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FY23-27 Inflation Impact on DoD Systems Acquisition

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Executive Summary

PROBLEM STATEMENT:

US defense contractors, including their supply chains, are likely to increase products and service prices due to persistent inflation. Determining "fair and reasonable costs" attributed to inflation, separated from other cost contributions, can reduce unnecessary program risks due to cost growth, time, and performance trade-offs.

Department of Defense (DoD) Acquisition professionals face the up-pricing of current and proposed contracts reflected in request for proposal (RFP) responses reflecting an inflation rate of 6-10% per year. "Three to 5 percent growth above the inflation rate is the level of investment required to support America's global force…" [1] The FY24 President's Budget is based on a projected US inflation rate of 2.4 or even 2.1% per year.[2, 3] Projecting out to 2030, the "bow wave" of Research and Development (R&D) maturing into production amplifies the risk of inflation differential in multi-year program projections. [4]

Illustrative scenario:
PEO "X" is facing a $70M shortfall in projected funding against a DoD contractor-priced proposal whose explanation is primarily the projected costs due to inflation. What actions can the PEO take to mitigate the difference and avoid program disruption or more serious consequences such as a Nunn-McCurdy[5] breach?

WHO SHOULD READ THIS PAPER?

Milestone Decision Authorities (MDA), DoD Acquisition Executives, Program Executive Officers (PEOs), Project Managers, and Contracting Officers.

Factors of Analysis

RISK MANAGEMENT

Major program risk can typically be separated into two categories:

1

Risk to the program as planned due to unforeseen changes in cost, schedule, and performance; and

2

Risk to the program from unknown or unaccounted external and internal planning factors.[6,7] Inflation risks begin as an external, economy-wide, influence which quickly translates into cost, schedule, and performance trade-offs.[8]

Large scale, environmental inflation risks may include policies put forward from presidential administrations, DoD, and Army-level risk management for major defense programs.[9] As seen in the FY24 Defense portion of the President's budget[10], the Army's priority is in readiness and Army National Guard. Inflation costs for research, development, and acquisition (RD&A) accounts will have little success displacing recruitment, rising personnel costs, legislative mandatory cost increases, readiness, or—at the Office of the Secretary of Defense (OSD) level—re-allocation from other national priorities.[11, 12, 13] In short, RD&A cost growth will be absorbed within the Army and specifically within the RD&A account. The RD&A account will be further pressured to absorb the differential rate of inflation in the "out years" as proportionately more "defense" spending is allocated to defense-related initiatives.[14]

INFLATION TIMING RISK AND SYSTEM ACQUISITION LIFECYCLE

The inflation risk is realized in several ways:

1

The timing difference between budget appropriation and contract, and contract to delivery. For major defense systems, the overall timing between budget appropriation and delivery (DD-250), where the primary customer is the DoD, may be five years.[15] Military construction and ships may be seven to 10 years from appropriation.[16, 17] The Army's Organic Industrial Base (OIB) Modernization program is forecasted for 15 years.[18]

2

Inflation cost risk may be explicit such as prices included in a prime contractor proposal, equitable adjustment cost; or worse, from supply chain compound risk added throughout the program. An example is forecasting a key component of manufacturing, such as energy costs. [19]

3

Indirect risks; such as personnel costs both in and outside the government, and personnel overhead costs such as insurance and training, energy, and transportation costs.

Adjusting for inflation has no "easy button." Solving proposed inflation costs without precise and quantifiable analysis will result in program disruption which can be one of the determinants of program success or failure.

INFLATION ESTIMATING RISK

Inflation Estimating Risk. PEOs and PMs face the quandary of using the Office of Management and Budget (OMB) inflation risk factors while negotiating and paying proposed inflation related costs in the current year or Program Planning, Budgeting, and Execution inputs. The Federal Reserve has stated, "Participants generally noted that the uncertainty associated with their economic outlooks was high and that the risks to the inflation outlook remained tilted to the upside." [20]

PEOs, PMs, and Sustainment Commands simultaneously mitigating the additional program costs due to inflation must also support the fielded fleet and operational demands for system modernization. A year-over-year difference of 5-7% inflation cost growth risk above the OMB/DoD Comptroller [21] guidelines result in PEOs and PMs having to determine trade-offs within program budgets through production quantity rates, performance features, or delivery schedule.

Program Executive Offices, Project Managers, Contracting Commands

PEOs, PMs, and Contracting Officers will likely experience a number of high-risk potential program and contracting actions resulting from inflation.

A.
Determination of program affordability which could lead to extreme results such as Nunn-McCurdy breaches.

B.
Determining contract compliance in meeting the fair and reasonable pricing determination and legal provisions for equitable adjustment and risk assessment.

C.
Shrinking DoD supply base as Tier 1 prime contractors consolidate the Tier 2-x due to forecasted fewer programs, especially in the Army portfolio.

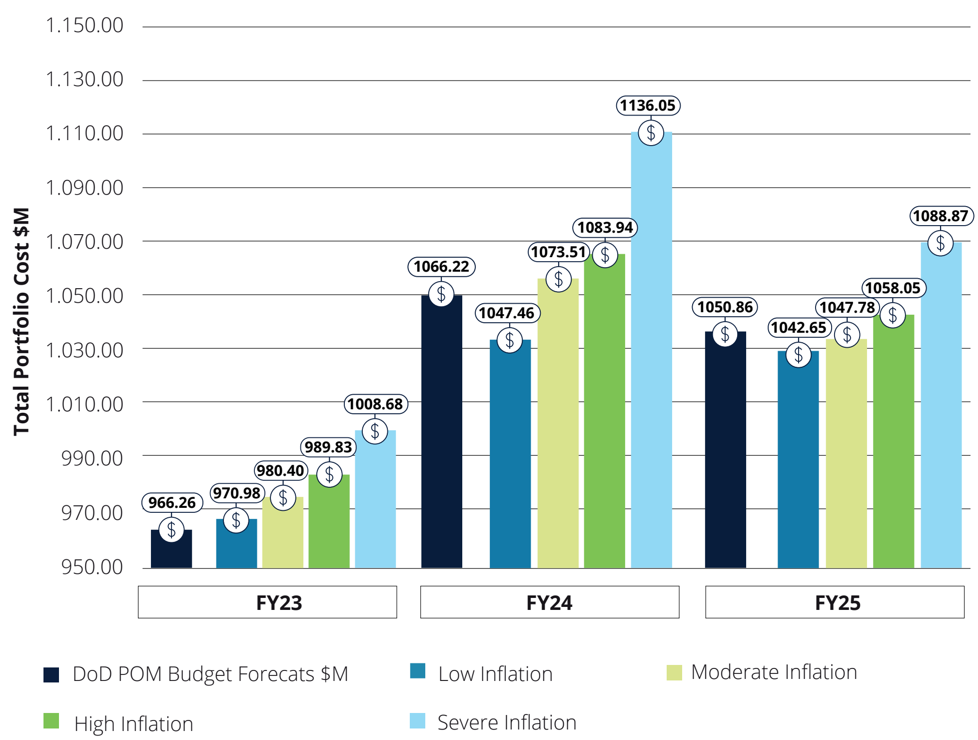
D.
Overpaying for inflation when other factors, such as program performance risk transfer, simultaneously drive up program cost

E.
Long term cost increases due to funding/schedule mismatches or "saw tooth" funding profiles.

To illustrate the magnitude of inflation risk, this paper analyzed four missile programs. The analysis showed that the DoD Program Objective Memorandum (POM) budget forecasts can be broken into two factors: external and internal cost drivers. Even if the internal planning factors (such as cost of raw materials, labor, energy, and transportation) do not deviate from the DoD's estimates, programs are still susceptible to unexpected costs due to higher-than-expected inflation. The figure to the right illustrates the sensitivity of a portfolio of missile programs to inflation across four economic scenarios with varying levels of inflation.

Figure 1

Portfolio of Four Major DoD Programs - Inflation Sensitivity [22, 23]



The four scenarios identified and used in this analysis are derived from Deloitte's economic analysis. Each scenario looks at critical uncertainties (consumer spending, monetary policy, unemployment, and supply chain) that impact future inflation (e.g., in the moderate inflation scenario, consumer spending decreases, monetary policy tightens, and unemployment increases).

Due to the long-lead time associated with aerospace and defense production, the effects of inflation and/or recession may not be fully realized for several years. As industry suppliers forecast and manage cash flow, suppliers are likely to take risk in meeting future demand by preserving cash. Severe inflation, which impacts cash flow severely, may cause down-stream supply costs to exceed the current inflation rate due to constricted supply and paying a premium for a limited availability.

Figure 2

	Consumer Spending	Monetary Policy	Unemployment	Supply Chain
Moderate Inflation	Increasing	Low Interest Rates	Moderate	Low Disruption
High Inflation	Steady	Moderate Interest Rates	Moderate	Low Disruption
Low Inflation	Declining	Low Interest Rates	High	Low Disruption
Severe Inflation	Declining	High Interest Rates	High	High Disruption

The chart shown above describes Deloitte's point of view as to how the four critical uncertainties (Consumer Spending, Monetary Policy, Unemployment, and Supply Chain) could behave in various scenarios, which drives the inflation outlook.[24]

Supply Chain is a critical component to internal factor planning for PEOs and PMs, and it has a large effect on the cost of a program. Supply chain in 3 of 4 economic scenarios is expected to normalize. This is due in part because supply chain inflation is attributed to supply shock (especially in the United States), but also because companies are already finding ways around many of their supply chain problems.[25]

More specifically, we looked at two specific commodities within a typical supply chain for a defense program – raw materials and energy (aluminum and crude oil, respectively). In terms of rising prices/costs, PEOs and PMs can think about internal cost factors as generally having positive correlation to inflation. PEO and PMs can't control inflation, but they can control their acquisition strategy to hedge against high inflation.

Figure 3

Aluminum Costs Rise and Fall with Inflation [26, 27]

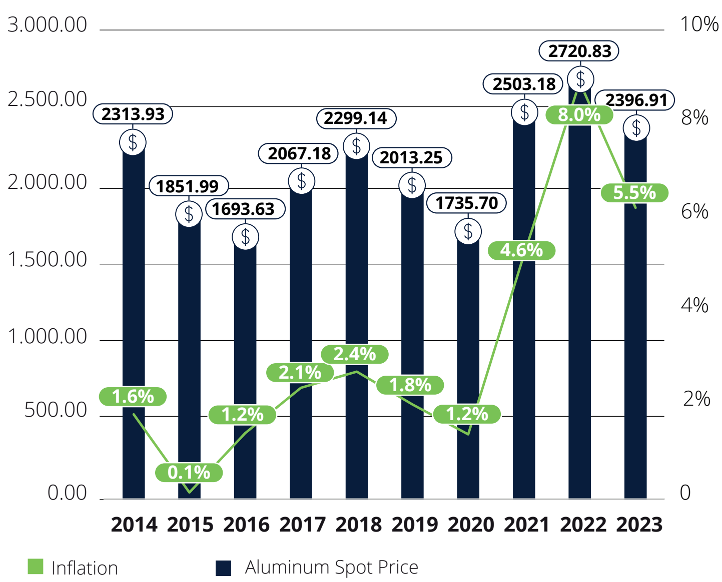
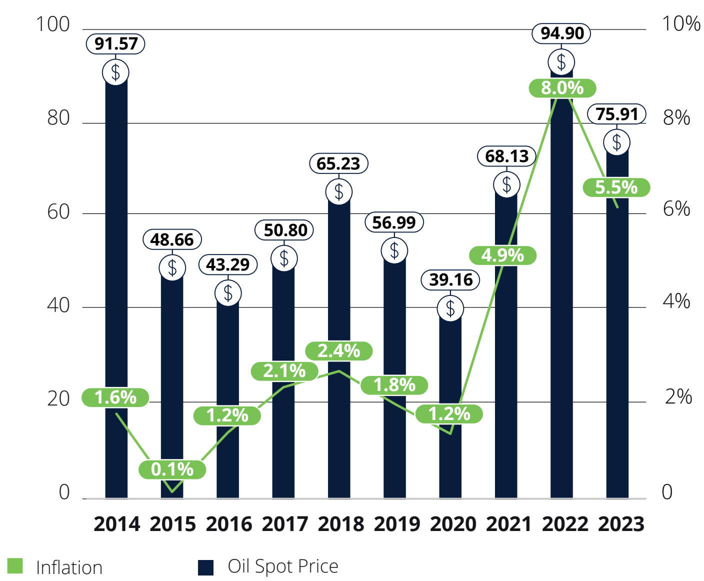


Figure 4

Oil Prices Rise and Fall with Inflation [28, 29]



Inflation Action Plan

Mitigating the inflation proposed costs from other related and unrelated costs enables PEOs, PMs, and Contracting leadership to be prepared for intense program and even contractual discussions. Industry, especially at the prime contractor levels on DoD Acquisition Category (ACAT) 1 and 2 programs, should be prepared to present to the government detailed pricing, technical, and schedule factors contributing to "inflation costs" similar to pandemic-related costs. Unlike the pandemic, there is no annual multi-trillion-dollar appropriation to relieve the cost pressure on DoD programs. In fact, the DoD — and especially the Army — will likely absorb inflation cost growth through trade-offs in RD&A accounts.

The following are some steps and a potential methodology that can be implemented to help mitigate the effect of inflation on procurement and systems acquisition:

STEP 1

Leverage quantitative, compliance, and comparative analysis tools. Those factors may be contractor performance risk transferred to the Government, supply base due-diligence, risk cost due to uncertainty, or costs may be appropriately allocated to other accounts such as personnel or overhead. Quantitative analysis includes cost item identification, modeling, and visualization products reflecting the data and analysis.

Objective of Step 1: Develop methods PEOs and PMs may use to separate inflation cost risk from other costs factors in program proposal pricing or equitable adjustment submissions.

STEP 2

Apply a dedicated "inflation" process action team, consisting of DoD major defense program Deloitte specialists, who leverage quantitative analysis to provide responsive and valuable insights. These insights may be supplemented by the application of legislative, DoD and Army policy, defense pricing methods, and trends in the Defense/ Aerospace industrial sector. Additionally, Deloitte's specialists in DoD Planning, Programming, Budgeting and Execution (PPBE) services can assist with the forward planning of inflation insights through Course of Action (COA) development for Program Objective Memorandum (POM) and the substantiation for out-year programming.

Objective of Step 2: COA development using the inflation cost analysis and models into ACAT 1-3 programs and products. Advise the PEO/PM on feasibility and viability per of program life-cycle phase including PPBE/POM substantiation.

STEP 3

Major defense programs have a corresponding Foreign Military Sales (FMS) or Security Assistance portfolio. The MDA/PEO/PM in the inflation effects analysis should include how FMS quantity, contract award, and sourcing impacts the overall program. Inflation effects compound the interaction and dependency of US defense procurement and the FMS/Security Assistance in major defense programs. Factors such as timing, system configuration, pricing, training, contract terms and conditions, and transportation may be the same or different for FMS cases. However, major cost drivers such as inflation conflate and may obfuscate the intrinsic cost/pricing of US and FMS cases. Additional factors such as currency conversion, taxes, and in-country costs may be quite different comparing US and host nation inflation estimates.

Objective of Step 3: Through quantitative analysis, Deloitte specialists provide the PEO/PM with a complete picture of the inflation effects across the program portfolio including the FMS and/or Security Assistance contribution. The goal being to separate bona fide inflation effects in the US, FMS and Security Assistance, and a composite "entire program" picture.

STEP 4

Conduct policy and contracts assessment addressing equitable adjustment requests from the contractor due to inflation. Determine the proper inflation factors appropriate to the program situation. Examples include the Federal Reserve Board, Bureau of Labor Statistics, OMB, and DoD comptroller estimate guidelines.

Contractor equitable adjustment requests due to economic impact may be within the economic price adjustment (EPA) clause of the contract limited to a percentage factor; or the contract may have no EPA clause. In either case, the contractor may submit an EPA to the contracting officer due to inflation beyond the EPA clause or EPA limits. These EPA submissions and adjustments require specific Federal Acquisition Regulation (FAR) compliance (e.g., FAR Part 50), which may result in lengthy, compounding inflation, effects.

Objective of Step 4: Deloitte specialists, through the use of quantitative analysis and intimate knowledge of the defense industrial base and DoD acquisition process, assess the entire program portfolio. The outcome is to advise the PM on how and where the EPA price adjustment may be analytically justified. Also, identify the direct inflation effects through the EPA clause and consequent Government program benefits and actions resulting from contract modifications using FAR Part 50.

Deloitte's services and solutions

QUANTITATIVE RISK ASSESSMENT, MODELS, AND OPTIMIZATION

Deloitte Risk & Financial Advisory clients include DoD Services, Federal, and State governments. Our professionals range from DoD specialists with 40+ years of specialized DoD major defense acquisition experience to financial economists and data science analysts. The Deloitte specialists may also apply the methodology to PPBE, Science & Technology (S&T) and R&D transition. The analysis would include a forecast of the inflation factors, cost estimates, and would provide mitigation recommendations for large investment in Army R&D matures.

SUPPLY CHAIN AND INDUSTRIAL BASE

Deloitte specialists are equipped with state-of-the-art tools and processes and can illuminate and separate components of the supply chain from Tier 1 prime contractors through Tier 2-x. When the supply chain illumination data analysis and visualization tools are combined with Deloitte's business analysis of individual companies, valuable insights are generated that can drive decision making within the Government.

MAJOR DEFENSE ACQUISITION AND COMPLIANCE

DoD contracting is highly regulated with provisions ranging from US code through local procedures. FAR provisions, interpretations, and rulings, plus DoD major program expertise provide the Government highly specialized knowledge at the intersection of program management and federal contracting.

FMS & SECURITY ASSISTANCE

Deloitte operates in the US and has global reach through Deloitte's access to network of member firms. Our offices include most NATO countries, Japan, Australia, New Zealand, etc., where we can bring US Defense knowledge and the in country experience of a host nation defense and industrial base. Enabling a multiple angle view of the same program, attributes and connection points.

STRATEGIC COMMUNICATION AND VISUALIZATION

Deloitte's experience in the DoD, Federal, and Commercial Market S&P 500, includes providing the client appropriate external and public strategic communication of complex, technical, and specific data. Our DoD clients routinely apply these visualization products to inform and communicate to DoD senior leaders, Congress, media, and industry.

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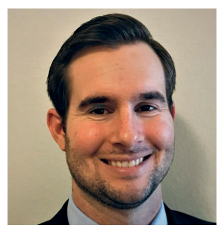

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