

The Joint Strike Fighter and the Failure of Cost Accountability in U.S. Military Contracting

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The F-35 Lightning II is a multi-role fighter designed to fulfill missions across every branch of the Armed Forces. Initially conceived in 1996 as the Joint Strike Fighter program, the F-35 seeks to replace the current fleet of U.S. air-superiority and attack aircraft, including the F-16, A-10, and F/A-18. However, this aircraft of the future is plagued by a history of severe cost overruns and production delays that have made the F-35 controversial at every stage of its development. As of 2020, there are potentially \$1.6 trillion of the U.S. defense budget that will be dedicated to this program's 66-year life cycle (Ludwigson, 2020), and failures of military programs have lasting impact on the readiness of our country to face threats of today and threats of tomorrow (STALF, 2019). With so much at stake, it is imperative to understand how the Joint Strike Fighter program's exorbitant cost and controversy reveal weaknesses in cost accountability of U.S. military contracting. The answer lies within the Department of Defense's commitment to the F-35 program, which has revealed unhealthy relationships between defense contractors and Congress that have compounded their inability to control their budget while maintaining fleet readiness.

Review of Research

Researchers have identified weaknesses of the F-35 program from an international perspective. Vucetic and Nossal identified in 2013 that the inability for the US to control key aspects of the F-35 program has had an impact on the domestic politics of each of the partners of the multinational program. They predicted that these difficulties would lead to a further, "reciprocal" impact both within the US and internationally that would cause the program to

undergo significant changes in cost (2013). Petrelli, by studying the slow and complex integration of the F-35 into the Italian armed forces, determined that current acquisition models must be more agile in order to meet a “basic threshold capability” and subsequently increase capability (2020). While these studies demonstrate weaknesses in cost accountability and acquisition from an international perspective, they do not relate these weaknesses back to the U.S. contracting.

Researchers have also demonstrated weaknesses in government defense spending, independent of a single program. Adams, in a 1981 report, described a dangerous political relationship between the Federal bureaucracy, members of Congress, and private defense contractors that he dubbed an “Iron Triangle.” He demonstrated this by studying the flow of money and personnel, as opposed to a single, joint project between the participants (Adams, 1981). Joyce and Blankenship argued that overseas defense spending “designed to support both global military operations and foreign policy objectives,” called “strategic spending,” comes with unwanted risks to local economies, U.S. interests, and hidden costs. Like Adams, Joyce and Blankenship studied the flow of money overseas rather than a project to reveal weaknesses (Vucetic and Nossal, 2013). Both reports provide insight to how government spending and dangerous weaknesses can be related by studying the flow of money, but do not demonstrate these weaknesses applied to specific government projects like the F-35 program.

The Government Accountability Office has produced annual reports on the Joint Strike Fighter Program that have closely monitored the program, identified successes and shortcomings in relation to its development plan and cost, and made recommendations to the Department of Defense and Congress. In 2005, Sullivan identified that the DoD’s strategy for developers to begin low-rate production would likely result in cost increases, delivery delays, and reduced

quality, describing the plan as “executable” (Sullivan, 2005). In 2012, Sullivan attributes the “instability of the program” to “highly development, testing, and production activities,” reminiscent of his predictions in 2005 (Sullivan, 2012). Since the Joint Strike Fighter has progressed into higher production, modern GAO reports focus on addressing specific issues with the aircraft to improve their reliability. In Ludwigson’s 2020 report, he identifies failures to meet manufacturing leading practices and possibilities of missing testing schedules (Ludwigson, 2020). While GAO studies have provided excellent analysis of the F-35 program deficiencies for each year in its development, they are limited in that they focus on highlighting issues in the moment to provide immediate and actionable recommendations. The reports do not look in hindsight to determine how immediate issues are reflections of broader issues in accountability.

The Project on Government Oversight has produced two reports on the F-35 program, written by Dan Grazier, that highlight weaknesses brought about through defense contracting. In one, Grazier contends that the Department of Defense and Lockheed Martin are using misleading, “selective” math to make the F-35 appear cost effective and convince Congress to acquire more aircraft (). In another, Grazier suggest that the F-35 program is the “ultimate example of corporate capture,” where the government lacked sufficient control over the program’s contractors (). These reports identify severe weaknesses related to the relationship between the Department of Defense and defense contractors, but they do not account for the relationship between the Department of Defense and Congress.

Defense Contracting has Hindered Government Accountability

The exorbitant cost of the Joint Fighter Program has been an issue since the earliest stages of its lifecycle. In 2005, the Government Accountability Office (GAO) declared that

changes to the program had “made the original Joint Strike Fighter business case unexecutable.” With a total development cost overrun of 80 percent, and a 23 percent increase in unit cost since initial 1996 estimates, it is hard to disagree with the GAO’s conclusion at the time (Sullivan, 2005). The GAO has since detailed the gradual increase in costs over the 20-year development history, while also highlighting the ever-increasing number of unresolved issues with the F-35. In addition to tabulating a total program acquisition cost of \$428 billion (from \$233 billion in 2001), the latest GAO report published in May of 2020 announced that the F-35 still experienced over 870 deficiencies. A deficiency is defined as “specific instances where the weapon system either does not meet requirements or where the safety, suitability, or effectiveness of the weapon system could be affected” (Ludwigson, 2020). A high-profile government project plagued with issues throughout its lifecycle suggest a fundamental accountability issue within development – issues that can be traced to the relationship between government officials and defense contractors.

The Project on Government Oversight (POGO) is a nonpartisan watchdog organization that faults defense contracting for the severe shortcomings of the Joint Fighter Program, describing the F-35 program as the “ultimate example of corporate capture” (Grazier, 2020b). This sharp criticism is far from a baseless claim. A 2019 audit performed by the Inspector General revealed that “DoD officials did not account for and manage F-35 Program Government property, including recording the property in an accountable property system of record (APSR), as required.” This property consisted of 3.45 million components valued at \$2.1 billion, whose only record is between the contractor and subcontractor, and not with DoD (IG, 2019). POGO continues by connecting the lack of accountability between government officials and the contractor to its impact on U.S. citizens:

Surrendering the responsibility for purchasing parts and equipment to the contractor means it is virtually impossible to provide the oversight necessary to ensure taxpayers are not being overbilled for the same purchase or buying more than what is required (Grazier, 2020b).

This lack of accountability also resulted in concerns within Congress. The Congressional Committee on Oversight and Reform, led by Charwoman Carolyn B. Maloney, drafted a letter to the President and CEO of Lockheed Martin, James D. Taiclet, citing “troubling information about how unresolved issues with F-35 spare parts lead to excess costs for the military because DOD must divert personnel to troubleshoot these issues and use extensive workarounds to keep F-35 planes flying.” The letter also cites the findings of the Inspector General as well as those produced by the GAO, which reiterate the financial impact of the additional labor and the failure of Lockheed Martin to produce parts with proper electronic equipment logs (EELs). The committee concludes with a request for communications and documents from Lockheed Martin to further their investigation into the matter (Maloney, 2020).

Failure of accountability within defense contracting has historical precedent. In a study written in 1982, Gordan Adams analyzed the dangerous political relationship between the Federal bureaucracy, members of Congress, and private defense contractors, which he dubbed an “Iron Triangle.” Adams observed that the defense industry was a “de facto participant in policy making,” since the big businesses in defense contracting wielded financial and personnel power that blurred the lines between public and private interest. While Adams admits that this relationship promotes decision making by “insiders and policy makers,” he contends that the advantages of a high degree of expertise are offset by a “narrowing of views and shared expectations that another generation of weapons is both desirable and inevitable” (Adams, 1981). Adams’ perspective proves prophetic, as the prioritization of the next generation of fighter aircraft has resulted in a crisis within the U.S. Armed Forces.

Commitment to the JFP has Cornered the Armed Forces

The F-35 was envisioned to be the 5th generation, multi-role, affordable solution that would phase into every branch of the Armed Forces and replace a combination of air-superiority and attack aircraft, including the F-16, A-10, F/A-18, and AV-8B Harrier (Tegler, 2018). However, the cost overruns and production delays have left the Air Force unable to affordably maintain its fleet. General James Holmes, in a hearing with the Subcommittee on Tactical Air and Land Forces, shares that the Air Force maintains a fleet of aircraft that average over 30 years old, and that the fleet has received less than 20 new fighters per year with a less than 1 percent recapitulation rate. He emphasizes that the Air Force must maintain and support “the health and the age of our 2100 fighters that the national defense strategy requires for the Air Force to accomplish the missions that they’ve asked us to do” (STALF, 2019). To meet these needs, the Air Force aims to acquire 72 new aircraft each year, which cannot be met by F-35s alone given their production speed (STALF, 2019) and cost (Gertler, 2020). Simultaneously with the F-35 availability concerns, the current fleet age is providing additional constraints to the budget. In the same hearing, the Assistant Secretary of the Air Force Will Roper shares that the F-15C is an example of a severely aging platform that has become extremely expensive to maintain, as two-thirds of the aircraft are past their intended service time and the failing parts are ones not designed to be replaced (STALF, 2019). Not only is the Air Force unable to fulfill its goals of acquiring new F-35s, but it is also struggling to afford maintenance for current aircraft that the F-35s were intended to replace.

In the hearing, General Holmes and his team present the most cost-effective: the Boeing F-15EX. The F-15EX is a heavily modernized version of the F-15C with significantly enhanced cockpit displays, additional sensors and hardware (Benitez, 2019), and more capacity than the F-35 (STALF, 2019). This solution comes with significant advantages for the Air Force. First, both the acquisition and flight cost of the F-15EX are significantly below that of the F-35 (Gertler, 2020). General Holmes contends that mixing 4th and 5th generation fighters will balance cost and urgent needs to meet capacity. Additionally, training pilots and maintaining the craft is made much simpler due to the carry-over from the F-15C, whereas the F-35 requires significant training and construction of new maintenance facilities. Despite the Air Force's intention to purchase F-15EX alongside the F-35, multiple officers state that these programs act as complements rather than competitors. Holmes states, "we love the F-35, we're committed to the F-35, we have not budged to our total buy" (STALF, 2019). Air Force Chief of Staff General David Goldfein laments that "if we had the money, those would be 72 F-35s," referencing the 72 annual aircraft acquisition goal, but reassures that "we are absolutely adamant that the F-35 program, the program of record, absolutely stays on track and we don't take a dime out of the F-35" (Gertler, 2020).

While Congress and the Air Force has moved forward with the plan of introducing the F-15EX by endorsing a purchase of 8 aircraft (Cohen, 2019), the move away from the F-35 program brings a new wave of criticism and concern from Congress. Despite the promises of the Air Force representatives, Representative Mike Mitchell of Ohio plainly stated that "regardless of the fact that the air force is saying that the recommendation for the F-15EX is not happening at the expense of the F-35, it is." Representative Katie Hill identified that "We're not getting to a point where we're going to be getting a full 5th generation fleet, by the time we have this

conversation again we're already going to be moving into 6th generation" (STALF, 2019).

Representative Adam Smith of Washington, chairman of the House Armed Services Committee, describes the return on investment of the F-35 program as "painful," and attributes the costs of the F-35 to the Air Force not heeding the advice to not "put all your eggs in one basket" (Smith 2021). While the introduction of the 4th generation F-15EX might be a necessary consequence of the failures of the F-35, it is evident that divided opinions on the future of the Joint Strike Program and uncertainty about the readiness of the Air Force fleet will continue to plague our legislators and the Armed Forces.

Distrust Between Congressional Committees and the Department of Defense

The F-15EX represents the latest controversial move by the Air Force out of a need to balance their budget, but the controversy over the retirement of the Fairchild Republic A-10 Warthog reflects years of disagreement and distrust between Congress and the Armed Forces. Although it had a lackluster reception when it was introduced in 1972, the A-10 became a domineering force in close-air-support and anti-armor missions in the middle east throughout the early 21st century (Wilkinson, 2014). Despite its stellar performance in the field, the Air Force battled to retire its remaining 283 A-10s in 2015 to free up budget to grow their acquisition of F-35s (Everstine, 2015). In a statement to the Senate Armed Services Committee (SASC) about the DOD 2016 budget request, the Secretary of Defense Ash Carter, he states:

The Air Force budget also supports a timeline that would phase out and retire the A-10 in Fiscal Year 2019. With the gradual retirement of the A-10 that we're proposing, the Air Force will better support legacy fleet readiness and the planned schedule for standing up the F-35A by filling in some of the overall fighter maintenance personnel shortfalls with trained and qualified personnel from the retiring A-10 squadrons. (Carter, 2015)

The Air Force Secretary Deborah Lee James supported this stance, stating “The A-10 has done a magnificent job, but so has the F-16, and the F-15E; and the B-1 bomber has been a contributor” (James, 2015). However, staunch resistance to the retirement of the A-10 was made by Congress. In a letter to Secretary Carter shortly after the SASC hearing, eight senators shared “deep concern” over the reduction in close air support capability. They defended the aircraft as “the Air Force’s most combat-effective and cost-efficient close air support aircraft” and urged the Secretary to intervene against the Air Force’s “plan that will result in the loss of close air support capability at a time when the need for it is only growing” (Ayotte et al., 2015). The SASC, headed by Senator John McCain, also opposed the A-10 retirement. In a 2016 SASC hearing, McCain engaged in a fierce debate with Air Force Chief of Staff General Mark Welsh about the A-10. Senator McCain asserts to Welsh that “you want to retire it, but you have no plans, according to what has been submitted to this committee, as to the F-35’s that will replace it. In fact, you have reduced the number of F-35’s that we are requesting.” McCain continues to describe the General’s defense of retiring the “least expensive, most accurate close air support system” as “embarrassing” (USSCAS, 2015).

While many A-10s have needed wing upgrades in recent years, the A-10 remains in service as an “effective close air support platform for the current counter violent extremist organization fight,” as described by General Holmes, Major General Nahom, and Dr. Roper, Jr in their statement to 2019 hearing in which the F-15EX was discussed (Roper et al., 2019). From the perspective of Congressmen like Representative Mitchell, it is because of Congress’s steadfast support of the A-10 and despite the Air Force’s desire to retire them that the Air Force still has A-10s in their fleet to perform critical close air support missions. Mitchell tells the Air Force representatives “you sit in front of us and say how great the A-10 is, but you know that the

only reason you have the A-10 is because we had hearings like this, with the Air force stood in front of us and said we need to stop the A-10 and we would not let you” (STALF, 2019).

Congress’s past distrust of the Air Force agenda has greatly improved the current state of the current Air Force fleet, which brings even more uncertainty when addressing their supposed needs of today.

Conclusion

The history of the Joint Strike Fighter program serves as a cautionary tale against committing to a project lacking in control and realistic expectations. The Department of Defense committed to the F-35 despite having an inexecutable plan early in the development lifecycle that drastically increased costs and delayed the project. This has since compounded with a subservient relationship with defense contractors and a distrustful relationship with Congress, and the DoD will continue to wrestle with advancing the F-35 while maintaining their budget and their fleet readiness. As the first domino to fall, the initial Joint Strike Fighter business case warrants investigation of its own to identify the factors that poisoned the F-35’s inception. However, despite the program’s poor start the problematic relationships of today within military contracting turned a poor start into a modern crisis. The Department of Defense must repair these relationships to find success for the remainder of the F-35’s lifecycle and for the projects of tomorrow.

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