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SECRETARY OF THE AIR FORCE**

AIR FORCE INSTRUCTION 65-501

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Financial Management

ECONOMIC ANALYSIS



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This Instruction implements Air Force Policy Directive 65-5, *Cost and Economics*. It gives specific instructions on economic analysis for Air Force management and financial decisions. This publication applies to individuals and organizations at all levels of the Regular Air Force, Air Force Reserve and Air National Guard (ANG), who make resource decisions. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional's chain of command. This publication may be supplemented at any level, but all supplements must be routed to the OPR of this publication for coordination prior to certification and approval. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See AFI 33-360, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the requestor's commander for non-tiered compliance items.

SUMMARY OF CHANGES

This document has been substantially revised and needs to be completely reviewed. Major changes include: Air Force Instructions (AFIs) 65-501 and 65-509 have been combined to form one Instruction; a clarification was added that economic analysis is both an analytical approach to decision-making and one of many products resulting from the analytical approach; a clarification was added that all comparative analysis products (e.g., Cost Benefit Analysis, Analysis of Alternatives, Business Case Analysis, etc.) fit under the umbrella of the economic analysis approach and are subject to this Instruction (consistent with Department of Defense Instruction (DoDI) 7041.03). As a result, this Instruction now uses one term, comparative analysis, to refer to all types of analysis that result from using the economic analysis approach and uses the term comparative analysis product for the document resulting from a comparative analysis.

Chapter 1

ECONOMIC ANALYSIS.

1.1. Introduction. This Instruction applies when making resource decisions. There are always more requirements than available resources (e.g., manpower, equipment, fuel, facilities). Furthermore, typically there are competing alternatives by which an objective (e.g., strong national defense) can be achieved. As such, a systematic process for making decisions based on costs and benefits is a valuable tool for government decision-makers.

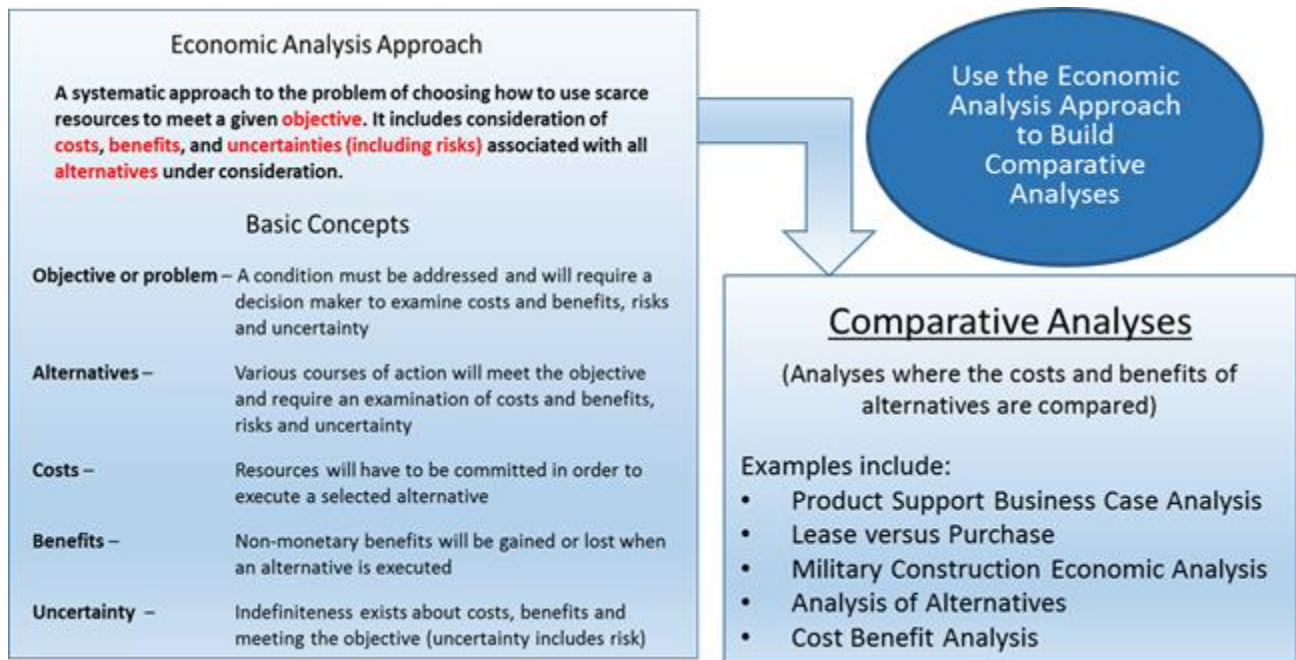
1.2. Definition. Economic analysis is a systematic approach to the problem of deciding how to use scarce resources to achieve a given objective. Proper use of the economic analysis approach yields an impartial comparison of competing alternatives to achieve the objective by weighing the costs, benefits, and uncertainties (including risks) for each alternative.

1.2.1. Implementing the economic analysis approach results in analyses that are referred to by a variety of names (e.g., economic analysis, business case analysis, cost benefit analysis, analysis of alternatives). See [Figure 1.1](#).

1.2.1.1. Consistent with DoDI 7041.03, *Economic Analysis for Decision-making*, analytic studies that deal with cost and benefit considerations fit under the definition of “economic analysis” (even though not specifically titled as such) and must adhere to the policy in this Instruction. (T-1).

1.2.1.2. For the remainder of this Instruction, all the analyses resulting from implementing the economic analysis approach will be referred to as “comparative analyses” or simply as “analyses” unless referring to a specific product whose name has been directed at a higher level (e.g., Product Support Business Case Analysis, Military Construction Economic Analysis). The document produced as a result of performing a comparative analysis will be referred to as the comparative analysis product or document. The conceptual approach to decision-making and the overall policy, however, will still be referred to as economic analysis to remain consistent with DoDI 7041.03.

Figure 1.1. Economic Analysis Approach and Comparative Analysis.



1.3. Background. The Department of Defense (DoD) and the Air Force define economic analysis as the approach to making resource decisions.

1.3.1. Even though the Air Force has a structured framework for performing economic analysis, the depth to which the framework is implemented may vary, which will be reflected in analytical products that vary in their level of rigor.

1.3.2. Some factors which may impact the level of rigor at which the economic analysis approach should be implemented are: the stage a program or project is in its life cycle, the level of resources consumed in the project, the level of visibility, and the scope/significance of the objective.

1.3.3. The economic analysis approach can be applied to any type of decision. Economic analysis may be applied to very narrow decisions such as where to host a system or what type of flooring to use in a building. Conversely, economic analysis may be applied to large strategic resource decisions such as the level of investment the Defense Department should expend on different capabilities (e.g., Special Forces, Airlift, and Aircraft Carriers).

1.3.4. The economic analysis approach does not replace the judgment of the decision maker, but rather aids that judgment. Using this systematic approach reduces the incidence of serious omissions or the introduction of bias.

1.3.5. Allocating resources to highly effective uses is critical to the Air Force mission. The economic analysis approach assists the decision maker in these allocation decisions. When properly performed and documented, the economic analysis approach provides auditability for the resource decisions made.

1.4. Roles and Responsibilities

1.4.1. Deputy Assistant Secretary of the Air Force for Cost and Economics (SAF/FMC) will:

- 1.4.1.1. Serve as the office of primary responsibility for Air Force economic analysis.
- 1.4.1.2. Provide Air Force-wide guidance on economic analysis policy and procedures.
- 1.4.1.3. Approve comparative analysis instructions developed by Secretariat or Air Staff functional offices and Major Commands.
- 1.4.1.4. Review comparative analyses for weapon systems that require approval from the Defense Acquisition Board, the Air Force Review Board, or equivalent body. For Acquisition Category I programs, Business System Category I programs, and equivalent Analysis of Alternatives, may advise the Analysis of Alternatives team, assess the methodology and rigor of the cost estimate, or may perform an independent estimate of costs of the alternatives.
- 1.4.1.5. Review comparative analyses requiring Headquarterslevel approval for other acquisition requirements.
- 1.4.1.6. As requested, review non-appropriated fund construction and equipment analyses for projects presented for Air Force Services Board approval and funding.
- 1.4.1.7. Review all comparative analyses forwarded to the Secretary of the Air Force, the Chief of Staff of the Air Force, the Under Secretary of the Air Force, or the Vice Chief of Staff of the Air Force.
- 1.4.1.8. Review comparative analyses that will be forwarded to organizations outside the Air Force (e.g., Office of the Secretary of Defense, Congress)
- 1.4.1.9. Produce comparative analyses as requested by Headquarters Air Force organizations.
- 1.4.1.10. Develop, promotes and monitors economic analysis training.
- 1.4.1.11. Maintain a site on the Air Force Portal that provides current cost factors and other economic analysis information.
- 1.4.1.12. Review and approves/disapproves all requests for waivers from comparative analysis requirements.

1.4.2. Secretariat and Air Staff Functional Offices will:

- 1.4.2.1. Decide if a comparative analysis is required or advisable before approving new initiatives, programs or projects. Functional offices may confer with SAF/FMC to determine if the issue being examined requires a comparative analysis. For Analysis of Alternatives, notify SAF/FMC of all efforts for Acquisition Category I programs, Business System Category I programs, Service Category I Programs and equivalent.
- 1.4.2.2. Serve as initiator and subject matter expert for the development of comparative analyses initiated at their level involving their functional area.
- 1.4.2.3. Issue guidance, upon approval from SAF/FMC, for comparative analysis products in their functional area.

1.4.2.4. Receive comparative analyses from Major Commands, Program Executive Offices, or Centers. Review the analysis from their functional perspective, and forward comparative analyses requiring SAF/FMC review.

1.4.2.5. If questions arise from functional or SAF/FMC review, forward these questions to the Major Command office, Program Executive Office, or Center proposing the project. Coordinate correspondence between SAF/FMC and the Major Command, Program Executive Office, or Center.

1.4.2.6. Review and coordinate on, or reject, as appropriate, requests for waivers from comparative analysis requirements. Forward all waiver requests to SAF/FMCE.

1.4.2.7. For Air Force Military Construction projects submitted in the President's Budget that have not processed through AFIMSC (see [paragraph 1.4.3.](#)), ensure there exists either a comparative analysis that has been completed and certified in accordance with AFMAN 65-506, *Economic Analysis*, or a waiver to a comparative analysis that has been completed and coordinated in accordance with AFMAN 65-506.

1.4.2.8. NGB/FMA shall ensure that Air National Guard Military Construction projects submitted in the President's Budget include either a comparative analysis that has been completed and certified in accordance with AFMAN 65-506, or a waiver to a comparative analysis that has been completed and coordinated in accordance with AFMAN 65-506.

1.4.2.9. AF/REC shall ensure that Air Force Reserve Military Construction projects submitted in the President's Budget include either a comparative analysis that has been completed and certified in accordance with AFMAN 65-506, or a waiver to a comparative analysis that has been completed and coordinated in accordance with AFMAN 65-506.

1.4.3. Air Force Installation and Mission Support Center Resource Management Cost Division AFIMSC/RMC (formerly the Financial Management Center of Expertise) will:

1.4.3.1. Provide support in completing non-acquisition comparative analyses for Air Force Major Command and installation Financial Management offices.

1.4.3.2. Function as a resource for comparative analysis on-the-job training, as requested, to installation and Major Command Financial Management offices and functional offices.

1.4.3.3. Submit requests for Resource Management Cost Division support.

1.4.4. Financial Management Offices at the Major Command Level and Center Level will:

1.4.4.1. Serve as the office of primary responsibility for the economic analysis program within the Major Command.

1.4.4.2. Manage the Command's economic analysis program, including, but not limited to, providing Command guidance to subordinate organizations and liaison with SAF/FMC.

1.4.4.3. Review and certify comparative analysis products and review and coordinate on requests for waivers in accordance with AFMAN 65-506 (for products produced below the Major Command Level, the Major Command or Center FM)

- 1.4.4.3.1. For programs governed by the DoDI 5000 series (i.e., Weapon System Acquisition), Center financial management organizations will review and certify comparative analysis products, and review and coordinate on requests for waivers.
- 1.4.4.3.2. For programs or projects not governed by the DoDI 5000 series (i.e., Weapon System Acquisition), Major Command financial management organizations will review and certify comparative analysis products, and review and coordinate on requests for waivers.
- 1.4.4.3.3. AFMC/FMC may perform this review role in lieu of another Major Command Financial Management office if both parties have agreed to this arrangement in a memorandum of understanding.
- 1.4.4.4. For comparative analysis products required by this instruction and originating at the Major Command and Center-levels, the Financial Management Office will serve as the office of primary responsibility for the effort. In this case, the Major Command-level or Center-level Financial Management Office is fulfilling the role as the Financial Management Office supporting the requirement originator (see [paragraph 1.4.8.](#)).
- 1.4.4.5. At the request of the Major Command Functional Office, perform comparative analysis in support of Strategic Basing efforts. The support may be provided organically, or the Major Command Financial Management office may seek assistance through another organization (e.g., the Installation and Mission Support Center's Resource Management Cost Division).
- 1.4.4.6. Prepare and forward the Annual Economic Analysis Report (see [paragraph 1.8.](#)).
- 1.4.5. Functional Offices at Major Command Level and Center Level will:**
- 1.4.5.1. Follow comparative analysis review and certification procedures as defined in AFMAN 65-506.
- 1.4.5.2. Review and coordinate on, or reject, as appropriate, requests for waivers from comparative analysis requirements and forward approved requests to Secretariat or Air Staff counterparts for routing to SAF/FMCE for approval.
- 1.4.5.3. Serve as initiator and subject matter expert for the development of comparative analyses initiated at their level involving their functional area. Functional offices should confer with their servicing Financial Management Office to ensure the issue being examined requires a comparative analysis. For comparative analyses not required by this Instruction, the Functional Office may serve in place of the Financial Management Office as the office of primary responsibility.
- 1.4.5.4. When designated lead Major Command in a Strategic Basing effort, coordinate with their Major Command Financial Management Office to accomplish Military Construction, facility repair, or other required comparative analyses during the Site Activation Task Force process.
- 1.4.6. Headquarters Air Force Installation and Mission Support Center will:**
- 1.4.6.1. Ensure that each facility project likely to be funded in the budget year has an approved comparative analysis or a waiver to a comparative analysis prior to the documentation deadline contained within the respective facility project business rules (e.g.,

Military Construction; Unspecified Minor Military Construction; Facilities Sustainment, Restoration, and Modernization). At a minimum, this must occur before the Air Force Board decides to include the project in the Air Force's President's Budget submission.

1.4.7. Office requiring a comparative analysis. [Typically this is an Installation and Major Command Functional Offices, Program Executive Office Program Offices or Sustainment Offices, but can be any organization.]

1.4.7.1. Will determine the need for a comparative analysis. (T-3). The criteria in [paragraph 1.5](#) and its subparagraphs must be followed in determining when a formalized analysis is required. (T-1). The need may also arise from an upcoming decision where a decision-maker would benefit from the analytical rigor provided from using the economic analysis approach even though the analysis is not required by this Instruction. Major Command and Installation Functional Offices should confer with their servicing Financial Management Office or the Installation and Mission Support Center's Resource Management Cost Division to ensure the issue being examined requires an Installation-initiated comparative analysis. For acquisition-related analyses, Program Executive Office Program Offices and Sustainment Offices should confer with SAF/FMCE. A Headquarters Air Force office requiring a comparative analysis should confer with SAF/FMCE.

1.4.7.2. As soon as possible after determining a comparative analysis is required, shall formally request a comparative analysis from the Financial Management office. (T-3).

1.4.7.3. Should provide support to the comparative analysis preparation process, to include providing the problem definition, alternatives identification, scope of analysis, needed data and evaluating the reasonableness of estimated costs and benefits.

1.4.7.4. Should serve as initiator and subject matter expert for the development of comparative analyses involving their functional area. For comparative analyses not required by [paragraph 1.4.1](#) of this Instruction, the Functional Office may serve as the office of primary responsibility in place of the Financial Management Office.

1.4.7.5. Will review the comparative analyses and certify on the Certificate of Satisfactory Comparative Analysis in accordance with the process in AFMAN 65-506. (T-1). Forward to the Major Command functional office, as required. (T-1).

1.4.7.6. Will prepare a request for waiver from the comparative analysis requirement when needed. (T-1).

1.4.7.6.1. Will send written requests for waivers from comparative analysis requirements to the installation or center level Financial Management Office. (T-1). Waiver requests must adequately explain and document the reason why a comparative analysis is not necessary according to [paragraph 1.5](#). (T-1).

1.4.7.6.2. Once the appropriate Financial Management Office coordinates on the waiver request, the functional office will forward the request for a waiver to their Major Command functional counterparts (T-1).

1.4.7.7. Shall retain approved comparative analysis products and approved waivers on file (T-1).

1.4.8. Financial Management Office supporting the requirement originator

1.4.8.1. Will serve as the office of primary responsibility for preparing comparative analyses required by this Instruction. (T-1). The Force Support Squadron is the office of primary responsibility for preparing Non-appropriated Funds comparative analyses.

1.4.8.2. The Installation and Mission Support Center's Resource Management Cost Division, the Major Command Financial Management Office and SAF/FMCE should be used as resources for comparative analysis questions and assistance.

1.4.8.3. Should work with the requesting functional office to name those organizations necessary to formulate alternatives, make assumptions, evaluate benefits, assess uncertainties (including risks), and provide operational or cost data.

1.4.8.4. The local Senior Financial Manager will sign the Certificate of Satisfactory Comparative Analysis (see [paragraph 1.7](#)) and forwards to the local Functional Office (T-1).

1.4.8.5. Review and coordinate on, or reject, as appropriate, requests for waivers from a comparative analysis requirement (T-1).

1.4.8.6. For comparative analysis products required by [paragraph 1.5](#) of this Instruction, financial management officials should provide an interpretation of the results (which can include a recommendation) that is consistent with the costs, benefits, and uncertainties described in the analysis.

1.5. Requirements. The economic analysis approach must be formalized through the creation of a comparative analysis product and submitted, as required, for higher level review when:

1.5.1. Unless subject to another threshold, deciding whether to commit resources to a new project, program or initiative where estimated required budget authority over the Future Years Defense Program exceeds \$50,000,000. (T-1). This dollar threshold also applies to a group of projects which are so closely related that they are logically considered a single entity. (T-1).

1.5.2. Required for Clinger Cohen Act certification. (T-0).

1.5.3. Required for Working Capital Fund Capital Improvement Program projects with investment costs in excess of \$1,000,000 (then-year dollars of the years of the project investment). (T-0).

1.5.4. Required for the Life Cycle Sustainment Plan Annex of an acquisition program. (T-0).

1.5.5. Required as an Analysis of Alternatives in accordance with DoDIs 5000.02, *Operation of the Defense Acquisition System*, 5000.75, *Business Systems Requirements and Acquisition*, and 5000.74, *Defense Acquisition of Services*, and/or other applicable DoD and Air Force guidance. (T-0).

1.5.6. Proposing real property new construction or repair projects with an estimated investment cost in excess of \$2,000,000 (then-year dollars of the years of the project investment). (T-0). Note: DOD Financial Management Regulation (FMR) Volume 2b requires economic analyses for all new construction or renovation projects over \$2M. In accordance with Title 10, USC Section 2811, "renovation" falls under the umbrella term "repair." Real property repair projects above the threshold in this paragraph, but below \$20,000,000 (then-year dollars of the years of the project investment), only have to provide a

formalized comparative analysis if estimated repair costs are equal to or exceed 75 percent of the estimated cost of a feasible new facility that meets the objective. (T-0).

1.5.7. Acquiring temporary facilities to satisfy interim facility requirements. (T-0). A leasepurchase analysis may be used to satisfy this requirement if there are no feasible non-relocatable alternatives.

1.5.8. Proposing a housing privatization project or utilities privatization project, regardless of the amount of the investment cost. (T-0).

1.5.9. Proposing a community partnership project with a value of over \$2,000,000 in fiscal year 2018 constant dollars (either appropriated, non-appropriated, or in-kind). (T-0).

1.5.10. Required by Non-Appropriated Funds policy or guidance, see AFI 65-107, *Nonappropriated Funds Financial Management Oversight Responsibilities*, paragraph 1.2.2.5. (T-0).

1.5.11. Directed by Secretariat or Air Staff, or a commander of field units. (T-1).

1.5.12. Otherwise directed by law or superseding regulation. (T-0).

1.5.13. Proposed changes will push project costs over any of the above dollar threshold requirements (if no comparative analysis was previously provided). (T-0).

1.5.14. Since requirements can change from legislation, Office of Management and Budget guidance, and DoD guidance, check the SAF/FMCE site on the Air Force Portal for updated threshold requirements.

1.6. Economic Analysis Waivers

1.6.1. **Waiver Criteria.** Unless otherwise prohibited, the requirement to produce a comparative analysis may be waived if:

1.6.1.1. The Office of the Secretary of Defense or higher authority directs a new or modified program that specifies how to accomplish program goals.

1.6.1.2. Legislation specifically exempts the project from a comparative analysis, or specifically directs the method of accomplishment.

1.6.1.2.1. Approval of a specific project in legislation, by itself, is not evidence of legislative direction. Legislative language may be based on an Air Force submission in the budget justification books, or other documentation, and may presume a comparative analysis or waiver was already completed and approved. In this case, the legislation is insufficient justification for a waiver.

1.6.1.2.2. If the project and method of accomplishment was a Congressional add (e.g. not requested by the Air Force), then legislative language is sufficient justification for a waiver.

1.6.1.3. The project corrects problems or violations involving health, safety, fire protection, pollution, or security which are serious, urgent and hazardous.

1.6.1.4. The costs of formalizing the analysis clearly outweigh the potential informational benefits accruing to the decision maker. This does not apply to military family housing projects.

1.6.1.5. There is only one method possible to accomplish the objective. If this criterion is used, the waiver justification must describe all reasonable alternatives and why they are not viable. (T-1).

1.6.1.6. A Capital Investment Program project is for environmental, hazardous waste reduction, or regulatory agency (state, local, or Federal) mandated requirements. The latter includes action directed by a higher DoD or Component authority that precludes a choice among alternatives, and DoD instruction or other directive that waives the requirement (e.g., based on equipment age or condition replacement criteria).

1.6.2. Economic Analysis Waiver Approval Process

1.6.2.1. Waivers to the requirement for a comparative analysis product (per [paragraph 1.5.](#)) must be approved by appropriate authorities before proceeding with a project. (T-1). Waiver requests must adequately explain and document the reason why the analysis is not necessary or cannot be accomplished. (T-1).

1.6.2.2. With assistance from Financial Management, the functional office will prepare waiver requests based on the criteria in [paragraph 1.5.1.](#), using the format in AFMAN 65-506. (T-1).

1.6.2.3. All waiver requests must be approved by SAF/FMCE.

1.6.2.4. The activity must coordinate the waiver with the financial management office responsible for the economic analysis program. (T-1).

1.6.2.5. Headquarters Air Force-level (whether Secretariat or Air Staff) functional office must also coordinate on waiver requests prior to submission to SAF/FMCE for approval.

1.6.2.6. For Air Force Reserve Command and Air National Guard requests for waiver, Air Force Reserve Command (AF/REC) and National Guard Bureau Financial Management Analysis (NGB/FMA), or their delegated Air Staff three letter organization, coordination is required.

1.7. Certification. All comparative analyses required by [paragraph 1.5.](#) of this Instruction must have a Certificate of Satisfactory Comparative Analysis approved at the appropriate level as described in AFMAN 65-506. (T-1).

1.7.1. Purpose: The Comparative Analysis Certification Process is the Air Force's standardized method of assuring policies and guidance outlined in this Instruction and AFMAN 65-506 are followed and both functional and financial management reviewers at each stage of the review coordinate on the assumptions made and techniques used to produce the analysis results. Certification does not necessarily mean the functional and financial management reviewers agree with the results of the analysis.

1.7.2. Every Certification shall adhere to the guidance in AFMAN 65-506, to include the required format, Comparative Analysis Review Guide, and a Comparative Analysis Certification Checklist. (T-1).

1.7.3. Major Commands and SAF/FMCE must certify a comparative analysis prior to the analysis being forwarded outside the Air Force (e.g., Congress, DoD, etc.).

1.8. Annual Economic Analysis Report

1.8.1. Each Major Command, Direct Reporting Unit, Field Operating Agency, and similar Air Force organization will prepare and forward a copy of an annual report concerning their economic analysis activity to SAF/FMCE by 1 December annually (T-1).

1.8.2. This report will provide information on economic analysis activity in the previous fiscal year (T-1). For Report Format, see AFMAN 65506.

Chapter 2

SPECIALIZED ANALYSES.

2.1. Introduction

2.1.1. The economic analysis approach is sufficiently flexible to accommodate a number of different types of decisions. This section introduces some areas with special requirements.

2.2. Preliminary Comparative Analyses

2.2.1. Comparative analysis must be part of program planning when a project is first considered. (T-3). A preliminary comparative analysis is a first, less detailed effort of performing a comparative analysis such as an economic analysis, business case analysis or a cost-benefit analysis, etc.

2.2.2. See AFMAN 65-506 for guidance on performing a Preliminary Comparative Analysis.

2.3. Product Support Business Case Analyses

2.3.1. A Business Case Analysis is a statutory requirement for all major weapon systems based on Title 10, United States Code (USC) Section 2337. DoDI 5000.02, *Operation of the Defense Acquisition System*, states the Business Case Analysis will be included as an annex to the Life Cycle Sustainment Plan. (T-0).

2.3.2. AFMAN 65-506 provides primary guidance for performing Business Case Analyses. See Air Force Pamphlet 63-123, *Product Support Business Case Analysis*, for additional guidance on performing a Product Support Business Case Analysis.

2.4. Clinger Cohen Act Economic Analyses

2.4.1. 40 USC 1401, *Clinger Cohen Act of 1996*, requires “criteria related to the calculation of a Return on Investment” when considering whether to undertake an investment in information systems. The Return on Investment requirement will be met through either an Economic Analysis or a Life Cycle Cost Estimate. (T-0).

2.4.2. See AFMAN 65-506 for when to perform an economic analysis for compliance with the Clinger Cohen Act and for specific guidance.

2.5. Energy Projects

2.5.1. Special instructions apply to energy projects to include those projects under the Energy Conservation Investment Program.

2.5.2. See AFMAN 65-506 for guidance on performing an economic analysis on energy projects.

2.6. Lease-Purchase Decisions

2.6.1. After the decision to acquire the services of an asset has been made, the Air Force often has the option of either purchasing the asset or leasing it. In lease-purchase analyses, benefits are often essentially the same. In this situation, only a lease-purchase analysis is required (i.e., a comparative analysis with two alternatives, lease and purchase).

2.6.2. See AFMAN 65-506 for guidance on performing a lease-purchase analysis.

2.7. Warranty Cost-Benefit Analysis

2.7.1. Some contactors offer a warranty on the performance of their product for an additional cost. A warranty cost-benefit analysis attempts to determine if the benefits of the warranty are worth the cost.

2.7.2. See AFMAN 65-506 for guidance on performing warranty cost-benefit analyses.

2.8. Analysis of Alternatives

2.8.1. An Analysis of Alternatives is required to analyze weapons systems according to DoDI 5000.02 and related instructions.

2.8.2. Refer to the USAF *Office of Aerospace Studies (OAS) Analysis of Alternatives Handbook* for information on performing an analysis of alternatives.

2.9. Program Evaluation. A Program Evaluation is an economic analysis of on-going operations to ensure established goals and objectives are being attained in the most cost-effective manner. A program evaluation compares actual performance with stated program objectives. A program evaluation must be performed when directed by the program's leadership or higher authority, or when prescribed by functional directives. (T3).

2.9.1. Responsibilities Assigned. The official who implements a program, or a higher authority, should determine the completion date for the program evaluation. The functional manager, with the assistance of the financial management staff, should establish a plan to collect and maintain the cost and benefit data necessary for the evaluation.

2.9.2. See AFMAN 65-506 for guidance on performing program evaluations.

2.10. Real Property Construction and Repair

2.10.1. Do a preliminary economic analysis after an installation Facilities Board has established a requirement for a project, but before the installation Facilities Board has selected an alternative (T-1). Develop the analysis as the engineers develop the DoD Form 1391. (T-2). See section 2.2 of this Instruction and AFMAN 65-506 for guidance on preliminary economic analyses.

2.10.2. For each facility project likely to be funded in the budget year, do a full economic analysis or a waiver to an economic analysis prior to the documentation deadline contained within the respective facility project business rules (e.g., Military Construction; Unspecified Minor Military Construction; Facilities Sustainment, Restoration, and Modernization). (T-1).

2.10.2.1. For Military Construction projects, at a minimum, approval of the economic analysis or waiver must be complete before the Air Force Board decides to include the project in the Air Force's President's Budget submission. (T-1).

2.10.2.2. For Unspecified Minor Military Construction or repair projects, at a minimum, approval of the economic analysis or waiver must occur before the project is forwarded to Headquarters Air Force for approval and notification. (T-1).

2.10.3. For Strategic Basing proposals with construction or real property repair requirements expected to exceed the minimum threshold for a comparative analysis, an economic analysis will be performed as part of the Site Activation Task Force process. (T-2).

2.10.4. See AFMAN 65-506 for additional guidance on Real Property Construction and Repair to include the design phase of construction.

Chapter 3

ESTIMATING MANPOWER COSTS.

3.1. Introduction

3.1.1. This chapter provides guidance on DoDI 7041.04, *Estimating and Comparing the Full Costs of Civilian and Active Duty Military Manpower and Contract Support*, which establishes business rules to be used in estimating and comparing the full costs of DoD manpower (military and civilian) and contract support. It applies to all Air Force appropriated fund activities. The full costs of manpower include current and deferred compensation costs paid in cash and in-kind, as well as non-compensation costs.

3.2. Costs to Include

3.2.1. **Manpower Costs.** When answering questions about the costs of manpower for a specific unit, organization, function, mission, or defense acquisition program, analysts should report the full costs of both military and civilian DoD manpower. For example, analysts should account for the full costs of manpower when developing independent cost estimates for defense acquisition programs. Manpower cost estimates normally address costs to the DoD. However, in certain cases, analysts may be asked to report full manpower costs to the Federal Government. The business rules in DoDI 7041.04 address both kinds of requests.

3.2.2. **Economic Analysis.** Economic analyses are intended to assist with decision making. Therefore, Air Force analysts should follow the principles contained within DoDI 7041.04, while continuing to apply only those burdened costs that are applicable to the decision at hand and for which data exists. All costs that are incremental (i.e., marginal) to the decision at hand should be included in the analysis.

3.2.3. **Program and Budget Submissions.** Policies and procedures for calculating DoD civilian and military manpower costs for programming and budgeting purposes are established through separate guidance issued by the Under Secretary of Defense (Comptroller), Title 10, USC Section 2461, DoD, and the Director of Cost Assessment and Program Evaluation, as part of the annual integrated program and budget review process. The DoD composite rates, as published by the Under Secretary of Defense (Comptroller), typically directed for use to calculate manpower costs for program and budget submissions do not account for the full costs of military or DoD civilian personnel.

JOHN P. ROTH
Assistant Secretary of the Air Force
(Financial Management and Comptroller)

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 33-360, *Publications and Forms Management*

AFMAN 33-363, *Management of Records*

AFPD 65-5, *Cost and Economics*, 5 Aug 08 (certified current 3 Oct 2013)

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OAS *Analysis of Alternatives Handbook*, <http://afacpo.com/AQDocs/AoAHandbook.pdf>

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Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

DoD Form 1391, *Military Construction Project Data*

Prescribed Forms

None

Abbreviations and Acronyms

AF—Air Force

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPAM—Air Force Pamphlet

AFPD—Air Force Policy Directive

DoD—Department of Defense

DoDFMR—Department of Defense Financial Management Regulation

DoDI—Department of Defense Instruction

FM—Financial Management

NIST—National Institute of Standards and Technology

NISTIR—National Institute of Standards and Technology Interagency Report

OAS—Office of Aerospace Studies

OMB—Office of Management and Budget

USC—United States Code

Terms

Acquisition Category (ACAT)—Categories established to facilitate decentralized decision making and execution and compliance with statutorily imposed requirements. The categories determine the level of review, decision authority, and applicable procedures.

Alternative—An approach or program that is another possible way of fulfilling an objective, mission, or requirement. The status quo, and/or an upgrade to the status quo, is usually included as an alternative to a proposed course of action.

Analysis of Alternatives—Assessment of potential materiel solutions to satisfy validated capability needs. It focuses on identification and analysis of alternatives, Measures of Effectiveness, cost, schedule, concepts of operations, and overall risk, including the sensitivity of each alternative to possible changes in key assumptions or variables. An Analysis of Alternatives is a specialized version of a comparative analysis.

Benefits—Results expected in return for costs incurred under a specific alternative. It includes measures of utility, effectiveness, and performance. Benefits focus on the purpose and the objective of a project. These may be quantitative or qualitative.

Business Case Analysis—See Comparative Analysis.

Business System—A business system is an information systems that is operated by, for, or on behalf of the DoD, including: financial systems, financial data feeder systems, contracting systems, logistics systems, planning and budgeting systems, installations management systems, human resources management systems, and training and readiness systems.

Capital Investment Program—The goal of the Capital Investment Program within the Defense Business Operations Fund (DBOF) is to establish a capability for reinvestment in the infrastructure of business areas in order to facilitate mid and long term cost reductions.

Certificate of Satisfactory Comparative Analysis—A cover sheet on the comparative analysis that provides verification that the analysis has been coordinated and adheres to the requirements in this AFI and AFMAN 65-506.

Community Partnership—Either a Public-Public Partnership or a Public-Private Partnership that enables the mutually beneficial provision of goods or services and the leveraging of resources and best practices to achieve cost efficiencies or risk reductions.

Comparative Analysis—An impartial analysis that uses the economic analysis approach to support a decision on how to allocate scarce resources. A comparative analysis identifies alternative methods of solving a problem or accomplishing a stated objective, and compares them by weighing the costs, benefits, and uncertainties (including risks) for each alternative. Comparative analyses are referred to by a variety of names including, but not limited to, economic analysis, business case analysis, cost benefit analysis, lease vs. purchase, and analysis of alternatives.

Comparative Analysis Product—The document produced as a result of performing a comparative analysis. It identifies the competing alternatives for solving a problem or accomplishing a stated objective, and presents the costs, benefits and uncertainties (including risks) for each alternative. It interprets the results of the comparative analysis and presents arguments in favor of and against each alternative. It can include a recommendation, but one is not mandatory.

Constant—Year Dollar – The value or purchasing power of a dollar in any specific year, which may or may not be the Base Year. Constant-Year Dollars do not contain any adjustments for inflationary changes that occurred or are forecast to occur outside of the Base Year. Constant-Year Dollars are not influenced by Outlay Profiles (Expenditure Patterns). Also known as Real Dollars.

Cost Benefit Analysis—See Comparative Analysis.

Economic Analysis—A systematic approach to the problem of choosing how to use scarce resources to meet a given objective. It includes consideration of costs, benefits, and uncertainties (including risks) associated with all alternatives under consideration. At times, the term economic analysis is used in reference to the product/document that results from applying the economic analysis systematic approach. This resulting document is also referred to as a comparative analysis.

Economic Analysis Document—See Comparative Analysis Product.

Future Years Defense Program—A DoD database and internal accounting system that summarizes forces and resources associated with programs approved by the Secretary of Defense (SECDEF). Its three parts are the organizations affected, appropriations accounts (Research, Development, Test, and Evaluation (RDT&E); Operation and Maintenance (O&M); etc.), and the 11 major force programs (strategic forces, mobility forces, Research and Development (R&D), etc.).

Investment Costs—Costs associated with the acquisition of equipment, real property, nonrecurring services, nonrecurring operations and maintenance (start-up) costs, and other one-time outlays.

Lease-Purchase Analysis—An analysis of the decision whether to lease or purchase the services of an asset. After the decision to acquire the services of an asset has been made, there may be a need to analyze the decision whether to lease or purchase those services.

Life-Cycle Sustainment Plan—Documents life cycle sustainment planning initialized during the Materiel Solution Analysis (MSA) Phase and the evolution of sustainment planning through the other acquisition phases and throughout the system's life cycle to disposal. The LCSP addresses how the Program Manager (PM) and other organizations will acquire and maintain oversight of the fielded system.

Product Support Business Case Analysis—The business case analysis required by 10 USC Section 2337.

Resources—Any and all factors used in producing a good or service. This includes, but is not limited to, human resources/manpower, natural resources, capital goods (durable equipment, such as assembly line equipment, facilities, vehicles, aircraft), and disposable items (e.g., fuel, lubricants).

Risk—The probability of a loss or injury.

Scarce (Scarcity)—When needs and wants exceed the resources available, requiring people to make resource allocation decisions. Almost all resources are scarce.

Site Action Task Force (SATAF)—A team of MAJCOM functional experts chartered to travel to an installation to identify all the actions necessary to ensure a beddown at that installation is successful. SATAFs are led by a MAJCOM, and provide periodic, on-scene assistance to unit-level agencies to accomplish a program objective. It employs appropriate members of the MAJCOM, staff and may include HAF functionals. The SATAF structure is comprised of headquarters team members and representation from the affected unit(s), which are organized into functional working groups. Each working group has an assigned chairperson, who functions under the auspices of the SATAF Team Chief. A SATAF may be convened to support bringing a program, system, equipment and/or site to operational readiness. SATAFs are also conducted to facilitate unit activations, inactivations, relocations, and conversions from one weapons system to another.

Strategic Basing—The AF Strategic Basing Process provides an enterprise-wide transparent, defensible, and repeatable process for decision making to ensure all strategic basing actions involving AF units and missions support AF mission requirements and comply with all applicable environmental guidance. SAF/IEIB is the AF single point of contact (POC) and clearinghouse for all strategic basing processes and actions.

Then-Year Dollar—Reflects the amount of funding needed (expected to be needed) when the expenditure for goods and services were (are expected to be) made. All Planning, Programming, Budgeting, and Execution System (PPBES) documents use Then-Year Dollars to properly reflect the Total Obligation Authority (TOA) that must be appropriated during a specific fiscal year if sufficient funds are to be available to pay for the goods and services when received. For Air Force Comptroller purposes, Then-Year Dollars are identical to current dollars; they are known as nominal or budget dollars. If Then-Year Dollars are written with a specific year (e.g., TY11\$), then those dollars reflect the amount of funding needed if the funds for all goods and services were obligated in the year specified (e.g., FY 2011 for TY11\$).

Uncertainty—The indefiniteness about the outcome of a situation. Uncertainty includes both risks (i.e., the probability of a loss or injury) and opportunities (i.e., favorable events or outcomes).

Working Capital Fund—Revolving funds within DoD that finance organizations that are intended to operate like commercial businesses. WCF business units finance their operations with cash from the revolving fund; the revolving fund is then replenished by payments from the business units' customers.

Attachment 2

**MATRIX OF RESPONSIBILITIES FOR COMPARATIVE ANALYSES INVOLVING
REAL PROPERTY CONSTRUCTION AND REPAIR OR MILITARY FAMILY
HOUSING AS A POSSIBLE COA.**

The matrix below provides a list of responsibilities. The most effective comparative analyses will be developed as a close collaboration between the user, the engineer, and the financial analyst. Some of the tasks have multiple Offices of Primary Responsibility (OPRs) and Offices of Collateral Responsibility (OCRs). In these cases, the asterisks indicate the division of responsibilities within the task. The responsibilities in the matrix are for both comparative analyses and waivers to comparative analyses.

TASK	FINANCIAL MANAGEMENT*	ENGINEER**	USER***
Identify Need			OPR
Determine if Analysis Required	OPR	OCR	OPR
Initiate Analysis			OPR
Develop Objective	OCR	OCR	OPR
Develop Scope	OCR	OPR	OPR
Develop Ground Rules and Assumptions	OPR	OPR	OPR
Develop Alternatives	OCR	OPR	OPR
Identify and Collect Required Data	OPR	OPR	OCR
Data Analysis	OPR		
Interpret Results	OPR	OCR	OCR
Documentation	OPR	OPR	OCR
Certification	OPR	OCR	OCR

NOTE: Where multiple OCRs and OPRs are listed for a task:

* Financial Management is responsible for cost and economic aspects (compliance, data, etc.)

** Civil Engineering is responsible for engineering aspects (alternatives, data, etc.)

*** The user is responsible for non-real property aspects (alternatives, data, etc.)

FM retains overall responsibility for the Comparative Analysis and for ensuring the analysis is performed in accordance with this AFI and with AFMAN 65-506.