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STUDENT ESSAY

IMPACTS OF THE BUDGET PROCESS ON COMPONENT MULTIYEAR CONTRACTS

BY

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"Impacts of the Budget Process on Component Multiyear Contracts" traces recent changes in the acquisition process as a result of the Carlucci Initiatives of 1981. The component multiyear contract has become a standard procurement method used in most major weapons acquisitions. The component multiyear has advantages for both the government and industry. The government saves money by purchasing future requirements with present value dollars; additionally, materials are purchased early in the contract and volume discounts and (cont.)

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economic lot buys reduce the overall costs to the government. Industry benefits from the program stability which allows an orderly ramp or buildup and the advantage of larger, more economical purchases from vendors and subcontractors. The multiyear procurements (MYP) for the Bradley Fighting Vehicle System were examined. Four multiyears provided actual cost avoidance of $118.7 million with an additional $28.6 million still to be realized from a 1986-87 contract. MYP's save money, but they require a stable program to provide the maximum return. During the period of the MYP's, the Army POM created yearly fluctuations in the annual production totals for the Bradley. Over five years, there were five different production profiles. This makes it very difficult to maintain the program predictability required to take full advantage of a MYP. If the Army is going to reform its acquisition process, it must stabilize requirements and protect annual quantities during the POM process.

USAWC MILITARY STUDIES PROGRAM PAPER

IMPACTS OF THE BUDGET PROCESS ON COMPONENT MULTIYEAR CONTRACTS

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ABSTRACT

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"Impacts of The Budget Process on Component Multiyear Contracts" traces recent changes in the acquisition process as a result of the Carlucci initiatives of 1981. The component multiyear contract has become a standard procurement method used in most major weapons acquisitions. The component multiyear has advantages for both the government and industry. The government saves money by purchasing future requirements with present value dollars; additionally, materials are purchased early in the contract and volume discounts and economic lot buys reduce the overall costs to the government. Industry benefits from the program stability which allows an orderly ramp or buildup and the advantage of larger, more economical purchases from vendor and subcontractors. The multiyear procurements (MYP) for the Bradley Fighting Vehicle System were examined. Four multiyears provided actual cost avoidance of $118.7 million with an additional $28.6 million still to be realized from a 1986-87 contract. MYP's save money, but they require a stable program to provide the maximum return. During the period of the MYP's, the Army POM created yearly fluctuations in the annual production totals for the Bradley. Over five years, there were five different production profiles. This makes it very difficult to maintain the program predictability required to take full advantage of a MYP. If the Army is going to reform its acquisition process, it must stabilize requirements and protect annual quantities during the POM process.

IMPACTS OF THE BUDGET PROCESS ON COMPONENT MULTIYEAR CONTRACTS

It seems that you can't pick up a newspaper these days that does not have at least one lead story on the negative impacts of the Gramm-Rudman-Hollings budget-reduction act. Everyone recognizes the problems associated with uncontrolled deficit spending and everyone is in favor of budget reduction methods to control the Federal deficit as long as the reductions don't come out of their programs or effect their congressional districts. An adversary system has evolved over time that places the Department of Defense (DOD) in the position of defending major programs or possibly sacred cows depending on your view against a Congress that has genuine interest in keeping the Federal budget within manageable levels while reducing the growing deficit. These congressmen are also vitally interested in protecting the well being of their constituents and their districts. In the struggle to cut deficits while protecting home districts the defense budget sometimes becomes a pawn and objectives and issues become clouded. All too often the military is ready to place the blame for all budget related problems on Congress. Sometimes that may be appropriate, but in many cases we create our own problems by inconstancies and fluctuation during the program objective memorandum (POM) process. I intend to address one small aspect of the defense acquisition system to show how changes during the POM/budget formulation process can create major management problems for otherwise stable programs. Sometimes it seems that we lose sight of the objectives of the individual programs in our quest to meet program decision memorandum ceilings. The salami slicing approach seems to be the approved solution to reductions in obligation authority. Across the

board percentage driven cuts may seem the fairest method to apportion a given bogey over a series of budget lines but the resulting program stretch-outs and unit cost increases are hard to justify on an individual program basis. Another approach might be to cancel selected acquisitions. This has the advantage of protecting the remaining programs but leaves a major void in the overall Army structure. Requirements are need driven and the mission area analysis studies support the operational requirements used to generate systems acquisitions. When we cancel an approved acquisition we must fill the void created with an older less capable system or do without the required capability. In either case hard decisions are required to spread scarce resources over a large number of claimants. I don't intend to attempt to solve this problem. I think realistically it will remain in the too hard pile for the foreseeable future. The salami slicing and the resulting program stretch-outs will remain the POM/budget reduction method of choice and program managers will continue to have to deal with the turmoil created within their programs by a good but imperfect planning, programming, and budgeting system. Given that we will not change our budget process I intend to show how multiyear procurements are impacted by fluctuations as we build our POM's and budgets.

Over the last 5 years there have been a number of major efforts to improve the acquisition process. In part some of these improvements were generated by criticism directed at DOD as the results of contracting fraud and abuse. In other cases innovative managers developed better ways to do business or simply improved on existing systems. Some of the best known recent acquisition improvement efforts

were directed by then Deputy Secretary of Defense Frank Carlucci. The Carlucci initiatives were published in a memorandum, "Improving the Acquisition Process," on 30 April 1981. On the next day, 1 May 1981, Mr. Carlucci followed his 32 initiatives with a "Policy Memorandum on Multiyear Procurement." This memorandum outlined full funding as the preferred method for entering into contractual commitments. Support of outyear end items was authorized but this required a careful assessment of benefits versus the risks. The options the program manager had available as he developed his acquisition strategy were single fiscal year full funding (Congressional obligation authority for fully financing any quantity of end items in a single fiscal year), and two partial exceptions to the full funding method. The classical multiyear procurement is a contract covering more than 1 year's requirements but is budgeted and financed in annual increments. Provisions are made to protect the contractor against losses resulting from cancellations and to allow reimbursement of unrecovered nonrecurring costs. The other traditional exception to full funding is advanced procurement. This is the financing of long lead components in a fiscal year in advance of the actual year or period the component will be acquired. Advanced procurement normally funds components, materials, or end items required early in the next fiscal production year to maintain an uninterrupted production schedule. The multiyear memorandum also outlined advanced multiyear concepts--an approach to contracting and financing authority which would permit more economic and efficient acquisition of weapons systems that met established criteria. The advanced multiyear concepts fall into three general categories:

1. Full funding with expanded advanced buy--an extension of the advanced buy concepts to include economic order quantities for more than one fiscal year's contract requirements.

2. Multiyear with expanded advanced buy--this is identical to a classical multiyear with advanced procurement of materials, components and their associated labor for end items in the outyear portions of the contracts. Economic lot buys of such materials and components will be permitted based on established guidelines/criteria.

3. Funding to termination liability--funds are appropriated for specific increments of work to be accomplished during the fiscal year for which the funds are approved. Increments of work are based on economic production considerations of the total end items on contract (including block buy quantities) but are generally not segregated to a specific subset of the total quantity. This concept has only limited application to production rate type programs and should be considered as an exception to normal procurement financing.[1]

The process of deciding to use or not to use a multiyear procurement (MYP) for production programs as well as how best to tailor and structure multiyear procurement programs requires management judgment. The following criteria have been established as guidelines for decisionmakers. The criteria are to be considered in a comparative benefit/risk analysis format. Criterion one below, represents the benefit factor, and criteria two through six represent risk factors.

1. Benefit to the Government. A multiyear procurement should yield substantial cost avoidance or other benefits when compared to conventional annual contracting methods. MYP proposals with greater risk to the Government should demonstrate increased cost avoidance or other benefits over those with lower risk. The savings can be defined

as significant either in terms of absolute dollars or percentage of total cost.

2. Stability of Requirement. The minimum need (either inventory or acquisition objective) for the production item or service is expected to remain unchanged or vary only slightly during the contemplated contracted period in terms of production rate, fiscal year phasing, and total quantities.

3. Stability of Funding. There should be a reasonable expectation that the program is likely to be funded at required level throughout the contract period.

4. Stable Configuration. The item should be technically mature, have completed RDT&E (including development testing or equivalent) with relatively few changes in item design anticipated and the underlying technology should be stable. This does not mean that changes will not occur but that the estimated cost of such changes is not anticipated to drive total costs beyond the proposed funding profile.

5. Degree of Cost Confidence. There should be a reasonable assurance that cost estimates for both contract costs and anticipated cost avoidance are realistic. Estimates should be based on prior cost history for the same or similar items or proven cost estimating techniques.

6. Degree of Confidence in Contractor Capability. There should be confidence that the potential contractors can perform adequately, both in terms of government furnished items (materiel, data, etc.) and their firm's capabilities. Potential contractors need not necessarily have previously produced the items.[2]

The Carlucci initiatives identified multiyear contracting as a method of reducing procurement costs and established the criteria a program had to meet to be considered as a candidate for this contracting approach. The Defense Acquisition Regulation (DAR) defines multiyear contracting as ". . . a method of acquiring for the Department of Defense (DOD) planned requirement for up to a 5 year period. . .without having total funds available a the time of award." In other words program mangers can use MYP to acquire more than 1 year but not more than 5 years requirements under one contract. Each program year is budgeted and funded annually and this is one area, which I will address later, that creates major problems due to the budget/appropriation process. Each program year is budgeted and funded annually, but the program is committed through its MYP contracts for at least several years in the future. The principal benefits of MYP are to reduce program costs to the government but this approach also provides incentives for industry investment. The cost savings are realized by the use of MYP versus single-year contracts through volume purchases of materials, components, subassemblies, or assemblies, and the ability to purchase future needs with present value dollars thereby avoiding the unknown of inflation and market fluctuation of materials. The government receives the benefit of a favorable price and industry is stimulated because the larger orders allow more economical purchases from vendors and subcontractors. Additionally an incentive to invest in new equipment is provided and business sees an orderly ramp or buildup which provides program stability and allows management to plan some of its government business for more than one budget year at a time. Another advantage of the MYP is the potential to meet surge requirements

in the second and subsequent years of the contract by virtue of the existence of trained and proven subcontractors, vendors, and suppliers.

There are substantial benefits associated with MYP, but there are also substantial risks and limitations which must be evaluated during the decision process. There are high penalty costs in the case of a program reduction or contract cancellation. The budget/appropriation process can have a major impact on this aspect of a MYP contract. The environment under the Gramm-Rudman-Hollings budget-reduction act could cause major stretch-outs among programs with component multiyear contracts. Any stretch-out could reduce the expected benefit of the MYP, but a major reduction could cost the Government significant penalty charges negating the benefit of the MYP and increasing the overall program cost. Other risk factors that require evaluation are the variable conditions effecting both the government and industry. High inflation, unstable markets, changing requirements, and changing technology create genuine concerns. Risk increases in direct proportion to the depth to which the MYP is applied to a system. The more components, materials, subassemblies and major assemblies which are under MYP the greater the associated risk that is assumed by both the Government and industry. Congress supports MYP and has established a system of required Congressional reports for approval or notification based on dollar amounts of proposed contracts and has established criteria based on the anticipated contract savings to determine which items would qualify for a MYP. Even with this support there are some elements that are concerned that Congress could lose some control over defense funds allocated for MYP. It cannot make annual changes without incurring penalties.

Contractors are concerned over inadequate economic price adjustments for contracts that extend over long periods. A lot can change during the 5 year life of some contracts and they believe the Government should provide some coverage of risk clearly beyond the contractors control. Examples would be changes to Federal and State tax laws and changes to Federal and State environmental control laws and regulations. The also want coverage regarding late or deficient Government furnished equipment (GFE), embargoes, and strikes. The final element of risk associated with MYP concerns locking in a single contractor or a contractor team to a long-term contractual arrangement. This could restrict technology development on the part of the nonparticipating contractors or reduce the incentive to remain technically competitive because of the lack of development capital.

To better illustrate the value of the MYP to the program manager I will highlight the multiyears for the Bradley Fighting Vehicle System (Figure 1). The Bradley has recently received its share of notoriety in both the press and Congress. The publicity has concentrated on the testing issue and related operational concepts and seems to be more orientated to the sensationalism associated with emotional controversy rather then constructive criticism of a perceived deficiency. Any discussion of the Bradley program would have to include the facts that the program is on schedule and on budget. Additionally a number of value engineering proposals having generated millions of dollars in savings to the Government and as shown in Figure 1 the four multiyear component contracts have produced actual cost avoidance of $118.7 million to date with future estimated saving of $28.6 million still to be realized. It should also be pointed out that this program has

BRADLEY FIGHTING VEHICLE SYSTEM
CONGRESSIONAL INTEREST MULTIYEAR PROGRAMS

	Congressional Requirement	Date of Notification/ Approval Request	Term of Multiyear Contract	Type Contract	Acquisition Strategy	Actual or Estimated Savings ($ in M's)	Planned Award	Actual Award
FY 83 Starts						Actual 118.7		
BFVS Components								
Transmission	Notification	Jan 83	FY83-85	FFP	Sole Source	(9.2)	May 84	10 May 83
Turret Drive	Notification	Jan 83	FY83-85	FP/EPA	Sole Source	(9.7)	Apr 83	29 Apr 83
Power Control Unit	Notification	Jan 83	FY83-85	FP/EPA	Sole Source	(14.8)	May 83	24 May 83
TOW Subsystem	Notification	Jan 83	FY83-85	FP/EPA	Sole Source	(85.0)	Apr 83	28 Apr 83
FY 85 Starts						Estimated 28.6		
Turret Drive	Notification	Feb 84	FY85-87	FFP	Sole Source	(16.6)	FY85	31 Jan 85
Bushmaster (25mm Gun)	Notification	Feb 84	FY85-89	FFP	*	(12.0)	FY85	

* Strategy is undecided. Options include a competitive MY Buy-out or a sole source MY EOQ Buy-out.

Figure 1

produced a vehicle that has exceeded the stated reliable criteria by a factor of 2.4 and is very well received by soldiers.

MYP contracts have demonstrated their value to the government through actual cost avoidance or savings over single year contracts. Congress has supported most MYP's and has established procedures for DOD to follow to request approval for the MYP or in some cases to simply notify the Congress of the intent to let a MYP. The request for approval or the notification of a MYP takes the form of a Office of the Secretary of Defense (OSD) document titled "Justification of Estimates for Fiscal Year submitted to Congress (multiyear procurement)." This document includes a number of exhibits (seven for a component MY) which outline the benefit/risk criteria discussed earlier and also provides a detailed analysis of the cost avoidance of a MYP over single year contracts. This required report is generated at the program office and staffed through United States Army Materiel Command (AMC) to the Army staff. The Army staff forwards the justification to OSD which submits the documents to Congress. I have outlined the procedure to show that the MYP justifications and exhibits are not handled in a vacuum and they receive a great deal of visibility as they move through the various levels of the acquisition system on their way to Congress. I might also point out that the principal players and agencies are the same offices and in some cases the same individuals who assist in the development of the POM each year.

If you look at the POM over the last few years (1982-1986) (Figure 2) you can see some of the problems the program managers face as they attempt to maintain stability

BRADLEY FIGHTING VEHICLE SYSTEM
BUDGET INFORMATION

	FY1980	FY1981	FY1982	FY1983	FY1984	FY1985	FY1986	FY1987	FY1988	FY1989	FY1990	FY1991
FY1982 President's Budget								To Complete				
QTY	100	300	464	427	469	651	637	3834				
#'s Millions (Procurement Cost)	231.2	505.7	749.2	720.6	788.4	1095.5	1149.5	6105.6				
FY1983 President's Budget									To Complete			
QTY	100	400	600	600	555	775	1009	958	1885			
#'s Millions (Procurement Cost)	231.2	721.6	808.2	793.3	793.8	1073.9	1513.0	1513.2	3208.9			
FY1984 President's Budget		FY81 & Prior								To Complete		
QTY		500	600	600	600	830	1080	1080	1080	572		
#'s Millions (Procurement Cost)		952.8	898.7	870.6	858.3	1111.4	1366.4	1450.2	1489.3	585.5		
FY1985 President's Budget			FY82 & Prior								To Complete	
QTY			1100	600	600	710	900	900	900	900	272	
#'s Millions (Procurement Cost)			1858.4	878.6	874.7	1120.8	1256.9	1272.0	1310.2	1308.5	430.0	
FY1986-90 POM				FY83 & Prior								To Complete
QTY				1700	600	655	666	720	720	720	720	381
#'s Millions (Procurement Cost)				2715.1	874.7	1036.8	1000.0	1052.2	1088.7	1170.6	1146.0	608.3
FY86 Army Budget												Total
QTY	100	400	600	600	600	655	716	870	870	870	601	6882
#'s Millions	231.2	721.6	898.7	878.6	791.3	962.3	1034.6	1237.9	1244.9			

Figure 2

in their programs. The Bradley program is an example of a self generated problem. As the Army formulated the POM it created yearly fluctuations in the annual production totals. These fluctuations made it very difficult to maintain the program predictability required to take full advantage of a MYP. This situation is just the opposite of that which faced the M-1 tank program during this same period. Congress increased the appropriation figures from the Army's requested 720 tanks per year to 840 tanks per year. With Bradley the Army and the POM process changed the programs production profile five times in as many years. Each years POM contained a different production profile. I should also point out that this was during a very favorable period for the defense budget. I would submit the main problem during this period was not total Army obligation authority but the Army's inability to limit new starts or new programs and the required salami slicing necessary to spread the obligation authority over a greater range of claimants. As a result each POM for the Bradley program was a different profile and if the program managers (PM's) had the ability to foresee the future they may not have selected component MYP's as the acquisition strategy for the transmission, turret drive, power control unit, and the TOW subsystem.

In 1983 when the Bradley MYP's were being evaluated and negotiated the FY 1983 President's budget had been enacted into law by Congress and the FY 1984 President's budget had been submitted to Congress. I think its obvious from the profiles in figure 2 that any component MYP's based on FY 1983 or 1984 quantities would provide excess components in FY 1985. This was the case with the Bradley program and AMC approved a plan to transfer the additional components above production requirements

to the spares accounts. This prevented a situation where the program had contracted for quantities of components in excess of the number of vehicles Congress had authorized. But more important it made the principle players at the program very aware of the fact that the uncertainty of the POM process increased the stability of requirement and funding risk of the component MYP. As a result when the turret drive for FY 1985 to 1987 MYP was being negotiated a great deal of concern was expressed because the POM being developed had profiles for three levels of production for the Bradley; 600, 720, and 900 per year. When the MYP contract for the turret drive was in the final stages of negotiation the POM was locked at 900 Bradleys per year. Before the contract was signed the POM was unlocked and reworked and Bradley was reduced to 720 per year. This required new negotiations for the turret drive and resulted in contract with a clause that allowed a plus or minus 25 percent quantity change from the base figure of 720 units per year. The clause provided coverage for the three possible profiles and reduced the stability of funding risk for the program but I can't help but feel the government also paid a premium for this clause because it basically transfers the uncertainty of the Army's POM process to the contractor.

I think its obvious that stability and a fixed quantity is a definite advantage to the manages of a MYP. We encounter problems when we attempt to change the required amounts after the contract is signed. This is true of MYP's as well as any other type of contractual arrangement. As basic as this premise is to everyday business we can find examples in each POM submission where service planners and managers have made changes that impact on program stability and in extreme cases

have made major quantity adjustments to programmed production schedules. In my opinion as long as we allow the POM process to interject change and instability to established programs then we are not serious about acquisition reform. DOD and the services spend a great deal of time and effort on management reviews and high level committees in an attempt to improve the acquisition system. A lot of good workable solutions and improvements have been developed recently and I firmly believe the system is healthy, however if we as an Army are going to be allowed to manage our own destiny in the materiel acquisition arena then we are going to have to clean up our own act and return absolute, predictable stability to our production programs. Anything less will be too little and too late and we will leave the door open for Congress to solve our problems for us through law and progressively restrictive committee language.

I do not feel any major reform is necessary to correct what I think is a very basic flaw in the POM/budget/acquisition process. The general control measures and the management mechanisms are already in place in the acquisition process. Tailoring some of the existing procedures to make them more directive would reduce program turmoil and add the needed stability to take full advantage of the benefits of MYP's. An example of a minor change that could produce major results would be restructuring the Army Systems Acquisition Review Council (ASARC) to include a Functional Area Assessment (FAA) as part of the decision process. In this way training, supportability, manpower, doctrine and fielding issues as well as the developer related ASARC issues would receive high level visibility. During this review a production ramp could be dovetailed with a fielding plan and that could become part of

the decision memorandum. Any changes to the annual production quantities would require the same level of visibility as the original ASARC decision. In this way ASARC programs could enjoy a degree of stability and protection from some of the lower level bill payer drills that take place during the POM process. Additionally the program managers would have greater stability in their programs and the Army should benefit by greater savings through MYP's by the ability to negotiate within a tighter quantity range and the elimination of the schedule uncertainty. All this assumes the ability to identify requirements and plan the orderly introduction of the system very early in the items life cycle. I think in a lot of cases we already do FAA type analysis with our major program ASARC's. Now its time to formalize the process and make it a hard requirement to establish the programs production schedule up front. The most obvious benefit would be program stability, but I feel certain strong arguments could be made for significant savings through MYP's and other innovative contracting methods. Once we have stabilized the annual requirement we have removed much of the uncertainty and risk associated with our current volatile POM process. This can't help but make things better.

ENDNOTES

1. Carlucci, Frank C., Deputy Secretary of Defense Memorandum, "Policy Memorandum or Multiyear Procurement," 1 May 1981.

2. Acquisition Strategy Guide, Defense System Management College, Fort Belvoir, Virginia. First Edition, July 1984, pp. 5-40.

3. President's Budgets, FY's 1982, 1983, 1984, 1985, 1986, Comptroller of the Army, Washington, D.C.