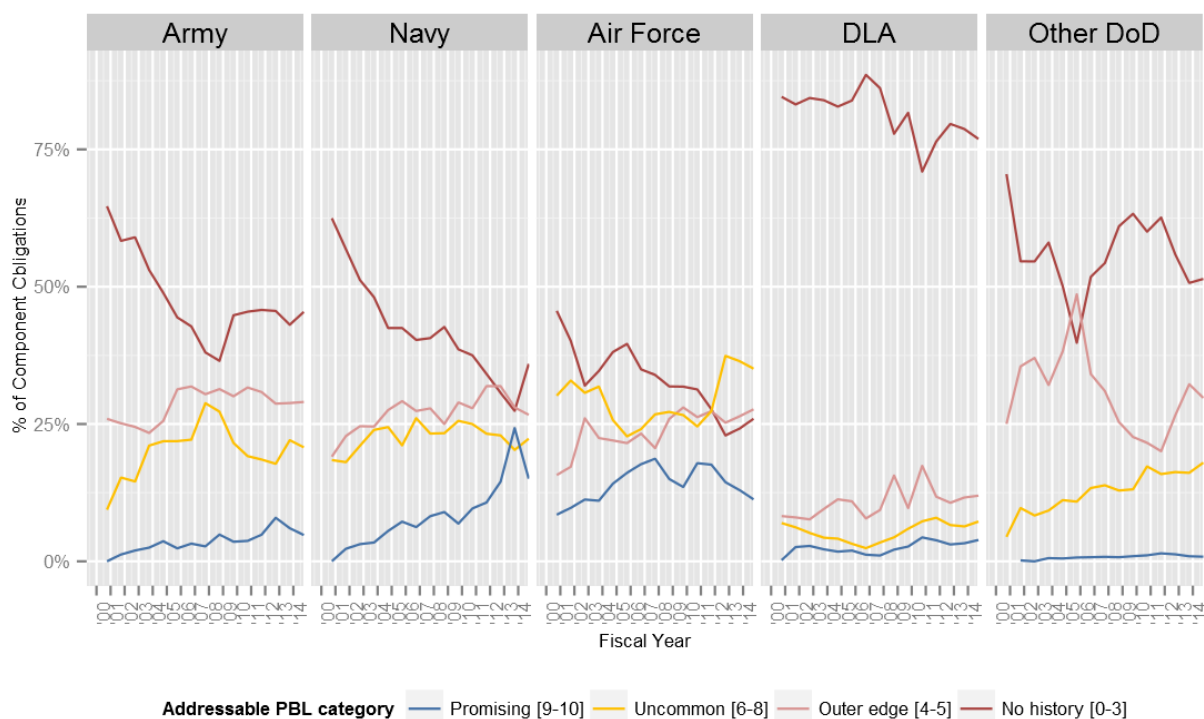
The next step in the analysis was examining scores, in order to group them into fewer categories. Contracts with zero points had no PBL content, and those with one to three points had practically no PBL content; thus, they were combined into the “No History [0-3]” category. Contracts with four to five points had an exceedingly small percentage of official PBLs and were thus combined into the outer edge categories. Interestingly, contracts with six to eight points each returned 5-6% in total PBL content, with only small increases as the score rose. Thus, they were grouped together as “Uncommon [6-8],” as there is significant PBL content but still remains a small portion of total spending in that category.

Finally, contracts with nine to ten points have significant PBL spending, both of official and other sorts. Surprisingly, the largest jump from eight to nine is not in the official category, which remained below 10 percent, but in the other category, which increased by an order of magnitude. These results indicate that the heuristic is not sufficiently granular to be a useful tool in predicting which contracts will achieve official PBL status. Nonetheless, the increase in PBL content is still noteworthy and is captured by the final category: “Promising [9-10].” The study team did consider treating nine and ten as separate categories, but instead has chosen to group them for this iteration of the report in order to reduce the risk of providing false precision with a broad tool. Critically, the goal of this heuristic is not to show where PBLs are but where they could be.

8.1. PBL Addressable Market Based on Heuristic Analysis

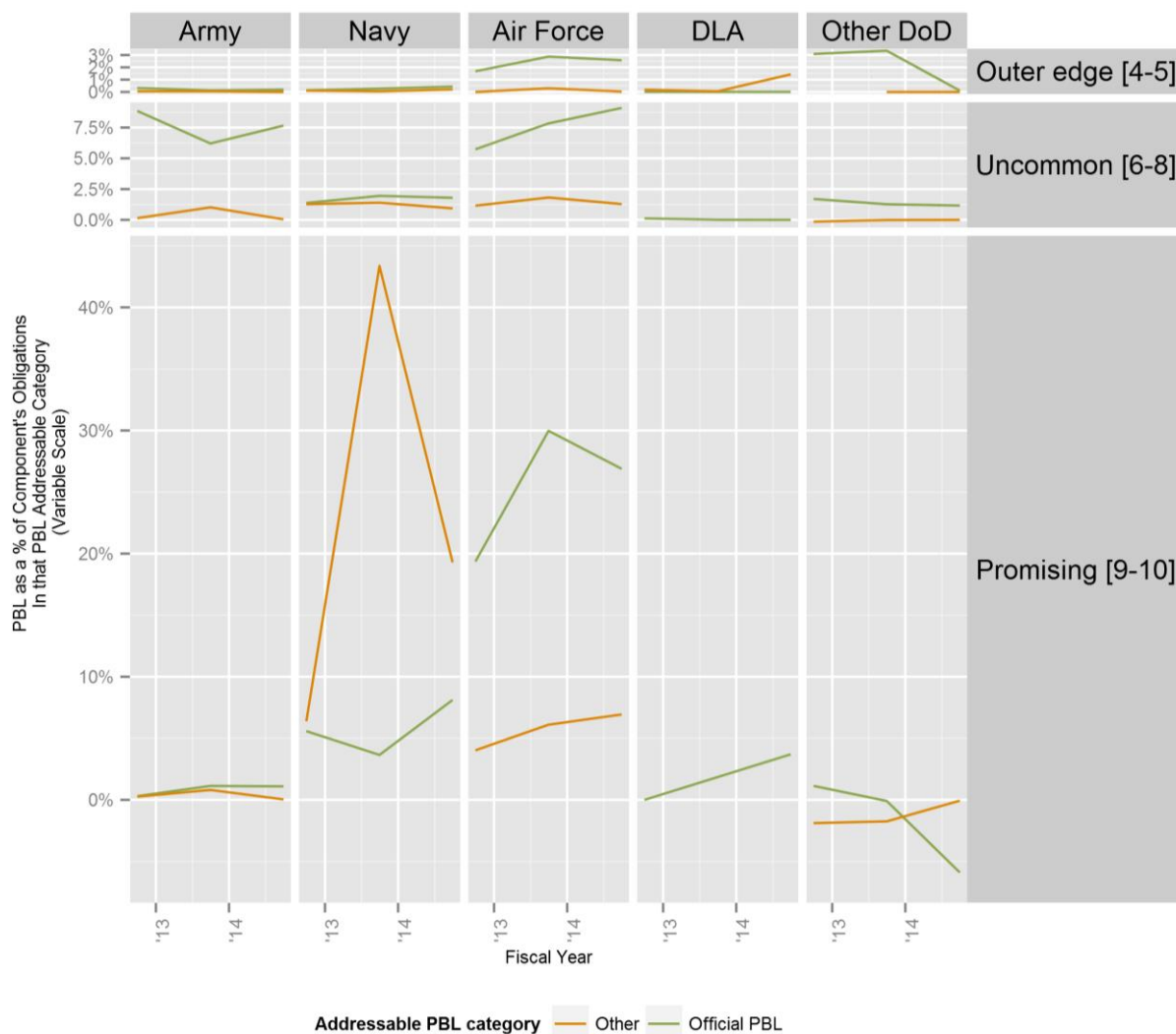
Based on the Overall DLA Contract Environment section, it is already possible to guess at the breakout of DLA's addressable market. While DLA is not known for longer term contracting, it does make active use of single award IDCs. Similarly, the agency predominately relies on fixed-price contracts, so many contracts will already start with three points. However, DLA is also known for its high competition rates, so non-competed contracts with only one source available will be rare. Similarly, DLA provides a wide variety of products to the larger enterprise, many of which have not been included in prior PBLs. However, those facets are missing a key factor: looking at one aspect at a time cannot reveal whether contracts that score high in one aspect also score highly in others.

Figure 8-2- Percentage of Contract Spending by PBL Addressable Market Category by Components



Examining the addressable PBL category by DoD component confirms this intuition. DLA, along with Other DoD and the Army, sits near the bottom of the percentage of contracts that score highly on the PBL heuristic. More remarkably, the DLA is also dominant in the no history category. As a prior section discussed, this can in part be attributed to DLA's significant purchases of fuel, but at 75% or above in most years, that rate verifies that many other products purchased by the DLA do not have a history of being included in PBL contracts.

Figure 8-3- Existing PBL as a Percentage of each Addressable Market Category by Component



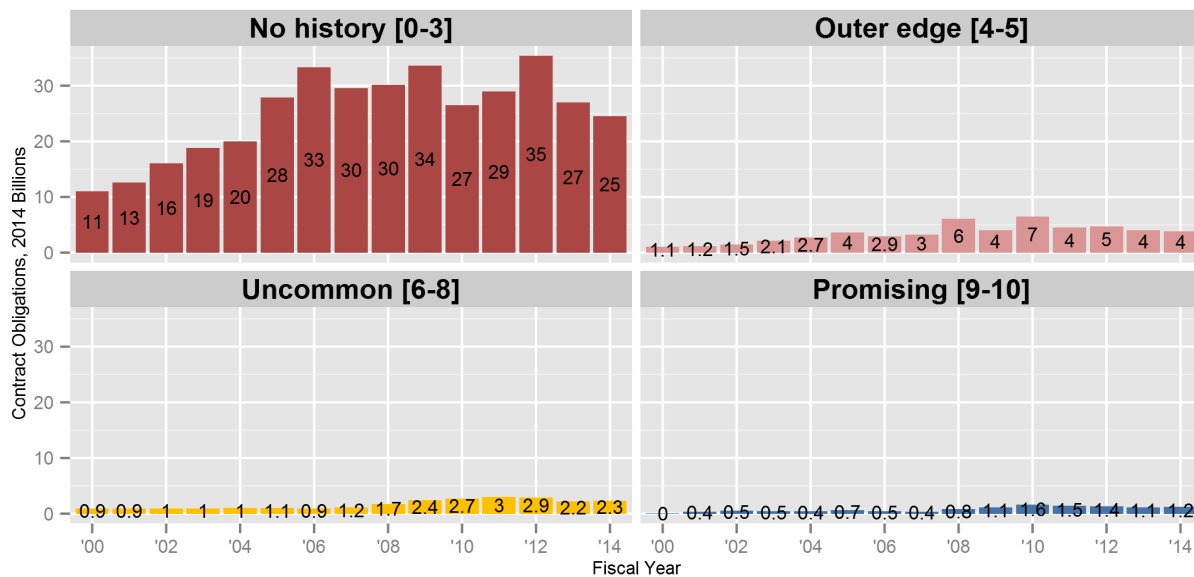
When looked at in percentage terms, both the “Promising [9-10]” and the “Uncommon [6-8]” sectors potentially offer DLA substantial room for growth. In Figure 8-3 above, each of the PBL-addressable market categories for each of the components is measured to see what percentage of the market goes to existing PBLs. The “Promising [9-10]” category is given more space because PBL usage rates are an order of magnitude higher than the other two categories. The “No History [0-3]” category is left off entirely because there was never more than a quarter of a percent of PBL usage in any year. Existing DLA PBL efforts, whether or not they are official, have shown growth from 2012 to 2014, but from a low baseline.

In the Promising category, both Navy and Air Force offer potential models as they have notably higher rates of PBL usage, even disregarding the non-official PBL outlier for Navy in 2013. However, when moving into the “Uncommon [6-8]” category, the Army and Navy that are in the lead instead. The Army’s focus on the “Uncommon [6-8]” category is partially driven by that service’s reliance on definitive contracts over single-award IDCs, but the change in ranking also indicates that the Army does PBLs for product and services categories outside of fixed-wing aviation and the other top 20 product and service codes. At the outer edge, the Air Force and “Other DoD” have the highest official rates, but DLA has a growing non-official PBL rate that is unmatched by the other services.

These percentages indicate that DLA is making slow progress in the comparatively small “Promising [9-10]” category. Based on the contracts in the study population, DLA has a lower rate of utilization in the “Uncommon [6-8]” category, and this may represent low-hanging fruit. Both Army and Air Force use official PBLs for more than 5 percent of their spending in that sector. Since DLA’s “Uncommon [6-8]” addressable market category is roughly twice the size of its “Promising [9-10]” category, any changes in that area have a greater effect. Finally, on the outer edge, DLA contracting efforts have not been recognized as official PBLs, but 2014 was still an upswing year in this category. As the outer edge is typically at least twice the size of the “Uncommon [6-8]” sector for DLA, small changes do have outsized effects, and this is also a comparatively challenging category in which to do PBL work.

8.2. DLA’s Addressable Market by Product or Service Category and Office

Figure 8-4 DLA contract spending by PBL addressable market category

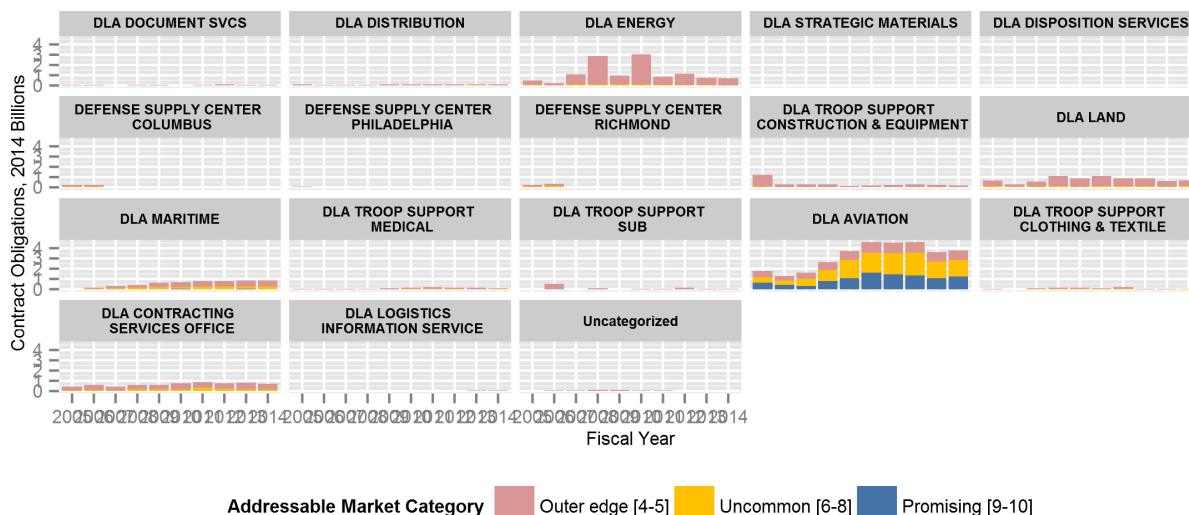


Before discussing dollar values, the study team would like to re-emphasize that the heuristic PBL addressable market categories are meant to provide a map as to where PBL opportunities may be found. As was shown in Figure 8-4, less than thirty percent of contract dollars go to PBL contracts even for those contracts awarded the maximum addressable market score. Some of the promising contracts are certainly poor fits for PBLs and others may not withstand a business case analysis. With those caveats aside, in dollar terms, the size of the promising market has grown since 2008, consistently topping \$1 billion every year since even after declines during the sequestration period. The uncommon market category experienced a bump from 2008 to 2012 and remains above \$2 billion every year.

In the outer edge category, spending spiked in 2008 and 2010 before stabilizing at above \$4 billion from 2011 to 2014. Across the study period, for all but two years this category exceeds the uncommon and promising spending categories combined. The ratio of the three categories remains fairly consistent. The uncommon and outer edge categories remain consistently larger, but the majority of these categories are likely unsuitable for PBLs. In other DoD components, at most 10 percent of dollars in these categories went to PBLs. However, they may still be suitable for the Australian model of conducting tailored performance-based contracting²⁷.

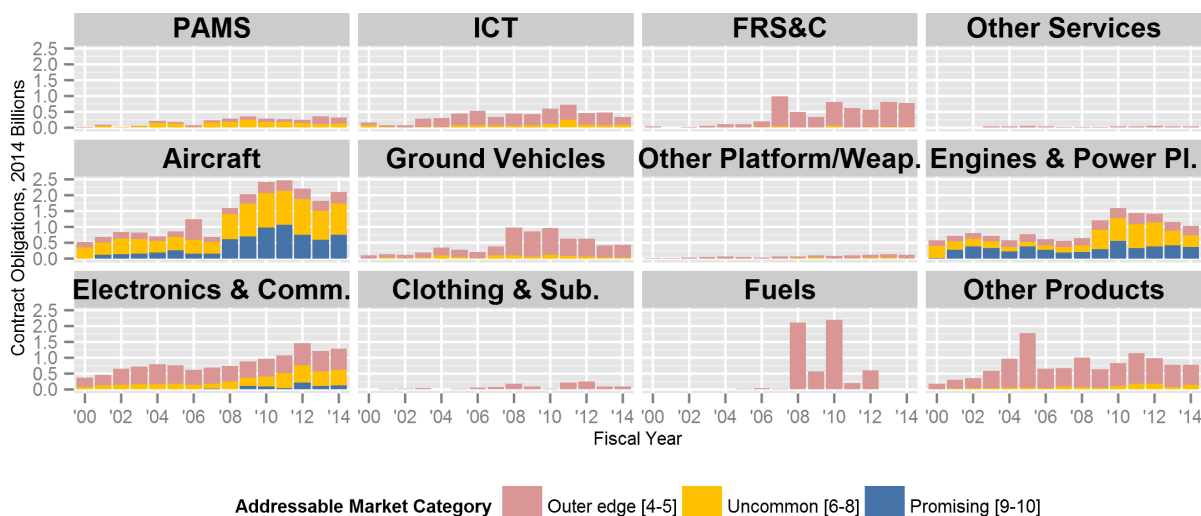
²⁷ See recommendation 8 for further discussion of this model.

Figure 8-5: DLA Contracts Obligations by Addressable Market and Major Contracting Command (as classified by FPDS)



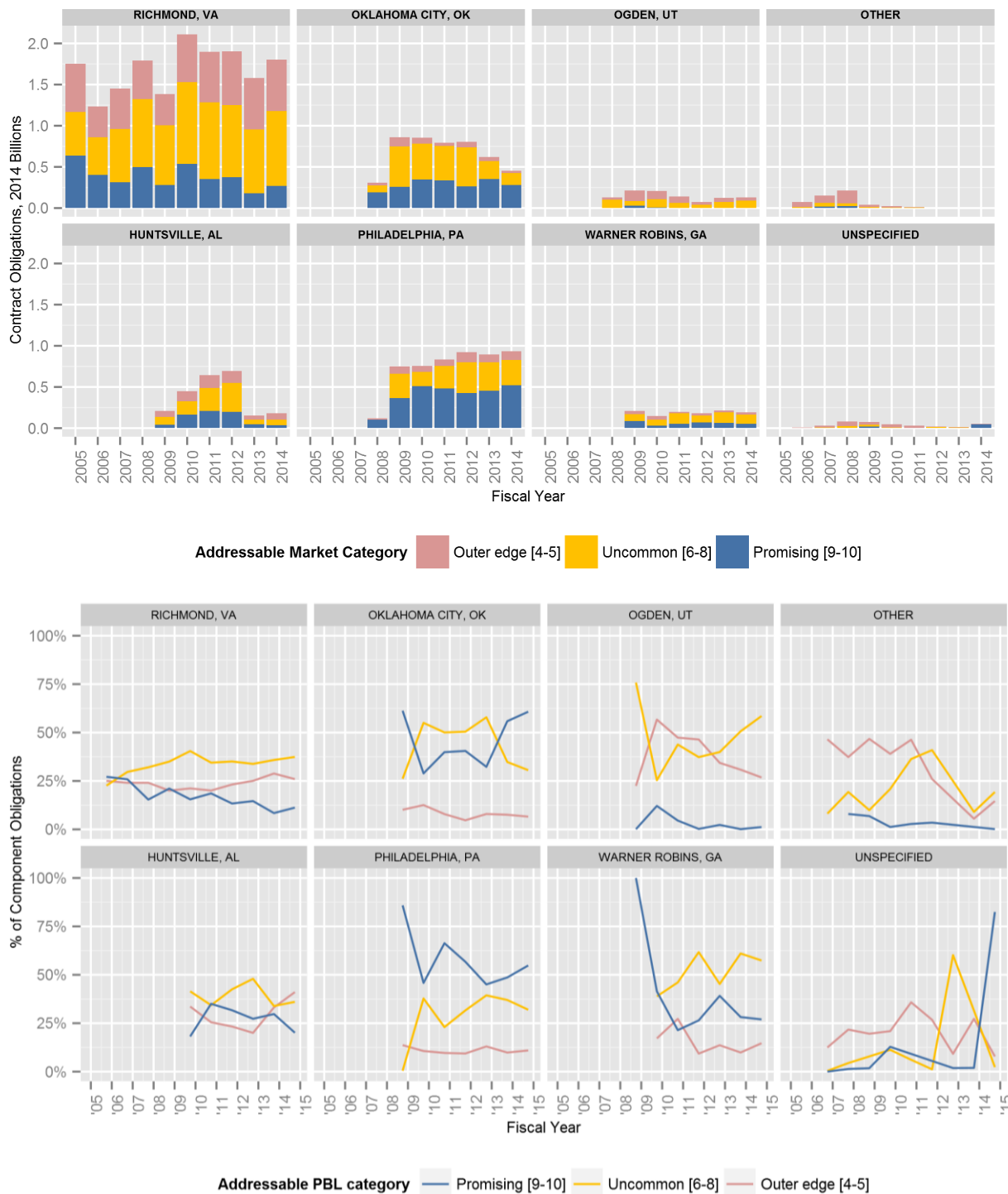
A closer look at the breakdown of the PBL addressable market category by Major Contracting Command shows that DLA Aviation accounts for the overwhelming majority of Promising and Uncommon obligations. The minimal spending in DLA Land and DLA Maritime is surprising, given the existing PBL-like contracts under the jurisdiction of both commands. This comparatively low level is driven in part by the higher competition levels under those commands.

Figure 8-6: DLA Contract Obligations by Addressable Market and Product or Service Bucket



While DLA Aviation accounts for an overwhelming proportion of Uncommon and Promising obligations, there is more diversity considering the distribution by product or service area. Unsurprisingly, given DLA Aviation's predominance, the Promising PBL addressable market is focused in two areas: "Aircraft" and "Engines and Power Plants." However, aviation-related contracts go beyond support for the system and engines. Other subsystems and components are likely included in the PAMS and Electronics and Communications categories, both of which include more complex products and services, have significant proportions of Uncommon and to a lesser degree Promising contracts.

Figure 8-7: DLA Aviation Contract Obligations by Addressable Market and Contracting Office



Finally, the study team explored the distribution of DLA Aviation's PBL addressable market by contracting office. The locations include multiple contracting offices that are co-located. Richmond is responsible for the plurality of Promising and Uncommon spending. However, Philadelphia and to a lesser extent Oklahoma City have rivaled Richmond in the category of Promising spending. For both commands, as well as Huntsville and Warner Robbins, a larger percentage of total contract obligations go to the Promising PBL addressable market category than Richmond receives in later years.

9. Findings and Recommendations

Thus far, this paper have been largely descriptive, explaining the strategies, policies, and data surrounding PBLs. This section provides recommendations that build upon the observations in the previous sections.

Findings and Recommendations Tied to the Larger Enterprise

As mentioned earlier, DLA's sustainment mission exists to provide support to the military services. All DLA PBL arrangements must be understood first and foremost as natural extensions of this support. Developing PBL arrangements that are tightly defined around the current relationship between DLA and the military services is almost certain to sub-optimize the proposed solution, especially when compared to an arrangement designed around a combined DLA and military service vision for the path ahead. DLA should continue to engage in a robust discussion with the military services concerning a strategic approach to PBL.

Recommendation 1: DLA should leverage the Better Buying Power 3.0 Initiative's focus on PBL to develop a coordinated strategic approach to PBL with the military services.

The study team received a variety of inputs as to whether or not existing appropriations law and color of money issues presented a significant barrier to optimal execution of PBL contracts, particularly in regards to contract scope and contract duration. At a minimum, it is clear that there is substantial confusion in this area. Guidance specific to the use of O&M appropriations and Working Capital Funds to support multiyear PBL contracts with significant scope is needed to clear up this confusion. If existing appropriations law is found to provide a significant barrier to optimal PBL usage, DLA should work with the Office of the Secretary of Defense to seek specific authorization from Congress for the use of O&M and Working Capital Funds to support PBL contracts that are broad in scope and have a duration longer than 12 months.

Recommendation 2: DLA should work with the Assistant Secretary of Defense for Logistics and Materiel Readiness and the Under Secretary of Defense (Comptroller) to clarify the use of Operations and Maintenance (O&M) appropriations and Working Capital Funds to fund PBL contracts.

In cases where investments are clearly required to achieve performance objectives, longer duration contracts are likely to prove superior to shorter, frequently competed contracts. The study team learned that long duration contracts are routine for sustainment arrangements in the international arena. While these approaches inherently establish a longer term partnership, they can also incorporate the flexibility needed to adjust over time. They are often constructed to provide for price negotiation at regular intervals, in order to adjust pricing as market conditions change. These contracts may also provide extensions and option years as a reward for superior performance well ahead of the usual time frame for executing options. While a portion of DLA's business deals with relatively simple items, there are also much more complex items in DLA's mission that may benefit from a longer term approach, as discussed in the next recommendation.

Longer contracts contain, of course, inherent risks, as they lock the government into a particular partner and rely on the successful projection of future needs. The consistently expressed vendor preference for longer contracts supports considering the Australian approach²⁸ of using contract duration as a primary incentive for performance. Under this approach, a contract may have an initial duration of five years, but starting with year two, each year the government decides whether to add to the period of performance. For these decisions, the burden of proof is on the vendor to show that the extension is merited according to well defined performance benchmarks. The Australian approach presents challenges for DoD given its different legal and regulatory environments, but may be applicable for performance-based contracts executed through indefinite contract vehicles. The related use

²⁸ Interview with Dr. Andrew Jacopino, Executive Director Contracting - Sustainment and Performance Based Contracting | Contracting and Legal Division | Defence Materiel Organization.

of past performance criteria in the Air Force's Civil Augmentation Program (AFCAP), a multiple award IDV, shows that the concept of using contract performance ratings as the basis for the award of additional work has already been applied within the Department of Defense. The DLA has already regularly used IDVs for contracts that adhere to some PBL principles, which provides a helpful foundation for such experiments.

Recommendation 3: Consistent with PBL strategy discussions with the military services under Recommendation 1, DLA should explore whether extending contract duration as an incentive for PBL contracts could better achieve the performance objectives being sought.

A contract which adheres to fewer PBL tenets may nonetheless achieve cost savings and quality increases. Similarly, levels of success will vary even among official PBL contracts. DoD is already taking efforts to catalog both the number and the outcomes of PBL contracts. Any rigorous approach to these questions will need to acknowledge contracts that, at the outset, appeared to meet all PBL criteria but did not provide some or all of the desired benefits.

Recommendation 4: The study team recommends that DoD consider elaborating on the definition of a PBL in its policy and guidance, potentially incorporating some of the elements included in the definition used for this study. The current definition focuses on what a PBL achieves instead of what it is. Additional clarity in the PBL definition may assist DLA and military services in PBL strategy discussions.

[Findings and Recommendations Primarily Implementable within DLA](#)

The study team found that some of the best PBL successes have revolved around resolving issues with especially problematic parts, whereas industry's ability to invest in improvements and process changes under PBL constructs have been able to address long-running issues with problematic parts. PBL can also be used to generate internal incentives for performance improvement, akin to competitive pressures, in sole source situations. Both of these problems are frequently present in the supply chain for legacy parts and also for parts experiencing obsolescence issues.

There is currently a significant opportunity to examine these areas to see if they fall within an area where a coordinated PBL strategy makes sense. Legacy parts are an excellent place to start looking for PBL opportunities because they are typically lower reliability and are often only available from a single source. See Chapter 4 for further elaboration on this matter and additional high leverage areas for PBL contracts.

Recommendation 5: DLA should explore PBL arrangements to address legacy parts in the supply chain and issues of parts obsolescence.

The study team found that all of the DoD components, and DLA in particular, have significant contract obligations in areas that appear promising for PBL. In these areas, however, PBL is used less than half the time, and in DLA's case PBL usage was less than 10%.

Recommendation 6: DLA should further refine its estimate of the addressable market for PBL within DLA activities, informed by PBL strategy discussions with military services and potentially using the addressable market analysis from this study as a starting point. DLA should engage with discussions with industry on its addressable market estimate and on potential areas for significant performance improvement within this portfolio.

The goal of understanding the addressable market is to increase effective use of PBLs, in line with the BBP directive and in support of the objective of achieving cost savings and quality improvements. However, interview revealed that past attempts to increase PBL usage sometimes resulted in contracts that were described as PBLs but were implemented in a manner that did not take advantage of PBL best practices. Similarly, the outputs of PBL

contracts are of far greater interest to DoD than the number of contracts which can be labeled PBL. For that reason, OSD contract reviews are attempting to collect and standardize information on the results of PBL contracting.

The study team developed its heuristic assigning contracts a PBL addressable market score by building on the results of past studies of PBL contracts, contract data, and interviews. Future estimates of the addressable market should continue to build on the best available empirical data. The quarterly PBL review and its attempt to standardize reporting of results should be a firm foundation for future work. This study has already incorporated a range of qualitative looks at when PBL contracting is most effective, but future analysts will increasingly be able to apply quantitative measures as well.

Recommendation 7: BBP3.0's implementing instructions call developing "common ways to measure PBL effectiveness, including benefits and savings, and to use those measures to track results." DLA should consider building on the quarterly results of this study to iterate and enhance DLA's understanding of the addressable market for PBLs within the agency and throughout the enterprise.

The study team found that knowledge of PBL definitions, strategy, and execution remains a relatively rare commodity in the workforce and that rotation of personnel has the potential to disrupt the partnerships required for effective PBL. DLA can address these issues with a combination of DLA specific guidance and education and training. Such training should include, among other subjects, negotiations with vendors, smoothing transitions to PBL, and managing depot vendor relations.

Recommendation 8: DLA should develop policy guidance for DLA personnel involved in PBL program management, contracting, and contract administration discussing the importance of open communication and partnering in PBL arrangements. DLA should also continue detailed trainings and education for these personnel on the use of Performance-Based Logistics contracting.

A range of DLA activities fall at the border or beyond the scope of traditional PBLs, even if they cover similar systems. This represents part of the basis for Recommendation 1, but this paper also seeks to address how DLA manages contracting now and not just how it may manage it in the future. The boundary line for PBLs may grow brighter as the handbook is revised and the census of PBLs progresses. However, performance-based contracting may still be a useful form of cost savings that can achieve DLA's goals even if the mechanism does not qualify as a PBL. The range of existing DLA contracts, many of which were not on the official PBL list provided by DoD, showed measurable benefits and were accomplished under existing rules. Between PBL guidelines and those for performance-based services, there is a notable gap for performance-based product contracts.

Recommendation 9: DLA should consider guidance specific to performance-based products contracts at the lower end of the PBL complexity spectrum, where DLA's mission primarily lies. The study team was briefed on similar guidance from one international PBL customer who distinguished requirements for PBLs across the full spectrum of complexity.²⁹

An illustration of this guidance is attached as Appendix C.

²⁹ Interview with Dr. Andrew Jacopino, Executive Director Contracting - Sustainment and Performance Based Contracting | Contracting and Legal Division | Defence Materiel Organisation.

Appendix

A. Interview Questions

In its discussions with industry experts and government officials, the study team sought the answers to a variety of questions:

- What is your position in relation to the PBL contract for _____ and/or Performance-Based Logistics contracting?
- How many PBL contracts are there and how do they break down between system, sub-system, and component?
- What was the incentive structure set up for the vendor?
- How did the vendor perform?
- Were there any changes in affordability and quality during the PBL?
- What was the cost?
- What do you feel are the tenants that have made any of the PBLs particularly successful?
- Have there been any challenging or disappointing aspects of any PBL contracts?
- Are there any cost savings that you have noticed during your time working with these contracts?
- How long are the contracts that are in place? [Are they] 1 year contracts, 3 [year], 5 [year], or 7 [year]?
- Does the type of funding, or color of money, influence the length of contract you are able to use?
- What do you see as the services the PBL contracts provide beyond delivering spare parts and repairables?
- Are there any markets into which you could imagine PBL contracts being expanded?
- Are there any other thoughts or impressions you would like to share with me?
- Are there other contracts you have worked on that would be worth examining?
- Are there any other people that you would recommend we talk to?
- If we sign a non-disclosure agreement, is there any data you would be willing to share?

B. FPDS Data Processing Notes

Demand Size Contract Characteristics

This study considers a variety of contract characteristics: the contracting component, the type of product or service being procured, the funding mechanism, the contract vehicle, the contract size, and the extent of competition. In several cases, a classification can be derived from a single field of the database, using groupings established by the study team. Characteristics that require multiple fields or that introduce other complications are listed below.

Competition

The study team followed DoD methodology and calculated competition by using two fields: extent of competition (which is preferred for awards) and fair opportunity (which is preferred for most IDVs). Additionally, in order to better evaluate the rate of “effective competition,” the study team categorizes competitively awarded contracts by the number of offers received.

Contract Vehicle

Determining the contract vehicle required classifying both awards and indefinite delivery vehicles (IDVs). While classifying awards is straightforward, classifying IDVs requires the referenced IDV contract type field, which is only available via the FPDS web tool. The study team recreated this field by automatically looking up the referenced parent IDV for each delivery order. When this lookup was unsuccessful, typically because the IDV originated before the study period, the study team relied on tables downloaded from the FPDS web tool. This approach may not exactly match the FPDS web tool results, but it allows for cross-tabulation, enables emulation of the DoD method for calculating competition as discussed below, and removes the discrepancies that result from the use of multiple sources.

Contract Ultimate Duration

Contract ultimate duration refers to the number of days between the effective date and the original ultimate completion date of the contract at the time when it was signed. Often, the actual duration of the completed contract may be shorter, but the ultimate duration shows the flexibility available to the government and can be reported for ongoing contracts.

Data Reliability Notes and Download Dates

Any analysis based on FPDS information is naturally limited by the quality of the underlying data. Several Government Accountability Office (GAO) studies have highlighted the problems of FPDS (for example, the December 30, 2003 report “Reliability of Federal Procurement Data,” and the September 27, 2005 report “Improvements Needed for the Federal Procurement Data System—Next Generation”).

In addition, FPDS data from past years are continuously updated over time. While all records for fiscal year 2007 were submitted and closed by 2010, over \$100 billion worth of entries for 2007 were modified in 2010. This explains any discrepancies between the data presented in this report and those in previous editions. The study team changes over prior year data when a significant change in topline spending is observed in the updates. Tracking these changes does reduce ease of comparison to past years, but the revisions also enable the report to use the best available data and monitor for abuse of updates.

Despite its flaws, the FPDS is the only comprehensive data source of government contracting activity, and it is more than adequate for any analysis focused on trends and order-of-magnitude comparisons. In

order to be transparent about weaknesses in the data, this report consistently describes data that could not be classified due to missing entries or contradictory information as “unlabeled” rather than including it in an “other” category.

The 2014 data used in this report were downloaded in February 2015.

C. Australian Graduations of Performance-Based Contracting³⁰



Range of Defence Materiel Organisation Performance Based Contracting (DMO PBC) Contracting Models and Features

	PBC Lightest	PBC Lighter	PBC Light	PBC
Typical Scope of Work	<ul style="list-style-type: none"> technical services (e.g. engineering help desk) consulting support 	<ul style="list-style-type: none"> simple support contract for element of support (e.g. spares) technical services (e.g. engineering help desk) consulting support 	<ul style="list-style-type: none"> simple support contract for element of support (e.g. maintenance) technical support (e.g.) 	<ul style="list-style-type: none"> large scale, long term support contracts with PSIs / OEMs for all elements of support (e.g. engineering, maintenance, supply chain, training, etc.)
Typical Annual Value (AUD)	Less than \$1M	\$1M - \$5M	\$5M – \$20M	\$20M - \$100M
Number of FTE to operate	less than 0.2	0.2 – 0.4	0.4 – 1	1 – 2
Typical Number of KPIs	5 measures <i>(inc 2 x SPMs, 2 x KPIs and 1 x SHIs)</i>	5 measures <i>(inc 2 x SPMs, 2 x KPIs and 1 x SHIs)</i>	2	3 - 5
Typical Number of SPMs and SHIs			5 – 8	8 – 15
ASDEFCON Template	Services v2.3	Services v2.3	Support Short v1.0	Support v3.1
Drafting Complexity	2 page table within Price and Payment Attachment	2 page table within Price and Payment Attachment	Stand alone Attachment with 2 pages per KPI	Stand alone Attachment with 4 pages per KPI
Payment at Risk?	✗	✓ (option)	✓ (option)	✓ (default)
Contract Extension Linked to Performance?	✓ (option)	✓ (option)	✓ (option)	✓ (default)
Stop Payment Linked to Performance	✗	✗	✓ (option)	✓ (default)
Termination Linked to Performance	✓ (option)	✓ (option)	✓ (option)	✓ (default)

³⁰ Received from correspondence with Dr. Andrew Jacopino, Executive Director Contracting - Sustainment and Performance Based Contracting | Contracting and Legal Division | Defence Materiel Organisation