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A Study of Financial and Non-Financial Incentives for Civilian and Military Program Managers for Major Defense Acquisition Programs

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Abstract

The Institute for Defense Analyses (IDA) was asked to conduct a comprehensive study of financial and non-financial incentives for civilian and military program managers (PMs) for major defense acquisition programs in response to the requirement in Section 841(b)(1) of the National Defense Authorization Act for Fiscal Year 2018. In this study, the IDA team reviewed relevant previous research, interviewed government and industry personnel, analyzed data, and identified and assessed incentives to recruit, retain, and reward Department of Defense PMs.

Introduction

The Institute for Defense Analyses (IDA) was asked to conduct a congressionally-mandated comprehensive study of financial and non-financial incentives for civilian and military program managers (PMs) for major defense acquisition programs (MDAPs). Specifically, IDA was asked to examine and assess additional pay options for PMs to provide incentives to senior civilian employees and military officers to accept and remain in PM roles, a financial incentive structure to reward PMs for delivering capabilities within budget and on time, and a comparison between financial and non-financial incentive structures for PMs in the Department of Defense (DoD) and an appropriate comparison group of private industry companies.

IDA took a multi-faceted approach to this assessment, including conducting numerous interviews, reviewing the extensive collection of existing literature, and collecting and analyzing data on past PMs. A summary of our approach and our main findings are described later. A more complete description of our methodology and findings can be found in Hunter et al. (2018).



Literature Review

An extensive body of published literature addresses DoD materiel acquisition, including the duties, authority, responsibilities, and performance incentives of DoD PMs. Schwartz, Francis, and O'Connor (2016) report that 150 major studies on acquisition reform have been published since the end of World War II. The most influential of these have articulated that improvement of the acquisition workforce is the key to acquisition reform. Most of the official literature that describes the DoD acquisition system makes little distinction between a civilian and a military PM (Office of the Under Secretary of Defense for Acquisition, Technology, & Logistics [OUSD(AT&L)], 2017), other than that some PM positions are designated as military only (United States Army Acquisition Support Center, 2014, p. 19).

Career Overview

A DoD PM generally “manages” multiple interrelated projects. Fox (2011, p. 194), among others, points out that the duties of DoD managers of large acquisition programs are not those classically associated with the term “manager” because the DoD does not develop or produce its weapon systems in-house; rather, the development and production work is contracted through prime contractors. The principal functions of PMs and their staffs are planning, contracting, monitoring, controlling, and evaluating the schedule, cost, and technical performance of the contractors and government agencies that provide services and support.

The Congress, as a matter of policy, has mandated that

appropriate career paths for civilian and military personnel who wish to pursue careers in acquisition are identified in terms of the education, training, experience, and assignments necessary for career progression of civilians and members of the [armed forces](#) to the most senior acquisition positions. (10 U.S.C. § 1722(a), 2019)

Military personnel are not given exclusive access to senior acquisition positions, including PM positions. The Congress has provided,

The Secretary shall establish a policy permitting a particular acquisition position to be specified as available only to members of the [armed forces](#) if a determination is made, under criteria specified in the policy, that a member of the [armed forces](#) is required for that position by law, is essential for performance of the duties of the position, or is necessary for another compelling reason. (10 U.S.C. § 1722(b)(2)(A), 2019)

Each Military Department is required “to establish policies and issue guidance to ensure the proper development, assignment, and employment of members of the armed forces in the acquisition field” (10 U.S.C. § 1722a(a), n.d.).

While there are important differences in how the Military Departments have chosen to implement these directives, the passage of the Defense Acquisition Workforce Improvement Act (DAWIA; Pub. L. No. 101-510, 1990) and subsequent amendments has ensured that the basic structure of military acquisition workforce careers is the same across the DoD. Military officers elect to enter the acquisition workforce after six to seven years of service, joining an acquisition-related career field. Program management is one such career field. After completing certain mandatory training requirements and time in acquisition-related positions, they are eligible to join the Acquisition Corps,



typically at a rank of O-4 (GAO, 2018).¹ While in theory these officers compete for promotion with the general pool of officers, in practice all three departments monitor the proportion of officers promoted to ensure that promotion rates within the Acquisition Corps are comparable to those in operational command tracks. Promotion reviews occur every three years; promoted officers are transferred to new duties commensurate with their new ranks. Officers passed over for promotion in two successive reviews are retired from the Service.

The Congress has pushed back in recent years against having all military acquisition career paths feature a one-time permanent transition into the acquisition workforce. Section 842 of the National Defense Acquisition Act for Fiscal Year (FY) 2016 added the language quoted previously that distinguishes single-track from dual-track acquisition careers. The House report on this bill characterized this section as “reinstating a dual-tracking system of primary and functional secondary career fields” (H. Rept. No. 114-201, 2015, to accompany H. R. 1735). The Senate report said,

This provision is designed to increase the attractiveness of acquisition functions to skilled military officers and enlisted personnel and would: (1) provide for credit for joint duty assignments for acquisition related assignments in order to broaden the promotion preference and career opportunities of military acquisition professionals; (2) provide for an enhanced dual track career path in combat arms and a functional secondary career in acquisition to more closely align military operational requirements and acquisition; (3) include business and commercial training as joint professional military education; and (4) require an annual report to Congress on promotion rates for officers in acquisition positions. (S. Rept. No. 114-49, 2015, to accompany S. 1376)

While it is not explicitly stated in the statute or the conference reports, it seems likely that the intent of the Congress was to re-establish career paths that move back and forth multiple times between acquisition and combat arms assignments. This is not current practice within any of the Military Departments.

Civilians in all Services are managed and promoted within civilian workforce management systems common across the DoD. The vast majority of these civilians fall within the General Schedule for federal employees or the Acquisition Workforce Demonstration Project (AcqDemo), which is discussed in more detail in Section 0. DAWIA sets requirements for certification, including education and years of experience, for both civilians and uniformed personnel occupying PM positions. It is DoD policy that anyone occupying a key leadership position, as an Acquisition Category (ACAT) I or IA PM, must be Level III-certified in their respective functional area, and they must have eight years of acquisition experience or equivalent demonstrated proficiency. ACAT II PMs and deputy PMs must have six years of acquisition experience.

¹The GAO notes that the Air Force typically identifies future Acquisition Corps officers earlier in their careers and tailors their early career assignments toward that goal in ways that the Army and Navy do not.



Data Analyses on the Tenures of MDAP Program Managers

To observe historical tenure of MDAP PMs, we obtained data from December 1997 to December 2017 on 705 PMs of 202 MDAPs from the Selected Acquisition Reports (SARs) stored in the Defense Acquisition Management Information Retrieval (DAMIR) System.² Specifically, each SAR lists the name, contact information, and assignment date of the PM at the time the SAR was produced. The prefix for each name identifies either the rank, for military PMs, or the title (e.g., Mr., Ms.), for civilian PMs, enabling us to identify each PM's personnel type (military or civilian). From the assignment dates, we were able to construct a timeline of PMs for each program. Because the SARs are only submitted once each year, it is possible that the timelines we constructed missed a few PMs who may have very briefly served in between the end of one SAR and the assignment date of the PM who is listed on the subsequent SAR. In these cases, the timelines will overstate the tenures of the PMs immediately preceding the "missing" PMs.³

Table 1 shows the distribution of MDAPs and PMs across the Services from the DAMIR data. We observe a total of 705 PMs for 202 past and present MDAPs. Seventeen percent of these PMs are civilians. Of the Services, the Air Force currently has the highest percentage of civilian PMs (36%), although the Navy has the highest number of civilian PMs over the whole sample (24%). About half of PMs for (the relatively small universe of) DoD-wide programs have been civilians.

Table 1. Summary of MDAPs and PMs by Service from December 1997 to December 2017

	Current Programs			All Programs (12/1997 to 12/2017)		
	No. of Programs	No. of Military PMs	No. of Civilian PMs	No. of Programs	No. of Military PMs	No. of Civilian PMs
Army	17	15	2	64	166	23
Navy	40	34	6	63	183	58
Air Force	28	18	10	71	227	29
DoD-wide	2	1	1	4	9	10
Total	87	68	19	202	585	120

Table 1 shows the distribution of tenures for completed MDAP PM positions by personnel type. The tenure distributions are very similar between military and civilian PMs. Half of the 82 civilians PMs served less than 2.92 years, with 75% serving 3.92 years or less. Half of the 390 military PMs served for less than 3.04 years, with 75% less

²SARs are annual comprehensive status reports that each MDAP is required to submit to the Congress.

³For example, suppose there are three PMs: Amy, Bill, and Carl. The December 2000 SAR reports Amy as the PM with an effective date of January 1, 2000, and the December 2001 SAR reports Carl as the PM with an effective date of June 1, 2001. If Bill served as PM from January 1 to May 31, 2001, his tenure is not reported on any SAR, and our constructed timelines incorrectly assume that Amy served as PM from January 2000 until Carl's start date in June 2001.



than 3.95 years. Not surprisingly given the structured promotion process, military PM tenures tend to cluster around the 2-, 3-, and 4-year marks.

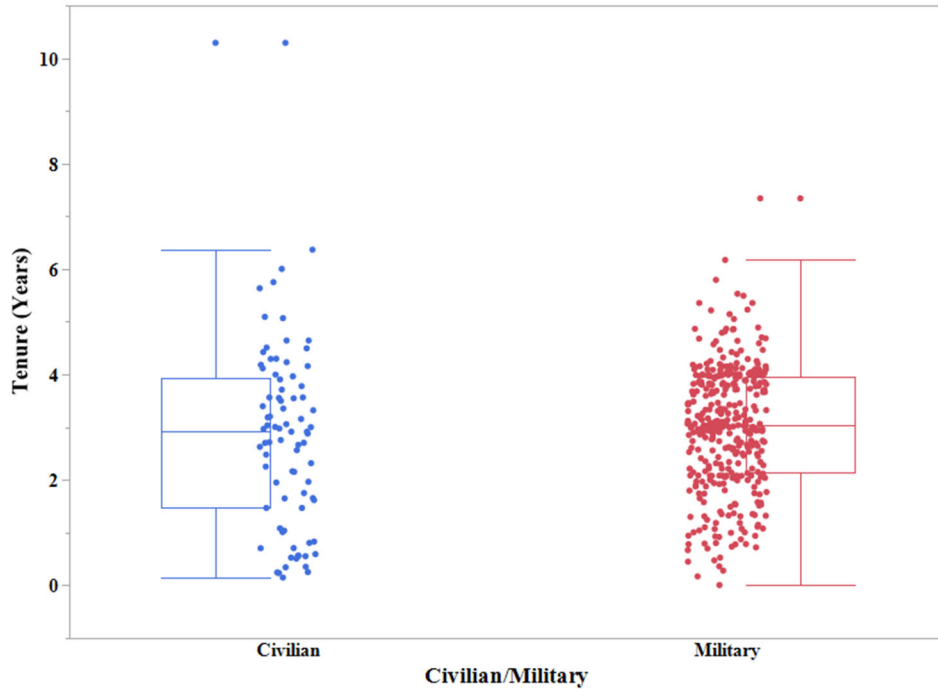
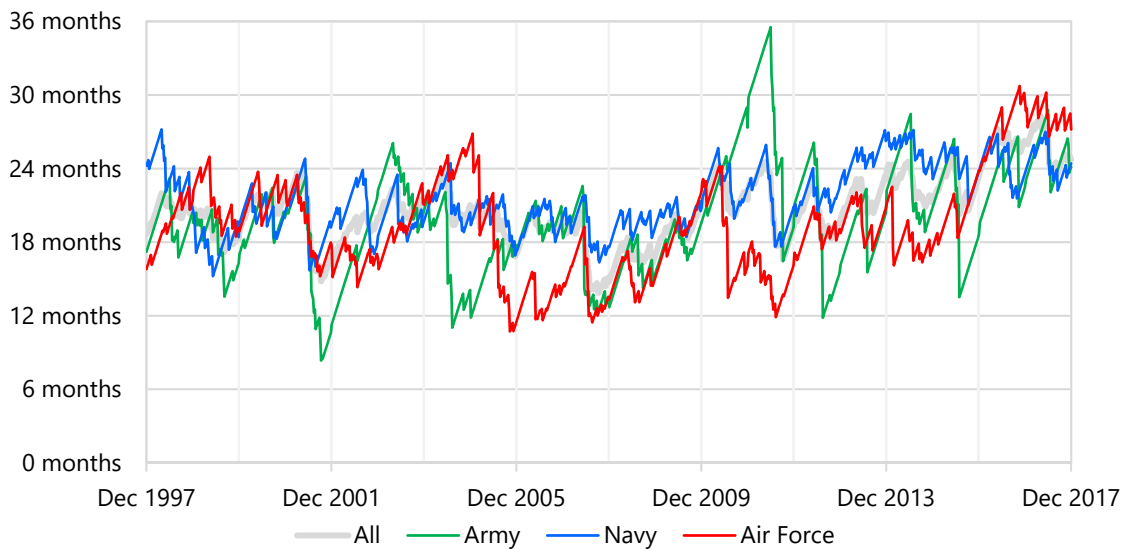


Figure 1. Distribution of Completed Tenures for Civilian and Military MDAP PMs

Figure 1 shows the average time in position broken out by Service. Overall, the average experience of MDAP PMs has grown from about 18 months in December 1997 to about two years in December 2017. The Services' averages show the same general trend.

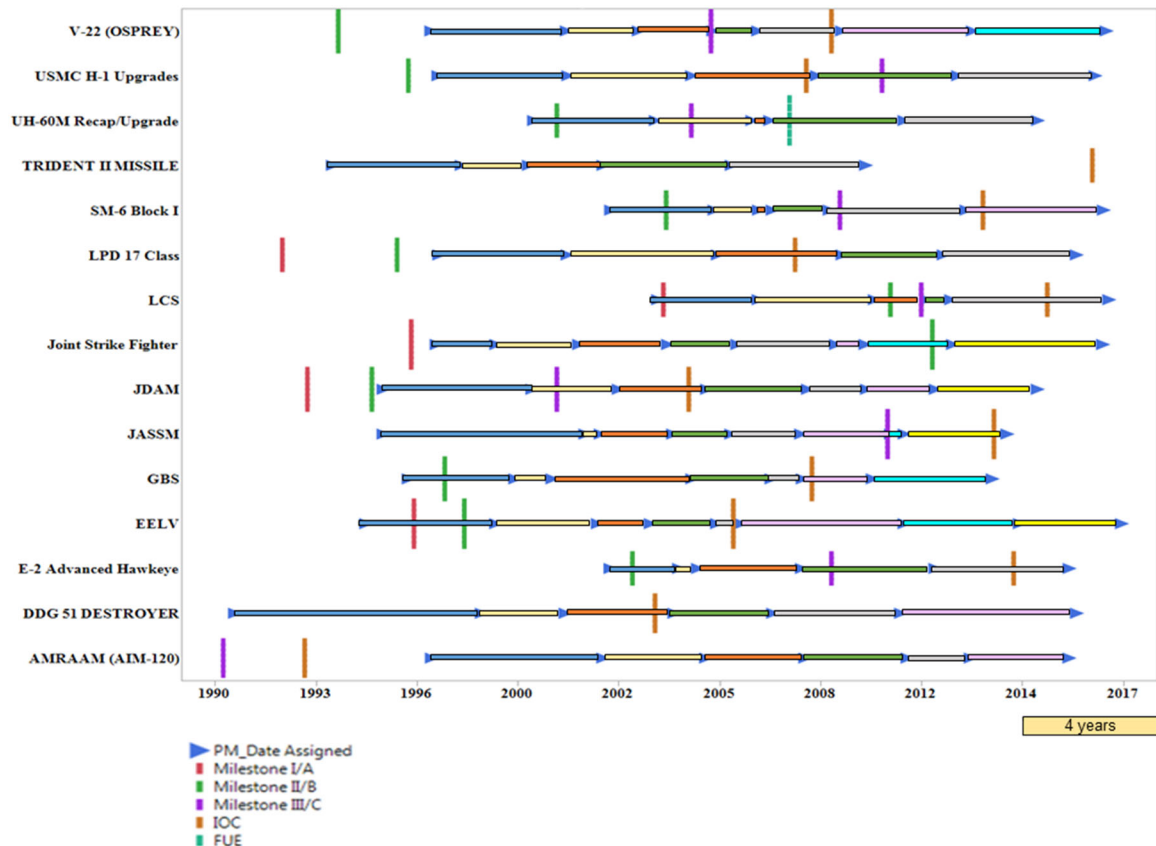


Note. Each line represents the averages of time in position for every MDAP PM within a Service at each moment in time.

Figure 2. Average Time in Position of MDAP PMs Over Time, by Service



The SARs also list past and projected milestone dates for each program. Since the milestone dates can slip over time, we collect data on completed milestones (i.e., milestones that occurred before the SAR date). **Error! Reference source not found.** shows how these milestone dates compare to changes in PMs for 15 current programs.⁴ Visually, it appears that while most PMs within four years of a milestone complete that milestone, many PM transitions are unrelated to upcoming milestones. For example, there were at least three PM transitions in the four years leading up to Milestone C of the Standard Missile-6 (SM-6 Block I) program.



Note. Only milestones that occurred since 1990 are shown. Also, when the same program milestone took place more than once, only the latest one is presented.

Figure 3. PM Tenures Compared Against Milestones for Selected MDAPs

⁴Specifically, these are the 15 current programs that are either ACAT I or IA, have at least six PM transitions, and have most of the program milestones.



Summary of Findings

Additional Pay Options to Provide Incentives to DoD PMs

Senior Civilian Employees

Government civilians, like their military counterparts, are motivated by challenging work, a sense of accomplishment, and career-enhancing opportunities. Financial rewards have been found to be low on the priority list for public employees. However, our analysis showed that average compensation for DoD civilian PMs is significantly lower than for similar military PMs and those in private industry. Establishing a separate, higher pay scale for civilians who have chosen the Program Management career track could incentivize more and higher quality civilians to pursue such careers. Some efforts in this direction have already been made. AcqDemo, introduced in 1999, established an alternative personnel system for qualifying civilian acquisition workforce employees. Expanding AcqDemo further and/or making it permanent would almost certainly enhance future recruiting and retention.

One of the largest non-financial changes that could be made to encourage future civilian PMs is Component Acquisition Executive slating of more MDAP PM positions to civilians and a gradual lessening of the perception that civilians do not have much of a chance of being selected. Presently, civilians may be unmotivated to pursue a career leading to an MDAP PM position if they see little chance of ever being selected and see no future career path in the rare event that they are.

The ability to have more control over planning one's career path would be another important non-financial incentive for civilians in program management and acquisition. Currently, qualified civilians may shy away from applying for MDAP PM positions due to uncertainty about the location and responsibility of their subsequent assignments.

Military Officers

Given existing constraints on the military pay system, the primary financial incentive available to the uniformed services is special and incentive pay. The literature on financial incentives for military personnel is mixed, but the consensus has been that financial incentives are less effective in the public sector—including in the military—than in private industry.

Currently, the strongest incentives for military officers are related to the promotion process. Failure to be promoted not only reduces current salary and eventual retirement pension, but also can curtail a career due to the "up-or-out" provisions of the Defense Officer Personnel Management Act (DOPMA). As a result, factors that affect potential for promotion have a strong influence on choices made by military officers. The current DOPMA mandates might be considered major disincentives and, as noted in several previous studies, eliminating or modifying both up-or-out and mandatory retirement at 30 years of service could help the Department recruit and retain more skilled and experienced PMs. These changes would also enable more flexible career paths, allowing for fewer (but longer) assignments over the course of a career.

As with civilians, developing better-defined career tracks for PMs could be an important non-financial incentive for attracting military officers. One particular alternative would be to establish a more self-contained professional system for recruiting military officers into the acquisition field, similar to that used for the medical field. This would more closely mirror best practices from industry.



A Financial Incentive Structure to Reward Program Managers

It has been suggested that merit-based incentives (rewards) are the best mechanism for motivating PMs to manage their programs effectively and efficiently. As an example, PMs who meet certain cost and schedule targets could be offered spot bonuses—or even commendations and/or medals. High-performing PMs could be rewarded with more control over their next assignments, especially if the DOPMA up-or-out policy and mandatory retirement do not interfere. While the Congress is seeking ways to reward PMs who deliver capabilities within budget and on time, recognizing the challenge of accurately measuring PM performance is particularly important because of the dangers of establishing rewards for performance that do not ultimately align with the organization's mission.

Performance-based rewards can have significant unintended consequences when they are applied in the wrong context. Research has shown repeatedly that poorly specified reward systems can create perverse incentives—incentivizing workers to focus on obtaining the rewards rather than on achieving organizational objectives. A reward system focused on cost and schedule may encourage short-term optimization at the expense of the long-run success of the program. For example, PMs may be incentivized to accept greatly increased future sustainment cost and obsolescence risk in order to avoid missing milestones or having to report cost growth.

A Comparison With Incentives in Private Industry

Although sharing the same title, PMs in government do not have the duties historically associated with the title of “manager” because the DoD does not develop or produce its weapon systems in-house. Rather, the development and production work is contracted through prime contractors. The principal functions of the government PM and staff are planning, contracting, monitoring, controlling, and evaluating the schedule, cost, and technical performance of contractors and the government agencies that provide services and support.

Past research finds that public sector managers are often attracted to their work by different factors than private sector managers. Extrinsic motivation factors (e.g., salary, pension plans, and career advancement) have significantly greater potential for motivating private managers, while intrinsic rewards (e.g., challenging and interesting work, job responsibility, advancement/promotion in a hierarchical organization, family-friendly policies, commitment to the public interest, a desire to serve others, self-sacrifice, and recognition) have higher potential for motivating public managers. These differences suggest that different systems of rewards and incentives than those found in the private sector might be best suited to recruit and retain quality government PMs.

For-profit companies have the option to motivate their PMs to achieve organizational objectives by rewarding them with a portion of company profits. Industry PMs who carefully manage successful programs and quickly shut down poor programs that are destined to fail can share in the higher profits their actions bring their companies. The industry PMs who fail may lose their jobs. In contrast, there are no company profits to share with DoD PMs, and acquisition personnel are not subject to the threat of dismissal from the Service on failure as their industry counterparts are. As a result, success tends to be measured in terms of cost and schedule and avoiding cancellation.



Concluding Thoughts

We have focused our efforts in this research on the consideration of the pros and cons of potential incentives to recruit, retain, and reward PMs. We find, as with previous research, only weak evidence that financial incentives would have any impact on the actual tenures of PMs. Moreover, past research finds little support for the implicit assumption that increased PM tenure would have a significantly positive effect on program outcomes such as cost and schedule.

If the real goal is to improve program outcomes, there are likely to be more effective mechanisms than simply increasing the tenure of PMs. For example, the DoD could pursue an acquisition centered around “smart buyers.” Credible “smart buyers”—such as highly experienced senior program executive officers (PEOs) and PMs—could provide the counterweight that helps to overcome the institutional and political pressures to overpromise at the outset of programs. They further could help to enforce realism in executing programs in the face of contractor optimism. A career progression model, with strong rewards for successful careers, could create the “smart buyer” culture needed to properly develop and incentivize PMs and PEOs to serve as counterweights to political and institutional pressures. Because of their experience, and the career incentive structure, senior acquisition personnel would be positioned to make proper decisions based upon real experience.

Industry experience has shown that another important best practice for maintaining a healthy portfolio is to identify and quickly terminate programs that are unlikely to succeed. Creating policies and a culture that supports failing quickly would be a substantial challenge, but the payoff to the overall outcomes of the entire MDAP portfolio would be considerable.

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