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OF FOREIGN POLICY ALTERNATIVES:
NEED, APPROACH, AND PROSPECTS**

Barry M. Blechman and James T. Holt

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COST/EFFECTIVENESS ANALYSIS
OF FOREIGN POLICY ALTERNATIVES:
NEED, APPROACH, AND PROSPECTS

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ABSTRACT

Three existing macro-approaches to the evaluation of foreign policy alternatives are identified. It is suggested that a variant of one such approach, cost/effectiveness analysis, is the most promising candidate to effect a rigorous, systematic, comprehensive, and fundamental evaluation of U.S. foreign policy. The advantage of this methodology include: (1) its ability to deal with objectives in a comprehensive manner and to explore the implications of alternative sets of objectives, (2) its insistence that the linkages between objectives, programs, costs, and effectiveness be made explicit, and the ability to test the significance of any such assumed relationships, (3) its ability to reveal to decision-makers, in terms of costs and effectiveness, the implications of alternative courses of action.

The paper outlines eight steps comprising a cost/effectiveness analysis, describes the subanalyses and other processes contained in each, discusses relevant data sources, and identifies major problems that would be confronted by anyone undertaking such an analysis. It emphasizes that the differences between problems faced in more conventional foreign policy analyses, and those that are entailed in a cost/effectiveness analysis, are one of degree rather than kind. An advantage of the latter is that it deals with such problems explicitly and can be used to direct research towards the solution of these problems.

The paper also explores the prospects for adoption of the proposed methodology in various sectors of the analysis community and concludes that such prospects are not favorable, for many reasons.

I

INTRODUCTION

The purpose of this paper is threefold; (1) to assess the relative usefulness and limitations of several approaches commonly utilized in the study of foreign policy alternatives; (2) to describe the form in which one methodology, cost/effectiveness analysis, now utilized for analyses of some aspects of foreign policy, could be applied to more comprehensive problems in this field, and to describe the major problems inherent in such an application; and (3) to forecast the prospects for using this methodology in the form presented here. When first undertaking this paper, it was hoped that we would be able to report, in addition, an actual application of the methodology. Unfortunately, this is not yet possible. We have elected, however, to present a paper on the subject at a relatively early stage of methodological development, in order to foster interest in the approach among the academic community and perhaps, thereby, spur simultaneous development in organizations other than our own.

The philosophy or outlook expressed in this paper is in part exemplified by the meanings that we attach to particular words. We begin, therefore, by defining what we mean by certain words and phrases common to the study of foreign policy.

Any phenomena of actual or potential consequence or importance to the nation may be considered a national interest. Interests assume a wide variety of form and content: assuring the ability of U.S. citizens to visit foreign nations, obtaining the right to use facilities in other nations, securing imports of various commodities, securing export markets of sufficient size to generate currency to pay for the imports, promoting the acceptance of certain ideas in foreign nations, are all examples of interests with a foreign focus. The full set of potential national interests, foreign and domestic, provides the base for the selection of specific objectives. In general, thus, the set of national objectives will be more narrowly defined, reflecting foreseen, and perhaps, implicit resource and environmental constraints. Therefore, a national objective may be anything aimed at or striven for, generally described in terms of retaining or expanding particular national interests.

A plan designed to achieve a given level of effectiveness for a given national objective, will be termed a program. It consists of a specification of resources, and a means of organizing and constraining them over a finite time stream, although the exact demarcation of program boundaries is somewhat arbitrary. Examples of programs primarily directed at foreign objectives could include:

- procurement of x naval vessels of a certain type, together with their operating funds, and deployment and operational plans;
- a set of rules governing direct private investment overseas, with attendant control organizations;
- construction of a radio station, together with its proposed programming, staff, and funding;
- organization, recruitment, training, and operation of foreign information sources;
- an economic development plan for country y with the necessary planned funding and administrative and technical personnel;
- organization of "sister city" campaigns, together with travel funds, etc.
- legislation to set import quotas for a particular commodity, together with enforcement mechanisms and personnel.

It should be clear from the foregoing that we consider military expenditures to be an integral part of the foreign affairs budget. Although some military costs are incurred primarily for domestic purposes, e.g. forces for the control of civil disturbances, these represent a rather limited portion of the Defense Department budget. The overwhelming fraction of that budget is justified in terms of, and devoted to the support of U.S. policy in its relations with other countries. Accordingly, the methodology to be proposed envisages trading-off programs between Executive Departments, including the Department of Defense. To do otherwise, to omit military programs from foreign policy considerations, as has been done in the past,¹ would be to ignore the pie and trade off the crumbs.

It should also be clear that we include in our considerations such private, and state and local governmental activities as are relevant to foreign affairs. Thus, the following could be considered valid programs.

- State programs: e.g., Virginia maintains an office in Europe to promote the sale of products of the state.
- Municipal programs: e.g., Los Angeles' "sister city" connection with Athens.
- Private programs: CARE, Project Hope, etc.

¹For a contrary view, see: Thomas C. Schelling, "PPBS and Foreign Affairs," U.S. Senate, Committee on Government Operations, Planning, Programming, Budgeting (Washington: GPO, 1970), p. 112.

Consequently, trade-offs between programs in the governmental and private sectors, as well as between levels of government, would also be legitimate.

Each program should be associable with a direct cost; that is, the dollar value of the resources required to plan, implement, and operate it, perhaps expressed in a discounted, net present value cost covering some extended planning period.² In calculating the direct cost of a particular program, no account is taken of the external effects of that program or of any other program; such effects will be taken up later. Each program (assuming a fixed set of other programs) at a particular direct cost level will, of course, be associable with an effectiveness level, or a quantitative estimate of the ability of the program to accomplish its stated objective. While these may be stated in some cardinally quantifiable form, it is often necessary, given the nature of many national objectives, to consider many of these variables as if they were dichotomous--e.g., "at a cost of \$ X, the program will/will not accomplish its objective."

We define policy in an inductive manner. A policy will consist of a set of programs designed to accomplish a set of objectives. As such, a policy should imply a total cost and a total level of effectiveness relative to those objectives, each being a function of those associated with the component programs, after any external economies or diseconomies have been taken into account.

The methodology which we propose commonly is referred to by a wide assortment of terms. Perhaps the most frequently applied are "operational analysis," "cost-effectiveness analysis," "cost-benefit analysis," or at the extreme, "systems analysis." Although each of these terms refers to slightly different types of analysis, their exact meaning remains ambiguous, even though the subject has been discussed thoroughly for some years.³

²Note that "cost" does not refer simply to governmental expenditures. In the case of certain programs, "cost" is almost entirely composed of price differentials paid by consumers. This is the case with regard to commodity agreements, such as the "Sugar Quota," for example. Other instances of program costs paid directly by a nation's citizenry, e.g., the draft, would be accounted for similarly.

³Adequate, if not excessive coverage of such issues could be obtained by scanning the following: Eckstein, O. "A Survey of the Theory of Public Expenditure Criteria," reprinted in R. W. Houghton, Public Finance (Baltimore: Penguin Books, 1970); English, J. M. (ed.). Cost Effectiveness Analysis (New York: John Wiley and Son, 1968); Goldman, T. A. (ed.). Cost Effectiveness Analysis (New York: Frederick A. Praeger, 1967); Hitch, C. J. and McKean, R. N. The Economics of Defense in the Nuclear Age (Cambridge: Harvard University Press, 1960); Kahn, H. and Mann, I. Techniques of Systems Analysis, RAND RM 1829-1-PR (Santa Monica: June 1957); Quade, E. S. Analysis for Military Decisions (Chicago: Rand McNally, 1964); Prest, A. R. and Tunney, R. "Cost-Benefit Analysis: A Survey," Economic Record (December 1965); Saaty, T. L. Mathematical Methods of Operations Research (New York: McGraw-Hill, 1959); Tichnew, D. An Introduction to Management Science (New York: John Wiley and Sons, 1964); Hinnchs, H. H. and Taylor, G. M. Program Budgeting and Benefit-Cost Analysis (Pacific Palisades: Goodyear Publishing Company, 1970).

Such philosophical debates need not detain us for long, however, as each of the methodological subtypes has a similar purpose and form; respectively, (1) to assist decision-makers in the choice of a course of action; by (2) exploring, in an explicit, comprehensive, logical, and systematic manner, the "costs" and "benefits" of alternative options. In practice, the principal distinctions between the subtypes lie in the breadth and time frame of their respective analyses, and, to a lesser extent, in the methods and units of measurement utilized in the comparison of "costs" and "benefits."

At this point, we will deemphasize these perhaps subtle differences, and subsume all such methodologies under the general term, "cost/effectiveness analysis," realizing that certain purists (including ourselves) may validly wish to draw finer distinctions at other times, and for other purposes.

We shall then define a cost/effectiveness analysis as follows:

...an objective, well-documented, logically rigorous, and, at least quasi-quantitative analysis of the cost and effectiveness consequences of alternative managerial decisions; such decisions involving the allocation of monetary, manpower, and/or other physical resources, as well as the adoption, rejection, or modification of certain behavioral procedures.

Such an analysis must fulfill certain necessary conditions, which may be described as follows:

1. The analysis must be organized in such a manner as to demonstrate the consequences of alternative policy choices. Necessarily, then, it will presume cause and effect relationships.⁴
2. It must include an explicit statement of objectives as well as techniques or indices for measuring the degree to which such objectives are attained.
3. All significant assumptions must be explicitly stated. Frequently, this requirement leads to construction of a "model" of the process undergoing analysis.
4. It should be possible for others to replicate the complete analysis, and reach the same conclusions, using only the

⁴This requirement has implications for the techniques that are applicable to such an analysis. For example, it leads to a preference for regression analysis relative to simple correlation techniques.

reasoning and sources of information as reported in the original.⁵

5. The analysis must have a relatively large quantitative content; at one extreme, all reasoning may be shown in mathematical form. It is possible, however, to accommodate supposedly non-quantifiable phenomena in the analysis.⁶

Other characteristics frequently encountered in cost/effectiveness studies, but which do not constitute necessary conditions, include:

1. The identification of "optimal" policies.
2. Inclusion of parametric analyses to demonstrate the sensitivity of results to various assumptions.
3. The explicit testing of premises and conclusions against "reality" before use.
4. The total costs of all resources utilized may be a variable.

The need that we perceive for a cost/effectiveness approach to the study of foreign policy alternatives is derived from the relative inability of other approaches to deal, in a logical and systematic manner, with the more fundamental problems of U.S. foreign policy. In March of 1971 we hear, as we have heard for many years, that U.S. policy is in need of the most basic and far-reaching reevaluation. It is alleged that U.S. foreign policy, rooted in the trauma of World War II, molded by perhaps hasty responses to the subsequent behavior of the Soviet Union, has remained virtually unaltered, in its most basic aspects, since the early 1950's. As such, it is claimed, it has not adapted to the broad changes which have taken place in this nation, and abroad, during the past twenty years. As a result, the policy is becoming increasingly obsolete, ineffective, and, in some respects, a liability to the pursuit of fundamental national interests.

It is not necessary, in this paper, to partake in the debate concerning the utility of current U.S. policy. The fact that the policy is widely and intensely questioned, that the criticisms, though originating with regard to U.S. policy in Southeast Asia, have addressed policy in Europe, the Middle East, and Latin America, that the basic allocation of national resources between foreign and domestic needs is

⁵Of course, the replicators may wish, in addition, to refer to other sources of information, or alternative reasoning. As a result, ensuing debates can focus on substantive issues, which is one of the advantages of this approach.

⁶Despite the fact that critics of cost/effectiveness frequently allege that the methodology forces the analyst to quantify the non-quantifiable, quantification is a relatively ancillary aspect of the methodology. Much more significant is its insistence on rigor, explicitness, and completeness. At any rate, much analysis can be performed with no more than simple inequalities, such as those often found in "qualitative" analyses.

questioned, is sufficient reason to place U.S. foreign policy under careful scrutiny.

The next section of this paper will describe three approaches commonly applied to the study of various aspects of foreign policy. It is believed that shortcomings in the past applications of these approaches, reflecting methodological limitations as well as organizational constraints, preclude such a basic reevaluation. Furthermore, it is believed that the cost/effectiveness approach, if properly utilized, offers a promising method to alleviate these problems.

As an aside, it should be noted that an assumption implicit in this paper, and implicit in the subject of this panel as well, is that research, quantitative or not, does have an impact on policy formulation. We assume the other panel papers will address this assumption; the concluding section of this paper will raise some reservations regarding its validity. Leaving this basic question aside for the moment, we propose the cost/effectiveness methodology as the appropriate vehicle for a reevaluation of U.S. foreign policy alternatives. The methodology is no panacea. We will identify several difficulties in it, as well. Nonetheless, at this point, it appears to us to be more promising than any other candidate.

II

CHARACTERISTICS OF EXISTING APPROACHES⁷

It has been suggested that it has become desirable to evaluate U.S. foreign policy in the most fundamental sense. By "fundamental," we refer to a need to examine the implications of proposed alternative sets of national objectives in a rigorous and systematic manner, as well as to review the utility of existing programs designed to accomplish those objectives. A survey of recent literature and commentary indicates the existence of three macro-approaches which are generally applied to such problems. These may be termed the "traditional politico-military strategic study," the "object approach" and the "functional approach." These are not mutually exclusive categories and each label subsumes a multiplicity of variants. Nonetheless, each of the terms indicates a broad emphasis in analyses of foreign policy problems. Each has its practitioners, in terms of individuals as well as in terms of organizations; each has distinct advantages and disadvantages, although they are certainly not of equal overall value; each has tended to be applied to analyses of some aspects of policy and not applied to others. In almost all cases, the outputs of each type of analysis are not blended into a coherent and comprehensive analysis, reflecting, in part, the organizational patterns of adherence to each. The balance of this section will discuss each of these macro-approaches.

The traditional politico-military strategic study approach is the one most frequently encountered in analytic studies of broad U.S. foreign policy problems by the academic community. It also is favored by many government organizations, not primarily concerned with budgetary decisions, and to a lesser extent, by government contractors in the foreign policy field. Organizations in the policy community which adhere to this approach may be identified, quite frequently, but not necessarily, by their internal organization into "country desks" and "regional bureaus," as for example, the State Department and the Office of International Security Affairs, in the Defense Department. Of course, this type of organization does not necessarily preclude the use of other types of analysis.

An application of the approach is usually focussed on a particular nexus of binational relationships, generally defined in terms of a geographic region. Such studies typically assume that nations in a particular region are sufficiently similar to lead to similar U.S. interests, threats to those interests, peculiar problems, and the like.

⁷It should be made explicit that we are only concerned, in this paper, with prescriptive analyses. Descriptive studies or any other type that do not focus on the element of choice and that do not refer to alternative future courses of action, are not of concern here and are, therefore, not addressed.

This regional proclivity is reinforced by the frequently encountered requirement of a specialized skill--such as a language skill--or a specialized area of substantive knowledge--such as a particular type of economic or political system--in order to gain an understanding of the problems encountered in a region.

The approach⁸ typically consists of the following steps:

- o description of U.S. interests in a region,
- o description of a perceived threat to those interests,
- o suggestion of several "strategies" which could be adopted to counter the perceived threat,
- o expression of a preference for one of the "strategies," based on at least partially reasoned argument.

Frequently, however, the penultimate step is omitted, and a single strategy is proposed and cited as being "required" to counter the threat.

Traditional studies contain a variable amount of quantitative content. Almost always, however, when quantification is included, it is restricted to descriptive statistics, primarily related to the interests or threat portions. Such studies almost never express any assumed relationships in mathematical form, or perform their evaluations in a quantitative manner.

The most major shortcomings of the traditional approach include:

- a. The methodology does not permit a comprehensive evaluation of objectives, and thus the possibly conflictual nature of objectives rarely is dealt with explicitly. In addition, and as a consequence of the above, no attempt is made to explore alternative subsets of objectives which may be attainable, nor is the necessity for hard decisions on objectives to be retained ever presented.
- b. The statement of objectives typically leads to an implicit defensive or reactionary slant to these studies. They do

⁸ The most typical examples of these studies are generally found in classified documents. The following, however, may be taken as indicative of the approach: Center for Strategic & International Studies, Georgetown University, The Gulf: Implications of British Withdrawal, (Washington: 1969); Aaron S. Klieman, Soviet Russia and the Middle East (Baltimore: the Johns Hopkins Press, 1970); E. O. Rutschauer, Beyond Vietnam: The United States and Asia (New York: Vintage Books, 1967); U.S. House of Representatives, Committee on Foreign Affairs, U.S.-China Relations: A Strategy for the Future (Washington: GPO, 1970).

not, generally, consider innovative objectives, but rather focus on the defense of existing interests. Thus, these studies are concerned with threats to U.S. interests, rather than obstacles to the attainment of U.S. goals. In summary, there is an implicit bias in favor of the status quo.

- c. The linkages between interests, objectives, programs, policies, costs, and effectiveness are generally implicit and based on, at best, conventional wisdom. Many key assumptions are rarely, if ever, identified, subjected to sensitivity analysis, or related systematically to a comprehensive survey of historical experience or theory. This shortcoming is most importantly encountered in terms of the assumed efficacy of various programs as vehicles for protecting U.S. interests, and in the assumptions of independence between programs. Typically, the assumed relationships may be valid at the extremes but questionable when more moderate programs are considered.⁹
- d. The methodology does not explicitly link effectiveness to cost. As such, problems arising from resource scarcity are not confronted when present. More specifically with regard to this point, there is no attempt to evaluate alternative policies at equal cost levels, nor conversely, to compare costs of proposed alternatives, in any but the most diffuse sense, and even then, only at unequal effectiveness levels.

The last shortcoming is becoming of increasing importance for some of the most significant (in terms of costs) foreign relations programs. Namely, in the past several years, we have witnessed an enormous increase in the cost of military programs. These program costs make up close to 90 percent of the present total Federal foreign affairs budget.¹⁰ In addition, there is little reason to believe that the primary factors contributing to military program price increases--inflation and technological sophistication--do not also affect other foreign affairs programs, although the degree to which this is the case is probably lesser.

The import of the increase in unit costs can only be appreciated when combined with a realization of a second phenomenon related to the foreign affairs budget--a relatively fixed ceiling on total expenditures,

⁹E.g., the efficacy of military force as a means of defending certain regimes. At the extreme, one could occupy a nation and assure continued survival of a regime. When less costly military programs are considered, however, their effectiveness is open to question.

¹⁰The combined budgets of DoD, State, USIA, AID, and more than twenty related agencies in other Executive Departments.

particularly those related to military programs. It does not require a high tolerance for risk to wager that the total foreign affairs budget will not increase significantly from its FY-69 level in the next several years. It is somewhat riskier, but perhaps a good bet, to wager that the total foreign affairs budget, when expressed in constant dollars, will continue to decrease for several years, to reflect decreases in Vietnam-related expenditures and other reductions. The reasons for this fixed ceiling, of course, relate to heightened perceptions of domestic needs, as well as difficulties in the domestic economy. Although the increased unit cost-fixed ceiling squeeze has become most apparent very recently, in general, unit costs have been rising substantially more quickly than total military appropriations over the entire post-World War II time period. Table I will illustrate this phenomenon.

The juxtaposition of increasing unit costs and a fixed ceiling on total expenditures results in the not very startling conclusion that the United States will not be able to fund either as many types of programs, or as many units of each type, as heretofore was the case. The implication of this conclusion is that the U.S. will find itself in the situation of pursuing a fixed set of objectives with perhaps increasingly insufficient programs to secure those objectives at a satisfactory confidence level. In its military aspects, this situation is dangerous both in that the U.S. might find itself over-committed and embroiled in a conflict that it does not have the means to bring to a relatively beneficial outcome, and in that the perception of this possibility by an opponent might act as a catalyst for bringing that very conflict about.

In a time of resource scarcity, as is usually perceived to be the case, it is beneficial to relate effectiveness to cost so as to maximize efficiency. It is precisely in the examination of this relationship between costs and effectiveness, however, that the traditional politico-military approach is most deficient.

These criticisms of this approach are not meant to be completely disparaging. Many studies which utilize the approach are good, insofar as they present substantial, empirical data relating to the region of concern and carefully reasoned, if incomplete, arguments in support of their recommendation. Their failure to consider costs, however, and their lack of a comprehensive and systematic treatment of objectives are serious shortcomings.

The next two approaches to be discussed are used primarily by governmental and contractor organizations engaged in analyses related to budgetary or financial planning decisions. One, the "object" approach, is utilized extensively by the Congress and in that portion of the Executive Branch that is concerned with the Congressional

TABLE 1
THE UNIT COST -- TOTAL CEILING SQUEEZE¹¹
MILITARY BUDGET

Item	Time span	% increase in unit cost	Unit cost % increase/total budget % increase
Air Force Fighter Aircraft			
• F-86: F-100	('51-'53)-('52-'58)	150	10.0
• F-100: F-4	('52-'58)-('62-'69)	187	5.2
• F-86: F-4	('51-'53)-('62-'69)	700	12.5
Navy Attack Aircraft			
• AD-4: A-4E	('48-'52)-('60-'64)	220	1.6
• A-4E: A-7	('60-'64)-('66-'69)	125	5.2
• AD-4: A-7	('48-'52)-('60-'64)	720	5.2
Attack Submarines			
• Conventional: Nuclear(1962)	('51-'53)-('62)	227	7.3
• Nuclear(1962): Nuclear(1968)	('62)-('68)	7	0.1
• Conventional: Nuclear(1968)	('51-'53)-('68)	250	2.6
Destroyers			
• DD: DDG	('51-'53)-('61)	86	4.1
• DDG: DLGN	('61)-('67-'68)	470	8.5
• DD: DLGN	('51-'53)-('67-'68)	960	11.0
Aircraft Carriers			
• Forrestal: America	('51)-('61)	31	0.3
• America: Nimitz	('61)-('68)	119	1.9
• Forrestal: Nimitz	('51)-('68)	188	0.7

Note: The table presents a conservative case as it neglects large unit cost increases between 1946 and 1950, as well as the promised increase between the late 1960's and early 1970's systems. It does, however, also neglect increases in effectiveness.

¹¹ Unit cost data from: "HCL at the Pentagon," Air Force Magazine and Space Digest (November 1968), p. 21.
DOD Budgetary expenditures from Statistical Abstract of the US, (Washington: GPO, 1963 and 1968), p. 256.
A more systematic comparison of historical costs may be seen in: McDonnell Douglas Aeronautics Corporation. Cost of War Index (Santa Monica, California: 1968).

budgetary process and supplemental Congressional requests for information. As the general national debate on foreign policy matters is often generated by debates in the Congress, to the extent that foreign policy issues do undergo analysis in the press and other public media, they frequently are structured in the terms of the "object" approach.

This approach emphasizes the number of objects which should or should not be procured, developed, deployed, withdrawn, etc. in support of U.S. national objectives. Thus, for example, the debate over U.S. policy in Vietnam is often focussed on the number of military personnel (of various types) the U.S. should retain in Southeast Asia as of some specified date. Similarly, hearings on USIA funding are full of statistics on book publications, radio hours, and the like; hearings on the Peace Corps focus on number of volunteers, number of host countries; and so forth.

It is difficult to identify any coherent methodology associated with the approach. The Congress, for example, seems to depend, to a great extent, on expert testimony in lieu of methodology. That is, various recognized "experts" will be asked their opinions on the issue of concern, and their responses cited as reason for adopting one course of action or another. Despite the fact that the approach is concerned with numbers of objects and therefore is very quantitative in one sense of the word, it tends to deemphasize quantitative analysis, particularly in the critical region concerning the evaluation of alternative options for achieving a particular goal.

The major shortcomings of the "object" approach are several. The most important include:

- a. A tendency to ignore the purposes of the various objects which comprise foreign policy programs. At the extreme, this tendency results in a peculiar warping of the debate on a particular issue, so that it would seem as if the purpose of procuring some object is simply to outnumber the opponents' objects. Thus, for example, the 1969 debate over appropriations in connection with manned bombers focussed, to some extent, on whether or not the USSR was developing a new strategic bomber.¹² It is apparent to the writers that this issue has little if anything to do with the question of whether or not the U.S. should develop a new bomber. That issue should be resolved in accord with an assessment of the degree to which present bombers can achieve their objective, and the relative costs of follow-on bombers and alternative means of achieving that objective.
- b. Programs are treated in isolation. There is almost no serious consideration of trade-offs between programs, even

¹² See, for example, U.S. House of Representatives, Committee on Appropriations, Department of Defense Appropriations for 1969, Part I (Washington: GPO, 1968); ... for 1970, Part VI (Washington: GPO, 1969).

those managed by the same Executive Department, even when related programs receive passing reference. To the extent that alternatives are treated at all, they tend to be limited to greater or lesser numbers of the same object.

- c. To a degree even greater than that encountered in the traditional politico-military approach, the relationships between objectives, programs, and cost and effectiveness are implicit and based, at best, on unstated conventional wisdom or intuition. The assumptions underlying these formulations are almost never made explicit or investigated as to their validity in a rigorous and empirical manner. Indeed, if they were, many could be apparently refuted on the spot.

Despite these shortcomings, it is apparent that the pattern of principal adherence to the "object" approach is unlikely to be altered in the near future. In part this is due to the non-specialist's need for physical points of reference and his relative inability to deal with abstract concepts, such as functions. In greater part, perhaps, it is due to bureaucratic considerations. In any case, the policy analyst must be prepared to translate the results of his studies, utilizing any approach, into object terms, if he is to be "relevant."

The final approach, the "functional," is primarily concerned with the relative benefit obtained from the procurement of objects, rather than the objects themselves. It focusses on the degree to which alternative programs can achieve an objective and the amount of resources they will cost. It is not necessarily concerned with the number of various objects which comprise the programs, except insofar as they contribute to the above. It should be obvious that cost/effectiveness analysis as defined earlier falls within this category.¹³

The "functional" approach typically is applied to micro-problems in foreign relations. To name a few, it has been utilized for many years on problems relating to military programs,¹⁴ economic development,¹⁵ and to a lesser extent, overseas information programs.¹⁶ Other actual examples

¹³Two good examples of studies that adopt the framework necessary for a cost/effectiveness analysis, but which stop short of quantification are: H. G. Gelber, The Australian-American Alliance: Costs and Benefits (Baltimore: Penguin Books, 1968); Richard L. Siegel, Evaluating the Results of Foreign Policy: Soviet and American Efforts in India (Denver: University of Denver, 1969).

¹⁴Problems such as force levels, force mix, basing, targetting, etc.

¹⁵Transportation and communication network design, project selection and method of financing.

¹⁶Location of Voice of America transmitter sites and power, language priorities, etc.

exist, and many more subproblem applications may be suggested.¹⁷ Nonetheless, in terms of the macro-problems of foreign policy, which is our particular concern in this paper, the manner in which the functional approach has been applied in the past has several shortcomings:¹⁸

- a. The "functional" approach has generally not been used to systematically investigate the cost implications of alternative sets of national objectives. Applications with which we are familiar, most of which were performed by DoD, the military services, or contractor organizations, assume a fixed set of national objectives as derived from statements of legally competent national authority or accepted as an input in the study design. The analysis then attempts to maximize attainment of these objectives for a fixed cost, or minimize the cost of attaining a fixed set of objectives. As is obvious, it is possible to use the same techniques to demonstrate efficient trade-offs between objectives, as well.
- b. The applications tend to examine a biased set of alternatives. In part, this is due to acceptance of particular statements of objectives. The specificity with which objectives are stated often implies the placement of limitations on the range of alternative programs to be considered. For example, the U.S. objective concerned with the problem of nuclear, strategic war has been formulated in the following ways, among others:

- (1) Assure survival of the nation.
- (2) Maintain the United States' assured destruction capability vis-a-vis the USSR.
- (3) Retain a capability to deliver x megatonnage by land-based and y megatonnage by sea-based missile, and z megatonnage by manned bomber to the opponent's homeland.

In this example, stating the objective in the third form restricts program alternatives to hardware choices, basing configurations, and the like; the second widens the range to include various platform mixes as well as defensive measures; the first would

¹⁷ Routing of diplomatic couriers, identification of efficient immigration policies, location and size of consulates, use of communication codes, structure of tariffs, etc.

¹⁸ An interesting collection of articles and testimony both supporting and denigrating the systems analysis approach, may be seen in: U.S. Senate, Committee on Government Operations. Planning, Programming, Budgeting. Washington: GPO, 1970.

permit the analyst to consider unilateral disarmament along with programs based on deterrence theory. This is actually a problem of discriminating between ends and means, and can be (theoretically) resolved by establishing a hierarchy of goals, as will be discussed later.

- c. As the functional studies were performed primarily in the military community, they ignored any programs other than military ones, and even then, some military related costs borne by agencies other than DoD were ignored, e.g. veteran benefits. Trade-offs were permitted between the services, to some extent, but we, at least, are not familiar with analyses which explored equal cost exchanges of military programs with economic development programs, for example, or information programs. In addition, such options as replacing certain military programs with trade and investment programs, such as quotas or overseas investment insurance, would be inconceivable. There is no overwhelming methodological reason, however, why this should continue to be the case, although current gaps in the community's rigorous understanding of many of these relationships militates toward some continuance.
- d. Finally, the approach has tended to deemphasize the peculiarities of particular regions. Typically, regions are accommodated as sources of scenarios for testing system outputs, rather than as independent variables.

The "functional" approach tends to be the most quantitative of the three, in the sense of analysis rather than just numbers of objects, and is unique in that it is the only approach to quantify the evaluation of alternative options. It is obvious that it is the approach preferred by the writers. Suitably modified, as described in the following section, the approach can shed the limitations of non-geographic specificity, and the restrictions imposed on the formulation of objectives, as well as on legitimate program trade-offs. It would then be suitable as a vehicle for analytic examination of the fundamental problems of U.S. foreign policy.

III
COST/EFFECTIVENESS METHODOLOGY
AS IT MIGHT BE APPLIED TO A FOREIGN POLICY ISSUE

This section contains a brief description of the processes which would comprise a macro-level, foreign policy cost/effectiveness analysis, as advocated by the writers. The description, highly conceptual in nature, deals necessarily with phenomena, about some of which little is presently known--at least by any scientific standards. Consequently, we recognize that no present day analysis could address, simultaneously and precisely, all of the issues raised here. Nevertheless, we believe that an explicit specification of these issues is important, if only in directing and focusing future research efforts.

The discussion is organized along a sequence of "steps," through which any particular analysis (say a study of U.S. foreign policy options with respect to the Bothnian Republic) is postulated to pass:

1. Defining U.S. interests in the external world.
2. Preparing a baseline forecast.
3. Specifying U.S. objectives.
4. Particularizing the baseline forecast.
5. Minimizing the cost¹⁹ of pursuing baseline objectives.
6. Minimizing the cost of objectives added to baseline.
7. Minimizing the cost of the set of objectives left after selective deletion of baseline objectives.
8. Sensitivity analysis of conclusions.

It is always likely that there will be considerable overlap and feedback between these steps and that the individual steps may be scarcely recognizable in a real analysis and, in any case, would not be as distinct as indicated here. Nevertheless, this stepwise procedure is a convenient framework upon which to hang the topics which should be discussed.

It is noted that throughout this example statements are found that one must do this, one should do that, etc. Strictly speaking, it is only necessary that someone have done this or that. To the extent

¹⁹ We have chosen to illustrate the methodology using a fixed effectiveness, least cost approach; this seems appropriate since the attainment of so many foreign policy goals can be measured only very crudely, perhaps only by "go/no-go" criteria. For a general description of a different approach, one might consult G. Fisher, Some Comments on Conceptual Frameworks for Comparing Alternatives, RAND P4506 (Santa Monica: November 1970).

that previous analyses have accomplished many of these tasks, of course, the cost/effectiveness analysts' task is reduced,²⁰ although it is still necessary to cite the pertinent analyses and their major assumptions, along with any exceptions and modifications thereto.

DEFINING U.S. INTERESTS IN THE EXTERNAL WORLD

An (external) "interest" was defined earlier as, "any (external) phenomena of actual or potential importance to the United States." Thus, in the extreme, one should identify all of the external phenomena which can, in any way, affect any conceivable set of goals which the U.S. may adopt under any circumstances. Practically, one does what he can to delineate those types of phenomena which he perceives to be of potential future significance. However, it is wise to derive explicitly these interests from specific external sources, so as to minimize errors introduced by perceptual bias. At any rate, the resulting delineation of interests, being independent of any particular problem, will be of a general nature, such as a U.S. "interest" in the flow of human beings, goods and services, and capital to and from its jurisdiction, a U.S. "interest" in information about phenomena taking place outside its jurisdiction, a U.S. "interest" in self-preservation, or in the perceived welfare of individuals lying outside its jurisdiction, and so forth.

The function served by listing such a general categorization of interests is to aid in the very difficult task of clearly formulating U.S. foreign objectives. To the extent that one can commence the analysis with reasonably limited and well-defined foreign objectives, this step may be reduced or, perhaps, eliminated entirely.

PREPARING A BASELINE FORECAST

A baseline forecast is a sort of composite forecast or projection of phenomena that could take place in the future, i.e. a "scenario." It is made for planning purposes only, to serve as an explicit frame of reference for the evaluation of alternative courses of action. Such a forecast is a formal, documented study and could include estimates of future developments in military and industrial "technology," future population trends, future government budgets and GNP sizes and allocations, trade, aid, investment, travel, social values at home and abroad, and so forth. Such forecasts are often made, often maligned, and sometimes prove wholly "inaccurate,"²¹ but they are nevertheless a prerequisite for any rational consideration of future courses of action.

²⁰That is, the research required to arrive at any particular conclusion with any specified degree of analytic precision is reduced.

²¹Sometimes because of the self-defeating nature of the "prophecies" therein. We might add that "accuracy" is an inappropriate criteria to apply to forecasts made for purposes of this type of analysis.

Of course, the scope and level of detail that one seeks in such a forecast is a function of the problem to be addressed. However, the intrinsically broad characteristics of "foreign policies" and the level of analysis which is being considered in this paper would both militate towards world-wide strategic forecasts of some depth. In the interests of comparability, efficiency, and objectivity, it is desirable to utilize forecasts prepared by others. These are rarely both available and up to date, however; thus, it is almost always necessary to do a bit of tailoring to those forecasts that are available. This is an almost endless task; nonetheless, there must, at some point, be a decision to cease constructing the forecast. Inevitably, some phenomena will be omitted. The problem of what to include and what to exclude is a rather difficult one, and must ultimately be based on arbitrary criteria.

SPECIFYING U.S. OBJECTIVES

One must now perform two basic tasks, the first of which requires the compilation of an exhaustive and exclusive listing of U.S. national objectives in the pertinent external world, within the general context of the baseline forecast. It can be imagined that this listing could be usefully portrayed as a matrix with M rows denoting M objectives and N columns representing alternative conditions under which the objectives are desired, such as peace, war, etc. The M objectives could, in turn, be usefully partitioned into world-wide objectives, regional objectives, and country objectives, and, of course, further partitioned by type or interest served.

Considering the Bothnian Republic, U.S. relations with that country may be guided by such worldwide and regional objectives as could be appropriately applied to that country, plus the individual in-country objectives themselves, for instance:

1. With specified exceptions, do not "interfere" overtly or covertly, in the internal affairs of other countries.
2. Retain the general friendship of the urban, Kumal speaking peoples in the region.
3. Expand U.S. "control" of the computer industry in the Bothnian Republic.
4. Deny to Great Tasman the use of the Republic of Bothnia's airspace for military overflights during specified planning contingencies.
5. Expand total repatriated earnings on U.S. investments in Bothnia's guano industry.

The second, somewhat related task within this step is to identify the methods and measures by which one will index the attainment of these

objectives. These methods should consist of a set of objectively measurable criteria by which to discriminate between discrete "levels" of goal attainment or a set of objectively measurable continuously variable indices of goal attainment. Of course, if there is absolutely no way of objectively discriminating between attainment levels of an objective, one must conclude that the objective is too ephemeral for consideration in such an analysis. Practically, however, this problem is not particularly severe as a number of methods may be utilized. For instance, attainment of the objectives just listed could be indexed by these criteria.

1. "Interference in internal affairs" is defined to take place whenever any agent, U.S. national or otherwise, receives pay from U.S. citizens acting on their own behalf or on the behalf of any public or private organization, for the explicit purpose of influencing another nation's governmental process by violent means, or whenever direct sales of munitions are made for such purpose, or where training in such activities is given by the above...or any combination thereof. Such interference is condoned in _____, _____, _____, at all times and in _____ during certain specified crises. Moreover, actions of a capacity maintenance nature are not to be precluded by this rule.
2. The general friendship of the urban, Kumal speaking people in the region shall be measured by an index whose individual terms shall be equally weighted and shall include:
 - (a) The proportion of said people subscribing to the magazine, U.S.A., at any given time.
 - (b) The proportion of the newspaper space in the Kumal language press which is devoted to news of U.S. developments, multiplied by an affective score derived from a content analysis of the articles.
 - (c) A three-year moving average of "favorable" response to public opinion polls conducted by the _____ organization and reported in the national press.
3. U.S. "control" of the Bothnian Republic's computer industry will be indexed by a score arrived at by multiplying the total value added of said industry, by company, and the proportion of the board of directors of each company who are American citizens and who retain substantial property interests within the United States.
4. Denial of Great Tasman's overflight rights will be indexed by the proportion of participants in a Delphi examination who believe such rights would be denied, the participants being certain specified experts.

5. The repatriated earnings on U.S. guano investments, measured in dollars, can be obtained from the Department of Commerce.

PARTICULARIZING THE BASELINE FORECAST

At this point, one must make more specific the inevitably broad generalizations contained in the baseline forecast. Thus, one must identify resources committed, objectives pursued, and objectives attained (or the extent of attainment). To the extent, for instance, that one is concerned with the Bothnian Republic, one must identify anticipated aid, trade, investment, travel and immigration flows to and from said country during the planning period. More specifically, one must ascertain if the baseline forecast implied any "internal interference," whether or not the friendship of the Kumal speaking peoples is unchanged, enhanced, or diminished, whether or to what extent U.S. "control" of the computer industry is expanded, the inevitably subjective probability that the Republic will deny the use of its airspace to Great Tasman during specified planning contingencies, the expected earnings of the guano industry, and so forth.

Of course, one must also identify the U.S. resources committed to various programs related to the Bothnian Republic: defense expenditures incurred as a result of alliances thereto, trade therewith, investment therein, etc.

MINIMIZING THE COST OF PURSUING BASELINE OBJECTIVES

The fifth step consists of attempts to determine if the set of baseline objectives could be attained at a smaller total cost level, or, alternatively, if the baseline objectives can be attained with a "savings" of real resources. Such resources, presumably, are then available and of value in alternative programs, such value being the "cost" of the resources.

Consider any ith objective relative to the jth country; in general, to alter the extent to which this objective is attained, to alter the probability that the objective is attained, or to alter the time at or during which the objective is attained will require some changes in operating procedures as well as some increases or decreases in resource use (assuming all other programs are fixed). It is true that some changes are apparently costless in any sense of the word; however, many changes are not costless, and it is these to which the use of this type of analysis is directed. In such cases, the true costs of changes in the ith program in the jth country can be divided, conceptually, into four categories (the effectiveness of all programs other than the ith, as well as the effectiveness of the ith program in all other countries, must remain fixed, in theory at least):

1. Changes in the costs of the ith program in the jth country (direct costs).

2. Changes in the costs of the ith program in all other countries.
3. Changes in the costs of all other programs in the jth country.
4. Changes in the costs of all other programs in all other countries.

Thus, it can be seen that this step consists of several smaller tasks; one must first investigate the direct management of each of the ith programs, formulate alternative plans, identify and "cost" the real resource changes involved, then look in turn at the external effects of this program on other programs in the same and other countries.

The process of determining external effects is particularly difficult even though such effects receive frequent attention. It would be preferable to take such externalities into account when directly "costing" the resources or operating procedures used in the individual programs. To do so, however, would be to assume a fixed relationship between a type of program and its external effects. This is a dubious proposition since it appears that many externality relationships are highly complex, being dependent upon the size of various programs as well as numerous situational variables.²² We therefore foresee that a relatively long iterative process is necessary, during which external effects are taken into account serially. Of course, as is the case for other steps in this analysis, judgment must ultimately be applied and some external effects ignored.

The results of this long process, repeated for the entire set of baseline objectives, will be a revised baseline case which is "optimized" to achieve the baseline objectives at least total "cost." Of course, the revised baseline may "cost" either more or less than the original baseline, although it should cost less, assuming that there were no major inconsistencies in the original.

To illustrate some of the complexities involved when external effects are addressed, consider the following extreme example. Let us suppose that one engages in an analysis of the efficient combinations of indigenous (Bothnian Republic) and U.S. ground forces, using only the "direct program" costs of each. Suppose that, moreover, the results of such an analysis indicate that indigenous forces should be substituted for U.S. forces. Let us imagine that, for a fixed level of "defense capability," 10,000 U.S. troops can be withdrawn and disbanded with a direct net savings of \$1B, including the U.S. financed costs of a buildup of Bothnia's forces.²³ We then investigate the external

²²E.g., relative timing, priority, information flow, etc.

²³Of course, these costs represent the discounted net present value of each option.

effects. Suppose that someone is able to demonstrate that the withdrawal of 10,000 troops is taken by selected other nations as a sign of "weakened resolve" and that, in order to assuage such feelings and maintain a given defense capability in other countries, it is necessary to extend more economic and military aid to specific nations, say \$200M.

Next, suppose that another person is able to demonstrate that withdrawal of 10,000 troops will make it "easier" for USIA to maintain its baseline attitude objective in Bothnia.²⁴ In fact, USIA can close down some libraries in the Bothnian Republic and reduce its VOA, Kumal language programming, depending more on straight release of news items to the local press, who, it is predicted, will be more inclined to print such articles. Such changes in operations yield some \$20M in savings.²⁵

Let us carry the example further and imagine some even further removed external effects. Consider another country, Great Tasman, that considers the U.S. financed buildup of the Bothnian Republic's forces to be a U.S. instigated threat. As a consequence, U.S. civil airlines are denied route rights previously granted and flown. Although the airlines' routes can be adjusted slightly and their aircraft put to other use, the net effect of such refusal is to reduce slightly their total revenues, profits, and taxes,²⁶ thereby decreasing the total earnings of U.S. flag airlines somewhat, say by \$10M, an amount offset, in turn, by decreases in taxes paid to foreign governments (\$1M).

The total "costs" of the Bothnian force substitution could then be summarized as follows:

Direct Bothnian Republic military program costs . .	\$ -1000M
Indirect military program costs	+ 200M
Indirect Bothnian Republic USIA costs	- 20M
Indirect civil airlines costs	+ 9M
	<u>\$ - 811M</u>

²⁴It is postulated that the departure of GI's defuses the "Yankee Go Home" movement. Of course, the converse could also be true.

²⁵Obviously, these effects are functions of assumed operating procedures, e.g. disclosure, the effects of a precipitate, public withdrawal are likely to differ from those of a protracted, covert disengagement.

²⁶Such a reduction being partially but not fully offset by a slight increase in revenues, profits and taxes resulting from a reciprocal denial by the U.S. to Great Tasman's airlines, with a consequent slight increase in traffic for U.S. flag carriers.

Since the option which we considered was defined to accomplish a fixed set of baseline goals, and since we have hypothesized that such goals could be accomplished through the use of a combination of resources whose aggregate, time-phased, discounted value is on the order of \$611 million less than that assumed in the baseline, we can, to the extent that we have investigated all significant effects and all reasonable relationships, recommend to a decision-maker that he adopt the forced substitution option.

For purposes of comparing further alternatives, we then assume that such a course of action is adopted and that, indeed, all such courses of action are adopted; the set of all such changes being incorporated into the baseline projection to form the "revised baseline." The revised baseline is then used as the standard from which marginal costs are measured.

It should be obvious that there are a few general approaches to the set of all these tasks. One can concentrate on looking in depth at the programs to accomplish each objective and consider only "direct" costs, or one can concentrate more on external effects, perhaps considering such effects qualitatively or allowing the decision-maker to do so. One can alternatively estimate quantitative external effects on a case-by-case basis, iterating and hoping to converge on an optimal policy, or one can derive general functional relationships for external effects and attempt a simultaneous optimization in a sort of general equilibrium context. It would appear, however, that at present analyses are confined to the earlier approaches, with a preference for the second over the first.

MINIMIZING COSTS OF SETS OF OBJECTIVES LARGER AND SMALLER THAN THE BASELINE

These two steps are conceptually little different from the fifth; in the 6th step, one considers the addition of m objectives, one at a time, and in sets, and in the 7th step we similarly consider the deletion of n objectives, each time accounting for direct and indirect cost effects, and seeking to minimize, as in the baseline case, the total use of real resources committed to their attainment, such total use being computed by the market value of like resources in other uses. Such analyses must utilize a methodology identical to that just described.

SENSITIVITY ANALYSES

The last step is particularly critical for an analytic approach at an early stage of development. The purpose of such analyses is to identify those assumptions that one has made which, when varied a "reasonable" amount,²⁷ have the most significant effect on the outcome

²⁷ For instance, vary each assumption within a (subjective) 90 percent confidence limit.

of the analysis. In the process of structuring the analysis, it is inevitable that one will have made many forecasts and assumptions, and will have exploited many theories that have not been validated empirically. At this time these assumptions are examined, one at a time, or in certain strategic combinations, to identify those assumptions which are "critical." As an example, suppose that one has identified a set of program sets (policies) P_1 , P_i , P_n ranked in order of increasing cost, and of course of differing effectiveness. We may wish to see if, by varying certain questionable assumptions, the ranking changes. Let us look at the example shown in Figure II. Baseline assumptions are labelled "A."

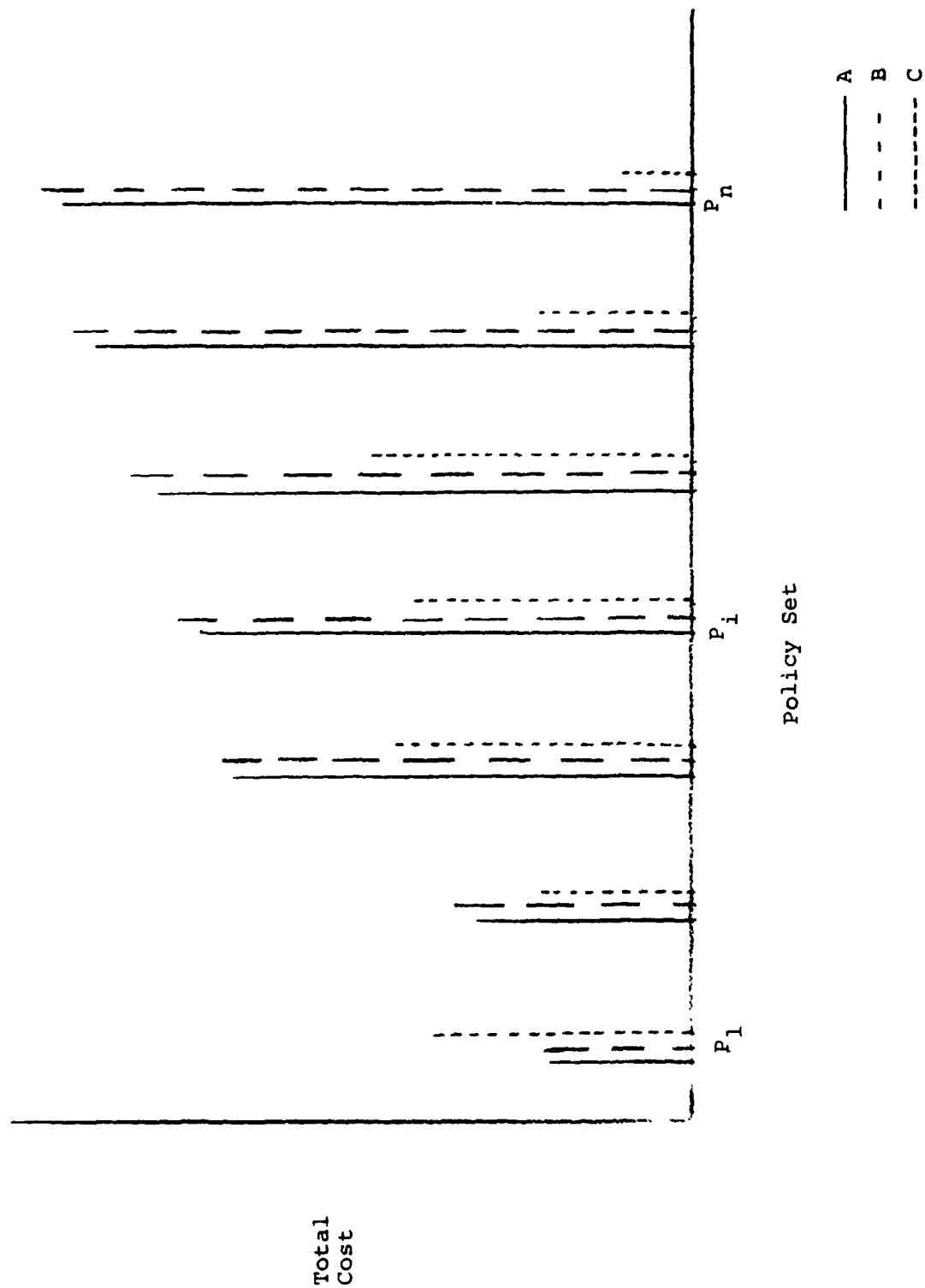
Suppose we believe that we have seriously understated the costs of those activities which will be necessary if the U.S. is to remain on good relations with Great Britain. If such a relationship was a component of every policy, we have simply underestimated the true costs of all foreign policies, the "real" costs indicated by the bars labelled "B." Suppose on the other hand, that we have misunderstood the motives of some country which is involved to differing degrees in many program sets. Upon reevaluating the probable reactions of this country to various U.S. program sets, one might find that the costs of all of the program sets had been changed to such a degree as to cause changes in ordering, as illustrated by bar "C." One might then term such phenomena "critical."²⁸ Such a reordering could easily (but not necessarily) alter the choice of a foreign policy.

A particularly valuable type of sensitivity analysis for studies with a great number of uncertainties is the a fortiori analysis, conducted to discover the probable range of outcomes or to set their upper or lower bounds. In this analysis, one systematically makes consistently unfavorable (or favorable) assumptions concerning a proposed course of action and evaluates the conclusions. By such methods one can often rule out or confidently recommend certain courses of action even on the basis of very incomplete information.

Through such analyses it is likely that many phenomena will be found to have a relatively insignificant effect on the ordering of policy sets. Other phenomena, however, will be more significant. It then would seem plausible to argue that such research efforts as are undertaken in the field of foreign affairs "should" be directed at these latter phenomena. In fact, such research guidance is an important goal in conducting such analyses.

²⁸ Other definitions could also be used. For example, suppose on the basis of the analysis a definite policy preference has been identified. "Critical" variables could then be all variables which when varied singly within their 50 percent confidence limits, cause a different policy to be preferred.

FIGURE II



Total
Cost

The final output of the analysis would be a set of aggregate policies, each with its associated "marginal cost" as measured from the revised baseline. They might be summarized as illustrated in Table II for the Bothnian Republic example. Of course, one might more usefully consider sets of changes in objectives rather than costing and listing all such individual changes. At any rate, the supporting analyses would then detail the major assumptions that led to the conclusions that the various alternative sets of objectives could be accomplished with the policies specified and at the costs estimated.

TABLE II
INCREMENTAL COST OF OBTAINING ALTERNATIVE
U.S. OBJECTIVES: BOTHNIAN REPUBLIC
(Million \$)

Objectives	Assumption Sets		
	Baseline	α	β
Baseline Policy	+811	+811	+450
Revised Baseline Policy	0	0	0
Revised Baseline Policy plus:			
(1) Increase in friendship of Tasmanian people	+200	+200	+200
(2) Increased U.S. travel to Bothnia	- 50	- 70	- 50
(3) Specified Restrictions on activities of American-owned, foreign-located companies	+600	+470	+540
(4) Increased probability of U.S. military overflights	+300	+510	+410
Revised Baseline less:			
(1) Certain Restrictions on internal interference	-200	-600	-550
(2) Covert Intelligence overflights of Great Tasman	+400	+400	+350

The results of the sensitivity analyses could also be summarized in the same form. Suppose assumption set α presupposed that the effects of certain private overseas activities will be more significant than the baseline, while assumption set β includes all the changes incorporated in α plus some changes in the effectiveness of certain covert operations, caused, perhaps, by differing initial assumptions about the attitudes of regional interest groups. The resulting changes in programs could result in differing "costs," as just shown.

PROBLEMS

Of course, the day is far removed when such a broad yet detailed analysis can be carried out fully, with much confidence in the myriad of assumptions which would inevitably be necessary. The major difficulties which would arise in conducting a comprehensive cost/effectiveness analysis of U.S. foreign relations (taken as a whole, toward a single region, or even with just a single country) can, however, be grouped into three major categories.

One set of difficulties arises in the preparation of what has been termed a "baseline forecast." Organized comprehensive studies of the future are not very common outside of the government and certain large private organizations. Moreover, even within such organizations, long range forecasts are slanted (understandably) towards particular agency interests or responsibilities such as defense, the demand for automobiles or electric power or, perhaps, certain demographic phenomena such as quantity, age, and location of people.

There are, of course, many studies addressing specific portions of the future,²⁹ the problem then being to gather the results of such studies together and then reconcile their major differences. This is a study in itself, by definition; but the results of such a study are a prerequisite to any good, comprehensive, cost/effectiveness analysis of foreign policy. In those cases where there is no projection already available, one simply must do the work oneself, or request someone else to do it. Access to the classified literature does reduce these problems, somewhat.

²⁹ See, for instance, U.S. Department of Labor, BLS Bulletin 1672, "Patterns of U.S. Economic Growth," (1970); H. H. Landsberg, Resources in America's Future, (Baltimore: John Hopkins Press, 1964); "The Future of Religion," The Futurist (August 1970); H. Kahn and A. J. Weiner, The Year 2000; A Framework for Speculation for the Next Thirty-Three Years (New York: MacMillan Press, 1967). The last is probably the best general work available to the public.

The second set of difficulties arises in the process of defining U.S. interests and objectives. These difficulties are numerous. For one, statements concerning objectives by prominent public figures are more often than not designed to influence domestic and foreign audiences, rather than to transmit "true" perceptions. Consequently, "real" objectives are frequently cloaked by more altruistic and, therefore, more widely acceptable, goals. Secondly, something that is in the interest of a particular national subgroup and the retention of which is its objective, is not necessarily in the interest or an objective of other subgroups. An obvious case in point, more limited imports of shoes are an objective of certain manufacturers, their employees, and related groups. It is not, however, an objective and does not reflect the interest of other consumers. The determination of which subgroup interests shall be accepted as national objectives is, of course, the stuff of politics, and an area which the foreign policy analyst too often either ignores or considers to the exclusion of other problems. One of the most attractive features of the cost/effectiveness methodology lies in the ability of the user to estimate the relative costs of pursuing alternative sets of objectives explicitly, thus sometimes exposing the greater costs of maximizing particular subgroup interests.

Thirdly in this regard, there is the confusion between ends and means previously alluded to. A careful reader will note that the objectives listed in the Bothnian case suffer from this same defect. In theory, one would prefer to commence with a definition of U.S. foreign "interests" and, working backwards, derive a hierarchy of potential goals or objectives (1st level objectives, 2nd level objectives, etc.), the pursuit of objectives at the $i+1$ level being justified only to the extent that the attainment of such objectives contributes to the attainment of i th level objectives, which are in turn pursued only for their effect on $i-1$ level objectives, and so forth until a penultimate set of objectives is pursued which directly affect the perceived welfare of U.S. citizens. Of course, no one has ever been able to specify, in concrete terms, any such hierarchy. Aside, however, from combinational difficulties, it could be said that such a hierarchy could scarcely be derived from the public utterances of citizens or their governmental representatives or officials for, among other things, such communications are filled with rhetorical statements made for other than analytic purposes, and are made less valid because of their relative brevity and the simplifications made thereby. Even if such difficulties were not present, one is still left with the fact that much, if not most of what goes by the term "foreign affairs" is a public good, not subject to the exclusion principle. As a consequence, even rational, fully informed people would have an incentive and a tendency to disguise their true preferences, the effect of such behavior being to reduce the allocation of resources to the "production" of such goods below that which each citizen might say was desirable.

One can turn, without too much success, to agencies formally charged with the elucidation of national objectives. The first Presidential

commission which addressed U.S. national goals was established by President Eisenhower and reported in 1960, listing ten "goals abroad."³⁰ The report of the second "National Goals Research Staff" did not discuss any issues dealing with foreign relations at all. There are a number of other publications addressing this issue,³¹ but most of them do not, we think, clearly identify an exhaustive and exclusive set of interests, goals, or objectives, at any level; nor do they identify the hierarchical relationships. In addition, even those objectives that are listed often have little operational significance, in the sense that they do not indicate directly, actions to take or results to be sought. Probably the best general statement to date is found in a recent State Department publication, Diplomacy for the 70's; the listing of "basic U.S. interests" given there is reproduced as Appendix A. These are not the last word in quality, and include at least one relatively obvious omission, but the categorization is a useful point of departure for more precise studies.³²

The third set of difficulties arises in the design of sets of programs which will accomplish any given set of objectives. It will be difficult, often, to identify a program which will accomplish, with any probability of success, any but the most trivial objectives. For instance, how can the U.S. assure the continued loyalty of even a friendly ally, in the long run? We will term the attempted solution of this type of problem, sufficiency analysis. Theoretically, such difficulties may be resolved by appeal to "faith" or "authority" or to "analyses" of various types ranging from casual observations through traditional methods of "scientific" analysis--the gathering of "data," the making, testing, and rejection of hypotheses, the use of inductive and deductive logic and so forth.

At the present time, it would appear to be necessary to rely on almost all of these methods, although one might prefer to use the last exclusively. Since the scope of foreign policy is vast, it is to be

³⁰ See Goals for Americans which includes the "Report of the President's Commission on National Goals," (New York: Prentice Hall, 1960).

³¹ See, for instance, U.S. Department of State, Office of Media Services Five Goals of U.S. Foreign Policy (November, 1962); U.S. Foreign Policy: Some Major Issues, statement of Secretary Rogers before the Senate Foreign Relations Committee, (April 14, 1969); R. M. Nixon, U.S. Foreign Policy for the 70's; a Strategy for Peace (Washington: GPO, 1970).

³² Of course, one could also investigate the program planning objectives identified for PPBS purposes which, in many cases, are too far down the hierarchy of objectives to be of much direct use in national level tradeoffs. Nevertheless, such a perusal would be useful in the specification of higher level objectives.

expected that the number and extent of the sufficiency analyses which address the multitudinous sub-problems thereof will also be vast. Consequently, it is not immediately possible to use scientific sub-studies to buttress all major assumptions. Somewhat fortunately, however, many of the most costly types of foreign relations phenomena--military programs--have been the subject of study for some time. Thus, a reasonably extensive, albeit imperfect, set of studies exists on these phenomena. Outside the area of military affairs, however, the analytic coverage of foreign programs appears spotty. For instance, coverage of some topics, such as economic aid and development, trade and investment flows, and international monetary phenomena, is wide, even if somewhat theoretical and at times inconclusive.³³ On the other hand, coverage of topics such as the effects of immigration and emigration, international travel, cultural exchange, and international radio and television broadcasting are less well covered, at least in our experience. Nevertheless, it should be possible to make systematic use of such information as is available. In the extreme, recent experience can be assumed to continue unchanged.

Once a "sufficient" program has been identified, the task remains of costing it or, generally speaking, identifying the monetary costs of the real resources which must be utilized to carry out the program. Data to perform this task is available in superficial form, in such various sources as the U.S. Government budget, reports on Congressional hearings, annual reports and data on prices, production, sources of supply, etc., in publications of the Commerce and Treasury Departments, the Federal Reserve System, the Wall Street Journal and so forth. Again, access to classified or proprietary data is a great advantage. As has been previously noted, the estimation of external effects is an additional problem.

Assuming that these three types of difficulties have been overcome to some degree, one can argue that a cost/effectiveness analysis would be feasible. If, however, all such difficulties are not capable of being resolved immediately, should one avoid the use of cost/effective analysis? We would say no.

Consider the plight of any decision-maker concerned with real world problems of choice, such as the location of military bases, the priority to be accorded various topics in diplomatic negotiations, the size and allocation of the economic aid budget, the activity of overseas radio broadcasting stations, or the restrictions and/or inducements, if any, affecting immigration or foreign direct investment. Such choices must,

³³ See, for instance, H. G. Grubel, "The Benefits and Costs of Being the World Banker," National Banking Review (1964); Mikesell, R., The Economics of Foreign Aid (Chicago: Aldine Publishing Co., 1968); Mikesell, R. (ed) U.S. Private and Government Investment Abroad (Chicago: Aldine Publishing Co., 1962).

by their very nature, be made against a perceived background of international and intranational behavior. People making decisions about any one of the aforementioned phenomena will make, implicitly or explicitly, assumptions about all of the others. Many of these assumptions would turn out to be "critical," if subjected to rigorous analysis. Moreover, each decision will be made in the light of perceived goals or objectives and will, in most cases, be justified, ex ante, by the expectation that the program resulting from the decision will be sufficient to achieve some degree of goal attainment. Thus, there is no escape from the necessity to make assumptions of the very sort that are necessary in a cost/effectiveness analysis. The distinctions between the problems facing a cost/effectiveness analysis and any other policy oriented analysis are, therefore, ones of degree, not of kind. One must decide whether to explicitly confront or implicitly evade such problems.

One may believe that there is some sort of invisible hand which tends to guide each decision-maker, even in the absence of a comprehensive and systematic analysis, in a direction such that the union of all decisions yields socially optimal policies. On the other hand, there are those who believe that such invisible hands as do exist work in devious and contrary ways, that many organizations pursue diverse, conflicting and offsetting goals, and that there results a considerable waste of resources, which we all would agree could be put to other and better uses. We subscribe, more or less, to the latter view.

Therefore, we recommend the use of cost/effectiveness analyses in the study of the larger problems addressed earlier in this paper, and we do this knowing that many of the assumptions necessary to the conduct of such an analysis can only be made in a very rough and preliminary fashion at the present time. In such circumstances, the precise results of such a study should, of course, be looked at with more skepticism than those of a similar type study on a less complex issue, say the problem of the location of industrial plants. Nevertheless, many of the outputs of such a study could prove valuable even while the total output of the study might be of questionable accuracy. Adopting a view espoused by R. Ackoff, we would maintain the following:

It seems clear to us that a small improvement in a large system may be more important than a large improvement in a small system. Consequently, the possibility exists for attaining a larger expected return from applying (cost/effectiveness or systems analysis) at levels of diminished competence rather than at levels of maximum competence.³⁴

³⁴Paraphrased from Russell L. Ackoff, "On Hitch's Dissent on Operations Research and National Planning," Operations Research, VI (1958).

IV PROSPECTS

The prospects for adoption of the cost/effectiveness methodology in any major sector of the foreign policy analysis community do not, unfortunately, appear favorable.³⁵ There are several reasons for this pessimistic outlook.

Let us consider the prospects for its usage within the Executive Branch of the government. The basic problem in this sector originates with the dispersion of the management of Federal foreign affairs programs among many of the Executive Departments. As a result, there is no central departmental authority legally and operationally charged with the management of foreign affairs.³⁶ This lack of central authority is reflected in the non-existence of an integrated foreign affairs budget. There is a defense budget, which legally and traditionally encompasses almost all military related expenditures, but there is no comparable central budget that encompasses the remainder of foreign affairs expenditures. Although there is some likelihood that such a budget may be created in the future, there is no significant impetus for creating a foreign affairs budget that includes military programs.

The importance of this observation is derived from the fact that the federal bureaucracy's activities are to a large extent focussed on the budgetary process. Without this central frame of reference, there is little impetus for creation of appropriate organizations to undertake or to sponsor the necessary research. Consequently, the Defense Department will continue to examine military programs as means of meeting national objectives, USIA will focus exclusively on information programs, AID on economic assistance, and so forth. A pertinent analogy may be seen in the McNamara experience. The concept of trading off programs between the military services provided bitter conflict throughout his administration. It is certain that without the Secretary of Defense's legal authority, the centralized Defense Budget, and the creation of relevant organizations (the Systems Analysis office) and procedures (the Draft Presidential Memoranda), even the limited success which was attained would not have been possible.

³⁵ An excellent discussion of the approaches and problems of the major governmental organizations engaged in foreign policy analysis may be seen in: Henry S. Rowen and Albert P. Williams. Policy Analysis in International Affairs. RAND P-4243 (Santa Monica: November 1969).

³⁶ We except, of course, the President, who could undertake such a task through the Office of Management and Budget or the National Security Council, but who, for various reasons, the explication of which is best left to another paper, has not chosen to do so.

It would be possible, of course, even without a centralized budget for the Executive Branch to undertake research along the lines presented in Section III. The Secretary of State is, after all, charged with the coordination of U.S. programs overseas. Unfortunately, the State Department has been, on the whole, antagonistic to quantitative and systematic methodologies in general and systems analysis in particular. Evidence for this observation may be seen in the depressing and unavailing efforts to institute a limited Programming, Planning, and Budgeting System (PPBS) in the Department, almost throughout the Sixties.³⁷ The history of bureaucratic infighting which accompanied those efforts, which was an extremely modest initiative relating to what was primarily a sophisticated accounting system rather than to the type of comprehensive policy planning methodology advocated here, leads to a very pessimistic estimate of State's willingness to undertake such efforts.

In the early months of the present Administration, there were hopeful signs of an initiative to permit centralized foreign policy planning. These were based on the Administration's emphasis on the National Security Council, which included expanding its staff--coopting several veterans of DoD's Systems Analysis office in the process--and establishing a system of interdepartmental review of foreign policy problems, often on a regional basis. Most promising, an NSC Defense Program Review Committee was established, "intended to replace the lopsided 'military approach' to total U.S. needs."³⁸ Unfortunately, these organizations have not adopted cost/effectiveness techniques, preferring to rely on traditional approaches.

The Congressional sector is also unlikely to engage in or sponsor cost/effectiveness analysis. The limited staffs of individual members of Congress and of the Committees do not, with some exceptions, have the background, training, inclination, or, perhaps most importantly, the time to undertake such analyses. We have previously discussed the approach preferred by this sector; little more need be said. The one (remote) possibility in this area concerned the suggestion that the Congress establish and fund its own "think tank," so as to have "objective," and "disinterested" advice concerning "technical" matters. The suggestion was made in 1969 during the debate over the Safeguard ABM system but has not been raised, at least to the writers' knowledge, since that time.

³⁷ See: Frederick C. Mosher and John E. Harr Programming Systems and Foreign Affairs Leadership: An Attempted Innovation. (Fairlawn, New Jersey: Oxford University Press, 1970).

³⁸ Washington Post (January 29, 1970), pp. 1, 8. Also, Joseph Kraft has reported sporadically, about the NSC and its staff. See, for example, Washington Post (September 16, 1969).

What about the so-called Federal Contract Research Centers (FCRC's), such as RAND, IDA, RAC, and CNA? They are in some ways in a unique position to perform the type of analysis which has been outlined, including their familiarity with the necessary techniques, access to classified information, relative removal from the requirements of short lead time analyses in connection with immediate decisions, adherence to the multi-disciplinary approach, and perhaps most importantly, a relatively lesser need to defend organizational interests in analyses and recommendations concerning U.S. policy.

Despite these advantages, however, the FCRC's also appear unlikely to undertake a macro-level cost/effectiveness analysis of foreign policy alternatives. They are, in the main, funded by the Defense Department. Recently, legislative restrictions have been placed on policy research by DoD-funded organizations. In our opinion these restrictions are rather short-sighted. Nonetheless, for better or for worse, they exist, and in a time of cutbacks in research fundings, the FCRC's are generally careful to adhere to such restrictions. The State Department, which is likely to have greater sums available for the support of external research in the future than has been the case in the past, is unlikely to sponsor analyses of the type desired. The same factors limiting in-house State Department quantitative research will be probably applicable to State Department-funded external research. Other possible sponsors which come to mind have little or no contract research funds available.

Finally, we turn to the academic community. Our pessimism in that instance is founded on several factors, including (1) the incremental problems generated by limitations on the availability of certain kinds of information, (2) the general disinclination of the academic community to engage in interdisciplinary research, and (3) the relative disfavor with which policy oriented, as opposed to theory oriented, research is generally perceived in the University. We must also mention the apparent disrepute with which the cost/effectiveness approach is currently viewed, at least in some academic departments, at many universities. In part, this is a symptom of a more general reaction against quantitative analysis in general and the cost/effectiveness approach in particular, noticeable in the government, as well as the academic community.³⁹ Further, this disrepute is based on wide acceptance of a particular sequence of propositions, as follows:

1. U.S. involvement in Southeast Asia is bad.
2. That involvement was greatly escalated during the McNamara administration.
3. McNamara instituted and employed cost-effectiveness techniques.
4. Therefore, cost/effectiveness is bad.

³⁹Much recent literature dwells on problems, limitations, the "non-quantifiability of politics," and so forth. See for example, Y. Dror. "Systems Analysis and National Modernization Decisions," Academy of Management Journal (June 1970). While we recognize the existence of these problems, we think the emphasis is misplaced and many of the conclusions are in error. One must compare the relative validity of these techniques rather than their absolute validity.

3. McNamara instituted and employed cost/effectiveness techniques.

4. Therefore, cost/effectiveness is bad.

Not surprisingly, we reject this line of reasoning. First, there is considerable reason to doubt the extent to which cost/effectiveness analysis influenced any of the central decisions involved in the escalation of the Vietnam conflict.⁴⁰ Second, and more importantly, cost/effectiveness is only a methodology, an impartial technique which can help provide to a decision-maker, "a criterion or standard for making the hard choices, to achieve some rationality and optimality in the planning."⁴¹ It does this by exhibiting the consequences of choice, both in terms of costs and likely benefits. As any methodology, the validity of its results will depend upon the rigor with which it is applied. It may be used to illuminate the consequences of decisions, or it may be abused, so that preferred choices are justified. There is no reason intrinsic to the methodology, however, which will lead an objective and rigorous application to prefer military programs to civilian programs, or to discount benefits associated with non-involvement in the affairs of other nations, or to not accommodate constraints on policy alternatives derived from ethical considerations, or to any other bias frequently attributed to cost/effectiveness by the academic community.

In the first section of this paper, a question was raised concerning the relevance of any research, quantitative or not, to policy decisions. In this regard, it has been our experience that major decisions, those which become the focus of wide-spread debate throughout the nation, are rarely based on analytic results. In those cases when formal analyses are undertaken, too frequently they are biased, through various subtle techniques, to output the desired result. Even more frequently, analytic results, which generally will be somewhat ambiguous for controversial decisions, will be interpreted in a direction favorable to preconceived preferences. Decisions on major issues have been made, and will continue to be made on personal, political, bureaucratic, philosophical, and ideological grounds. No study, no matter how rigorous, and no matter how clearly it demonstrates a preference for one policy as opposed to

⁴⁰A recent book by the then Assistant Secretary of Defense for Systems Analysis supports this view. See: Alain C. Enthoven and K. Wayne Smith. How Much is Enough (New York: Harver and Row, 1971). He, of course, is not a disinterested party. Other "inside" accounts of these decisions, however, for example, Townsend Hoopes' book, also deemphasize the role of the Defense (and State Department) bureaucracies. (Townsend Hoopes. The Limits of Intervention (New York: McKay, 1970).)

⁴¹Charles J. Hitch. "Decision-Making in Large Organizations," reprinted in: U.S. Senate, Committee on Government Operations. Planning, Programming and Budgeting (Washington: GPO, 1970), p. 576.

another, is going to result in the implementation of a set of programs, if such programs represent significant deviation from established courses of action or violate the interests of relevant organizations or the biases, predispositions, and political and personal needs of decision-makers.

Over the long run, however, cost/effectiveness studies of the type we have described can illuminate the relationships between objectives, programs, and costs, or can direct research to this end. They can generate new ideas, present new alternatives, make decision-makers aware of the consequences of their decisions in terms which are both understandable and pertinent to them. They can lead to partial changes in policy, perhaps experimentation in program substitutions and cost trade-offs between Executive Departments, in particular nations. They can cause decision-makers to pause before reacting along well-worn paths of reflexive behavior in various situations. Over considerable periods of time, new alternatives and revamped thinking of pertinent trade-offs might lead to small redirections of policy, if such redirection is supported by the analysis.

Undertaking a comprehensive cost/effectiveness analysis of the type described here requires a fairly substantial investment of analytic resources. Such studies, of course, require relatively long time periods to be performed carefully and thoroughly. They should be undertaken by multi-disciplinary groups, perhaps including economists, cost-analysts, statisticians, foreign policy specialists, regional experts, social psychologists, lawyers, and engineers. At times, consultations with specialists on the various types of programs to be considered is required. In our opinion, however, the potential of the approach is great enough to warrant such an investment. Although most immediately realizable in terms of micro-analyses of specific problems, e.g., allocation of aid dollars between economic and military programs in a specific nation, the real payoff from development and dissemination of the cost/effectiveness methodology is likely to be found in the investigation of the fundamental precepts and major directions of U.S. foreign policy. For these reasons, we believe the approach that has been outlined deserves careful and detailed consideration.

APPENDIX A

PROPOSED INVENTORY OF BASIC U.S. INTERESTS*

- I. Rights of Passage
 - A. The Right of Free and Innocent Passage
 - 1. In time of peace
 - 2. In time of war
 - B. The Right of Armed Passage
 - 1. In time of peace
 - 2. In time of war
- II. The Ability to Communicate
 - A. Access to Formal Diplomatic Channels
 - B. Ability to Communicate Informally with Government Officials
 - C. Ability to Communicate with Key Groups and Leaders
 - D. Ability to Communicate with the Population at Large
 - E. As Required, Denial of the Ability to Communicate to Actual or Potential Hostile Nations
- III. Maintenance and Enhancement of the U. S. Image and Leadership Position
- IV. Access to Information
 - A. Access to Information from Open Sources
 - B. Access to Confidential Information on Host Country by Permission, Penetration, or Technological Means
 - C. Access to Information on Third Countries
 - D. As Required, Denial of Access to Information to Actual or Potential Hostile Nations
- V. Use of Host Country Influence
 - A. Use of Host Country Influence with Third Countries
 - B. Use of Host Country Influence in Regional and World Forums
 - C. Use of Host Country Influence on World Public Opinion
 - D. As Required, Denial of the Use of Host Country Influence to Actual or Potential Hostile Nations
- VI. Strategic Use of Host Country Territory
 - A. Access to Critical Natural Resources in Time of War or National Emergency

* Source: Diplomacy for the 70's: A Program of Management Reform for The Department of State (Washington: GPO, 1970).

- B. Use of Host Country Territory to Station U.S. Combatant and/or Logistical Forces
- C. Use of Host Country Territory as a Safehaven for U.S. Forces
- D. Ability to Enter Host Country in Hot Pursuit of an Enemy and if Necessary Engage Him There
- E. Use of Host Country Territory for Scientific Research, Testing, Monitoring, and Similar Activities
- F. As Required, Denial of the Strategic Use of Host Country Territory to Actual or Potential Hostile Nations

VII. Use of Host Country Forces and Facilities

- A. Use of Host Country Forces and Facilities in Host Country Territory
- B. Use of Host Country Forces in a Combatant or Non-Combatant Role
- C. As Required, Denial of Use of Host Country Forces and Facilities to Actual or Potential Hostile Nations

VIII. Protection and Rights of Persons

- A. Protection of U.S. Diplomats and Other Government Officials Accredited to the Host Government
- B. Assurance of the Rights and Privileges Accorded Diplomats and Other Government Officials in International Law and Practice
- C. Respect for the Human Rights of U.S. Citizens and Other Persons Under the Protection of the United States
- D. Equal Treatment Under the Law of the Host Country for U.S. Citizens and Other Persons Under the Protection of the United States

IX. Ability to Do Business on a Basis at Least Equal to that Accorded the Most Favored Nation

- A. Access to Materials and Material Resources on a Reasonably Competitive Basis
- B. Access to Both World and Host Country Markets on a Reasonably Competitive Basis
- C. Ability for U.S. Private Capital to Invest in the Host Country Under Conditions that are Equitable and Reasonable Including Assurance Against Expropriation without Just Compensation and the Capacity to Repatriate Profits
- D. As Required, Denial of the Ability to Do Business with Actual or Potential Hostile Nations

- X. U.S. Interest in Certain Characteristics of the Host Government
 - A. As Required, Denial of the Ability to do Business with Actual or Potential Hostile Nations
 - B. A Host Government which is Reasonably Responsive to the Needs and Desires of its Citizens whether or not it is Representative in a Formal Sense
 - C. A Host Government Which Recognizes the Existence of Certain Human Rights and as a Matter of Policy Accords those Rights to its Citizens and Others in its Territory
 - D. A Host Government which Adheres to Certain Forms of Democratic Political Practice, Especially Regular, Periodic Elections which are Reasonably Free in Character
- XI. U.S. Interest in the Economic and Social Development of the Host Country
 - A. Economic and Financial Stability
 - B. The Rate of Growth of the Economy
 - C. The Structure and Productivity of the Economy
 - D. The Quality of Life
- XII. U.S. Interests in Certain Aspects of the Foreign Policy of the Host Government
 - A. A Host Government which Refrains from Performing Acts of Aggression, Including Subversion and Infiltration as well as Acts of War Either Declared or Not, Against the United States or Third Countries
 - B. A Host Government which Refrains from Other Acts which might be taken as Aggressive such as Propaganda Campaigns, Excessive Build-ups of Forces or Arms Stocks, or Encouraging Individuals or Groups to Perform Acts of Piracy or Political Violence
 - C. A Host Government which is Disposed to Collaborate in Organizations and Institutions Designed to Promote Integration and Cooperation at Both the Regional and Global Level
 - D. A Host Government Disposed to Collaborate in the Resolution of Problems Affecting all Countries Irrespective of Questions of National Interest or Ideology such as the Disposition and Use of Territories over which Sovereignty has not been Established, including Space; the Control of International Crime and Outlawry; and Problems of the World Ecology

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