

At one extreme there are alternative choice decisions which can be made on the basis of an economic analysis. "Lease vs. Buy" and "Replacement Decisions" (replacement of an existing asset with a newer model) fall into this category. Another category of alternative choice decisions involves projects for which the economic implications must be weighed against other, non-monetary, considerations. "Make vs. Buy" decisions involve an economic analysis but also require, for example, a judgment as to whether the proposal is in conflict with the Government's policy of not competing with private industry. Finally, at the other end of the spectrum, there are those projects for which it is difficult or impossible to quantify the associated costs and/or benefits. Examples of these might include projects to improve personnel health or safety factors. These different categories of alternative choice decisions should be recognized and the weight given to economic analysis should be governed accordingly.

This Instruction also points out that this procedure is not applicable to proposed investment projects justified solely or primarily on the basis of military necessity or combat effectiveness. Where an economic analysis would add to or support the justification for projects of this kind, it is recommended that such an analysis be submitted with the investment proposal.

Our weapon system investments are analyzed in detail. We use discounting procedures in cases where clearly they are called for, such as when the time streams of costs for the systems being compared are different. We have not thought it wise to formalize the use of these procedures as yet because a great deal of judgment must be exercised in each problem to determine which analytical tools are appropriate.

B. EXAMPLES OF THE USE OF DISCOUNTING IN THE DEPARTMENT OF DEFENSE

1. A new armed helicopter for the Army

The Army proposed large-scale procurement of a new armed helicopter to provide fire support for its combat forces. Analyses of this problem showed that the new system performed many of the same types of missions that were performed by the artillery, tanks, mortars and other armed helicopters already in the Army's program. The Army believed that the new helicopter was a needed addition to its fire support capability, though it was expensive.

The Secretary of Defense decided to buy the new helicopters provided that the Army was willing to replace a portion of its previously approved fire support force structure with them. The replaced force structure was to be equal in cost to the new helicopter system over the ensuing ten years. The cost concept to be used was a present value cost: the actual year-by-year cost outlays for both forces discounted at 10 percent. The assumption was that the Army would be willing to accept these terms if the new helicopters were, in the Army's judgment, more capable than the equal cost force they replaced.

The resulting table showing the two forces and their costs had the following format.

COST SUMMARY

[Expenditures in millions of dollars]

	Fiscal year 1969	Fiscal year 1970	Fiscal year..... 1971	Fiscal year 1978	10-year cost, total	10-year cost, discounted
Cost of new helicopter force:						
Initial investment:						
Equipment.....						
Initial pilot training.....						
Annual operating cost.....						
Combat consumption.....						
Retirement pay.....						
Total.....						
Terminal value of equipment and ordnance.....						
Net cost of new force.....						
Cost of forces traded off:						
Initial investment.....						
Annual operating costs.....						
Combat consumption.....						
Retirement pay.....						
Total.....						
Terminal value of equipment.....						
Net cost of forces traded off.....						
Difference in net costs.....						