Dispelling the Myths of DoD's Affordability Policy

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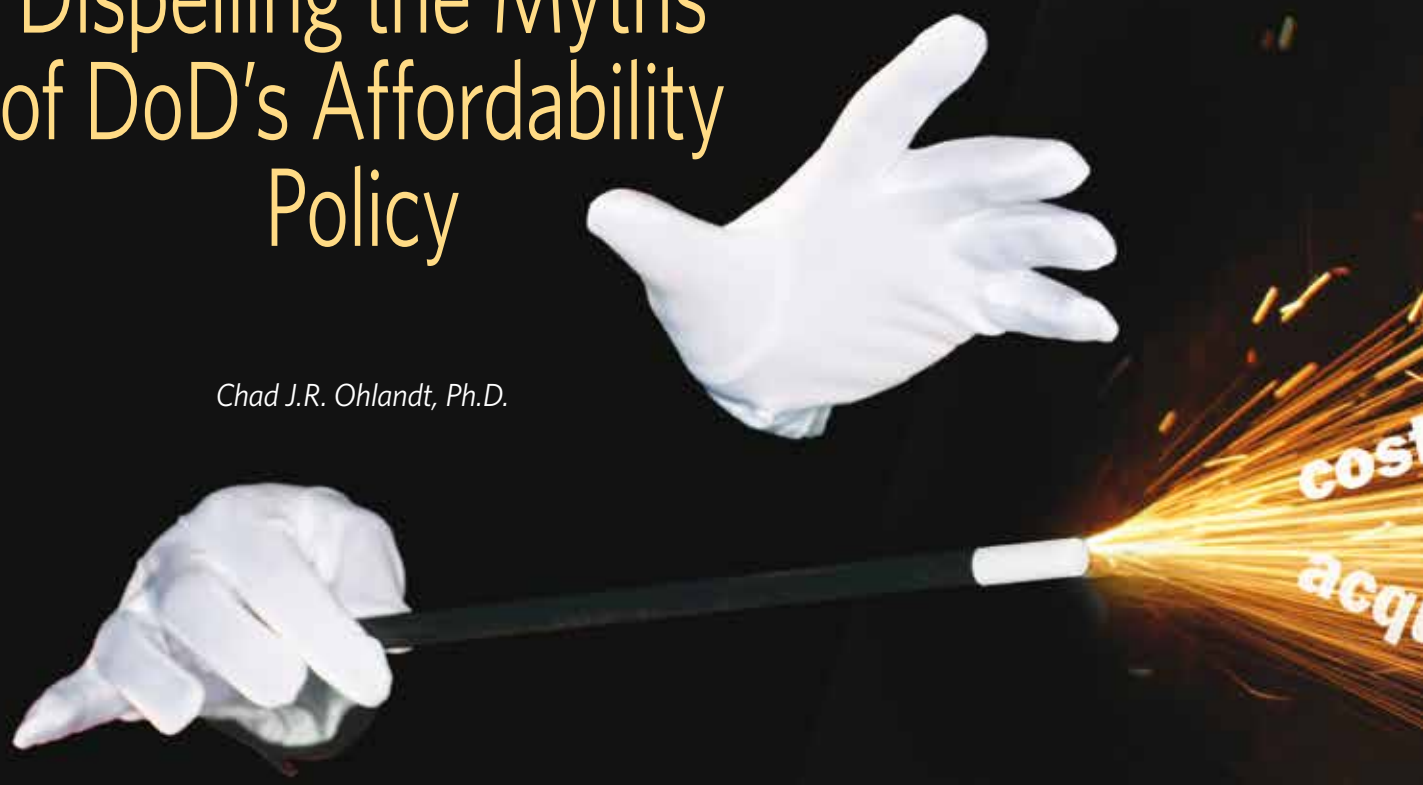

The term "affordability" has taken on a particular meaning in the context of DoD's recent policy and process changes. Efforts to better define and enforce affordability began recently with the first Better Buying Power (BBP) memo in 2010 and have continued with BBP 2.0, revisions to DODI 5000.02, and updates to the *Defense Acquisition Guidebook* (*DAG*). While many techniques have the potential to better estimate costs, to drive costs down, and to make products and services more affordable, they are often confused with affordability policy. Affordability policy is about establishing the dollar amount the Component is willing to spend on the desired capability in the context of all other fiscal demands over the long term. This is a Component-wide leadership responsibility requiring inputs from multiple communities.

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Affordability is *not:*

1. *Cost consciousness, cost control, or acquisition strategy.* Those are things the acquisition community can do to satisfy affordability constraints, but they do not establish the constraints.
2. *Based on cost estimates.* Affordability constraints eventually are reconciled with cost estimates but are not derived from them, even if Component leadership prefers to start with rudimentary costs estimates to help scope the allocation of resources.
3. *Established by the acquisition community.* The program manager (PM) is responsible for demonstrating at milestones that affordability analysis has been done, but the Component leadership, through planning and programming staff, has to weigh the requirements vs. the resources and make allocations.
4. *A cost-benefit analysis of a single program.* The value of the program effort must be viewed in the context of future limited resources in total obligation authority (TOA), not just a cost-benefit analysis in isolation of other limitations.
5. *Soft constraints toward hopefully saving some money.* Affordability constraints force the Component to reconsider requirements, quantities, or even the program's existence when the constraints cannot be met or raised.

Myths 1 and 2—Affordability is just a fancy name for our existing tools.

The first two myths are very common within the acquisition community, because it lives and breathes cost consciousness, cost control, acquisition strategy, and cost estimates in a daily effort to achieve affordability.

- Cost consciousness—sensitivity to potential savings or costs in present or future
- Cost control—should cost or requirements management

- Acquisition strategy—getting the best bang for buck

The three activities above all are important in meeting affordability constraints. However, they are not relevant to setting those constraints in the first place. Affordability constraints are about how much you are willing to pay, not how much you actually have to pay.

Nor is affordability about how much you expect to pay per cost estimates. Obviously, if the cost estimates are higher than the affordability constraint you are willing to pay, you have a problem. The sooner that problem is recognized and addressed, the less likely that an acquisition program will develop and design an unaffordable system. On the other hand, if cost estimates are less than what you are willing to spend, there are decisions to be made. The Component can lower what it is willing to pay and the associated affordability constraint. On the other hand, the Component might increase the quantity or the performance specifications to match all the resources they are willing to allocate. Regardless, the cost estimate is not the affordability constraint, but cost estimates are compared with the constraint to help assess affordability.

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Myth 3—The acquisition community can decide what is affordable.

The third myth, that affordability analysis is internal to the acquisition community, gets to the heart of why the acquisition community designs and builds unaffordable platforms and programs that end up curtailed or canceled later. Resource allocations inherently are a Component leadership responsibility. The acquisition community plays an important role in providing information, but it is not the decision maker or even the bookkeeper.

True affordability analysis is the informed interplay between requirements and resourcing. Establishing affordability is greatly complicated by the split between the requirements system, Joint Capabilities Integration and Development System (JCIDS), the resource allocation process, Planning, Programming, Budgeting, and Execution (PPBE), and the Defense Acquisition System (DAS). JCIDS defines the requirements in capability documents—initial capabiliteis documents (ICDs), capability development documents (CDDs), and capability production documents (CPDs). PPBE produces a budget and medium-range plan (the future-years defense program [FYDP]) that defines the available resources; and then theoretically the DAS executes within those boundaries. However, insufficient feedback from the DAS into the PPBE and JCIDS processes on the technical maturity and cost of derived systems eventually results in requirements and schedule being too ambitious and sometimes cost estimates being dictated rather than derived. Affordability policy addresses this directly by enforcing cost considerations early and regularly to identify affordability issues as they develop.

In JCIDS, a key challenge is the requirement trades between quantity procured and platform performance characteristics. In this case, by the time the cost of certain performance specifications are understood fully, they often are long embedded in engineering designs and contracts, leaving quantity reduction as the most logical way forward. Unfortunately, excessive quantity reduction can lead to unit cost growth, capability gaps, and ultimately program cancellation. Note that the root cause of program cost growth often is not the quantity reduction itself, but the underlying performance specifications and associated costs versus available resources. In PPBE, a limiting feature is the 5-year span of the FYDP, when acquisition program schedules (from materiel development decision /milestone A [MDD/MS A] to initial operational capability [IOC]) often are greater than 5 years. In this case, acquisition and operational costs are pushed into the out-years beyond the FYDP resulting in a "bow wave" of cost, which can eventually result in quantity reduction or program cancellation. While the acquisition community always will desire better-defined requirements or more funding visibility, each alone does not solve the problem of affordability analysis.

Myth 4—A great business case for a program by itself does not make it affordable.

A traditional business case or cost-benefit analysis is very easy to confuse with an affordability analysis. This is especially true for those operating in organizational "silos," such as major commands or defense agencies. Many potential programs are "important" by themselves, but priorities are established beyond the program at the Component level, given missions and other needs. Moreover, even if one can establish a good return on investment, there may simply not be enough resources available to pursue the investment in view of other

priorities. For example, an X-percent increase in funding may allow the warfighter to deliver more capability or deliver it quicker, while a Y-percent decrease in funding would delay the program and drive up unit costs in the long run. While completely true in their context, that analysis does not address global affordability reality.

Individuals and private enterprise can choose to borrow funds to execute very promising business cases to reap the rewards in the future. However, given the federal government budgeting process, additional funds for a good business case always come from something else under the total obligation authority (TOA). Affordability analysis is about recognizing the zero-sum nature of defense budgets.

Myth 5—Affordability constraints are just another objective that can be ignored, given a good reason.

At first glance, affordability constraints appear to be another line in the sand between the program's Average Procurement Unit Cost (APUC) baseline and the statutory Nunn-McCurdy (NM) breach levels, but that is not the intent. Affordability constraints are only goals at MDD and MS A. They become hard caps at Pre-MS B and beyond.

Following MDD, the Analysis of Alternatives (AoA) routinely should try to consider options at half the affordability goals and double the affordability goals. In some cases, many multiples of affordability goals can be considered in AoAs. After MS A, the focus should be on meeting the affordability goals or run the risk of being deemed unaffordable at MS B. If the results of the technology development phase suggest alternative force structure (e.g., quantity reductions) or requirements relief, then seeking requirements relief or even cancellation and restart is preferable to continuing an unaffordable program. After the Pre-B Decision Review, affordability caps are as important as Key Performance Parameters (KPPs) and should drive a reexamination of all requirements (even KPPs) if exceeded. In contrast to simply reporting cost growth against a baseline or even a NM breach, when a PM reports that a program is going to exceed an affordability cap, it triggers the need for a new affordability analysis, a revisit of the AoA, or exploration of requirements relief with the requirements community. Enforcing an affordability cap is potentially more involved than a NM breach process in that an affordability analysis must consider the total life-cycle costs of the program, not just the availability of funds within the FYDP.

In theory, an affordability goal or cap could be above the NM breach levels. While that may seem excessively generous, recall that affordability is based on what a Component wants to allocate to satisfy a particular need. If uncertainties are large and the program is vital, a Component could allocate a larger margin for a program despite the resulting pressure on other programs under the same TOA. Regardless, the Pre-MS B or later unit costs logically would not be above an affordability cap, because that would signal to the Milestone Decision Authority (MDA) that a program is unaffordable! Those unit costs might well exceed earlier affordability goals set at MDD or MS A, but only if the Component can reallocate its affordability constraints to make it affordable.

Everyday Affordability Analogy

If we make an analogy to an individual buying a car, we would say affordability is not about:

- Buying cheaper, either by selecting a low-cost sedan regardless of reliability and fuel costs or buying a high-quality hybrid car to reduce fuel and maintenance costs—that's cost consciousness.
- Choosing to bike to work more often or to remember to get the oil changed every 3,000 miles, rather than 5,000 or more, to decrease wear and tear on the engine—that's cost control.
- Choosing between leasing a car every 3 years or buying new and keeping it for its useful life (or perhaps, buying a used car with greater risk of breakdowns or future maintenance costs in exchange for lower cost up front)—that's acquisition strategy.

Those are all about keeping the cost down (Myth 1) to make something cheaper but not necessarily affordable. Affordability is about looking at one's needs and how much one is willing to spend, while being mindful of how the different decisions involved in cost consciousness, cost control, and acquisition strategy, can help maintain affordability over the long term. For example:

- If all one needs is a car for personal transportation, the bottom line might be whatever your budget can afford, which could be $200 per month or $1,000 per month depending on your income and other obligations (mortgage, groceries, etc.). Given a dollar figure, one can buy a jalopy or lease a luxury car depending on personal preferences.
- Alternatively, if one has a family with three youngsters and a dog, which requires a larger SUV or minivan just to get around town, the family may need to sacrifice by decreasing their budget for vacation, the cable bill, or retirement savings for a few years to budget more for a bigger car.
- Lastly, an independent construction contractor might realize that the profitability of his or her business depends on delivering construction materials or towing a trailer with equipment to a job site as needed without delay. In this case, a heavy duty pickup truck is absolutely necessary regardless of upfront cost or ongoing fuel consumption, and this dictates how much must be budgeted monthly for the vehicle and possibly found in compromises elsewhere.

Each of those is a case of affordability analysis. Notably in each case, one needs to weigh the availability of resources against the perceived benefit of the acquisition.

Returning to affordability and cost estimates (Myth 2), the estimated cost of your preferred SUV does not say anything

about how much you need an SUV, nor does it say anything about how much you can spend on transportation. Once you've established those factors, the cost estimate does tell you whether your preferred SUV is affordable.

It's dangerous to car shop without doing your homework (Myth 3). Before you start kicking tires, you need to think about what features you want or need in a car and how much you can afford to spend. Otherwise, you might end up buying something that is too expensive and does not meet or far exceeds your needs.

The mere fact the salesperson is giving you a great deal on last year's model (Myth 4) that he needs to move off the lot does not necessarily mean you can afford it or need that car. Similarly, you should not buy the "coolest" car you can afford on a teaser-rate loan, if you cannot afford the monthly payments when the rates adjust (Myth 5). If you can meet your true needs at less cost, then save the money for something else. If you cannot meet your needs given your monthly cash flow, you need to do some serious thinking about reducing your expectations or reprioritizing within your limited budget.

Summary

In the end, affordability analysis and constraints are very straightforward. Affordability analysis simply determines how much the Component leadership wants to allocate to a particular need given a nominal rather than optimistic future total budget projection beyond the FYDP over the life cycle of each program. It is a Component leadership responsibility that should involve the Component's programming, resource planning, requirements, intelligence, and acquisition communities.

Affordability constraints are real. When affordability constraints cannot be met even with aggressive cost controls, the Component with support from its Configuration Steering Board and requirements validation authority must revisit requirements, schedule, and production quantities. If constraints still cannot be met and the Component cannot afford to raise the constraint level by lowering constraints elsewhere in its analysis and obtaining MDA approval, the program will be cancelled.

The Department has a long history of starting programs that proved to be unaffordable. The result of this practice has been costly program cancellations and dramatic reductions in inventory objectives. Affordability analysis and constraints have become a central part of life-cycle investment analysis, decision making, and management in the Defense Department, driving early trade-offs and decisions based on the best information we have. While uncertainties remain, we do have some knowledge at every point in the process, and affordability is all about using that knowledge to avoid starting or continuing programs that we cannot reasonably expect to pay for in the future.

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