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MEMORANDUM

RM-4594-AID

OCTOBER 1965

AN APPRAISAL OF  
U. S. CAPITAL ASSISTANCE TO  
LESS DEVELOPED COUNTRIES (U)

F. T. Moore, A. P. Carlin, R. L. Slighton,  
W. A. Johnson, L. L. Johnson and A. H. Pascal

PREPARED FOR:

AGENCY FOR INTERNATIONAL DEVELOPMENT

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## CHANGES IN U.S. CAPITAL ASSISTANCE LOAN POLICIES PROPOSED (U)

Capital assistance loans offer the United States opportunities that have not yet been fully realized to influence the pattern of economic growth in the less developed countries. Such is the conclusion of a RAND study of present policies in the administration of U.S. capital assistance programs, prepared as part of RAND's continuing research for the Agency for International Development on the allocation of foreign economic assistance funds and the design of effective policies.

U.S. capital assistance programs fall into two categories--program lending and project lending. Program lending provides general budget or balance of payments support; its influence permeates the entire economy of a country. Project lending assists specific capital projects; its effects are primarily, though not wholly, limited to influencing the design of those projects that are directly financed. As these capital assistance programs are now administered, the United States is not taking full advantage of the opportunities that either program offers to induce reforms in the less developed countries and to obtain commitments that will promote economic growth. However, the changes in policies and procedures needed are generally within the power of AID to effect.

### Guidelines for Program Lending

Program loans must focus increasingly on bargaining and negotiation, using the amount of aid that a country will receive as the incentive to

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bring about the policies and reforms that a country needs to improve its economic performance and the general environment for growth. Performance commitments may be negotiated in any one of four major areas: monetary and fiscal policy, administrative reforms, public investment policy, or public policies toward business.

There are no general rules for deciding what kind of commitment should be negotiated first. The important point is that some commitments be negotiated to improve the development effort. The general purpose should be to introduce the idea that future aid will be increasingly dependent on the country's effort to achieve economic growth through self-help. Instead of specifying a single level of achievement, as is now done, graduated requirements (perhaps starting with "minimum acceptable") would increase the flexibility of negotiation and decrease the risk of setting targets that cannot be met. Aid is likely to be more effective if each loan is used as an opportunity to bargain for those changes most needed in the country's economic structure.

At present, program loans and commitments are limited to one year, making long-run planning by the United States or by the country itself awkward and difficult. If performance commitments are to be given a fair test, planning for program loans must cover a longer time, possibly three years instead of one. Program budgeting should be explored as a means of providing the additional planning assistance that countries will need to accomplish changes in budgetary procedures and presentation of statistics.

Performance commitments cannot be successfully negotiated without an increase in AID's information on the structure of the local economy. Present procedures for setting monetary and fiscal targets are generally acceptable, but AID's opportunity to examine the possibility of alternative structural reforms in important economic sectors is rare. It is of the utmost importance that AID undertake, on a substantial scale, policy-oriented research in the most important countries receiving capital assistance.

#### Guidelines for Project Lending

All too frequently, the actual benefits from project lending are so small that there is doubt whether project aid as now administered can be

justified in terms of even the present costs involved.

Three alternative actions can be taken. One is to abandon project lending altogether. Another is to channel U.S. project assistance through the World Bank, the Inter-American Development Bank, or possibly the International Development Association. A third alternative is to reorganize AID activities in this area.

AID criteria and procedures in project review and evaluation require revision and improvement; for example, admitting the fact of uncertainty in demand and cost estimates, adjusting for differences between factor prices and market prices, and improving demand analysis. In many ways, AID's project review is now looked on simply as an analysis of the project's economic soundness--certainly a worthwhile activity, but greater emphasis should be placed on finding the most efficient way of using each project to achieve wide influence in the country's economy.

The most important limitation on the effectiveness of project lending is not, however, the result of any deficiency in AID evaluation criteria or review procedures. At present, deficiencies in the quality and quantity of projects that the countries propose limit impact through project loans. Reconnaissance surveys and sectoral studies can do much to help in correcting these deficiencies.

#### Reconnaissance Surveys

Feasibility loans have been used to good effect in preparing project proposals for loan applications, but as they are generally granted after the decision has been made to go ahead with the project, they fail to meet the need to explore investment opportunities and compare alternatives.

Reconnaissance surveys or prefeasibility studies, aimed solely at gaining information on costs and benefits of any proposed project, offer a chance to sort out interesting ideas and proposals, to develop preliminary evaluations, and to identify areas that need additional study. Prefeasibility loans linked to private investment surveys can also be useful in stimulating business participation in project planning.

### Sectoral Studies

Because decisions on location, timing, size, and technology of investments in any sector of the economy affect decisions on other investments in the same area, a study of the sector as a whole provides a means of establishing priorities among alternative investments and relating individual projects to the general goals of the country program. Greater use of the sectoral approach to investment surveys and project bargaining offers AID the opportunity to influence the pace of structural reform and to increase the supply of potential capital projects.

### Influencing Economic Development

If scarce foreign aid funds are to be allocated efficiently, AID must develop and respond to opportunities to influence the development policies of the governments receiving assistance. Through bargaining and negotiation, capital assistance may be used to persuade countries to undertake reforms that would not otherwise be undertaken. Such a degree of influence can be achieved only if the review of performance commitments is flexible and if the threat to reduce aid is credible.

If the United States does not take full advantage of these opportunities to influence the pattern of economic change in the less developed countries, the economic assistance program will not be making its full contribution to achieving foreign policy goals.

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The foregoing is a brief of RAND Memorandum RM-4594-AID, An Appraisal of U.S. Capital Assistance to Less Developed Countries (U), by F. T. Moore, A. P. Carlin, R. L. Slighton, W. A. Johnson, L. L. Johnson, and A. H. Pascal, October 1965, CONFIDENTIAL (4), 171 pp. Portions of this Memorandum are closely related to an earlier RAND Memorandum, RM-4522-AID, Bargaining in AID Program Assistance: The Case of Chile, by Leland L. Johnson, July 1965, Limited Official Use.

Copies of these studies may be obtained from The RAND Corporation, 1700 Main Street, Santa Monica, California 90406, or from The RAND Corporation, 1000 Connecticut Avenue, N.W., Washington, D.C. 20036.

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PREFACE

This RAND Memorandum was prepared as part of RAND's continuing program of research for the Agency for International Development on the allocation of foreign economic assistance funds and the design of effective policies. The present Memorandum reviews capital assistance programs and makes recommendations for increasing the beneficial influence such programs have on the development efforts of recipient countries. Parts of this Memorandum are closely related to an earlier RAND report to AID, Bargaining in AID Program Assistance: The Case of Chile, by Leland L. Johnson, RM-4522-AID, July 1965.

Many people gave valuable help during the study. AID professional and clerical staffs, both in Washington and in several field Missions, gave their time generously in discussing issues and providing access to written materials. Within RAND the authors' debts are also numerous. Mrs. Eleanor Wainstein collected much of the material and assisted in the preliminary analysis in several sections. Michael Intriligator, Charles Wolf, Jr., and Horst Mendershausen made helpful comments on various parts of the study, and Oleg Hoeffding and John Pincus read the manuscript in detail and suggested many improvements.

SUMMARY

United States assistance programs, as administered by AID, operate through two somewhat different loan instruments. The first, usually called program lending, provides general budget support or support to the balance of payments of the country; its effects are exercised at the aggregate or macroeconomic level. The second instrument, project lending, provides support to specific capital projects; its effects are primarily, though not wholly, limited to the macroeconomic level. This distinction between the two types of instruments is operationally useful, but in fact there is some blurring of the differences in actual practice. This Memorandum considers the effectiveness of administration and operation of these two loan instruments and examines specific cases in which they have been used. It also considers the processes of decisionmaking within the Agency itself, for on such processes depend, to a great extent, the ultimate success or shortcomings of the programs.

Two main conclusions emerge from this analysis. First, the capital assistance programs do not take full advantage of opportunities to exercise positive influence on the development efforts in the recipient countries. There apparently are a number of reasons why this has occurred: a lack of perception that opportunities have existed; an unwillingness or timidity in undertaking a negotiation for performance commitments; and in part because some segment of the programs, notably project loans, are not particularly designed with this point of view in mind. The opportunities to exert influence through capital assistance programs are, of course, related to achieving U.S. national security or foreign policy objectives. But these opportunities are equally as much defined in the fundamental economic sense of exerting influence in order to allocate scarce foreign aid resources efficiently and to get the countries to undertake those changes that are needed in their own best interests. Thus we view the exercise of influence through the capital assistance programs as another aspect of the insistence that countries undertake "self-help" measures. It is our conclusion that the administration of the capital assistance programs

can be materially improved to exercise influence to obtain needed reforms and commitments in the recipient countries.

Second, the effective operation of the capital assistance programs is seriously hampered by a shortage of necessary personnel in AID. In particular, project lending is adversely affected to a degree that endangers the effectiveness of the whole program. These two conclusions are supported by specific examples and analysis in the Memorandum, in the course of which conclusions of more limited scope have been stated and appropriate suggestions made.

Program loans have been extended to relatively few countries but the list of recipients includes all those countries that have been at the top of the list of all aid recipients, including India, Pakistan, Turkey, Brazil, Colombia, Chile, and others. The experience with program loans shows two contrasting fashions. In Latin America the loans are marked by multiplicity of performance criteria including specific quantitative standards with respect to desirable levels of budgetary surplus, limitations on increases in the money supply and short-term debt, ceilings on credit expansion, exchange rate policies, and so on. In addition they have frequently specified structural reforms in economic and social matters that are required in order to improve the general environment for growth. In India and Turkey, in contrast, there have been relatively few, if any, attempts to apply leverage on government policies other than by persuasion.

To be effective at the aggregate level program loans must focus increasingly on issues that are likely to be subjects for bargaining and negotiation as part of a determination of future aid levels and on the macroeconomic policies and reforms that the country should be prepared to undertake to improve economic performance and to improve the general environment for growth. There are opportunities for increasing the relevance of the performance criteria to improvements in the economic policies of the recipient nation. Performance commitments may be negotiated in any of four major areas: (1) aggregative measures relating in particular to monetary and fiscal policy; (2) administrative and structural reforms as in tax or agriculture policies;

(3) the composition of specific projects in the public investment budget; and (4) particular political matters. Whether some or all of these areas should be explored in a single negotiation will depend on the specific circumstances in the country. There are no general rules for telling exactly which type of commitment should be negotiated first. The important point is that some commitments be negotiated to improve the development effort. The general purpose should be to introduce the notion that future aid levels will be increasingly dependent on meeting those targets that evidence "self-help." Instead of specifying a single level of achievement for the targets, as is done now, we suggest an approach that attempts to set graduated targets, perhaps starting with a prespecified set that might be called "minimum acceptable" in order to increase the flexibility of negotiation and to decrease the risk of setting targets that cannot be met.

In program lending the hard choices in U.S. strategy must be faced when a country has substantially failed to meet commitments incorporated in a program loan; in such circumstances it may be necessary to suspend a part of the aid in order to establish the credibility of the U.S. bargaining position and to strengthen the importance of meeting the commitments.

The present system of capital assistance tends to undermine U.S. bargaining power with respect to the recipient nation because the aid budgeted for a country sometimes exceeds the project and program loans that can be easily justified. So long as AID feels that it must spend whatever Congress has appropriated and so long as this exceeds the readily available and defensible project and program loans, AID will continue to find itself in a buyer's market for its loans. This is not conducive to attaching stringent conditions to loans. This situation may even be used by the potential recipient to greatly fore-shorten the time available for review and bargaining by simply delaying the submission of a project to AID until late in the fiscal year.

It is obvious that the economic problems of aid recipients are not limited to those that can be solved through the financial effects

of foreign aid, even in the more promising countries. In fact, the availability of aid may put off just those changes that are needed if progress is to be made in the directions desired by the United States. Aid is likely to be more effective if each loan is used as an opportunity to bargain for those changes most suitably made conditions of the loan, even at the risk of reducing the total amount of aid given to a country.

In particular we suggest that AID undertake to negotiate with India for performance commitments or policy changes in the next loan. It would be appropriate to seek commitments in three crucial sectors of the Indian economy: (1) India's balance of payments; (2) removal of some government controls over industrial and agricultural enterprise, both public and private; (3) monetary and fiscal policies to insure that they do not contribute to existing inflationary pressures.

Current practice of disbursing funds in tranches based on quarterly reviews is a desirable practice but performance probably can be effectively measured only over the period of a year or more; consequently some longer run commitment of support seems desirable. We suggest that in countries getting major support there be a commitment for approximately a three-year period, rather than just annual negotiation.

Increased planning assistance will be needed for many of the countries. Increased assistance, through contract, should be supplied to the largest recipients. In addition, to improve control and decisionmaking will probably also require changes in budgetary procedures and presentation of statistics. We suggest that part of the planning assistance should be directed to the exploration of program budgeting as a means of accomplishing these objectives.

It is our conclusion, further, that all too frequently the actual benefits from project lending appear to be much less than potential benefits. Although the actual costs of projects may be smaller than they would be were their potential benefits more fully realized, in

our opinion these benefits are so small in many cases that there is doubt whether project aid as now administered can be justified in terms of even the present costs involved. This is clearly serious and undesirable.

There are three alternative courses of action that can be taken. One is to abandon project lending altogether. A second is to channel U.S. project assistance designed to promote economic objectives through the World Bank, the Interamerican Development Bank, and possibly the International Development Association. These agencies seem to have developed effective control methods in project lending. A third alternative is to undertake the major effort needed to upgrade AID's capabilities in this area. The third alternative, undertaking a reform and reorganization of project assistance, offers AID the principal hope for retaining jurisdiction over this area.

Principal emphasis must be placed on increasing influence on the project and sectoral levels. In many ways the project review process is now looked upon as an analysis of a project's "economic soundness," in general a worthwhile activity only in the case of projects and countries where the fungibility problem is not of major importance. This practice undoubtedly stems from the banking image and origins of project aid. Although this is certainly an important consideration, greater emphasis should be placed on the problem of finding the most efficient way of using each project to achieve influence in the recipient country, particularly influence on the project itself and on the sectors concerned. The question asked of each project should be "How can we best use this aid to improve the project and to influence this sector?" rather than only "Is this a sound project?"

In addition, the criteria and procedures in project review and evaluation require revision and improvement. Revisions are needed that take account of uncertainties in demand and cost estimates on project profitability. Current practice in the choice of discount rates should be revised to eliminate the use of two different rates, and project analyses should adjust for differences between factor prices and market prices where this is significant. The procedures

for analysis of demand are also in need of revision. All these changes will affect the materials in the Feasibility Manual that is now used as a guide.

At the present time the supply of project proposals that are offered for consideration is relatively small. One effect of this is that projects are supported simply because they are available and not necessarily because they are of highest priority or of greatest potential use. In any one year it seems likely that the amount of funds available for project support exceeds the requirements for support of the project proposals that are submitted. One reason that this occurs is the lack of a systematic effort to explore investment opportunities in the countries. Feasibility loans have been used to good effect in preparing project proposals for loan applications, but they are generally undertaken after it has been decided to go ahead with the project. There is a need to explore interesting ideas, to compare alternatives early in the game, and hence to enrich the list of potential investment opportunities. Present procedures are too cumbersome and expensive to do this. It is suggested that AID expand the use of prefeasibility or reconnaissance studies in most of the countries. These should be informal, flexible, and inexpensive so that information can be acquired quickly to identify projects for future support.

A program of prefeasibility studies can also be an effective instrument to stimulate the participation of the private sector in project planning by linking prefeasibility loans to a program of private investment surveys such as the one the United States now has in operation. One interesting possibility for extending incentives to private industry is to change the participation rate from 50-50 to some other basis.

Sectoral surveys and studies are needed for at least the key sectors in major recipient countries. These are the link between the aggregate plan and the projects plans. They are a means of comparing alternative investments in the same sector so that priorities can be established. They are also a means of determining the sectoral contribution to the development of the country. In this study an illustration

of a sector survey is briefly cited, using the transportation sector in India as an example.

The second major conclusion of this Memorandum concerns the shortage of necessary, qualified personnel in AID. Adequate provision for such personnel is probably the most acute problem that faces AID. The needs are particularly great in formulating development plans to which performance criteria can be attached, in evaluating and monitoring capital projects, and in conducting prefeasibility and sectoral studies. In AID field staffs less than 5 per cent of the total staff is directly concerned with program direction and coordination; slightly over 14 per cent are in other management positions (for example, finance and accounting, and so on) and 81 per cent are in technical assistance. The first group, which bears the burden of decision on program management and negotiation, particularly requires augmentation.

Of technical assistance personnel approximately 70 per cent are on direct hire and 30 per cent on contract. Because demand for such services tends to be fluctuating and the costs of alternative sources of supply do not significantly differ from one another, we suggest a much larger use of contract personnel in technical assistance.

There is a need both to increase the supply of qualified personnel and to conserve the personnel resources that AID has available. The shortage of personnel tends to be concentrated in two fields -- economics and engineering. To increase the supply in these fields we urge that the greatest support be given to current recruitment plans; however, reliance should probably not be placed solely on this measure. The alternative is to obtain the needed skills through contact with universities and private firms. By judicious choice of contractors, work in project evaluation, prefeasibility studies, aggregate programming, and sectoral surveys might be substantially increased and improved.

We also suggest the conservation of existing skills by a greater centralization of staff at the regional or subregional level. There are economies of scale in the utilization of personnel in capital

development work and a degree of centralization greater than now exists would probably have a major payoff for AID.

The time of key personnel is frequently absorbed in activities other than the essential ones of program direction and evaluation. As one example only, key personnel in a Mission are intensively absorbed in the preparation of the annual Capital Assistance Programs. Although there is a clear need for an effective management information flow system, the components of such a system have never been adequately studied and defined. We urge that such a study be undertaken; it seems likely that collection and reporting procedures will be found that do not so heavily require the time of key professionals.

Finally, it is suggested that the capabilities of loan officers and similar personnel be expanded through the institution of a systematic training program. The work of the Economic Development Institute could usefully serve as a model for AID.

CONTENTS

PREFACE . . . . . iii  
SUMMARY . . . . . v  
LIST OF TABLES . . . . . xv

Section

I. CAPITAL ASSISTANCE AND THE ROLE OF AID . . . . . 1  
    Introduction . . . . . 1  
    The Matching of Ends and Means . . . . . 2  
    AID in the Community of Lenders . . . . . 6  
    Terms of Aid and Debt-Servicing Burdens . . . . . 9

II. PROGRAM LOANS AND BARGAINING ON AGGREGATE MEASURES . . . . . 12  
    Attempts at Comprehensive Bargaining: Latin America . . . . . 13  
    Improving Performance Criteria: The Case of Chile . . . . . 17  
    Less Comprehensive Bargaining: India . . . . . 24  
    Future Bargaining Strategy in India . . . . . 27  
    Special Problems in the Strategy of Aggregate  
    Bargaining . . . . . 30  
        The Use of Percentage Criteria as Opposed to  
        Nominal Criteria . . . . . 31  
        Achieving Real Resource Effects Through Control  
        of Counterpart Funds . . . . . 31  
        Increasing Planning Assistance . . . . . 37  
        Alternative Means of Carrying Out Aggregate  
        Bargaining . . . . . 38  
        The Conduct of Bargaining and Negotiation . . . . . 41

III. THE ADMINISTRATION OF CAPITAL PROJECT AID . . . . . 48  
    The Benefits of Project Lending . . . . . 49  
        Micro-level Influence . . . . . 49  
        Publicity, Information, and Balance of Payments  
        Benefits . . . . . 53  
    The Costs of Project Lending . . . . . 55  
    Improving Evaluation Capabilities . . . . . 58  
    Improving Review Procedures . . . . . 62  
        Making the Capital Assistance Papers More  
        Meaningful . . . . . 62  
        Quick Reconnaissance Surveys . . . . . 65  
        Reconsideration of Miscellaneous Rules and  
        Regulations Not Required by Law . . . . . 66  
        Field Visits by Capital Assistance Committees . . . . . 67  
        Loan Conditions . . . . . 68  
    Improving the Official Criteria for Project  
    Evaluation . . . . . 69  
        Admitting the Fact of Uncertainty . . . . . 71  
        Rationalizing the Choice of Discount Rates . . . . . 75  
        Adjusting for Differences Between Factor Prices  
        and Market Prices . . . . . 77

Improving Criteria of Project Desirability . . . . .	78
Improving Demand Analysis . . . . .	79
Improving Related Procedures. . . . .	82
Summary and Statement of Alternatives . . . . .	82
IV. DEVELOPING INFORMATION ON INVESTMENT ALTERNATIVES:	
PREFEASIBILITY STUDIES AND SECTORAL STUDIES . . . . .	85
Current Experience with Feasibility Loans . . . . .	86
The Case of the Wine Processing Plant . . . . .	94
The Case for Prefeasibility Studies . . . . .	96
The Design of Prefeasibility Studies . . . . .	100
Sectors and Sectoral Policies . . . . .	104
Influencing Country Policy . . . . .	107
The Conduct of Sectoral Studies . . . . .	109
V. INCREASING THE SUPPLY AND EFFECTIVE USE OF PERSONNEL . . . . .	112
The Distribution of Personnel in AID Field Staffs . . . . .	112
Increasing the Effective Supply of Skills . . . . .	124
Conserving the Use of Existing Skills . . . . .	126
<u>Appendix</u>	
A. THE EL ALTO AIRPORT: THE COSTS OF INVOLVEMENT . . . . .	131
B. THE CENTO RAILROAD: ECONOMIC LOSSES VS. POLITICAL GAINS . . . . .	136
C. THE BOKARO STEEL PLANT: THE IMPORTANCE OF SOCIAL PRICING AND ACCURATE DEMAND FORECASTS . . . . .	145

LIST OF TABLES

Tables

1. Largest AID Recipients in Fiscal Year 1964 . . . . .	5
2. Development Assistance Committee AID Commitments, 1962 . .	8
3. Quantitative Criteria in Program Loans to Brazil and Chile . . . . .	14
4. Distribution of AID Loans by Month of Authorization, Fiscal Year 1963-1964 . . . . .	59
5. General Feasibility Loans . . . . .	89
6. Feasibility Loan Projects, Peru . . . . .	90
7. Feasibility Loan Projects, Argentina . . . . .	91
8. Non-Clerical U.S. Personnel in AID Country Missions by Field of Activity for Selected Countries and Groupings of Countries . . . . .	115
9. Direct-Hire and Contract Personnel in Technical Assistance, 1963 . . . . .	117
10. Professional Workload Distribution, Divisions of Near East & South Asia and Office of Capital Development & Finance, 1963 . . . . .	119
11. 1962-63 Change in Technical Assistance Commitments as a Per Cent of 1962 Commitments for the Largest Technical Assistance Receiving Country Missions . . . . .	123

Appendix Tables

B-1 Comparative Profitability Estimates . . . . .	140
B-2 Nathan Freight Traffic Estimates . . . . .	141
C-1 Revised Estimates of the Costs of Production and the Profitability of the Proposed Bokaro Steel Mill . . . . .	149
C-2 Estimates of Total Indian Demand for Salable Steel 1965- 1966 and 1970-1971 . . . . .	154

## I. CAPITAL ASSISTANCE AND THE ROLE OF AID

### INTRODUCTION

This Memorandum reports on the administration of U.S. capital assistance programs to less developed countries. It is primarily limited to the period since the creation of the Agency for International Development although some attention is also paid to earlier periods to establish continuity. The Memorandum concerns three main problems: (1) through bargaining and negotiation, capital assistance (and particularly program loans) may be used to persuade countries to undertake reforms and adopt new policies that facilitate development. The aim should be to take full advantage of opportunities to exercise influence through such negotiations. (2) The implementation of the programs, including review and evaluation of projects and programs to support, should be used to ensure compliance with the performance commitments or reforms that have been negotiated. Capital assistance must be directed to those uses that have the greatest benefit for the development effort. (3) Effective direction of the assistance programs puts great demands on personnel skills and on decisionmaking processes. It is necessary to have the right mix of skills, and to conserve and to make efficient use of the resources that are available. These three problems tend to dominate a consideration of the capital assistance programs and must be adequately solved if the programs are to be effective.

It is possible to distinguish two major approaches to capital assistance -- the program approach and the project approach. Sections II and III examine each of these approaches in greater detail. In Section II, program lending is analyzed with respect to the historical experience in different countries, and additional ways to make U.S. economic assistance effective in improving the environment and inducing acceptance of performance criteria are discussed for several specific countries. Section III undertakes the same sort of analysis for project lending and makes recommendations for improvement. Section IV points to the need for prefeasibility studies and sectoral surveys as a means

of reducing uncertainty about the payoffs from alternative investment opportunities and as a way for systematically comparing the alternatives. Each of the sections makes suggestions and recommendations for improvement in the decisionmaking machinery; these affect the requirements for personnel in a variety of ways that are summarized in Section V.

The issues raised in this Memorandum are those within the direct competence and responsibility of AID. Changes in policies and procedures that are discussed herein are generally within AID's power to implement. Yet, there are some broad issues that cannot easily be dealt with on a unilateral basis since they lie outside the defined responsibility of AID or require multilateral consideration. They are discussed here briefly because they affect the general strategy of capital assistance in major ways. There are three such issues: (1) the effectiveness of capital assistance as an instrument for achieving the multiple objectives that are set for any country; (2) the problems of U.S. economic strategy that arise because AID is a member of the community of international lenders (that is, issues of bilateral versus multilateral aid); (3) the effect of the terms of aid on debt service burdens over the long run. The remarks in this section emphasize a few of the most important points. The issues themselves deserve separate attention.

#### THE MATCHING OF ENDS AND MEANS

The United States has multiple objectives that it hopes to fulfill for each of the less developed countries. These objectives show a wide range of goals from the very broad to the very specific and cover economic, political, and military topics. The National Policy Papers, the Country Assistance Programs, and the Long Range Assistance Strategies set forth extensively the strategies and objectives for a particular country. Many objectives are stated in extremely broad terms such as "elimination of social injustice," strengthening "democratic orientation" of a country, or increasing "understanding and friendship toward the United States." These objectives are difficult to relate to operational policies. For example, what specific policies directly contribute

to "democratic orientation"? Such objectives are generally not related to specific aid policies but to the total foreign policies of the United States. Economic assistance is only one component, however important, of this set. Commercial and military policies are other parts. Other objectives are stated more specifically, such as reductions in the rate of inflation, reductions in balance of payments problems and the like. Economic assistance helps to achieve the proximate objectives of raising national incomes by increasing the amount of investment resources available to the country and, as a result of imposing conditions on the loans, inducing structural reforms affecting specific economic, social, and political institutions (that is, in taxes, agriculture, and so on). Changes in fiscal and monetary policies may also be effected and may have far-reaching effects over the long run in altering the environment in which development takes place, but much of the political environment in the country is beyond the direct reach of economic aid. As economic development proceeds, with a spreading of the benefits to all levels, it is to be hoped that the political maturity of the country will also increase and make itself felt through democratic processes and institutions. But the link between economic development and political maturity is not at all certain. Growth, particularly in its early phases, is very apt to be unsettling and destabilizing; some groups benefit more than others as traditional rights and privileges are changed. In the longer run new stable relationships may be established that permit growth within the new environment with democratic processes, but this takes time; in the meantime economic assistance must often operate in an atmosphere that is not necessarily conducive to political stability. Some aid is of course designed to have a specific political "impact" in the short run; this aid provides showpiece projects in the country. There is no way of measuring how much lasting goodwill may be obtained in this way, but over the long run it is probably not consistently possible to buy the kind of political behavior that the donor would prefer by this means; moreover, this type of aid is not well designed to give substantial support to an economic development plan.

To achieve the objectives of a sustainable rate of growth in a country typically requires substantial amounts of aid. This means that the resources available to the United States must be concentrated. AID has in fact established several categories of countries with some marked for major support, others in which the objectives are limited, and still others in which it is a matter simply of establishing the U.S. presence. Over the years economic assistance has been concentrated in relatively few countries; in Fiscal Years 1961 through 1963 the ten largest recipients received between 60-63 per cent of the total, and, as is shown in Table 1, this rose in Fiscal Year 1964 to 72 per cent. Moreover, although there have been some changes in the list of largest recipients, India, Pakistan, Korea, Vietnam, and Turkey have consistently received major support. One question raised by statistics such as these concerns the criteria for allocating aid among the countries. To take an example in one continent, what are the criteria for allocating aid among Brazil, Chile, and Colombia when each apparently has favorable circumstances and plans for development? There are also questions concerning the adequacy of the levels of aid to accelerate growth successfully in any country, in spite of the high degree of concentration shown. These are interrelated issues of critical importance in allocation decisions, and they deserve the closest attention, but in this Memorandum they are treated only peripherally. Section II briefly considers the possibilities of changing levels of aid as an incentive to improve performance or to undertake reforms by the recipient country, but the problems of intercountry allocations of aid and the levels required to meet specific growth objectives in each country are not covered here.

Economic assistance in the forms of loans and grants is not the only form of U.S. support for development efforts; military assistance (including so-called defense support or supporting assistance) is an additional and frequently important component. There are a number of interactions between economic assistance and military assistance that directly and indirectly have an effect upon the development process. Expenditures may be made from either source on public goods such as airports, roads, and ports that serve both military needs and economic

Table 1  
LARGEST AID RECIPIENTS IN FISCAL YEAR 1964

<u>Country</u>	<u>Millions of \$</u>	<u>Per Cent of Total</u>
India	344	17.3
Pakistan	236	11.9
Brazil	179	9.0
South Vietnam	166	8.4
Turkey	132	6.6
Korea	109	5.5
Colombia	79	4.0
Chile	79	4.0
Bolivia	58	2.9
Nigeria	<u>46</u>	<u>2.3</u>
	1,428	71.9

Source:

Agency for International Development, Operations  
Report, June 30, 1964, p. 8.

needs. In Vietnam, for example, the economic assistance program must be designed to help create an environment that will permit successful prosecution of a counterinsurgency effort and at the same time create conditions that are conducive to growth over the longer run. In Turkey the United States provides substantial amounts of both kinds of aid and decisions must be made with respect to the appropriate mix between them. To arrive at sensible policy decisions requires consideration of the total program package rather than either type of aid considered separately. Moreover, a change in the composition of the two, or in their levels, will almost certainly cause reallocations in the budget of the country itself. In virtually all of the countries that are major recipients of assistance these problems exist, although the relative proportions of the two types of aid may be quite different from one country to the next. In any case, the achievement of U.S. multiple objectives quite clearly requires joint consideration of all forms of assistance so as to illuminate the full range of policies that are available.

#### AID IN THE COMMUNITY OF LENDERS

AID is one agency among many that provides economic assistance funds to the less developed countries. The World Bank and associated agencies and the Inter-American Development Bank both provide loans for support of specific capital projects. The governments of Western European countries and Japan provide balance of payments loans (that is, program loans) to a variety of countries. There are various multi-lateral arrangements, formal and informal, for coordinating action including consortia in India, Pakistan, and Turkey, and the consultative group in Colombia. Some groups, such as CIAP (that is, the Inter-American Committee of the Alliance for Progress) have no direct control of resources but are advisory and make their influence felt through the prestige of the members. AID uniquely spans the whole range of assistance -- program lending, specific capital project lending, and technical assistance in its dealings with these various groups. Moreover, because the United States provides the lion's share of assistance, AID must

assume major responsibility for developing criteria and programs for capital assistance and persuade others of the need for effective coordinate action.

AID has encouraged and used its influence to expand the role of consortia and to increase multilateral assistance. The continuation of such policies is desirable in order to increase the sense of commitment and the participation by other countries in support of development. On project loans AID, the World Bank, and the IDB have frequently cooperated in dividing the task; for example, in support of a road system in Peru, or in informal understanding on sectoral responsibility in Colombia. It is in the area of program loans, requiring pledges for general development support, that the major problems of coordination appear.

A traditional problem concerns the sharing of the burdens of aid within a particular country. Burden sharing, in the aggregate, that is, the choice of criteria for total aid giving, has been frequently debated, and criteria for burden sharing based on ability to pay, equity, progressiveness (as in the income tax) and productivity of investment all have adherents. But sharing of aid in one country cannot be so easily related to aggregate measures; the existence of traditional ties between donor and recipient, competing demands elsewhere, and short-run political factors often weigh heavily. It is likely that discussion of burden sharing at this microlevel are largely fruitless, and that raising the general level of participation without inquiring too closely into the percentage shares offers more hope as a course of action.

Even where the extent of participation is not of primary concern there are usually significant differences among the donors on the terms on which the aid is extended. Maturity periods and interest rates typically vary rather widely on the portfolio of loans in a given country. If the discounted value of aggregate aid for the DAC countries (that is, European members of the Development Assistance Committee of the Organization for Economic Cooperation and Development) is computed and compared with the nominal or face value of the aid, the results are as shown in Table 2. Column (3) shows the ratios of discounted value

Table 2

DEVELOPMENT ASSISTANCE COMMITTEE AID COMMITMENTS, 1962

Country	Nominal Value (\$ millions)	Discounted Value (\$ millions)	Ratio (2)/(1)	Ratio (2)/GNP
	(1)	(2)	(3)	(4)
Canada	73.1	58.8	.80	.16
France	1034.6	908.4	.88	1.32
Germany	497.4	231.4	.47	.27
Italy	137.1	27.7	.20	.07
Japan	295.6	128.7	.44	.24
Netherlands	63.5	35.4	.56	.27
Portugal	60.2	6.2	.10	.22
United Kingdom	570.4	210.8	.37	.27
United States	4975.0	3661.0	.74	.66

Source:

John Pincus, Economic Aid and International Cost Sharing, The RAND Corporation, R-431-ISA, July 1965, Table 5-12.

to nominal value; the closer the ratio is to one, the lower is the average interest rate and/or the longer is the average maturity of loans. For reasons that are briefly discussed below, it would be desirable to try to persuade donors to grant general development loans on "soft" terms, but it may be quite difficult to get major donors to make such a change. If the average terms of aid for all donors are to be kept reasonably favorable, U.S. aid must bear very low rates of interest and long maturities. In short, current program loan terms may tend to become frozen when such loans are negotiated as part of a multilateral package.

Finally, and of major importance, it is argued in Section II that in negotiating program loans the United States should bargain for performance targets on commitments by the recipient, and that these targets should be explicit and quantitative to the extent possible. These same strictures apply to multilateral arrangements for aid, for there is a need to tie aid-giving more closely to reasonable performance. The typical consortium has not pursued such a policy, and it is up to AID to lead the way. Multilateralism has many virtues, but also some latent weaknesses in execution. There is a need for bilateralism as a means for setting the directions for assistance policies.

#### TERMS OF AID AND DEBT-SERVICING BURDENS

This topic has lately commanded increased attention and for very good reasons.<sup>1</sup> External fixed interest debt has increased at an average rate of 15 per cent from 1955 to 1962 in the less developed countries and the rate has been much higher than that (as might be expected) in several of the countries that are the largest recipients of aid (for example, India 38 per cent; Pakistan 28 per cent).<sup>2</sup> At the same time the average maturity of loans has decreased over this period to about

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<sup>1</sup>Cf. D. Avramovic, Economic Growth and External Debt, Vol. I-II, Staff Study, IBRD, March 12, 1964. AID, Loan Terms, Debt Burden and Development, April 1965. Also D. Avramovic, Debt Service Capacity and Postwar Growth in International Indebtedness, John Hopkins Press, 1965. D. Avramovic and R. Gulhati, Debt-Servicing Problems of Low-Income Countries 1956-1958, John Hopkins Press, 1960.

<sup>2</sup>Avramovic (1964), Vol. II, p. 6.

8 years with an average interest rate of about 4 per cent.<sup>1</sup> Minimum AID terms are more favorable than this, but minimum interest rates have been raised to 2-1/2 per cent from an initial three-quarters of 1 per cent, although the maximum repayment period remains at 40 years. When interest rates rise and repayment periods shrink, debt-service payments rise rapidly and absorb increasingly large percentages of a fixed gross capital flow. Thus the net flow that contributes to development dwindles, and with hard loan terms the net flow may become negative in less than ten years.

If a recent tendency for interest rates to rise on development loans is not reversible, a policy of extending the maturity of the loans as long as possible will have the beneficial effect of lowering the amortization and interest payments due in any one year. It has been shown that in a single transaction for any given "grant equivalent" of aid by a donor (that is, the face value of the aid minus the discounted value of repayments of capital and interest), the recipient is better off, under reasonable assumptions about social rates of return on investment, with a 5 per cent loan rate and 40 years maturity than with a 1 per cent rate and 10 years maturity.<sup>2</sup> The reason is, of course, that the lengthened maturity provides time to mobilize resources and benefit from the productivity of investment.

The usefulness of this kind of comparison is limited, for it is concerned with a single loan or transaction whereas funds flow to these countries more or less continuously. Thus a rise in interest rates even when offset by a lengthening of maturities simply postpones the rapid rise in debt service burdens. If lenders are committed to a given net flow of aid for a period of years, a rise in interest rates can lead to larger and larger requirements for gross flows. In the long run the real burden of debt lies in the interest rate. Repayments of principal can be financed, but repayments of interest are a net charge

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<sup>1</sup>Ibid., p. 15.

<sup>2</sup>R. N. Cooper, A Note on Foreign Assistance and the Capital Requirements for Development, The RAND Corporation, RM-4291-AID, February 1965.

against the development capability of the borrower. Yet the accumulation of amortization and interest that is due within three to five years is a major cause of the gloomy forecasts of the ability of these countries to pay. In the short run, lengthening maturities may be both politically feasible and economically desirable. A lengthening of average maturities, as a practical matter, can be accomplished by a "swap" operation in which a loan with a longer maturity is exchanged for an existing short term loan. The process is analogous to the situation in which the United States refunds its own internal debt by exchanging long term bonds for short term debt instruments. This buys time and makes future refundings easier to plan.

Second, rising debt-service burdens may exert pressure to increase the concentration of aid to fewer countries. The reason is that, in the absence of mitigating policies, there is an incentive to try to force feed a country so as to raise incomes, savings, and investment more rapidly, because only in this way is there hope of meeting the debt charges. There is likely to be a tendency to raise aid levels in the near future, to depend on the grace period to provide breathing room, and when repayments do begin, if the program works, the country would have accelerated its growth. There is some evidence that this process is occurring even now in some degree, for as aid is increased to a country, debt charges rise soon thereafter, which requires more aid to maintain a given net flow to development uses, and so forth through the same cycle, each time multiplying the effects. Although a rise in debt-service charges is initially the result and not the cause of concentration of aid, a self-reinforcing cycle is created in which rising debt charges in turn may make it necessary to increase the concentration of aid, unless some means can be found to decrease the immediate burdens of such charges.

## II. PROGRAM LOANS AND BARGAINING ON AGGREGATE MEASURES

If capital assistance is to be highly effective, AID must exercise influence both at the level of the individual project and at the macro-level. This section discusses aggregate or macrolevel influence and how AID might better exercise it. The bulk of the section will be devoted to AID experience with program loans since they represent the only type of capital aid so far used in a significant way to attempt to exercise macrolevel influence. However, this should not be construed as implying that such influence cannot be exercised through bargaining over packages of project loans. That will be discussed at the end of this section. First, however, we propose to discuss past AID attempts at exercising macroeconomic influence in two illustrative and contrasting cases: Latin America and India. Suggestions concerning the future course of bargaining over aggregate performance criteria in Chile and India are included in this discussion. In the case of Chile we argue that the main prerequisite for the establishment of effective performance criteria is policy oriented research on certain structural problems in the Chilean economy. In the case of India we suggest a possible agenda for bargaining over performance criteria of a different kind.

Following this presentation of specific cases, we discuss the environment for aggregate bargaining -- the limitations, the techniques that may be effective, and the areas in which influence may be exercised. The purpose is to try to provide some guidelines, to the extent possible, for the application of bargaining on performance commitments in program loans.

Program loans have been extended to far fewer countries than project loans but the list of recipients includes all those countries that now or in the recent past have been at the top of the list of all AID recipients; the list includes Brazil, Colombia, Chile, India, Pakistan, Turkey, Israel, Tunisia, Greece, Vietnam, and Taiwan. For most of these countries the program aid received in a given year is typically far greater than the total amount of project aid. For this reason alone current and potential effectiveness of program loans is a critical issue in the allocation of aid.

ATTEMPTS AT COMPREHENSIVE BARGAINING: LATIN AMERICA

The recent program loans in Latin America have been marked by the multiplicity of performance criteria that have been taken into consideration in the negotiations. At various times in different countries performance criteria have been established with respect to desirable levels of budgetary surplus, limitations on increases in the money supply and short-term debt, ceilings on credit expansion, limitations on the level and composition of imports, and exchange rate policies. In these areas criteria are expressed in specific, quantitative terms, often with the purpose of setting bounds on governmental economic activities. In many other areas where quantitative standards are not so easily set performance criteria have also been established in qualitative terms or in terms where fulfillment of the criteria can be evidenced by the instigation of specific kinds of programs, the passage of legislation, or administrative reforms. Criteria of this type have been stated for export expansion, stimulation of agricultural production (particularly food supplies), expansion of education programs, and, most important, changes in the administration and application of tax policies. In the program loan to Brazil, commitments made by the country in a letter to the CIAP were automatically incorporated in the loan agreement; these commitments covered most of the points raised above. In Chile, commitments made under an IMF standby agreement were similarly treated. As an incentive to the countries to meet the commitments, the program loans in Latin America provide that only a portion of the funds are available upon the signing of the loan agreement; the rest of the funds are released in three or four tranches with each tranche released only after a quarterly review establishes that progress is being made.

Table 3 summarizes some of the quantitative criteria developed in conjunction with the recent program loans to Brazil and Chile. The choice of criteria reflects the nature of the aggregate economic problems facing the two countries. For example, prices increased in Chile almost 40 per cent from late 1963 to late 1964 and almost doubled in Brazil within the same period. Since government deficits created in

Table 3

## QUANTITATIVE CRITERIA IN PROGRAM LOANS TO BRAZIL AND CHILE

	Brazil 1965	Chile	
		1964	1965
1. Estimated rate of increase of GNP	6.0%	1.0%	3.3%
2. Investment/GNP	17.0%	12.9%	15.1%
3. a. Total public investment	1148 bil. cruz.	1560.8 mil. esc.	2016.5 mil. esc.
b. Public investment as per cent of total investment	35.4%	64.3%	68.9%
4. a. Current account surplus	446 bil. cruz.	920.4 mil. esc.	1243.3 mil. esc.
b. Surplus as per cent of expenditures	8.4%	24.2%	29.8%
5. Limit on imports (FOB) (U.S. \$)	\$1450 mil.	\$590 mil.	\$630 mil.
6. a. Limit on credit expansion		135 mil. esc.	
b. Credit expansion	25.0%		25.0%

Sources:BRAZIL

## Line

- 1-2: Agency for International Development, "Brazil Program Loan Paper," AID-DLC/P-105, pp. 17-18.  
3a: Ibid., p. 41, Federal budget only.  
3b: Ibid., p. 20. Gross capital formation is estimated at 3,247 billion cruzeiros.  
4a: Ibid., p. 41.  
4b: Agency for International Development, Economic Data Book, Latin America, "Brazil," p. 5. Expenditures are estimated at 5,294 billion cruzeiros.  
5: O.A.S. document, CIAP/621, p. 78, Table II.  
6b: "Brazil Program Loan Paper." Page 13 states that credit expansion is limited to increases in general price level. Page 37 states that inflation is to be limited to an annual rate of 25 per cent.

CHILE

## Line

- 1-5: Agency for International Development, "Chile Program Loan Paper," AID-DLC/P-292, Annex III, pp. 1, 4, and 6.  
6a: Ibid., Annex I, p. 2.  
6b: Ibid., p. 3, rate of expansion of money supply.

the name of development have been a major cause of this rapid change in prices, a prime criterion of effective performance is the generation of a surplus in the current accounts of the federal budget. In Chile and Brazil (and Colombia) an important target was thus a projected government surplus on current account that amounted to between 50 and 60 per cent of proposed federal government investments in the comparable period. Additional constraints on the rate of growth of prices were imposed in terms of restrictions on the expansion of money and credit. Brazil proposed to limit the increase in the money supplied to roughly 30 per cent of the level existing in 1964. (It was proposed that Colombia limit the expansion of short-term debt to perhaps \$10 million in 1964, though this depends in part on prevailing coffee prices.) As part of an IMF standby agreement, Chile agreed not to permit credit expansion through the Central Bank to exceed 135 million escudos.

Performance commitments in several other areas contributing to the control of inflation are also accepted. Brazil has agreed to the necessity of wage controls with a policy aimed at preserving the average real wage of workers over the previous two years and allowing small increases for productivity. This is one of the difficult areas to control because it is not subject to complete direct intervention; although it is not an area for long-range commitment, in the short run it may be important to the control of inflation and it may be critical in the limitation of cost increases.

The level of foreign exchange reserves and exchange rate policy are also areas in which performance commitments have been sought, since an overvalued exchange rate and one that is artificially supported can lead to rapid deterioration in the balance of payments. In program loans to Brazil, Chile, and Colombia, agreement was reached on a flexible exchange rate policy without intervention by the Central Bank. Additional controls over foreign exchange balances have been secured through agreements on import levels. In Colombia the goal was expressed in specific quantitative terms; it was deemed desirable to limit reimbursable imports to those that could be financed through long-term credit instruments. In Brazil the action program presented to CIAP

proposed to cut imports in 1964 to the lowest level since 1959 and it is understood that on this item, as well as on all other items in the action program, the commitments made by Brazil in the letter to CIAP covering a dozen major points of the government's program are incorporated as part of the loan agreement. Commitments to export expansion also receive attention in the loans to both Brazil and Colombia.

In the long run it is likely that the success of program lending in Latin America will be more dependent upon the meaningfulness of non-quantitative performance criteria than on quantitative criteria such as those given in Table 3. Brazil announced its intention to encourage exports through procedural simplification. Program loan commitments in Latin America have also emphasized reforms in tax policy and administration. In the letter to CIAP, Brazil has committed itself to a number of tax reforms including a pay-as-you-go system for business income tax and taxation of capital gains. In Colombia five specific areas for tax reforms are identified covering such things as enforcement of withholding at the source, elimination of tax delinquencies, and a wholesale review of policies. Tax reform has also been an important item in Chile. In fact, the nonquantitative performance commitments secured under the 1965 program loan agreement with Chile virtually span the area of public economic policy. Other items included in this loan agreement are agricultural pricing and marketing agreements, pricing policies of state enterprises, and reexamination of the governmental administrative structure.

The effectiveness of such a broad gauge set of performance criteria is of course uncertain. The list of commitments guarantees an agenda for discussions between AID and the recipient government. It also provides AID with leverage to strengthen the hands of those individuals in the government who seem to be committed to development. But it provides no guarantee of effective remedial action. The recent history of bargaining strategy adopted for Chile illustrates many of the difficulties with such an approach.

IMPROVING PERFORMANCE CRITERIA: THE CASE OF CHILE<sup>1</sup>

The quantitative criteria under the 1965 loan agreement have been briefly summarized in Table 2. This new set of restrictions represents an extension of the commitments secured under the loans in 1963 and 1964. The conditions underlying the loan in 1963 were quite straightforward: the country was to abide by an IMF standby agreement whereby credit expansion of the Central Bank was to be held to 10-12 per cent and a flexible (but dual) exchange rate policy was to be pursued. The Chilean government also committed itself to maintain a particular time schedule with respect to specified surpluses in its fiscal operating account. Much the same procedure was followed in 1964. A \$40 million loan (later increased to \$55 million) was released in tranches contingent on an IMF standby agreement whereby the flexible exchange rate policy was to be maintained and compliance with the agreement was to be measured by any net change in the amount of international reserves plus payments arrears during the year. In addition, a 135 million escudo limit was set on net credit creation of the Central Bank and the government was required to maintain a surplus on current account of 350 million escudos. This agreement was broadened over that of 1963 to include an operating surplus of 288 million escudos for the decentralized agencies of the government.

With one minor exception, these criteria were either met or exceeded. In 1963 credit expansion was limited to about 10 per cent and the actual government surplus on current account exceeded the target by 30 million escudos. The 1964 targets were met through most of the year. Net foreign assets less payments arrears rose by \$2 million, credit expansion was within the IMF limits, and the yearly surplus of the Chilean government on current account was an anticipated 68 million escudos. Chile seems not to have met the international reserve test by the end of 1964 because of an unexpected end-of-year deficit. The Mission deemed this within a reasonable margin of error; therefore, the last tranche of the loan was disbursed.

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<sup>1</sup>Many ideas and some phrases contained in this discussion of Chile are derived from Leland L. Johnson, Bargaining in AID Program Assistance: The Case of Chile, The RAND Corporation, RM-4522-AID, July 1965.

Yet in spite of formal compliance of the Chilean government with the performance criteria implied by the IMF agreements, the annual rate of inflation in Chile during 1963 and 1964 continued in the neighborhood of 40 per cent. This outcome must be regarded as disappointing. To some extent it was a result of the manner in which the performance criteria were met. In 1964 Chile resorted both to rapid drawing down of existing foreign credits and advance tax receipts as a means of maintaining its international reserve levels. One reason why Chile was able to meet the quarterly surplus performance test for successive tranches of the 1964 program loan was that the government allowed unpaid bills to accumulate.

The extent to which the fiscal and monetary criteria of the 1965 program loan represent a considerable shift in the potential restrictiveness of the program loan bargain is indicated in Table 3. The current account surplus, which declined by 2 per cent in 1964 over 1963, must (in projection) reverse itself and increase by more than one-third; the net increase in Central Bank credit, which increased by 9 per cent, is projected to decrease by more than half. The politico-economic structure to which these criteria relate is exceedingly complex. There is little profit in examining the quantitative reasonableness of the specific targets unless this examination is conducted with a precise understanding of the assets and liabilities of the Frei administration in its dealing with the political opposition. The impression here is that the criteria are consistent with a substantial reduction in the rate of change of prices but that little confidence can be placed in any given translation of specific performance criteria into projected rates of inflation.

The important point is that program bargaining has begun to adjust performance criteria in Chile on the basis of actual experience. The fact that 1964 was an election year presumably explains why the 1964 criteria were not tightened substantially as a result of the 1963 experience. It is hoped that subsequent program bargaining will continue to partake of an iterative character, specific performance

criteria being adjusted to the indicated economic significance of given target parameters as well as the political difficulties involved in achieving those targets.

Perhaps the most important deficiency in the program bargains achieved for 1963 and 1964 was the absence of criteria that related to basic structural problems of the Chilean economy. The 1965 program loan attempts to meet this weakness by including a large number of nonquantitative performance commitments. These can be summarized as follows:

1. Reform of agricultural pricing and marketing policies.
2. Establishment of new wage policies during the course of 1965 to be effective in 1966.
3. Revision of the present 10-year plan for the period 1965-70, with detailed plans and programs for the 1966-67 period.
4. Formulation of a definitive public investment program reflecting the more important sectors of the economy (such as agricultural production, marketing and processing; industrial production and mining; secondary and technical education and training).
5. Acceleration in the preparation of development projects for both internal and external financing. A minimum of \$50 million in development projects is expected to be available for consideration by international organizations and governments by the end of 1965.
6. Stimulation of increased private savings and investments in productive enterprises through appropriate policy measures and through the establishment of a private investment fund.
7. Negotiations with governments and international agencies for a multilateral rescheduling of the external debt falling due in the next few years.
8. Planning of substantial tax reform measures to be implemented over the next few years. For example, legislation will be introduced during 1965 to place income tax on a more current basis and to rationalize the tax exemption system.
9. Reexamination of rate structures for the decentralized agencies (such as railroads) with the aim of raising rates to increase the

level of revenues as a more accurate reflection of costs. Development of a plan by September 1965 for substantially reducing the deficits in state enterprises during 1966 and 1967.

10. Examination of the governmental administrative structure with the aim of reducing general operating costs, and institution during 1965 of budget controls and procedures to place the public investment budget on a project basis.

But the real question is whether there is sufficient incentive to the government to undertake basic structural changes as a consequence of these commitments and whether, even with the incentives, there is political power to carry out extensive reforms.<sup>1</sup> There are a number of reasons why these commitments may be ineffective. First, in one sense there are too many conditions specified in very general terms attached to the loan agreement. No government can be expected to perform satisfactorily in all these areas. There will no doubt be good progress in some and poor progress in others. And both the Frei government and AID are well aware of this. In the words of one AID working paper:

While the program loan agreement will not require specifically that all of these conditions must be fully met if the GOC is to be eligible for disbursements, the GOC will be required to explain any failures to meet individual targets and AID must then determine whether the overall performance is consistent with the total objectives of the program and therefore worthy of further drawings.

But this raises a number of questions. Within the enumerated conditions, what are the priorities and the tradeoffs, and, indeed, how is good performance to be appraised and who will be responsible for making the appraisal? If the government is doing poorly, say, in maintaining a flexible exchange rate (as reflected in an outflow of international reserves) to what extent would this be offset by good progress, say, in stimulating private savings? No one knows the answers to such questions, in part because the ultimate objectives

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<sup>1</sup>For a detailed discussion, see L. L. Johnson, Bargaining in AID Program Assistance: The Case of Chile, The RAND Corporation, RM-4522-AID, July 1965 (Limited Official Use, Handle as Confidential).

of foreign assistance have multidimensional economic facets and a political content as well. Such questions are "settled" only when specific cases arise and negotiators sit down at the bargaining table and thrash them out on an ad hoc basis. In this process, however, the recipient has little guidance ahead of time in directing its development program to mitigate the disagreements and frictions bound to arise. And how is the responsibility for making the evaluations and deciding subsequent assistance levels to be divided between the field and Washington? Suppose the Mission concludes that performance in one or more areas has been seriously deficient and recommends a reduction in assistance for the following year. But then suppose the recipient government sends a delegation to Washington to plead for a restoration? Who will make the final decision? More generally, to what extent is the resolve of AID weakened by the ability of the recipient to play one off against the other?

A second problem with respect to governmental incentives is the vagueness of these criteria. The government will be under a multitude of pressures reinforcing and weakening its resolve to undertake major structural change. Its estimate of potential economic, social, and political benefits and losses associated with alternative development strategies, the strength of its moral commitments, the nature and temper of public opinion, the unity exhibited by the Christian Democrats, and the role of special interest groups, are only some of these relevant considerations. Where the cause and effect relationship between performance and the future level of assistance is ambiguously defined, the recipient government will obviously respond more readily to these other pressures. Although the advantages of specifying performance criteria in operational form are self-evident, we now have only limited capability of stating conditions for structural reform that can be defended with an acceptable degree of confidence except, perhaps, in the area of fiscal and monetary policy.

The most important problem in increasing the usefulness of program lending to Chile is thus the task of narrowing and making operational those performance criteria that are not concerned with the fiscal-monetary performance of the government. It is often asserted that the

most critical of the problems facing Chile is that of inflation. Even when this argument is recast in terms of the more meaningful concept (for Chile) of changes in the rate of inflation, its validity is uncertain.

Of equal if not greater importance are the structural problems that appear to be the cause of the stagnation in Chilean agriculture, the poor quality of the government investment budget, and government restrictions against interfirm competition. The problem of low productivity in agriculture is particularly important. Although Chile was a net exporter of food prior to World War II, it has become an increasingly large net importer in recent years. The net inflow is nowadays running at over \$100 million per year, with Chile paying out \$70 to \$80 million in foreign exchange for agricultural products. Altogether, imports comprise about 20 per cent of total food consumption.<sup>1</sup>

The reasons for Chile's failure to exploit her apparent advantages in the agricultural sector are manifold and complex.<sup>2</sup> One alleged constraint on productivity is the tenure system, much of the good land being concentrated in large latifundo estates with owners apparently possessing little incentive to expand production by adopting new technology and training laborers in modern methods. A second constraint stems from the imposition of government price ceilings on basic foodstuffs in an attempt to maintain a low cost of living for the urban masses. Although these ceilings have been raised from time to time in

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<sup>1</sup>Interestingly, the \$70 to \$80 million expenditure is roughly equal to the \$80 million AID program loan for 1965, and not far below the annual total tax receipts of the government collected from U.S.-owned firms in the copper industry. The figure is about 12 per cent of the total government investment budget projected for 1965. In studies of The Land Tenure Center of the University of Wisconsin, it has been concluded that even on quite conservative assumptions, agricultural production could be increased by 30 to 40 per cent within 4 or 5 years -- more than enough to offset the current net import deficit.

<sup>2</sup>An excellent discussion of Chile's agricultural problems is presented by Peter Dorner, "Issues in Land Reform: The Chilean Case" (unpublished paper, Instituto de Economía, University of Chile, Santiago).

the face of generalized inflation, the time lag has been such that the rural sector's terms of trade have deteriorated.<sup>1</sup> A third problem is marketing.<sup>2</sup> There is some evidence that there is only a very loose relationship between consumer and producer prices. Competition in this sector is generally inadequate; part of the market for perishables is apparently gangster ridden.

Although certain broad issues with respect to the problem of increasing the productivity of Chilean agriculture are understood, our current knowledge is limited and probably not sufficient to warrant pressing the Chilean government for specific reforms in price support policy, or land reform legislation. We do not have adequate quantitative information about the relationship between productivity and the size of a farm or between productivity and Chile's system of land tenure. We do not know very much about marketing channels. In particular, we do not have a reasonably good notion of the distribution of value added by stage of production. Unless such information is acquired, any attempt to specify operational performance criteria in the agricultural sector will prove difficult. But unless the criteria relating to structural change in this area can be given specific comment, AID will be unable to exercise any important incremental leverage for reform. It is of importance therefore that AID initiate or encourage others to initiate a policy oriented program of basic research in the field of Chilean agricultural problems. It is particularly important that this research is cast in terms that are relevant to proposals for changes in legislation and administrative procedures.

The issues (and further opportunities) that have been set forth for Chile apply almost equally well to other countries that have received program loans. Performance criteria covering monetary and

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<sup>1</sup>This was true at least through January 1965.

<sup>2</sup>An informative analysis of imperfections in agricultural marketing in Chile including a discussion of middleman profit margins is contained in La Comercializacion de Productos Agropecuarios en Chile, Programa de Cooperacion Tecnica Chile-California, Santiago, febrero 1965.

fiscal policies is one major area on which bargaining can focus. There are some dangers in trying to include too many such criteria in a single agreement because of possible conflicts, but in general this is an area in which performance criteria should be rather effective in promoting economic policies that help the development effort.

In Chile, and indeed in many countries, the reorganization of agriculture is a requisite of successful development. The previous discussion indicates the difficulties of choosing appropriate criteria in this sector and of the need for further research to overcome the difficulties. The type of reforms needed in other areas are more easily seen. The 1964 reform in Pakistan on import controls and the proposed tax reforms in Colombia are two instances. Reforms such as these may in the long run be more important targets for bargaining than commitments to specific monetary and fiscal policies, for the former change the environment in which economic activities take place; however, these are not necessarily alternative courses of action, since bargaining on these and other criteria may be undertaken jointly.

#### LESS COMPREHENSIVE BARGAINING: INDIA

Prior to 1964 AID made little attempt to influence Indian government policies. Program assistance papers for India indicated AID's general satisfaction with the direction of recent policy changes and a willingness to wait and see the consequences of these changes.<sup>1</sup> However, in the fall of 1964 AID modified its approach toward India. Perhaps because of an apparent lessening in India's zeal for reform, the United States offered to convert \$100 million from project to commodity assistance were India to agree to certain conditions.<sup>2</sup> Because of the slow utilization of project assistance, AID thought this was, in effect, an offer of increased assistance to India.

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<sup>1</sup>For example, see AID, India-Commodity Program Assistance 1963-64, 1963, pp. 21-22, and India-Commodity Program Assistance 1964-65, 1964, pp. 23-25.

<sup>2</sup>AID, Issues for Long Range Assistance Strategy Review for India, 1964, attachment, pp. 6-7.

AID made three specific proposals. First, it volunteered to match additional allocations of foreign exchange by the Government of India for the import of fertilizers above an agreed minimum level. Second, AID suggested a similar formula for other imports of scarce commodities, an attempt at "bottleneck busting" to enable greater utilization of India's underutilized industrial capacity. Third, AID offered to increase its commodity assistance to dampen adverse consequences resulting from further decontrol, notably hoarding and unduly large increases in the prices of decontrolled commodities.

The Government of India accepted the offer of increased imports of fertilizers, probably because of the severity of India's food crisis, but could find little need for increased imports of other scarce commodities. Although a subsequent study financed by AID questioned the government's finding,<sup>1</sup> nothing has come of AID's second proposal. The third proposal was also rejected, ostensibly because of the Indian government's desire for a longer guarantee period than that offered by AID and also because of undiminished fears of possible price inflation resulting from further price decontrol.

AID's experience in India illustrates some of the problems involved in devising effective performance criteria. One reason given by AID officials in New Delhi for India's reluctance to accept all the criteria set by AID was the government's apparent belief that, despite the continuing shortage of suitable projects on hand, a shift to commodity aid did not involve an effective long-run increase in total aid levels. This belief may have resulted from the "carryover" of consortium pledges for project aid from one year to the next. It may also have resulted from the relatively high premium placed on new projects by India's policy makers, perhaps because of ambitious plan targets and the imminence of the Fourth Plan period.

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<sup>1</sup>This study was prepared by Daniel G. Pfoutz after a tour of duty from November 22, 1964 through December 12, 1964.

Another possible cause of India's lack of interest in AID's offer stems from the fact that the proposed increase in commodity assistance would not have been identical with the type of program aid to which India has become accustomed. In the eyes of a recipient an important advantage of program assistance is its flexibility. Because most of the AID offer was restricted to relatively specific imports, acceptance of the proposed terms would not have greatly increased the Government of India's freedom of action in allocating foreign exchange.

If it could be assumed that projects would eventually absorb the "carryover" of project pledges, the offer of a shift from project to commodity aid would imply a partial shift of assistance from the Indian government to the private sector. Sacrificed projects would have been concentrated in the public sector, whereas the increased imports of "bottleneck" commodities would have chiefly benefited those private sector companies that are now operating at less than full capacity. Given India's ideological preferences, the sacrifice of a potential project in the public sector to enable a definite increase in imports of "bottleneck" commodities could well involve a major political cost to government policy makers. In short, there are many possible reasons why the Government of India preferred perpetuation of the status quo to acceptance of the proposals relating to bottleneck imports and price decontrol.

#### FUTURE BARGAINING STRATEGY IN INDIA

The United States cannot and should not attempt to change every policy that might be considered detrimental to India's economic growth. Some performance criteria may hit a bedrock of opposition because of firmly held ideological and political convictions. For example, on purely economic grounds there is good reason to question the Indian government's location policies. Yet these policies are closely involved with relations between the center and the states and, more generally, the fact that in India state boundaries are not only political demarcations, but also divisions between distinct cultural and linguistic areas. Regional loyalties are intense and existing policies that

assuage these loyalties may be one reason for the relative stability of the present Indian government.

Perhaps the most profitable policy areas for AID's leverage are those in which the Indian government itself recognizes the need for reforms, but has undertaken reforms that are partially or largely ineffective. Three general policy areas come to mind: India's balance of payments, and particularly, problems associated with securing greater exports and the more efficient allocation of scarce foreign exchange; India's price policies for both public and private sector enterprise; and government controls over private sector investment.<sup>1</sup>

Probably the greatest benefits from successful U.S. bargaining could be obtained in the area of balance of payments policy. If India could be persuaded to devalue the rupee, or carry out an equivalent reform, it is likely that her exports would increase. The results would be improved, however, if at the same time, export taxes were levied on products that face an inelastic demand or where India would face retaliation by other principal exporters. Exports might also be increased by changes in a number of government policies that have sacrificed exports in favor of other domestic objectives. In the area of imports, the allocation of foreign exchange can be made much more efficient if the present system of administrative import controls is replaced by fiscal measures and the price mechanism. This would include devaluation or an alternative. One of these alternatives, exchange auctions, appears to be more advantageous, on balance, to both India and the aid-givers.

There is also a growing realization in the Government of India that the government's pricing of many commodities has been remiss.<sup>2</sup>

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<sup>1</sup>These three areas are discussed and documented at length in a forthcoming RAND Memorandum, Alan P. Carlin and William A. Johnson, A Possible Bargaining Strategy Toward India, RM-4695-AID. The following is a brief summary of the main conclusions of that Memorandum.

<sup>2</sup>A number of studies conducted by the Indian government or government-appointed committees have come to this conclusion. Perhaps the most celebrated was the Raj Committee report, completed in 1963, which led to partial decontrol of steel pricing and distribution.

Prices that are fixed or controlled by the government have generally been held too low, encouraging excess demand for controlled commodities and critical shortages of those commodities produced by industries in which the private sector has been assigned primary or sole responsibility for new investment. During the past two years the government has decontrolled a number of commodities in relatively abundant supply or not subject to effective regulation. Early in 1965 it imposed substantial increases in excise taxes on certain scarce commodities, its objective to reduce the demand for these commodities and to divert to the government benefits from exceptionally low controlled prices accruing to middlemen and final consumers. These policy changes have gone only part of the way toward creating a meaningful price system. There are a number of commodities still subject to direct or indirect price controls, and although excise tax increases may reduce the demand for scarce commodities, they will not encourage greater private sector production. There is still scope for AID to exercise its influence in this area.

The Indian government has also recognized how cumbersome its licensing procedures are and has enacted several reforms that will, no doubt, simplify new investment by private interests. Even so, revised licensing procedures are still exceedingly complex and with AID's encouragement might be simplified much further.

We do not mean to imply that these are the only areas in which performance criteria could be applied. U.S. policy makers may view other problems as far more urgent. Moreover, political and military objectives may be of much greater importance to U.S. interests than securing better performance by the Indian economy. However, the large scale of U.S. aid to India is justified on the grounds that it encourages India's economic growth. Our purpose here is to suggest several areas in which we feel AID might consider concentrating its economic performance criteria to contribute more effectively to this objective.

In any discussion of future bargaining with the Government of India over performance criteria there are several considerations that ought to be kept in mind. First, these criteria should be aimed at

changes in the policies that cause India's current difficulties rather than at an amelioration of the consequences of these policies. AID's recent attempt to relieve imbalances in the Indian economy by offering to increase assistance for scarce commodities would have been a short-run solution to a major obstacle to India's industrial growth. However, the question arises: Why are there shortages of many basic commodities? There is no one answer. In some instances shortages have resulted from the public sector's inability to implement plan targets on schedule. In other instances, there are shortages of commodities that India can neither produce nor import because of foreign exchange limitations. Still another major cause of bottlenecks has been the government's price policies. Unduly low prices have increased the demand for and discouraged greater production of some products.

Second, for some purposes AID may have to establish multiple criteria. For example, devaluation or export subsidies alone may not result in greater exports. It may also be necessary for India to remove certain impediments to exports, such as taxes and, for a few commodities, quantitative restrictions on the volume of exports.

Third, so long as existing levels of foreign assistance cover much of India's foreign exchange deficit, or at least the Indian government's foreign exchange deficit, the offer of supplementary assistance may have little effect on India's policy makers. AID may have to resort to the stick as well as the carrot if its performance criteria are to succeed.

Because it could involve political complications, U.S. policy makers may consider a threatened reduction in aid a nonfeasible alternative. Should it be in the best interests of the United States to resort only to the carrot, at the very least gratuitous increases in future assistance to India should be avoided. India's needs for foreign assistance will grow. As these needs become greater, promised increases in aid levels may elicit a more favorable response to performance criteria than they have in the past.

Although there are similarities between India and Chile, there are also fundamental differences. In particular, we know much about the relationship between some of India's economic problems and her government's policies. Perhaps this is a result of an extensive and relatively competent civil service and planning authority; perhaps it is because of the Indian economy's importance and accessibility through the English language. Whatever the reasons, there is a substantial policy-oriented literature prepared by the Indian government and Indian and Western scholars that could serve as a basis for AID's selection of appropriate performance criteria.

Although India, like Chile, has recently undergone a change in its political leadership, her present political system appears to us to be unusually stable for a less-developed economy, and partly for this reason, the Indian government has demonstrated a remarkable freedom in its actions. More than most other recipients of U.S. aid, India has been willing to tax her citizenry, perhaps too heavily, to obtain needed revenues. She has enacted land reform laws that have been effective in reducing absentee landlord holdings. She has also enacted a number of other restrictions, notably on imports, that have imposed sacrifices on her population. The Indian government is relatively free in setting policy. Since some of the problems now confronting the Indian economy stem, in large part, from existing policies, high returns could accrue to AID's judicious application of performance criteria directed at Indian government policies.

#### SPECIAL PROBLEMS IN THE STRATEGY OF AGGREGATE BARGAINING

Although aggregate performance criteria must be tailored to each recipient nation on an individual basis, there are many problems involved in program bargaining that are more or less applicable in all cases. Three problems of this sort will be discussed: the use of percentage as opposed to nominal criteria; the securing of real resource effects through control over counterpart funds; and the potential use of techniques of program budgeting.

### The Use of Percentage Criteria as Opposed to Nominal Criteria

In citing the current experience of the program loans in Latin America it was noted that the criterion for the surplus on current account is expressed in specific currency units -- so many billions of cruzeiros, escudos, or pesos. The trouble with this criterion is that it is in nominal terms. This potentially has the undesirable side effect of weakening the country's resolve to stem price inflation. If inflation has a symmetrical effect on revenues and operating expenses, and if operating revenues generally exceed operating expenses, then inflation would have a favorable effect on the surplus stated in nominal terms. To this extent the country would have an incentive to inflate as a means of obtaining the goals specified in the program loan agreement. Of course this factor is only one of many that influence government decisionmaking and by itself possibly would not induce deliberate price inflation. At the same time, the way of framing the performance criterion should avoid adding fuel to the flames. There are several ways to remove this particular perverse incentive. One is to deflate the money values by appropriate price indexes so as to state the goals in real terms, but it is difficult to get reliable price indexes. An alternative is to state the desired surplus as a percentage to total operating revenues or expenditures.

### Achieving Real Resource Effects Through Control of Counterpart Funds

As used in this discussion, the term "counterpart" has a very loose meaning, encompassing local currency funds generated from a variety of activities: grants or loans of local proceeds of PL-480 sales, local currency counterparts to program type loans, and local currency counterparts to supporting assistance grants. There are clear differences in the extent to which the United States holds title to such funds, but these legal or administrative distinctions tend to obscure the overriding importance of a characteristic common to each type of fund -- that disbursement requires approval of both the United States and host country governments and that the resources to be acquired through disbursement of these funds are to be applied to

the development plan of the host country. Thus, although the point of issue here is the strategy of allocating those local currencies obtained as a by-product of program lending, the following comments apply with equal relevance to the disbursement of local currencies generated through other activities.

Although the legal requirements for AID administration of "counterpart" funds are the same for each overseas Mission, the opportunities for exerting influence on the economy or economic development program of the host nation through administration of such funds vary enormously. In some countries there appear to be opportunities to influence and/or initiate local-resource projects that would not be undertaken without the availability of the counterpart funds. In other cases project support through counterpart funds merely permits a country to undertake other projects with its own funds. In this latter case the projects are said to be fungible since one can easily be substituted for another so far as financing is concerned. In the former case there are real resource effects in the funding; in the latter case there generally are not. The question is whether control of counterpart funds really conveys control of real resource uses and if so, how such controls can be strengthened so as to increase influence on development decisions.

Public Sector Capital Projects. The argument that past control of blocked currencies has had very little real effect on the pace of economic development of recipient nations depends upon the validity of the assumption that host governments tend to view counterpart funds as near-perfect substitutes for funds acquired through the more usual budgetary processes. To a large extent this assumption is quite true. In India, something of an extreme case, the government hit early upon the device of presenting the U.S. foreign aid Mission with a list of projects drawn from the next stage of the Indian development plan and requesting our concurrence with a subset of that list that was sufficiently large to encompass at least a large fraction of the blocked local currency accounts. The point is, of course, that the determination to execute these projects had already been made. Under such

extreme circumstances it is possible at best to secure marginal changes in proposed projects or to induce the host government to include a previously omitted project or two within the agreed-upon subset, but the hope of achieving anything like project-by-project influence is chimerical.

AID has in general accepted the fact of fungibility with respect to projects financed out of the local currencies generated from program loans. This acceptance is exhibited most clearly in the agreement to channel substantial amounts of counterpart funds to simple budget support of the host government. For example, all of the peso equivalent of the program loan made to Colombia in April 1962 was allocated to budget support of the government of Colombia, and one-third of the peso equivalent of the December 1962 program loan was so directed. The escudos generated by the recent program loans to Chile of 1963 and 1964 also were ultimately released by authority of AID for use in the capital investment budget of Chile. In India, Pakistan, and Turkey there has been no attempt to control counterpart funds generated by program loans. Although budget support agreements are the simplest means of exercising the pro forma requirements attached to the use of local currency funds generated out of program loans, they do not necessarily represent the best course of action. In fact, we may very well have conceded too much. Even though there has been little attempt to do so, it would appear quite possible to establish performance criteria with respect to the method of finance of the recipient country's capital budget that would give the host government a strong incentive to consult with the AID Mission as to the advisability of individual projects within that budget. For example, it could be required that no more than a given percentage of the capital budget be financed through issue of debt instruments. In some circumstances, performance criteria with respect to changes in the stock of money (defined so as to include unobligated counterpart funds) could provide such a lever. The point is, of course, to eliminate the recipient nation's option of just letting the funds accumulate.

There are, therefore, techniques for acquiring some control over the use made of counterpart funds. The more difficult problem would appear to be that of acquiring sufficient AID capital development staff to make that control useful. At the moment, it would appear that AID has its hands full just in administering dollar loans, especially dollar project loans. To encourage the host government to improve the formulation of a number of counterpart-fund financed projects would be a fairly modest objective, yet it is quite doubtful that the present capital development staff is large enough to accomplish this addition to their duties. The establishment of a control mechanism designed to secure efficient project execution is certainly impossible at current staff levels. The argument here applies with equal vigor to the local currency proceeds of PL-480 transactions.

"Counterpart" Projects in the Private Sector. In many countries a more promising avenue for securing real resource effects than support of public sector capital projects is the support of local private credit institutions. The outstanding example of this kind is the Private Investment Fund in Colombia. In Brazil, counterpart funds are being made available to the private sector to supply credit to small and medium industry. The term "private" needs some amplification. It is doubtful that many host countries are willing to allow substantial local currency funds to be assigned to strictly private credit institutions without a considerable degree of government control over the use of such funds. But there is a great deal of difference in the meaning of government control between the review authority exercised by the Colombian government through the Banco de la Republica's review of the lending activities of private banks and financieras and the sort of control that would be exercised by the Peruvian government if counterpart funds were to be made available to a nominally private institution such as the Banco Industrial del Peru -- an institution whose major source of loan capital is the Peruvian government. Where the lending authority to be supported is a creature of the government -- at least in the sense that the total loan volume of that institution is basically a public budget decision -- the contrast between private and public sector support is not meaningful.

In the case of direct U.S. support of development banks whose ties with the host country government are unimportant or nonexistent, the residual authority of the government may still be considerable. An agreement by the host government to permit the subsidy of private development banks can be accompanied by the tacit decision to apply compensatory restrictions in the short-term money market that leaves the total supply of credit (but not its distribution) substantially the same as before the counterpart agreement. Yet even assuming a government desire to neutralize the resource effects of the loan agreement, the frictions of indirect controls suggest that government compensatory action may be inadequate to the task.

The argument most frequently offered in favor of U.S. support of private credit institutions in less developed countries derives from the absence or weakness of the capital market for long-term debentures. The connection between this fact and the fact of inadequate rates of growth is commonly alleged to be quite straightforward: Would-be investors in real capital goods are prevented from securing the finance required by their investments at acceptable terms. There are several difficulties with that description. The absence of an explicit capital market in long-term debentures does not imply that there is no effective long-term financing. Most large firms have established a line of short-term credit that is tacitly understood to be available for continuous borrowing. Further complicating the argument is the shortage of working capital that is characteristic of firms in many less developed countries, particularly those with rapid and unstable rates of inflation. The availability of long-term finance for real capital is not likely to be effective in promoting investment if short-term working capital is being rationed. As a final note of caution, it should be remembered that complaints about the inadequacy of finance may well be complaints at the cost of finance. A supplier of debentures whose offering is quite price inelastic can be expected to complain at high interest rates even if his total borrowing would be unaffected by rate reduction.

Direct evidence as to the effect of limited long-term finance on investment is not generally available and indirect evidence is exceedingly

difficult to interpret. The suspicion here is that subsidies to the private long-term credit market are most likely to lead to net resource effects if either one of the following preconditions is fulfilled:

(1) the private credit market's judgment as to the relative "profitability" of various sectors differs substantially from the AID-local government view; or alternatively, (2) it is the AID judgment that the aggregate supply of credit to the private market will prove to be insufficient to support private investment activity at the desired level relative to the public capital budget.

The prospects for obtaining real resource effects through counterpart lending are not extremely favorable. To improve these prospects several things might be done. In the public sector it may be possible to tie counterpart funding to the government's capital budget so that the government cannot so easily present a list of projects that ostensibly sop up the counterpart funds and then proceed with another list of projects that might not easily meet the criteria of desirability. The purpose is to reduce the fungibility of the project list and at the same time to increase influence exercised through the total dollar and counterpart funds. The possibilities for doing this are, however, admittedly limited.

In the private sector, prospects are somewhat better, but as a practical matter there are several steps that might be taken to strengthen counterpart fund management. First, in most of the less developed world it is apparent that small and medium firms are unable to make much use of additional credit unaccompanied by technical assistance if the use of credit is restricted to the acquisition of capital goods. The experience of the Investment Bank in Pakistan or the Creole Investment Corporation (a private corporation) in Venezuela, to cite just two examples, illustrates this. Additional credit is just one of the necessary ingredients for successful expansion in the private sector. Second, although much attention is given to the loan application and, in the case of the Private Investment Fund (PIF) in Colombia, special criteria are listed that establish a priority system for loans (that is, for export promotion, to break "bottlenecks" in

production, and for import substitution), little attention is given to disbursement of funds and checks on the progress of the projects. At times in the PIF experience the funds were used for purposes quite foreign to the application. Much still needs to be done to improve the institutional framework and procedures of the banks or funds that administer the loan programs.

#### Increasing Planning Assistance

The standards required in program loans for setting performance criteria and in assembling the material to measure the progress of the economy require an expertness of opinion and a lightness of touch that are difficult to find. But the success of the program depends on insight and acuity in setting targets; for establishing performance targets for an economy is a hazardous business at best, and if it is done ineptly the results can be disastrous. In order to set reasonable standards for the program loans, a careful analysis of the economy of the countries is required; but most of the countries have been studied only imperfectly. The relationship between components of import demand and increases in income, the effect of tax changes on revenues, the effects of changes in the public investment program, the reaction of savings to increases in income, and so on, are difficult analytical problems.

Interactions among the variables are likely to be different from one country to the next; and the problems of priorities, costs, and benefits of particular projects are lost in the aggregate. In order to make effective use of program loans, there is usually a need for more planning assistance in the countries. Such assistance should extend from articulation of the aggregate plan to work on the sectoral programs (particularly the part covered in the public investment budget) to guidance in identifying priority projects. The experience of Harvard University in Pakistan probably supplies the richest material available as to what may be required, although it seems likely that the planning assistance should also extend to the direction of pre-feasibility studies (a topic discussed in Section IV).

To improve control of the development effort and to improve the basis of decisionmaking will probably also require some changes in budgeting procedures and presentation of statistics. It is suggested that part of the planning assistance should be directed to the exploration of program budgeting as a means to accomplish these objectives. At the present time, a typical public investment budget shows traditional sectoral allocations; however, these categories may not be the most useful for comparing alternatives and they may agree very imperfectly with the institutional or ministerial locus of decisionmaking. Moreover, it should be possible via program budgeting to improve the cost-benefit analyses of investments. It is not possible to discuss the various aspects of program budgeting here; these can be found elsewhere.<sup>1</sup> But it does appear that the approach of program budgeting in combination with increased planning assistance should provide an effective means to administer and control program loans.

#### Alternative Means of Carrying Out Aggregate Bargaining

There are opportunities to extend bargaining in several directions to obtain performance commitments from countries receiving U.S. aid. The primary question essentially boils down to this: what self-help policy measures is it reasonable to require from these countries? This question should be the starting point of any negotiation for aid. When some answers have been negotiated, the programs can be designed to assist in undertaking the commitments and to exert influence where that is necessary.

There are perhaps four major policy areas for bargaining: (1) policies affecting macroeconomic variables that are amenable to control through monetary and fiscal measures by the central government; (2) administrative and structural reforms, a term that covers changes in tax policy, agricultural reform, controls over industry, and similar

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<sup>1</sup>For example, see R. N. McKean and M. Anshen, Problems, Limitations, and Risks of the Program Budget, The RAND Corporation, RM-4377-RC, January 1965; J. R. Meyer, Transportation in the Program Budget, The RAND Corporation, RM-4452-RC, February 1965. These are chapters in a forthcoming book, Program Budgeting: Program Analysis and the Federal Budget, being prepared by staff members and consultants of The RAND Corporation.

changes in the economic environment or rules of the game; (3) choices of investment projects and/or sectoral priorities in the public investment budget; and (4) policies affecting political and social behavior.

The prior discussion has covered some of the ways of obtaining commitments on monetary and fiscal policies. In program loans in Latin America the policies were adopted as the essential means to help correct inflation and extreme balance of payments difficulties, and they perhaps have their greatest impact where difficulties of this kind occur. But these occur fairly frequently, particularly when a country starts an ambitious development program. They need not be abandoned once a reasonable stability has been achieved, for it is easy for a country to backslide; however, the maintenance of a consistent and expansionary set of monetary and fiscal policies requires very close cooperation between AID and the recipient government. Additional planning assistance and research is likely to be required. Nevertheless, bargaining for performance commitments in this policy area should provide a major option of a strategy of program lending.

In the longer run there is a need for reforms in a number of economic policy areas if an environment favorable to growth is to be established. There are typically regulations and restrictions, or, contrarily, omissions in policies, that seriously affect the ability of an economy to perform. These range from excessive restrictions on private enterprise to lack of an effective tax base and an inability to stimulate sectoral development. Changing the environment for economic activities via reforms that lead to alterations in the structure and incentives are frequently irreversible, or nearly so, and the benefits are correspondingly lasting. In the long run it seems likely that commitments to changes in this area will have a greater effect on development programs than criteria affecting immediate monetary and fiscal policies. Several examples are given in the discussion of India and Chile.

A third area for bargaining is in the composition and size of the projects in the public investment budget and in sectoral priorities. Program loans supply general budget or commodity support to the recipient

government. The public investment budget is a major element in stimulating development. Since the projects usually require both dollar and local currency funding, some influence can be exercised over the size and composition of the investment budget by altering the level of aid that is proffered. This influence is apt to be greater the higher is the ratio of aid to the level of foreign exchange earnings. Rather than tying aid levels purely to aggregate measures of performance, the suggestion is that there is also opportunity to influence specific projects within total investment. Of course the problem of fungibility of projects, as discussed earlier, must be faced here as well. Yet there are instances where bargaining over specific project aid may be rewarding.

One difficulty with bargaining over capital project aid is that the average amounts involved are much smaller than is the case with program loans. This means that the leverage that can be obtained with any one project loan is not likely to be sufficient to achieve any one major change desired. This problem is not insoluble, however, in that it is quite possible to bargain over groups of projects ("project packages"), at least in the larger recipients, or even all project aid given to a country during a year. Better yet would be to bargain over total aid given to a country during a given year, regardless of its project or program nature. Since AID often authorizes and signs project loans to the larger recipients in such bunches, bargaining over project packages may not involve any additional costs in terms of project scheduling in many cases. The important point is that more leverage can presumably be achieved by bargaining over all aid than over only some of it, as tends to be the case at present.

Finally, one may attempt to bargain for specific political or social action. To the single question asked earlier about what self-help measures may be required of these countries some people would ask a second: How much adherence to U.S. foreign policy positions should be expected of these countries? This truly opens a Pandora's box. Although the issues are very central to the question of bargaining, they have been set outside the scope of this Memorandum which is

addressed to a more modest set of issues. There are some commitments by countries that economic aid clearly cannot extract. The price is too small when countries feel their sovereignty is at stake. Since U.S. economic assistance does have political objectives (in addition to economic and humanitarian objectives), one can attempt to design aid policies to strengthen those countries that are democratically oriented. A further attempt to define the limits to which bargaining can be pushed may not be operationally or politically profitable.

At this point it would be desirable to set forth first principles for bargaining, ones that indicated the priorities to be attached to criteria, the steps to be taken to meet these priorities, and the means to achieve balance among them. Unfortunately there is no neat list of this type. Although some problems are common to most countries, the individual differences are apt to be dominant. This means that each negotiation is unique. There are opportunities for bargaining on commitments to performance that look promising and that should be explored to a much greater extent. The payoff is in more effective use of U.S. economic assistance and improved performance by the recipients.

#### The Conduct of Bargaining and Negotiation

In many circumstances the United States will want to tie program loan disbursement to criteria that imply a revision of the policies of the host country. In the case of Brazil, for example, the target is to decrease an annual rate of price increase from over 100 per cent to 10 per cent in only two years. Leaving aside the question of whether such a drastic goal is achievable, there is still the question as to our ability to define and measure successful fulfillment of commitments in the case where reasonable standards have been set. The obvious likelihood is that the recipient country will overfulfill some commitments and fall short in others. How much of a short fall in a commitment is grounds for judging that there has been nonperformance? A one per cent error is surely excusable, but just as surely a short fall of 50 per cent on an item over which the government has reasonably

direct control, such as Central Bank credit or the current account surplus, would be judged a failure to perform.

Obviously, it is necessary to separate out instances of non-performance traceable to exogenous causes; a severe drought, a failure of the monsoons, a drop in the price of copper or coffee or similar events can clearly cause a serious setback in the performance of a country. But it is usually possible to make adjustment for such events; changes in the terms of trade are measurable and their direct effects on export earnings can be calculated. Failures of agricultural harvests are somewhat more difficult to handle but their effects are usually felt through an increase in food prices.

There is no magic formula that points unerringly to a set of weights to attach to each overfulfillment or underfulfillment of commitments and that finally provides an index of overall performance or nonperformance. Some of the difficulty lies in the specification of a single number or level for each commitment; that approach, in its most unequivocal form, simply divides outcomes into successful and unsuccessful. If we are quite sure of our numbers and confident of our ability to select reasonable targets, this approach has much to commend it. But there are many uncertainties in the process; not only exogenous events but also political difficulties, or the sheer inability of the administrative machinery of the government to carry out complex policies, will affect the outcome. Thus, there may be virtues in an approach that attempts to get graduated targets, starting with a pre-specified set that might be called "minimum acceptable" and bounding these with a set of "maximum feasible." The gap between the two might be narrow or wide depending on such factors as the record of past accomplishment of the country and the appraised strength of the U.S. bargaining position. An approach such as this potentially opens new options and avoids some of the dilemmas of decision when only a single standard is set.

In program lending the hard choice must be faced when a country has substantially failed to meet the commitments incorporated in a program loan and a decision must be made as to the conditions under

which aid will be extended in the succeeding period. If even with minimally acceptable performance criteria the United States is unwilling to suspend some part of the aid when the country has not met these criteria, any further discussion would be a waste of time. If the fears of economic reprisals (for example, against U.S. investors) or political disaffection that might attend a withholding of some aid are sufficiently high, this kind of tactic might never be chosen. Under such circumstances it is impossible to establish the credibility of an announced policy of withholding aid when performance is unsatisfactory. Tying loan funds to performance criteria in a formal loan document becomes simply window dressing, since the countries will very quickly learn that the sanction has no teeth. If these kinds of circumstances typically apply, then it would be far better to dispense with the ritual of establishing performance commitments (so far as the loan itself is concerned), for no useful purpose is served.

There are a number of reasons for believing that the situation is not so bleak as it is pictured in the previous paragraph, that it is possible to exert some pressure on policies without disastrous consequences, and that the withholding of aid in limited amounts is an effective instrument for obtaining adherence to performance criteria. There are some instances in which the United States has withheld its aid because of disagreement with basic policies. A case that comes readily to mind is that of Brazil during the last days of the Goulart administration; because of pro-inflationary policies and U.S. dissatisfaction with Goulart's political orientation, economic assistance was limited to specific project support and general development support was denied. Although the situation of the agencies is not exactly parallel, it may be pointed out that the World Bank has consistently followed the policy of denying aid when basic conditions have not been met. In one case this has led to complete cessation of aid for eight years. Moreover, a policy of withholding aid without performance is not one that requires constant repetition to make its point. Countries, like people, learn by example. The credibility of the policy of withholding aid can be established only by actually withholding assistance

upon provocation. Given the recent history of the economic assistance program, that credibility does not now exist.

It may appear that talk of the credibility of sanctions necessarily implies that there is a difference in goals between the United States and the country concerned. Although perhaps no one would plead exact coincidence of goals, there is more often than not general agreement on the development goals. In imposing performance commitments the United States may at the same time provide the country with an additional argument for undertaking the program that it desires to undertake. Whatever pressure is applied may be entirely welcome because it gives the executive an additional reason for undertaking the programs and gives strength to the arguments that certain reforms are necessary to the continued growth of the economy. This is a virtue that should not be overlooked, for it is exactly the kind of lever that is often necessary to undertake needed changes in policy. The imposition of criteria becomes a help rather than a hindrance to the recipient government.

It is important to note also that withholding or suspension of aid applies only to some portion of the total. This is normally not an "all or none" bargain in which the total amount of aid is at risk. The appropriate strategy should be an incremental one in which dissatisfaction with policies and performance can be demonstrated in a graduated way; for example, it might be appropriate to deal in terms of increments of one per cent of the loan. For a program loan of \$50 million a one per cent slice amounting to half a million dollars might not seem to make much difference, but at the very least it would signal to the country that performance was not up to expectations. A sliding scale up to say 5 or 10 per cent might be used in more serious cases, and we would hazard a guess that 10 per cent might be the upper limit that it is necessary to employ, though this would have to be explored further. There may be situations calling for withholding a majority of the program loan; beyond a certain point, however, it may be preferable to withhold all of it rather than a cut of, say, 60 per cent.

It is sometimes cited as a weakness of program loans that this method of financing leads to frozen levels of aid, that is, that the country comes to expect a continuing level of general support for the balance of payments and for the development effort. It should be pointed out, however, that this is likely to happen only when no performance commitments are required of the country, when a program loan is made on the general merits of a development plan, and when no strings are attached. In those circumstances it is entirely reasonable for the country to expect that aid will continue on the same or a higher level, for it is never required to meet any specific commitments. If it does not meet the targets in its development plan because of a failure to adopt appropriate policies, it is too bad, but there is no reflection of this in the aid level. Although the picture that is drawn is a rather harsh one, there may be certain resemblances in it to actual situations; India possibly is a case in point and perhaps there are others.

It may be objected that there are extra risks involved in trying to incorporate performance commitments directly in loan papers and that there is no need to run these risks when there are other instruments for bringing pressure and persuasion to bear; CIAP (on which the United States has a member) conducts detailed periodic reviews of the development plans and progress of the countries in the Alliance for Progress and has prestige to bring to bear on the countries when changes in policies are required; similarly, in India and Pakistan there are well-articulated and publicized development plans, effective planning groups (in particular the Harvard group in Pakistan), and the consortia of lenders in these countries review the status and performance of the country at regular intervals. Finally, the International Monetary Fund exercises specific influence through its standby agreements with many countries. Don't these arguments supply ample opportunity for improving performance without a direct confrontation between the United States and the country concerned in a loan negotiation? What more is gained by acting bilaterally?

The answers are necessarily foreshortened but nonetheless sufficient. The aforementioned agencies and instrumentalities are an important part of the means for review and evaluation of development progress; they provide forums for the discussion of issues and for bringing to bear a consensus on the issues. But they are not a substitute for the imposition of specific commitments to performance, for in general they lack the will and power to command the discipline and close attention to effective policies. A participation in and support of their activities is an important way to bring the weight of general opinion to bear on the problems, but the addition of specific performance commitments in U.S. program loans rather than detracting from this influence does in fact strengthen it. It adds a direct pressure for change to pressures that must rely on persuasion, prestige, and indirection. To meet the performance criteria requires direct and immediate action that complements and gives substance to the arts of persuasion. There is no necessary conflict between the provision of performance commitments in U.S. program loans and the activities of multilateral agencies.

At the present time program loans and commitments are limited to a single year and are renewed with recapitulation of things past and future expectations each year. The tranches in the loans are subject to the quarterly reviews; but three months is a very short time simply to assemble the necessary statistics and arguments as to what is taking place, never mind in which to demonstrate performance in important dimensions. To be sure, reviews at such intervals do establish the tradition of a continuing dialogue between the parties and so establish a useful precedent for the future, but economic development of a country is only imperfectly measurable in annual figures. Plans must be made for longer periods and assurances must be supplied that, if things go well, some support will be forthcoming in the future. Annual program loans are a makeshift and must be recognized as such. They simply make long-run planning by the United States and for the country itself difficult and awkward. If commitments are to be extracted, it is practical dollars and cents to tie the commitments to provisional

levels of support over a longer period, possibly three years. It makes sense to plan over several years and to tie performance commitments in the same way. Short-run seasonal and cyclical influences that pervert the measures can be avoided, and transitory influences can be more easily accommodated. If performance commitments and withholding of aid are to be given a fair test, planning for program loans must cover several years as a unit.

To negotiate for assistance purely on a contrast of economic need and power is repugnant and foreign to our policies; but to negotiate for assistance without reasonable performance targets does not finally benefit the receiver and wastes scarce resources for development. Current U.S. policies on program assistance have erred more in the latter direction than in the former, and if a choice must be made between the two, the current policies are preferable. But there are ample opportunities now available to improve the effectiveness of program loans and to improve the use of the proceeds by the recipients.

### III. THE ADMINISTRATION OF CAPITAL PROJECT AID

The project approach to economic assistance has been a strong and persistent theme in AID and its predecessors. This commitment is shared by other agencies that provide funds for economic development, notably the World Bank and the Inter-American Development Bank; these latter agencies in fact are more strongly committed than is AID. The strength of this commitment is illustrated in the terse cable sent from AID Washington to one of the Missions in the field:

With respect to keeping negotiating initiative, we believe importance complete and final project preparation as essential element justifying development loan assistance cannot be over-stressed. In your future approaches you should make clear to MINFIN and others that US funds, directly or as counterpart, must be related to projects. Program loan technique used for administrative flexibility . . . .

. . . If no projects ready, justification for use of program loan technique to commit development funds is lacking . . . Stress on project must be heavy and continuing. . . . In both public and private sector essential that US-supplied resources not wasted or mis-allocated. This calls for adherence to project approach no matter which financing technique used. (Emphasis added.)

Although this statement is somewhat extreme, it is not really atypical of much of the long standing argument between advocates of the program and project strategies of foreign economic assistance. The advocates of project assistance persistently ignore the fungibility problem and the difficulty of acquiring needed personnel. On the other hand, advocates of program assistance too often forget the advantages of achieving microeconomic influence over the quality of project planning and implementation through projectization of aid. Such advantages are meaningful even in the presence of complete fungibility. Given this situation, it appears useful to begin this examination of means of improving the administration of project assistance with a discussion of the potential (and actual) benefits and costs of assistance that are specific to the project approach.

THE BENEFITS OF PROJECT LENDING

1. Direct control over the selection of projects by the recipient for construction under certain circumstances;
2. The opportunity to influence in both design and implementation those projects nominally financed by the aid;
3. Increased ease of inducing changes in the economic policies of recipient nations in those sectors for which project aid has been made available;
4. Better opportunities of publicizing the extent of U.S. assistance;
5. Increased access to the information requirements of sector studies and other necessary economic research projects;
6. Given the tying of aid on a country of origin basis, a somewhat less adverse affect on the U.S. balance of payments.

Micro-level Influence

As many have pointed out, the fungibility problem greatly limits the effectiveness with which project controls can influence the recipient country's allocation of resources. The fungibility problem arises because the particular project with which the aid is identified may or may not represent the actual use of the added funds provided by the aid.<sup>1</sup> This problem has often been over-emphasized by economists, however, since there are a variety of circumstances under which influence can be exercised over the allocation of resources. One such case arises when the donor offers aid for a project that the recipient regards as sufficiently marginal that it would not finance that project out of its own

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<sup>1</sup>Thus, although expenditures for imports for a power plant may be reimbursed by AID, the plant might well have been built even if total U.S. aid had been reduced by the amount reimbursed. The U.S. funds can then hardly be said to have financed the power plant at all, but rather the alternative use of the funds, which would not have been made if the aid had not been extended.

resources if the aid were not made available. This means that if the donor can find what it regards as worthwhile projects that are neglected by the recipient country, it can influence the recipient's allocation of resources. The International Development Association credit for Indian highway development is a good example. It is unfortunately very difficult to find examples of such projects among AID projects. It is, of course, not always easy to find them and to persuade the recipient country to undertake them. Section IV suggests that sectoral studies are one way to accomplish these ends.

A second important case where an aid donor can exercise influence over the recipient's allocation of resources through project support occurs when the recipient's free foreign exchange resources are already tied down to relatively high priority uses (from the point of view of the recipient) and do not potentially include any of the projects financed by the donor. In this case, the recipient is dependent on some form of foreign financing for the projects involved. If no foreign private or public investment body is willing to finance a given project, the country must usually abandon it.

The most important set of circumstances in which this situation occurs is that in which the recipient country cannot meet all of its essential "maintenance import" requirements out of its own foreign exchange holdings or earnings. India is a good illustration. There, debt repayments, plus food and other essential consumer goods, plus raw materials needed to keep existing industrial capacity in production, exceed free foreign exchange. Failure to meet these requirements would have worse political and economic repercussions than failure to expand capacity, so that in most cases capacity expansion would be sacrificed in the event any choice had to be made. The result is that project support to India could substantially influence the allocation of developmental resources. So long as the sum of available free foreign exchange plus untied program aid is less than essential maintenance imports, no project requiring substantial amounts of foreign exchange can be undertaken without some public or private international financing.

The Indian efforts to find a donor for its seventh steel mill (fifth in the public sector) illustrate the problems involved. Apparently unable to find a governmental donor, they are now thinking of trying to finance it through short-term supplier's credits arranged by a consortium of potential equipment suppliers. This also illustrates one potential loophole in the ability of the aid donors to affect the allocation of resources. Given a determination by the aid donors to avoid such an end-run, which could ultimately be financed only through larger program loans, this loophole should not prove impossible to close.

Besides enabling the donor to exercise some influence over the recipient's allocation of resources, at least in some cases, project lending also enables the donor to influence the project nominally financed, whether or not it happens to be the project that the aid actually makes possible. This influence can be exercised in a number of ways, particularly by introducing technical aid as part of the project and by imposing various conditions on the execution of the project. Much more than capital is needed by the less developed countries. In many cases technical aid and other influences do more than improve the economics of a project; without them, the project may not be economically viable. One striking example is provided by the contrast between the steel mills erected in India by the British and Germans in the late 1950s and that erected by the Russians. The markedly superior performance of the Russian-built mill (Bhilai) in the years following its completion can be ascribed in considerable measure to the continuous supervision and aid furnished by the Russians after the mill went into operation.<sup>1</sup> The construction of capital is only one essential; it is also necessary to develop various skills, particularly managerial skills, to use the capital efficiently once it is built. Project lending is an effective way to provide this influence. Many less developed countries are

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<sup>1</sup>See William A. Johnson, Steel in India: A Study of Planned Industrial Growth, Chapter 8, forthcoming.

reluctant to admit that such aid is vital to the success of many projects; project aid provides some leverage for the donor to insist that it be accepted.

In addition to making possible the exercise of greater influence on the allocation of resources among projects and on individual projects, the project approach also opens up the possibility of bringing more influence to bear on policies in sectors related to the projects nominally financed by the aid. This can generally be done by arguing that changes in these policies are necessary for the success of the project. For example, in the case of a railroad project, the United States might be able to insist on changes in the railroad rate structure, or in connection with a fertilizer plant, a change in fertilizer prices or distribution practices.

Unfortunately, concrete illustrations of instances where the United States actually has effectively exercised such influence are not easy to find. One frequently cited illustration is that of the Tarapur Nuclear Power Project in India. One of the conditions precedent to disbursement of the loan was that "the States of Maharashtra and Gujarat are taking adequate steps . . . to electrically integrate the grid systems of these two states and to prepare for proper and adequate power systems managements."<sup>1</sup> In addition, the loan paper stated that "A.I.D. should require that the GOI and other appropriate agencies immediately commence examining the possibility of linking the large Sharavathi hydroelectric development in Mysore State with the Western Maharashtra grid."<sup>2</sup> Although the justification for these conditions is not well explained in the loan paper, and the purpose was (at least in the case of the Maharashtra-Gujarat tie) apparently partly to improve the justification for Tarapur itself by decreasing Tarapur as a percentage of the system

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<sup>1</sup>From the Loan Authorization (as amended December 18, 1963).

<sup>2</sup>Agency for International Development, "Development Loan Paper, India-Tarapur Nuclear Power Project," AID-DLC/P-170, June 19, 1963, p. 58 (Confidential).

load, the purpose was also partly to try to push Indian power grid integration, an aim that was apparently believed by AID to be the economically correct direction for Indian power distribution.

Unfortunately, much of this subsection on the benefits of micro-level influence has had to be rather theoretical. Despite perusal of many project files in a wide variety of countries in various parts of the world, the authors have found few examples where AID has made very great use of the potential benefits outlined here. One of the major conclusions of an earlier study of the U.S. aid program to India was that little micro-level influence had been exercised through capital project aid.<sup>1</sup> Although Indian projects indicate fewer attempts at influence than in some other countries, the difference does not appear to be very great, particularly with respect to influencing policies in sectors for which aid has been made available.

#### Publicity, Information, and Balance of Payments Benefits

The added publicity value of identifying aid with particular projects (which might be termed the "billboard effect") may be of importance. The Russians, for example, appear to place considerable emphasis on this aspect of project aid and to have used it with good effect. By identifying their aid with certain prominent or "impact" projects in a number of countries, they have greatly increased any favorable publicity value their aid may have per ruble spent. The best known examples are the Bhilai and Bokaro steel mills in India and the Aswan high dam in the United Arab Republic. Clearly, project aid, especially if attributed to such carefully chosen projects, greatly increases the publicity value of aid. Unfortunately, it is difficult to point to projects where AID has made full use of the potentialities of the billboard effect.

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<sup>1</sup>See Alan Carlin, "An Evaluation of U.S. Government Aid to India" (unpublished doctoral dissertation, Massachusetts Institute of Technology, 1964), pp. 232-234 and 241-242. The study includes detailed analyses of U.S. aid to Indian irrigation and transportation and the micro-level influence exercised by it.

Still another potential benefit of project aid is that this often provides an opportunity to obtain detailed information concerning at least the principal techno-economic problems of the sectors in which the projects are located. Because of the association of aid financing with similar bank financing and the desire of the country to receive the aid, it is often possible, with a minimum of hard feelings, to use the project application as a vehicle for obtaining information not only about the project itself but also about related activities. This can be useful for suggesting specific conditions to attach to the approval of the project that will improve the efficiency of the sector concerned. It can also be useful for analyzing in greater detail the development prospects and performance in various sectors, which should form the basis of a more general analysis of development prospects in the country and therefore the desirability of giving aid to the country in the first place.

With country-by-origin tying, as is the case for AID loans, project aid may frequently result in a larger net increase in U.S. exports per dollar of aid than in the case of program aid. This, in turn, will mean that project aid may have a somewhat less adverse effect on the U.S. balance of payments per dollar. Although the recipient can and often will suggest that U.S. aid be nominally ascribed to projects where the imported goods would be purchased from the United States even if untied foreign exchange were available for the project, it is likely that a lower percentage of the goods purchased under a project loan would have been purchased from the United States in any case, compared with the purchases under a program loan. For example, although the best buy on turbines might happen to be in the United States, generators for the same project might not, and would normally be purchased elsewhere. On the other hand, from a long list of non-project imports, from apples to oil, it is fairly simple for the recipient to pick out those goods that would normally be purchased from the United States anyway.

It has often been alleged that the project approach is also less likely to lead to a "politically frozen" aid level. A program aid level maintained over several years can take on a political status that makes for inflexibility. In contrast, project aid is at least theoretically tied directly to the submission of eligible project proposals by the recipient government. Either slow submission of good proposals or slow utilization of funds already obligated will signal inadequate performance by the recipient country and will (in theory) provide a basis for renegotiation of assistance levels. In fact, assistance levels appear to have been relatively inflexible regardless of whether the project or program strategies were employed.

#### THE COSTS OF PROJECT LENDING

The potential costs of project lending can be grouped into the following categories:

1. Reduced leverage over aggregate fiscal-monetary policies of the host country;
2. Intergovernmental problems arising from the interbureaucratic frictions that detailed supervision over project formulation and execution tends to entail;
3. Increased resource costs of loan administration;
4. Increased real cost (to the recipient nation) of borrowing;
5. Increased biases in favor of the channeling of resources into the public sector and in favor of large projects.

These costs are likely to be present even where the technical expertise and administrative efficiency associated with project loans is beyond reproach. An additional set of costs emerges if there are administrative or analytical failures in carrying out the project. In particular such costs arise from:

6. Delays in application for or implementation of capital projects;

7. Reduction in the credence given U.S. advice resulting from the establishment of a control system that exercises the form rather than the substance of control. Failure to solve the personnel problem would imply that the potential costs of this last category are likely to be of great importance.

Many of these costs depend in magnitude on the diligence with which AID pursues its goal of obtaining influences over resource allocation in the recipient nations. There are no costs in terms of bargaining opportunities forgone if bargaining is not attempted. Costs arising from the frictions of project appraisal will be unimportant if review of project proposals and monitoring of project implementation is largely permissive. Assuming away the problem of creating an effective control system, the most important potential costs of project aid are losses of bargaining power over the aggregate economic and political policies of the borrower. The intergovernmental cum interbureaucratic frictions of effective project control are chiefly important because they result in an erosion of host-country willingness (and ability) to agree to the restrictions on their freedom of action that are implied by aggregate performance criteria.

It seems inevitable that many projects will create intergovernmental frictions that are annoying and sometimes embarrassing. This is particularly true of those projects where the open-bidding requirements on construction are likely to lead to competition between U.S. and local firms. A good example of this sort of difficulty is the U.S. experience with the El Alto airport project in Bolivia. A brief history of this project is given in Appendix A. Frictions will also develop where the supervision of project implementation is delegated by AID to one of its contractors. The experience with the Pudahuel Airport project in Chile is a graphic case in point. It is important, however, not to build these political costs out of true proportion. The cost in public relations is likely to be ephemeral. Something as basic as the U.S. "image" is determined by a considerably more complex and massive set of forces.

In particular, there are likely to be public relations costs associated with a permissive control mechanism that does not result in many frictions. The U.S. image will certainly suffer if an AID-financed housing development is carried out with substandard construction or if AID-financed roads are never finished or are potholed. The difficulty of weighting these costs is freely conceded. There does, however, seem to be some tendency for political costs to be either totally ignored or given a near-infinite weight in discussions over the problem of choice between project and program assistance.

The extra real cost of the resources required to administer an effective project loan policy is difficult to estimate. It is quite clear, however, that many of the current problems that AID faces with respect to project lending derive from an inadequate number of personnel assigned to the tasks of capital project evaluation and implementation. A more critical question than absolute cost is the question of the simple availability of the personnel resources required to make project lending yield its potential benefits. The cost of performing the many functions required for fulfillment of the conditions precedent to disbursement can presumably be reduced. This may make up for some of the increase in the administrative costs involved in increasing the quantity and quality of technical and analytical personnel to the degree we feel is necessary.

It is also very difficult to evaluate the importance of the biases that project assistance is likely to present in favor of large public projects. Where the host country has already made the political decision to circumscribe the opportunities of the private sector, this factor is not likely to be of great importance. Much depends upon AID's success in inducing the host government to use counterpart funds to augment the supply of finance available to the private sector. The host country's increased real costs of borrowing derive from the reduction in the opportunity to shift imports from U.S. sources to third parties. This is probably a small price to pay for the domestic (U.S.) advantages of having an assistance program that is designed to minimize the adverse effects of a given volume of assistance on the U.S. balance of payments.

### IMPROVING EVALUATION CAPABILITIES

In AID's evolution from its predecessor organizations, its capital assistance functions have been seriously shortchanged, despite the overwhelming percentage of the economic assistance budget devoted to these functions. Although both technical and capital assistance functions are always in need of well qualified personnel, this is perhaps more crucial in the case of capital aid. A less than qualified technical assistance employee may contribute to the failure of a technical assistance project costing perhaps tens of thousands of dollars, but a less than qualified capital assistance employee may contribute to the waste of many tens of millions of dollars. In brief, we suggest that a major effort be made to increase the quantity and quality of AID's capital assistance effort.

The amount of effort devoted to the evaluation of a project is a function of both the time and the number of people available for it. Although there is some trade-off between the two, the possibilities for substitution are by no means perfect. Figures may be assembled that purport to show that the average length of time for project review is relatively long, but there is also evidence that a considerable number of projects receive only hasty review at the end of the fiscal year. Data presented in Table 4 show that 55 per cent of all project loans during Fiscal Years 1963-64 were approved in the last two months of the year; but the bunching is even greater than is indicated in the table, for approximately one-quarter of the total were approved in the last week of June. Some of the steps in the review process must have been done hurriedly. There is additional evidence to support this conclusion. During the first nine months of Fiscal Year 1964, less than 100 projects were processed and carried to the point of obligation; in the last three months of the year AID proposed to process approximately 135 others. Some 40 per cent of total projects were scheduled to receive a review on a compressed time basis.

Table 4  
DISTRIBUTION OF AID LOANS BY MONTH OF  
AUTHORIZATION, FY 1963-1964

Month	Number	Per cent of Total
January	6	4
February	11	7
March	11	7
April	15	10
May	32	22
June	49	33
July	6	4
August	5	3
September	1	1
October	3	2
November	6	4
December	<u>3</u>	<u>2</u>
Total	148	100

Delays in authorizing projects and in obligating funds are, however, typically small in comparison with the delays that are to be found in the actual implementation of a project. In many cases the rate of expenditure, which indicates the progress being made on the project, is very low; it is not uncommon to find projects where no expenditures have taken place for two years. AID itself has identified projects on which progress is unsatisfactory and labels them "slow-moving." As of March 19, 1964 almost 40 per cent of the projects initiated in Fiscal Year 1962 and in prior years were slow-moving. Thus even for fairly standard construction projects -- ones that do not involve any new or complicated technology -- it is not uncommon to find delays of four or five years between the date of the original application and the time when the project begins to make its contribution to the economy.

One possible correction for the bunching of project reviews is the funding of the U.S. economic assistance program on a longer term basis than one fiscal year. But it would also seem that certain corrective measures could be undertaken even if this constraint continues to exist. The current seasonal pattern is largely the consequence of a shortage of defensible projects at current AID budget levels. Some of the end-of-year rush derives from the practice of certain recipient countries of deliberately submitting project applications late in the fiscal year. The motives for this withholding are various. In some cases the projects would appear to be defensible, the recipient country desiring to minimize the depth of analysis in an effort to restrict the potential extent of AID influence. In other cases the foreshortening of the review process appears to be an attempt to hide serious deficiencies in project analysis or rationale. Where bunching is the result of such a withholding policy, a partially effective remedy would appear to be the imposition of a deadline for loan applications. For example, it could be required that the application for any loan to be considered for obligation in a given fiscal year must be received prior to, say, July 1 of the previous calendar year. Of course a simple administrative

reform such as the imposition of a deadline on project applications will not solve the problem of an inadequate supply of projects. In fact, it is likely that such a requirement would make the fact of project scarcity even more obvious than it is at present.

Project bunching limits the time available for the review of some projects; the problem of providing a sufficient quantity of project review is exacerbated by the shortage of capital development personnel within AID. The review requirements tend to fall heavily on the same small group of personnel; this is particularly true in the Missions where the responsibility rests primarily with the capital development office. AID supports a variety of projects in all the sectors of an economy and to review them intelligently requires many different kinds of skills. Yet, in the typical Mission and to some extent in AID/Washington, the range of skills is limited and, for example, a single engineer may be called upon to review the technical aspects of projects covering irrigations, sewage, housing, roads, and various industrial plants. The same applies equally to the economists and development officers. Unfortunately some of the personnel available to a Mission cannot be effectively utilized in project or program review; for example, it is usually not feasible to employ a plant pathologist or a nutritional expert -- both of whom are there for specific technical assistance -- to review and evaluate an agricultural project or a hospital. Only about 5 per cent of the personnel in AID Missions have job titles that suggest that their primary function is evaluation and review of capital development programs.<sup>1</sup> Although many individuals who are classified as technical assistance personnel are concerned with project evaluation and monitoring, there appears to be considerable resistance on the part of many technicians against participation in the formulation and execution of capital projects. This is particularly true among contract personnel. When it is also considered that the bulk of the time

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<sup>1</sup>This figure is based on calculations reported in Section V

of the capital development officers in AID Missions is taken up with purely administrative matters, such as review of conditions precedent to disbursement, the acuteness of the shortage of capital development personnel becomes more obvious.

#### IMPROVING REVIEW PROCEDURES

##### Making the Capital Assistance Papers More Meaningful

Loan documentation needs to serve at least two somewhat dissimilar functions. One is to present the principal decisions and remaining issues for higher level consideration and review. The second is to present in compact form the principal features of the project and the justification for it for the use of various statutory committees, implementation officers, auditors, the General Accounting Office, and posterity. At present Capital Assistance Papers ("green books") serve this second purpose reasonably well. The first function is served much less well by both the green books and internal conversations and memoranda.

The highest level officials do not have readily available the information necessary to reach rapid judgments on the principal issues of projects for which they must take ultimate responsibility. That such information is unavailable from the green books is not hard to illustrate. One example is provided by the CENTO Railroad project analyzed in Appendix B. Another is furnished by the project history of the dollar loan to the Private Investment Fund in Colombia in 1964. A document originating in the AID Mission in Bogota in March 1964 announced that "economic, technical, financial analysis of (loan) applications by intermediary banks and the Banco de la Republica appear inadequate." At the time of the intensive review request in April 1964 the Mission argued for the provision of dollar funds to the Private Investment Fund but warned that the participating financial intermediaries could not be relied upon to play the roles of development banks. Yet the Capital Assistance Paper concluded that the Banco de la Republica "studies (loan applications) closely . . . with its experienced staff." Since most of the information

upon which AID was basing its judgment was collected prior to the March report, this change in tone does not represent a judgment based upon new evidence. The question here is not the advisability or inadvisability of the loan but rather the problem of accurately presenting the decision problem.

Examination of the Capital Assistance Papers for several of the loans to development banks in Central America reveals a similar history. In April 1964, the Capital Assistance Executive Committee objected to several features of the loan applications then pending before the Financiera Hondurena and the Financiera de Desarrollo Inversiones (El Salvador), including the proposed debt to equity ratio and the proposed amounts of the loans. Yet the green books for these loans give scant notice of the issues raised during the review process. Both papers skirt the essential question of whether Central America has the "absorptive capacity" for the volume of lending that the United States intends to channel there. The International Bank for Reconstruction and Development has questioned this assumption. ROCAP (AID's Regional Organization for Central America and Panama) has vigorously attacked the IBRD's point of view, arguing that the desirability of additional assistance to financial intermediaries cannot be determined through the usual sort of analysis of credit lines or "estimates of capacity." There are many interesting analytical questions emerging from this disagreement, but the green books barely suggest the existence of this argument. This omission may well reflect the operation of political factors. Both loans appear to have been the fruit of agreements reached by President Kennedy at his San Jose meeting with the Central American chiefs of state. Given the existence of these commitments it is quite understandable that the extent of the required supporting evidence should have been viewed as having changed, but it is by no means clear why this consideration was not raised in the loan papers.

More generally, "issues" sections of green books consisting of the word "none"<sup>1</sup> or the sentence "no extraordinary issues arose in the course of intensive review of the project,"<sup>2</sup> or the like, are most unlikely to be helpful to the decisionmaker. Even if there is no question about the economic or other merits of the project, there should always be at least some question whether further conditions could usefully and practically be added to improve the project or local policies in related sectors. Conversations and memoranda undoubtedly partly fill the gap left by the green books. But such haphazard communications should not be depended upon for presenting a balanced and concise statement of the issues to the Administrator and his immediate assistants.

The suggestion advanced here is that AID formalize such a presentation of the remaining issues and principal decisions as a loose enclosure to the loan papers for internal distribution only. If politically sensitive matters are discussed, the enclosure can carry as high a security classification as necessary. We would also encourage AID to include as much of the material that might be considered for inclusion in these loose enclosures in the green book itself as possible, once again raising the classification rather than leaving out particularly sensitive information. If nothing else, it will make somewhat easier the task of future efforts to evaluate loan decisions in order to suggest ways to improve project reviews.

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<sup>1</sup> Agency for International Development, "Development Loan Paper, Tunisia -- Non-Project Loan," AID-DLC/P-136.

<sup>2</sup> Agency for International Development, "Development Loan Paper, India -- 5th Railroad Loan," AID-DLC/P-128. For a rather different view see Alan Carlin, "An Evaluation of U.S. Government Aid to India," op. cit., Chapter 3, and A Possible U.S. Policy Towards Indian Transportation: An Illustration of Improved Sectoral Policies, The RAND Corporation, RM-4379-AID, April 1965.

### Quick Reconnaissance Surveys

AID usually becomes aware of a project long before a formal loan application is submitted. Often the Agency is heavily involved before the application is received. For example, it may have financed the feasibility study, or verbal commitments may have been made by members of the Mission or Embassy staffs, or even by Washington officials. In fact, by one way or another, AID often becomes so heavily committed to a project before the intensive review process is initiated that it becomes politically expedient to finance the project even if the review later turns up unfavorable information.

Even if no such commitment is made, it frequently happens that costly engineering studies are undertaken as part of the feasibility studies before rough economic calculations are made that might suggest that the project is not promising or that other alternatives look more interesting.<sup>1</sup> Such studies are not only costly in themselves, but may also tend to freeze the project into a specific design or alternative at too early a stage.

In either of these cases, there is an advantage in undertaking reconnaissance surveys or prefeasibility studies at an early date. Where the country approaches the United States for a feasibility loan, the United States might suggest a prefeasibility loan as outlined in more detail in Section IV. In other cases, there would be substantial benefit if the United States were to carry out an abbreviated study of this type itself on an informal basis. In other words, the standard reaction to any serious project proposal by a country, even at a very preliminary stage, would be a quick study rather than an informal commitment either way.

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<sup>1</sup>It is our understanding that the Brookings Institution, as part of its work on transportation in the less developed countries for AID, is preparing a report that documents this point, among others, for AID projects in the field of transportation.

Reconsideration of Miscellaneous Rules and Regulations not Required  
by Law

Some delays in project implementation and the pressures on personnel resources are the result of an extensive and bewildering set of statutory and administrative regulations that control the lending process. There are so many individual items in the list that to cover all or a substantial fraction of them and to assess their net effects would require an extremely lengthy report. All that can be attempted here is to select a few by way of illustration and to try to characterize their total effect.

Many of these statutory requirements or criteria are not mandatory but are to be applied at the discretion of AID; however, the unwritten policy is that they are applied unless it is almost impossible to do so. By way of illustration, Manual Order 1016.2 concerns the prohibition of support for projects that involve the production of commodities that are in excess supply in the United States or in world markets. The Manual Order states that, "Although not specifically provided for in legislation, continuation of this policy is made necessary by legislative history." This prohibition applies to food crops and cereal grains and also to non-food crops such as tobacco and cotton. The prohibition extends to food crops and cereals only insofar as production is for export, but it applies to tobacco and cotton regardless of whether it is for domestic consumption or for export. In one negotiation for a loan to expand agricultural production in Peru, this prohibition quite suddenly became a stumbling block; and the potential borrowers were puzzled and incensed at why there should be a prohibition when the commodities were to be used solely for domestic consumption and when they could plead a strong case for the "need." It is out of matters such as this that misunderstandings and grievances do arise. In general, if AID's central objective is to insure that projects it finances are "done right," its present-day guidelines with respect to the above factors would seem above reproach. Yet, for several reasons one should feel uneasy.

For one thing, the cost to AID of imposing these constraints seems high. In the first place, the cost just in terms of administrative overhead required in the AID Mission, the American Embassy, and AID Washington to monitor these projects cannot be ignored. To take an example, the reports and correspondence file for the El Alto project in Bolivia runs to about 8 inches in thickness for an AID loan that originally amounted to \$1.5 million. In contrast, the 1963 program loan of \$60 million for Colombia runs to less than one inch. Now of course loan files vary greatly in the detail of their coverage due to random factors, and in any event the physical thickness of a file surely is not perfectly correlated with the size of the AID workload. Yet, it would be surprising if there were no correlation at all.

Perhaps of even greater importance is the cost in terms of project delay. A vivid example of this effect is provided by the following excerpt from a cablegram from Guatemala to AID/Washington:

AID/W auditors . . . have demonstrated to ROCAP . . . the impropriety of quick approval of loan projects in which conditions precedent so encumber disbursement that later questions arise as to the lengths of time it takes to move funds.

#### Field Visits by Capital Assistance Committees

It is always difficult to gather the information needed to make an adequate evaluation of a proposed project. It is nearly impossible to do so without at least visiting the country involved and in most cases the project site itself.<sup>1</sup> Loan applicants rarely state and may not be aware of many of the deficiencies of their own projects. Even foreign consultants hired by the country to write feasibility reports may be more interested in pleasing their clients than

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<sup>1</sup>For examples of poorly planned projects, see the criticism of the International Development Association's \$6 million credit for the development of 800 tubewells in Uttar Pradesh State, India, in Alan Carlin, "An Evaluation of U.S. Government Aid to India," Chapter 4, especially pp. 205-207 and 210-217.

informing AID. Even in those cases where AID finances the feasibility studies of proposed projects, the contractors may tend to favor the loan applicant's case.

One way of insuring that such field visits are made by those AID personnel ultimately charged with the responsibility for evaluating a project is by requiring that at least, say, two members of the capital assistance committee for each loan either be members of the Mission staff or personally visit the country for a significant period of time in connection with each loan. Ideally the visiting Mission would in general include at least one economist and one technical expert in the relevant technical specialty. They would spend a significant period of time studying the project -- long enough to develop the contacts and do the background research necessary to examine all the major issues involved in the decision.

It is of particular importance that project evaluations be carried out jointly by Mission personnel and personnel from AID/Washington. With such an arrangement, it might be possible to eliminate the somewhat unusual adversary relationship sometimes observed between Washington and the field. In many cases, instead of passing the decision on to "higher authority," as frequently happens in other situations, the Mission assumes the role of project advocate. AID/Washington, on the other hand, tends to adopt a critical "show me" attitude. Greater interchange between those in the Mission and AID/Washington, which would result from mandatory field visits, should do something to alleviate this situation.

#### Loan Conditions

If the influence emphasized so heavily at the beginning of this section in the list of potential benefits from project lending is to be realized, much greater effort will have to be expended on formulating useful conditions to loans and on negotiating these conditions. Too often, project review is now seen as an effort to determine the economic "soundness" of a project, rather than the equally important

process of formulating practical and enforceable conditions that will promote U.S. objectives on the project and sectoral levels. Useful conditions to be attached to a project itself would require considerable familiarity with the project. Sectoral conditions are largely the product of sectoral studies and careful sectoral policy formulation. The application of these policies requires careful thought and negotiation by the capital assistance committee.

One way of helping to bring about this increased emphasis on meaningful conditions is by requiring the capital assistance committee to suggest several useful conditions of each kind (that is, affecting both the project and related sector) in its Capital Assistance Paper. Although there are numerous ways that such committees can avoid taking this responsibility seriously, this should at least help to focus their attention on it and to suggest some possibilities for useful conditions to those who review the Capital Assistance Papers. The negotiation of the conditions with the country involved is one of the functions that the committee should undertake during the field visit suggested above.

#### IMPROVING THE OFFICIAL CRITERIA FOR PROJECT EVALUATION

Manual Order 1024 specifically emphasizes that in the choice of project proposals it is essential that the process "should normally do more than determine that (projects) are technically sound and useful; it should to the extent possible determine that the projects chosen are the most economical and efficient feasible alternatives for producing the desired result." As part of its effort to insure compliance with this directive, AID has published a set of guidelines for technical and economic feasibility studies commonly called the Feasibility Manual.<sup>1</sup> The point to be discussed here is the

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<sup>1</sup>Agency for International Development, Office of Engineering, Feasibility Studies, Economic and Technical Soundness Analysis, Capital Projects, Washington, September 1, 1963.

analytic adequacy of certain of the review processes recommended in this manual and its supplements.<sup>1</sup>

At the outset one must recognize that suggestions or recommendations for changes in the content or procedures of project evaluation must necessarily strike a happy medium between the sophistication that it is possible to achieve with analytic techniques and the simplicity that is required because of limitations of time, money, and the necessary personnel skills. The literature in economics, engineering and other disciplines provides a richness and sophistication in techniques that probably cannot be fully utilized without excessive costs in the practical world of decisionmaking on project proposals.<sup>2</sup> There is no uniform agreement as to where to draw the line between the requirements for sophistication and the requirements for simplicity. In any particular type of project or in a specific sector it is entirely feasible to set down a list of guidelines, but these will typically vary somewhat from one sector to the next. Under some circumstances an analyst will choose a sophisticated and thoroughgoing analysis, whereas in other circumstances a more rough-and-ready analysis will probably suffice. Much depends on the costs of undertaking the analysis and on the consequences of the decisions. For example, a project covering a food processing plant that is

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<sup>1</sup>In particular, Agency for International Development, Office of Engineering, Benefit-Cost Evaluations as Applied to AID Financed Water or Related Land Use Projects, 1961 (hereafter referred to as "Supplement No. 1").

<sup>2</sup>As a partial and suggestive list of the kinds of materials, that are available to the analyst, are the following: A. Maass, et al., Design of Water Resource Systems, Harvard University Press, 1962; A. J. Merrett and A. Sykes, The Finance and Analysis of Capital Projects, Longmans Green and Co., Ltd., 1963; V. L. Smith, Investment and Production, Harvard University Press, 1961; R. N. McKean, Efficiency in Government Through Systems Analysis, John Wiley and Sons, 1958; E. O. Edwards and P. W. Bell, The Theory and Measurement of Business Income, University of California Press, 1961; R. S. Aries and R. D. Newton, "Chemical Engineering Cost Estimation," Chemonomics, 1951; CEPAL, La Industria Quimica in America Latina, Volumes I-IV, 1962; A. S. Manne and H. M. Markowitz, Studies in Process Analysis, John Wiley and Sons, 1963.

estimated to cost \$500,000 involves simpler issues than a project for a multipurpose dam that is estimated to cost (ultimately) \$50 million, and it is not simply a difference in the size of investment that causes the difficulties. There are also important considerations with respect to risk, the character of benefits, effects on complementary investment, and so on. The most relevant question is whether review procedures are adequate and sound, and we feel that many of them are not.

#### Admitting the Fact of Uncertainty

A major deficiency in the procedures for project evaluation, and one that goes to the heart of many substantive issues, is the lack of recognition of the effects of uncertainty. Symptomatic of this lack of concern is the approving citation given in the AID Feasibility Manual to the book by Bryce, Industrial Development.<sup>1</sup> This volume is recommended as a guide to the evaluation of industrial projects and supplied to all overseas Missions in spite of the fact that it contains absolutely no discussion of the effects of risk or uncertainty. The words are not even indexed. Yet uncertainty pervades all aspects of economic forecasting; it is essential that project evaluations take these effects into account.

The simplest method of investigating the effects of uncertainty consists of nothing more than asking about the quantitative implications of possible errors in the assumptions of the forecasting model. Yet in all the specific examples cited in the Feasibility Manual and in virtually all Capital Assistance Papers, the forecasts of prices and costs are presented as point estimates. It must be assumed that these are regarded as "most likely" or "best guesses" as to prices, costs, and so on, but there is no indication of what is implied by "most likely." Does it mean that the analyst interprets the estimate as an expected value in the probability sense, or does the analysis

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<sup>1</sup>Murray D. Bryce, Industrial Development: A Guide for Accelerating Economic Growth, McGraw-Hill, 1960.

imply that the estimate really represents a "neighborhood"? If the latter, how extensive is it? At the very least it would seem to be appropriate not only to make a "best guess" but to bracket this with optimistic and pessimistic estimates. This should be done at least for the largest or the most significant items in the analysis. It is then feasible to determine how sensitive conclusions as to the profitability of a project are relative to these alternative estimates.

The AID loan paper prepared for the final phase of the CENTO railroad project provides a good example of some of the difficulties that may be encountered if revenue and cost forecasts are presented as point estimates.<sup>1</sup> Although the nature of the operating assumptions used in the report is not described as clearly as might be wished, it appears that the profitability analysis is based on a set of demand estimates that might be called "the most favorable outcome." Since the project was eventually judged as unlikely to prove profitable, and since the derivation of rejection criteria from "most favorable" estimates is a generally accepted method of dealing with uncertainty, the use of single-valued estimates might be thought acceptable in this case. But the decision to accept or reject involved a comparison of the combined economic and political effects of the project. In such a case it hardly seems desirable to weigh the "most likely" political outcome against an economic outcome that can probably best be characterized as "unlikely but possible." Yet that is what appears to have happened.

Forecasts of future demand are particularly subject to uncertainty. Many demand forecasters probably would not be surprised if their estimates of changes in demand over the next decade turned out to be too high by 10 per cent. Yet the conclusion that the port

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<sup>1</sup>For a more detailed discussion of the evaluation of this project see Appendix B.

development project<sup>1</sup> is a project that meets AID profitability criteria is a conclusion that would be unwarranted if the demand forecast were to be so reduced.<sup>2</sup> Furthermore, there are other kinds of potential errors to be investigated. In the example from the manual it is assumed that the increase in tonnage will start right from the first year. If there is a lag in the increase of tonnage or it does not increase in smooth arithmetic fashion, there will be a lag in accrual of benefits that would further lower the ultimate benefits of a project.

In general, it is likely that errors in demand forecasts will prove to be larger than errors in cost estimates. However, in many cases large errors in variable costs are possible. These are particularly likely to arise from overestimates of labor productivity. Unfortunately, it may take months or years to train an appropriate labor force and to raise their productivity to a reasonable level. Meanwhile, variable costs per unit of output tend to be extremely high and the fixed investment is very likely to be underutilized. When this element is combined with an overoptimistic estimate of gross sales or revenues, one effect is to lower the estimated break-even point for a project. For example, in a sample of AID projects covering chemicals, carbon black, fertilizers, and paper, break-even points were estimated to range from 25-40 per cent of capacity. A check of American experience for similar products seems to indicate that these break-even points may be low by a factor of 2.

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<sup>1</sup>Described on pages 22-24 of Supplement 1 to the AID Feasibility Manual.

<sup>2</sup>If the estimated increase in port traffic over the next ten years is assumed to be 270,000 tons instead of 300,000 tons, the annual gain from new production will be reduced from \$240,000 to \$216,000. Since the annual cost figure needs to be defined in terms of a discount rate that is no smaller for U.S. costs than local costs, the cost figure given in the example is overstated. The use of a common 6 per cent discount rate increases annual costs to \$915,500 from \$880,900. Given the previous reduction in estimated annual revenue, the ratio of annual benefits to annual costs is now less than one. The argument against the use of lower discount rates for U.S. funds than for local funds will be considered later in this section.

Potential errors in estimating future demand also raise serious questions concerning the timing of expenditures on a project or on its scale. There is a somewhat natural propensity to assume that the scale of a project is determined by purely technical factors, whereas in fact the determination of the best scale of operation rests on an economic assessment of potential revenues and the costs of factor supply, the technical factors serving as constraints on design. As we have seen, these economic factors are subject to uncertainty. If there is serious uncertainty about the level of future demand, it may be most efficient to proceed in a sequential fashion, building a small capacity to satisfy near-term demands that seem quite certain and delaying further expenditures until additional experience with the market is acquired. The alternative of building a large scale plant now to meet some estimated level of demand in the future is a "once-and-for-all" decision that may prove to be disastrous.<sup>1</sup> How efficient a sequential investment process is depends in large part on whether capacity can be added incrementally or whether it is largely indivisible. In most industries and for most kinds of projects it is possible to proceed in an incremental and a sequential fashion that minimizes the real resource costs of forecasting errors.

The manual and the project files contain literally hundreds of items for which forecasts must be made. For example, electric power projects require that the rate structure be estimated for ten years in advance. Investment cost analysis for many projects requires that the cost of replacement of machinery be estimated, and this in turn means forecasting the useful life of the equipment as it will operate in that country. And in many other items forecasts out to ten to fifty years may be required. In order to make a simple test, let the reader ask himself how confident he would be as to the accuracy of his predictions on such items. The answer to such a question is obvious, and the accommodation to this problem by

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<sup>1</sup>See Appendix C.

adjusting forecasts to reflect uncertainty is very necessary. Yet these adjustments are not now required in the review procedures for project evaluation.

#### Rationalizing the Choice of Discount Rates

One of the more significant problems in project evaluation concerns the appropriate rate of interest or discount that should be used in comparing alternative projects. This is a problem that has commanded a great deal of discussion and, despite its innocent appearance, there are many pitfalls in choosing an appropriate rate. Very few of the problems are recognized in present review procedures. In fact, the treatment of the problem is rather casual and mechanical.

The "solution" to this problem in the AID Feasibility Manual is quite straightforward. In the absence of other information, or if there is evidence that the rate on local costs is "too high," local costs are to be discounted at 6 per cent, and U.S. dollar costs are to be discounted at 3.5 per cent. Two questions immediately come to mind. First, what is the rationale for that particular set of rates as opposed to any other set? Second, why should local resource costs be discounted at a higher rate than dollar resource costs? The latter question is particularly hard to answer. It is generally agreed among economists that the appropriate discount rate is the marginal social productivity of investment in the economy. To use two different discount rates implies that the resources that dollars can command have a different productivity when invested than do resources commanded with local currency. That may in fact be the case but if so the evidence is mostly to the effect that the marginal productivity of dollar resources is higher. In this case the AID prescription is turned around. The higher discount rate should apply to dollar costs rather than local costs. There is in fact a simple but approximative test of the relationship between the social marginal productivity of local inputs and dollar inputs. If the market for foreign exchange is free, the marginal social productivity of dollar resources differs from that of local resources only

to the extent that there are external economies or diseconomies exclusively related to one type of input. More often than not, however, the official rate of exchange between dollars and local currencies of the less developed countries is such that dollars are undervalued relative to local currency. The basis of reference here is the estimated equilibrium price of a free market. If local currency is overvalued, then, other things being equal, the discount rate appropriate to local resources is less than that appropriate to dollars.

A question sometimes arises as to whether or not the appropriate discount rate for dollars is the marginal social productivity of dollar resources in the United States rather than in the recipient country. This is a legitimate question if it is assumed that AID exists simply as an organization to promote the efficient global allocation of resources. In fact, AID exists in order to administer an important instrument of U.S. foreign policy, and the appropriate starting point would appear to be the investment budget of the country being given assistance rather than a global investment budget. Even if the appropriate reference point were the productivity of investment in the United States, it is difficult to understand how the rate of 3.5 per cent could be suggested. It has been pointed out many times that the rate on U.S. Government bonds is substantially less than the marginal productivity of investment in the United States.

The water supply project described in the AID Feasibility Manual provides a good example of how the system of dual discount rates can affect a project evaluation.<sup>1</sup> In that example, local costs are discounted at a 6 per cent rate and dollar costs at the recommended 3.5 per cent rate. At these interest rates benefits exceed costs and the project is therefore deemed desirable. But if dollar costs are discounted at the same rate as local costs, 6 per cent, total annual costs are \$740,650 instead of \$656,520, and total annual

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<sup>1</sup>Supplement 1, pp. 17-19.

benefits are \$735,710 instead of \$670,810. On the basis of the formula in the Feasibility Manual the project should now be rejected.

The question of what absolute rate of discount should be employed in AID project evaluation is much less amenable to analysis. There are, of course, no criteria to determine a unique rate applicable to all countries or even for one country over a long period of time. Several things can be said, however. In particular, the Manual should point out that there is no reason for that discount rate to be tied in any way to the rate at which AID negotiates its development loans. An analyst is doing a recipient nation no favor by discounting future revenue and cost streams at a very low rate. Such a practice only encourages an inefficient pattern of resource allocation. A low discount rate will encourage projects that are relatively long lived. It will encourage the choice of techniques that are relatively capital intensive. Neither bias appears particularly desirable for the less developed countries. Finally, since the diligence with which new projects are sought depends in part on how difficult it is to meet project acceptance criteria, there is some danger that a project supported at a low rate may be supplanting a project that yields a higher return but that has simply escaped detection.

#### Adjusting for Differences Between Factor Prices and Market Prices

Market prices are not always accurate representations of the values that the economy attached to resources. If a resource is in excess supply or involves extra costs in its use, its net real contribution may be less than its market price. For many reasons the real cost to the economy of the resource use may be less than is indicated by its market price. The economist tries to adjust for this discrepancy by computing the social or "shadow price" of the resource, which, in one dimension, is the value to the economy of the final unit of the resource that is used, relative to its alternative uses. In this grimly efficient world, a resource that

is in general oversupply, such as unskilled labor, has a zero economic price.

For project evaluation the relevant question is whether all resources are put to their best use; this is indicated by their scarcity or "shadow" price. The case of the Bokaro steel plant described in Appendix C shows the importance of the distinction between market and shadow prices. A project may be profitable when computed in one dimension and unprofitable when computed in the other. Only a national planning body is faced with this difficult problem. A private entrepreneur is concerned only with market prices. It is only when the total use of resources is in question that these price differentials and the implied resource allocation problems are important. But these are often enough to merit the attention of the project evaluator. With current AID procedures there is no recognition that a problem exists.

#### Improving Criteria of Project Desirability

According to the AID Feasibility Manual and its Supplements, a basic criterion for assessing the desirability of a project is the ratio of benefit to cost. Unfortunately, this is a very poor measure to use. Although the benefit-cost ratio gives an unambiguous signal as to the absolute desirability of a given project (presuming the problem of choosing discount rates has been rationalized) it does not provide a useful means of distinguishing among alternative projects. Choosing the highest benefit-cost ratio is equivalent to maximizing the benefit per dollar of cost, whereas the measure that is of most interest and that conveys the appropriate information concerning the best increase in welfare is the absolute difference between benefits and costs. Consider two projects, A and B, each requiring an initial investment of \$10 million and yielding annual revenues of \$10 million and \$4 million respectively. If project A has annual operating costs of \$5 million and project B has annual costs of \$1 million, total annual costs being \$6 million for A and \$2 million for B, the respective benefit-cost ratios are 5:3 and 2:1.

If this criterion is used to rank the alternatives, project B will be chosen over project A. Yet the annual return to project A of \$4 million is twice the amount of the return to project B.

This criticism of the use of the benefit-cost ratio to determine project desirability is by no means new. It has been made many times in the literature on "management science" and there is no reason why such findings should not be incorporated into the AID Feasibility Manual.

The appropriate criterion for choosing among alternative projects is net present value, the difference between benefits and costs when both have been discounted by the appropriate marginal social rate of return on investment. Analysts who prefer to rank projects in terms of internal rates of return (when comparing projects involving the same initial outlay) will arrive at very similar conclusions. Only if there is a substantial difference between the time profiles of the net revenue streams accruing to alternative investments will the present value and internal rate-of-return criteria yield different answers.

#### Improving Demand Analysis

There are some indications that demand or revenue analysis is short-changed relative to cost analysis in AID project evaluation. In a way this is quite understandable, since cost questions are usually more amenable to analysis than are considerations of demand. Yet the very factors that make demand analysis difficult also imply that the potential errors in demand forecasts are likely to have the more serious consequences. There is no simple prescription for this problem. It is often possible to make reasonably good estimates of demand and potential revenue for an industrial project where the product is subject to the pricing discipline of a market. There are many estimating procedures open to the analyst when there is a market history to examine. The important point to remember is that the forecaster should be seeking the relationship between the level of

demand and price, income, or whatever is an important determinant of demand rather than a specific estimate of the quantity of the product that will be sold. This point is not generally reflected in AID analysis.

Another point to consider in connection with demand studies based on market behavior is the necessity of adjusting both demand and cost estimates for differences between private and social costs and benefits. The Bokaro study described in Appendix C provides a good example of this problem. There is some evidence that the difference in opinion between the Congress and AID on this project stemmed in part from AID's unwillingness to delay the project. AID's desire to start the project quickly reflected in part the conclusion that an excess demand for steel products would develop if the project were postponed. Yet it is doubtful that this conclusion would have been reached if the demand study had been based on price assumptions that reflected the difference between private and social costs.<sup>1</sup>

Estimation of the revenues or benefits from nonmarket projects is considerably more difficult. By "nonmarket" projects is meant those projects that do not have a clearly defined product or projects where the product is not specifically sold in the market. Such projects typically include housing, roads, and other kinds of infrastructure projects. At times it is feasible to choose a surrogate measure of price, as in the case of some housing projects for which reasonable rental values can be estimated which then permit the same type of estimates to be made that a commercial building would make. In many other cases, however, the definition of revenue or benefits is subject to ambiguity. But the fact that benefits or revenues may be difficult to measure should not be allowed to prevent any attempt at their measurement. Yet it would appear that this happens. In a description of a water supply project in the Feasibility Manual it is said that "Revenues from water users will be sufficient to pay costs of operating, maintaining and extending the water distribution

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<sup>1</sup>See Appendix C for a fuller discussion of this point.

system . . . ." <sup>1</sup> The revenue analysis with respect to this project might have expanded to investigate prices to be charged, the rate structure, potential volume of demand, and so on. Instead, the benefits were measured by the cost of the equivalent supply from the best alternative source. This consideration is important, but the use of alternative costs as a surrogate for revenue must be undertaken with great care. In particular, it should be asked whether or not the users of the project in question would be willing to pay such an amount if the existence of the project depended upon user assessment. Since no market discipline is involved, imputation of benefits on the basis of costs should be used only as a last resort.

An additional problem in revenue estimation arises out of the present requirement that "national economic benefits" be estimated for all projects. This term is not specifically defined but in a number of places examples are given and apparently it includes (but is not limited to) such considerations as the amount of employment offered, the increase in tax receipts that will result, increase in land values, and various measures of consumer satisfaction or other welfare measures. Under present procedures there is no check list or other method for determining how such benefits should be measured and in the typical project evaluation these benefits are usually stated in a rather loose and general way. For an example of the kinds of difficulties that can develop out of an unstructured attempt to measure "national economic benefits," consider the recent AID Capital Assistance Paper for the CENTO railroad project. <sup>2</sup> In this Paper an attempt was made to add the savings in real resource costs resulting from a shortening of shipping routes to the anticipated net revenue balance of the railroad that was responsible for the route shortening. This would have been defensible if the net revenue balance of the proposed railroad had been defined net of the

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<sup>1</sup>Supplement No. 1, p. 17.

<sup>2</sup>See Appendix B.

revenue and cost implications of "diverted" traffic. The ad hoc procedure adopted in the Paper did not make this distinction. As a result, the estimated benefits accruing from the project were substantially overestimated.

#### IMPROVING RELATED PROCEDURES

Although a considerable portion of the effort directed towards increasing the benefits from project lending should be centered on the review process discussed in the last few sections, there are other related AID procedures that also deserve much attention. One is the implementation process. It has already been suggested that there is a shortage of project review personnel; the shortage of project implementation personnel is probably even more severe. What is needed is sufficient personnel not only to follow the progress of various capital projects, but also to spot potential bottlenecks and problems before they are brought directly to AID's attention and take steps to solve them through discreet, behind-the-scenes maneuvering.

#### SUMMARY AND STATEMENT OF ALTERNATIVES

It is our conclusion that all too frequently the actual benefits from project lending appear to be much less than potential benefits. Although the actual costs of projects may be smaller than if their potential benefits were more fully realized, these benefits are, in our opinion, so small in most cases that there is doubt whether project aid as now administered can be justified in terms of even the present costs involved. This is clearly a serious and undesirable situation.

There are three alternative courses of action that can be taken. One alternative is to abandon project lending altogether. A second is to channel all U.S. project assistance designed to promote economic objectives through the World Bank (or related agencies) where an effective capability for assuring real benefits from project lending and effective control methods seem to have been

developed. A third alternative is to undertake the major effort needed to upgrade AID's capabilities in this area.

The first alternative, abandoning project lending, would probably face insurmountable political obstacles because of prevailing attitudes outside AID toward project assistance. Moreover, there are many countries where conditions are not favorable to extending aid in the form of program loans alone.

The second alternative has been heard more and more frequently in recent years. In essence it would involve transfer of funds to the World Bank, the Inter-American Development Bank, and possibly the International Development Association for them to allocate and administer for project lending. Presumably the loan terms would be softer than those typically extended by the World Bank but the machinery of those organizations for analysis and monitoring of loans would be engaged. Another possibility is to channel such funds through the proposed regional development banks (such as the Asian Development Bank). For various reasons this is probably a less desirable alternative at present, but it need not be rejected altogether.

The third alternative, undertaking a reform and reorganization of project assistance, offers AID the principal hope for retaining jurisdiction over this area.

Principal emphasis must be placed on increasing influence, exercised through project lending, on the project and sectoral levels. In many ways the project review process is now looked upon as an analysis of a project's "economic soundness." In general, such an analysis is a worthwhile activity only in the case of projects and countries where the fungibility problem is not of major importance. This practice undoubtedly stems from the banking image and origins of project aid. Although we do not deny the importance of this activity, we feel greater emphasis should be placed on the problem of finding the most efficient way of using each project to achieve

influence in the recipient country, particularly influence on the project itself and on the sectors concerned. The question asked of each project should be "How can we best use this aid to improve the project and to influence this sector?" rather than only "Is this a sound project?"

Some suggestions made here concern improved procedures for distinguishing "sound" from "unsound" projects. However, although considerable improvement in determining the soundness of a project is both possible and desirable, we wish to emphasize ways of increasing AID's influence, as it is in this area that AID's project lending efforts are, perhaps, least effective. Specifically, the suggestions made in this section were divided into three principal categories, namely, improving project evaluation capabilities, review procedures, and evaluation criteria, in addition to suggested changes in several related procedures. Chapter IV is devoted to suggestions on two key procedures, the use of prefeasibility studies to increase the list of potential projects for support, and increased emphasis on a sectoral approach to country programming.

It must be stressed that only a few of the suggestions made may be easily implemented. In many cases the suggestions involve what we regard as one of AID's most acute and difficult underlying problems, a shortage of appropriate personnel. This will be considered in Chapter V. Nevertheless, we believe that improving the effectiveness of AID's project assistance is of first priority. Unless significant progress can be made in this direction, serious consideration should be given to one or both of the other alternatives suggested earlier.

IV. DEVELOPING INFORMATION ON INVESTMENT ALTERNATIVES:  
PREFEASIBILITY STUDIES AND SECTORAL STUDIES

The most perplexing problem facing AID, and one that has been felt by all of the international lending agencies, is the relative scarcity of project proposals that are submitted for support. Because the capability to make loans for specific projects is often in excess of the total amount requested, it is commonly said that dollars are chasing projects rather than the other way around. At the current level of support of the international lending institutions the classic economic problem of the allocation of scarce resources to many competing and alternative purposes has been paradoxically reversed.

It is very difficult to judge whether this paradox is predominantly real or apparent. If students of economic development have learned nothing else in the last 15 years they have learned that development is not just a matter of capital provision. Limitations on the supply of cooperative factors of production provide the most effective constraints on the rate of capital absorption. Yet the present insufficient supply of capital projects is also partially a function of the proliferation of administrative and institutional impediments to project lending. Most of these impediments result from administrative inadequacies in host countries that may very well be irremediable in the short run. However, we are convinced that there are a number of changes that AID could introduce into its lending policy that would alleviate to some extent the current shortage of project applications. The exploration of alternative investment opportunities and the establishment of criteria for choosing among them is a sine qua non for an effective development plan. Since there is uncertainty as to the costs and benefits of potential projects, the problem is one of acquiring information in a relatively inexpensive way to improve decisions on the allocation of investment resources.

The discussion in this section initially focuses on so-called "feasibility loans." Under the rules promulgated by AID these are loans that permit a country to undertake a detailed study of projects,

to collect and present the materials relevant to the engineering design of the project, the details of the financial plan, the estimates and analysis of costs, and the analysis of the market. It is argued below that this focus or interpretation of "feasibility" is too restrictive, that in practice such loans really miss the essential opportunities because they are not "feasibility" loans in either the specific or common-usage sense of the term. Since this word has been pre-empted to define a particular type of operation, it is necessary to make a distinction by defining a "prefeasibility" or "reconnaissance" study, and, in the course of defining such a study, to show how it can serve essential purposes in project definition that are missed by the traditional feasibility loans.

#### CURRENT EXPERIENCE WITH FEASIBILITY LOANS

The concept of a feasibility loan essentially originated early in 1962 with the circulation to all Missions in Latin America of a memorandum announcing development loans for feasibility studies. This step was taken because funds were available and because it was felt that some policies that were different from those pursued in other areas were necessary; the initiative had to be seized. The avowed purpose was to develop information on potential projects and this has now become formalized in the regulations. Manual Order 1212 says that in undertaking feasibility studies "findings must be made that the project to be studied is of a type or in a sector deserving high priority in terms of U.S. assistance strategy and that there is a reasonable prospect that necessary financing will be available if the study indicates that the project is feasible."

The underlined portion is significant, for there has been a tendency for feasibility loans to be linked to projects that have already been studied in a preliminary way. As a result, feasibility loans have come to be identified loosely with any study of a project where the results of the study would be used to support a loan application. This identification has been strengthened by the similarity between the procedural requirements adopted for project loans and

feasibility loans. In both cases a loan agreement implies prior agreement as to the specific activity to be financed and the amount of funds to be allocated to each activity. AID must agree to the contractor for each study and approve the specific scope of work. In short, the contracting procedure is based on the premise that feasibility loans are directed to the systematic study of pre-specified projects and are expected to provide the raw material for subsequent loan applications for those pre-specified projects.

The feasibility studies carried out by other lending institutions are substantially different in many respects from the AID experience. For example, the feasibility studies of the World Bank are now done on a non-reimbursable basis, the charges being carried on the Bank's operating budget. More important, the form of the Bank studies is relatively simpler. Unlike AID, the Bank regards engineering studies as a step beyond feasibility studies. While AID includes detailed engineering estimates in the corpus of a feasibility study the Bank initiates such research only when it decides to undertake the project. This difference reflects a major dissimilarity in AID and Bank views as to the purpose of feasibility studies. It is AID's practice to use feasibility studies to help with decisions on project design. Bank studies tend to relate to the more basic question of whether the project in question deserves support. It is easy to exaggerate this distinction but it is real nonetheless. The engineering study is included in the feasibility study in AID experience. There are also cases where the Bank undertakes a feasibility study at the insistence of a member country in order to show them that a project is not feasible, a procedure that apparently has no counterpart in AID experience. The Bank feels that the experience to date with feasibility studies is successful because they tend to accelerate the choice of desirable projects and to weed out undesirable projects. This last factor is significant, for it admits the possibility that a feasibility study can lead to a negative conclusion -- that a potential project should be dropped.

As a result of the circulation of the original memo to Missions in Latin America, applications for general feasibility loans (to cover studies in a number of areas) were received from several countries. At the present time loans have been made for this purpose to eight countries (or groups) in Latin America and to two countries in the Near East and South Asia region. A list of those loans together with summary data about them is shown in Table 5. To develop further AID experience with such loans, and to indicate their use and limitations, a brief summary of salient points in these agreements is necessary.

As can be seen from the table the loans range from \$1.5 million to \$6 million with most of them clustered between \$2 million and \$3 million. In general, between six and ten months elapsed from the date of application to the approval of the loan, which is within the average range for all project loans. The identification of the projects or areas to be covered by the studies have ranged widely from the general identification of sector studies to the identification of very specific projects, but ultimately agreement has to be reached on the specific project for study. In the case of Bolivia it appears that over two-thirds of the money has been allocated to highway projects alone with little attention paid to studies in other sectors; in Turkey the original application proposed concentrating on irrigation and river basin projects exclusively although subsequently a few other projects were included. Table 6 shows the phased studies that have been proposed and in large part accepted in Peru. As something of a contrast, Table 7 shows the listing of areas for study in Argentina as determined from the Capital Assistance Paper.

There are many differences to be found in the feasibility loans in various countries so that it is difficult to characterize them in terms of a uniform scale, but even where the original listings of areas were quite general, as in Argentina, Bolivia, and Turkey, this ultimately must narrow down to a set of projects. For example, Pakistan specifically identified 24 projects that they proposed to study.

Although the regulations specify that projects to be studied have a high priority in terms of their potential contribution to the

Table 5  
GENERAL FEASIBILITY LOANS

Country	Loan Number	Amount of Loan	Months Elapsed between Application and Loan Approval
1. Latin America			
Argentina	510-L-010	\$3,000,000	6
Bolivia	511-L-010	6,000,000	1
Brazil (highways)	512-L-013	1,500,000	5
Chile	513-L-019	3,000,000	11
Colombia	514-L-025	4,000,000	2½
Ecuador	518-L-017	2,000,000	10
Peru	527-L-023	3,000,000	10
Central America (CABEI)	596-L-002	2,500,000	7
2. Near East and South Asia			
Pakistan	391-H-058	2,000,000	2
Turkey	277-H-042	3,000,000	9

Table 6

FEASIBILITY LOAN PROJECTS, PERU

Project	Estimated Cost (\$000)
<b>FIRST PHASE</b>	
1. Irrigation and development of Tumbes	175
2. 14 central hydroelectric projects	342
3. Irrigation and improvement in Piura	550
4. Irrigation and development of Ica (Choclococha -- 1st phase)	395
5. Lima sewerage	34
6. Three ports in Selva	300
7. Irrigation, Maquegua	220
8. National Transport Program (1st phase)	120
9. Commercialization of fisheries products	80
10. 11 small irrigation projects (Arequipa)	180
11. Hydroelectric project, Los Pancitos	50
12. Road projects (Group A and B)	554
Total	<u>\$3,000</u>
<b>NEXT PHASE</b>	
13. Same as item 12 -- remainder	400
14. Irrigation and development of Ica (2nd phase)	310
15. Irrigation, Marcapomacocha	400
16. Other agricultural projects	180
17. Hydrogeological studies, Puno	400
18. Water and sewerage in various localities	200
19. National fertilizer plan	400
20. Regional community planning	500
21. Port of Ite	100
22. Water and sewerage, Pisco	20
23. Housing	15
24. Refrigeration plant, Puno	80
Total	<u>\$3,000</u>

Table 7

FEASIBILITY LOAN PROJECTS, ARGENTINA

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Project	Estimated Cost (\$000)
1. Irrigation and hydroelectric projects	240
2. Highway projects	360
3. Dredging and port development	990
4. Cuyano River hydroelectric system	750
5. Municipal water supply, Santa Rosa	420
6. San Nicolas area industrial development	150
7. Miscellaneous, undetermined	90
Total	<hr/> \$3,000

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economy, there is little evidence that this requirement weighs very heavily in the evaluation. In some few cases, notably Peru, there was some attempt to be selective; in that country both the Mission and the World Health Organization provided help in making up the application and in assigning priorities. But in many cases the question of priorities did not arise explicitly because the subjects for study had already been decided upon, and by implication the priority question was already settled. However, in Chile the Mission was apparently concerned about this problem and made a specific suggestion:

...some better indications of priorities within sectors are definitely needed. A possible solution to this problem would be to initiate a task order under the loan under which highly qualified economic and programming consultants... should be contracted to evaluate sectoral programs and indicate priorities within the sectors....

The various questions of priority of treatment, the utility of feasibility studies to acquire information about additional projects, and indeed the whole focus of the feasibility loan approach as it is currently practiced are conditioned by the fact that feasibility loans are designed with a specific point in mind. The fact is that feasibility loans are justification loans; feasibility studies are undertaken after it has been decided to go ahead with the project. They are generally not concerned with exploration of the options that are still open. There is ample evidence on this point. In Argentina it was stressed that the projects should be limited to those expected to receive favorable consideration from private investors or public lending facilities and that the studies should be of a quality to support loan applications. In Ecuador a proposed survey to prepare a colonization program was vetoed because it would not lead to a specific project loan in the immediate future, and in Brazil feasibility loan funds were used to obtain further data about highways on which much of the earth work and paving had been contracted. In Central America the governments of the countries were reluctant to undertake the debt associated with a loan if the studies did not lead to a construction loan. But the baldest evidence on this point is in the Pakistan loan. That application started with a discussion of the

costs of the capital projects that they desired to undertake; it was estimated that the costs of projects on the list would total \$200 million. Because the Feasibility Manual says that feasibility studies should be 1 to 2 per cent of the total cost, the application requested \$2 million in a feasibility loan (that is, 1 per cent of \$200 million). This illustrates the rather odd view of feasibility studies taken by the country. It apparently was not clearly understood that the purpose of feasibility studies is to provide the background for a loan application where it has already been decided to undertake the project.

The essential point being made should not be misunderstood; there is no intention of derogating the necessity for this kind of function, but there are other functions in the expansion of information about potential projects that are being missed. Yet the implication of "feasibility" is one of the exploration of alternatives. Moreover, the operation of feasibility studies leads to commitment to projects without determining whether they are the best or of the highest priority.

There is further evidence of this kind of commitment in the size and conduct of the studies. In many cases, perhaps in most, a study contract is given in excess of \$100,000. It is given to a contractor who has little opportunity for consultation with other contractors conducting similar studies of projects in the same or a related sector; generally speaking such contractors will be competitors, which is an additional reason for their not comparing notes or results. Finally, they typically work intensively on such a study for from three months to a year and produce a voluminous report. It is also possible that in the future construction of the project there may be a role for the contractor to play. Under these circumstances, having spent a substantial amount of money and having produced a large report, it is unrealistic to expect that they would then conclude, and tell the country involved, that the proposed project was unprofitable and undesirable. The incentives are all in the direction of recommending that the project be undertaken as quickly as possible. This is not to say that such contractors deliberately misrepresent essential facts

but rather that there is a good deal of uncertainty associated with the estimates and calculations, and the decisions on these matters will be biased in favor of the project. It would be a brave and altruistic contractor who would make an unfavorable recommendation, and it is probable that he would have some difficulty in getting additional contract studies if he did.

Instead of serving as a flexible instrument for the sponsoring of quick and approximative studies of the relative merits of investment alternatives, the feasibility loan has too often tended to be an over-administered subsidy of loan paper preparation. One concrete piece of evidence for this view is provided by the history of a recent proposal for a feasibility study of wine processing in Chile.

#### The Case of the Wine Processing Plants

In mid-January 1965 an application was sent to the AID Mission for a feasibility loan of \$100,000 to examine the organization of winery cooperatives and to explore the possibilities of constructing and expanding the vintage and wine processing plants of seven rural cooperatives owned by small farmers. The total potential investment in these enterprises, presuming a favorable feasibility study, was estimated at nearly \$5 million over a 5- to 10-year period. On the basis of the expected investment, the application specified that Chilean wine exports would rise from the current low \$300,000 per year to perhaps \$2 million a year in the near future and with a simultaneous expansion in other winery activities, a longer term goal of \$5 million per year in exports was mentioned as a distinct possibility.

This appeared to be a most attractive proposition. Agriculture is a lagging sector in the Chilean economy, and a clear need exists to expand agricultural exports to obtain additional foreign exchange and to broaden the export base away from the concentration on copper production. The \$100,000 requested of AID could provide a highly beneficial flow of information to guide the efficient organization and operation of small farmer cooperatives in expanding wine production. It might also contribute to a redistribution of income away from large

landowners as one measure of agricultural reform. In view of the promise shown by this proposed feasibility study, the reaction in the AID Mission was favorable. Before going forward, however, the Mission decided to cable Washington to verify that there were no policy objections.

The reply from Washington was both discouraging and puzzling. While the reply recognized that export expansion was involved (which is a prime goal for most countries and an important objective of AID policy), it nevertheless said that the decision was unfavorable on grounds of competition with the California wine industry; the reply also referred cryptically to an undesirable "image" under the Alliance for Progress.

The Mission in Chile was understandably upset and sent back an answer that protested that a major problem in Chile is the very heavy dependence on copper to earn foreign exchange, and that agricultural development and growth is one of the keys to success. Agricultural exports actually fell in both absolute and relative terms in the 1959-1963 period over the previous five-year period. Moreover, the Mission pointed out that similarity of climate and soil between Chile and California made it inevitable that any development of agriculture in Chile would be competitive in some degree. The Mission rightly asked for a clarification of the degree of competition that would render a project undesirable and also asked for clarification on the reference to undesirable "images."

Though the answer was sent by the Mission on March 12, no official reply was made until May 5. This reply presents a rather curious contrast to the original decision. AID/Washington had no objections to the wine processing plants study. The Department of Commerce, however, indicated that wine is a surplus commodity in world markets. The letter of implementation to the loan sent to Chile's Ministry of Finance pointed out this fact and requested that the scope of work of the study include a detailed market analysis.

If feasibility studies were regarded as only preliminary inexpensive surveys designed to gather information as one phase of a sound sequential decisionmaking process, AID/Washington would have had less reason to object, because a feasibility study would not have implied a commitment to the project itself. But feasibility studies are not viewed in this way. Being narrowly defined technical studies focused on specifically outlined projects, they carry a somewhat greater implied commitment. The original decision may also reflect the fear that financing the feasibility study would imply a firm commitment to finance the plants themselves.

#### THE CASE FOR PREFEASIBILITY STUDIES

The generation and implementation of project proposals can be viewed as a problem in sequential decisionmaking under uncertainty. In the initial phases the actual costs and contributions of particular projects are perceived only vaguely and usually quite inaccurately; moreover, the perception of the available alternatives among projects is itself fragmentary, for there is no systematic exploration of the available alternatives within a sector or of their relative urgency or profitability. There apparently is no shortage of "ideas" for projects if by that we mean unsupported statements of needs, but these are very apt to reflect the hopes of various interested groups without much regard for their relative priority. On the basis of very little information a decision must be made to undertake a full feasibility study with the understanding that this will provide support for a loan application.

In most of the countries, projects covered by the general feasibility loans typically comprise a mixed group with little or no indication in the record that they have been chosen after a serious evaluation of alternatives. Indeed the whole history of project lending is one of piecemeal support for projects that happen to be readily at hand at the particular time. In Colombia the negotiations for the feasibility loans were delayed for some time because of lack of identification of the projects for study. The planning agency

protested that before the funds could be effectively committed and used in the feasibility studies as presently envisaged, a great deal more planning and preliminary study needed to be done! Furthermore, there was a deadline on the identification of the projects to be included under the loan, and it was their understanding that the money could only be used if the project could be "reasonably quickly financed" by an international agency. Finally, in the initial negotiations it was understood that the money was to be used primarily in the public sector. This experience is reasonably typical of other experiences with feasibility loans although some of the circumstances in the negotiation are unique to that country. It seems clear, however, that there are a number of constraints that limit the ability of the country to utilize this kind of money effectively in the development of project proposals.

There is a big gap between a concept of a project and the formal and bulky presentation of statistics to back up a loan application. In between there is a large middle ground that is now largely unexplored for sorting out interesting ideas and projects, for the development of preliminary evaluations, and for the identification of areas that need additional study. It is in these areas that prefeasibility studies and loans can be most effective. Such studies should be less formal, more flexible, and less expensive than current feasibility loans. Because they are aimed at the acquisition of information, they should, in a small space of time and with few personnel, present salient facts about costs and benefits of any proposed project. Such information is necessary and essential for a decision on the next phase of a project.

Prefeasibility studies should not be limited to projects that are already being put forward most strongly by various groups but should also attempt to expand the list of alternatives, for in many cases projects may be missed simply through oversight or through lack of a vocal sponsor. Because such studies would be relatively inexpensive, the cost of examining projects that do not live up to their initial promise would be relatively low. At the present time this

cost is so high that there is a premium on coming up with favorable conclusions in the feasibility study, and because of the many uncertainties involved, the various estimates can usually be "adjusted" to arrive at this result.

In fact, the matter can be put more positively; we should expect a number of the prefeasibility studies to arrive at negative conclusions, that the project being studied is not deserving of support. If this does not happen, the range of project ideas being pursued is probably too narrow, for it does not admit the possibility that an initially interesting idea may, upon examination, prove to be unattractive. When a prefeasibility study is properly viewed as one step in a sequential development of an idea from its beginning to its implementation, the study can serve as a basis for any one of three decisions. First, if the results of a prefeasibility study are favorable, the decision will be made to undertake the project. Then the detailed market and technical studies that justify the loan application can be prepared. Second, if the results of the study are unfavorable, it will be decided to drop the project from consideration, although if circumstances change it might be revived at a later time. Third, and most important, if the results are ambiguous (that is, that the study is not able to establish beyond a reasonable doubt that the proposed project is either highly favorable or highly unfavorable), the appropriate decision will be to investigate the project further to reduce some of the uncertainties present in the initial prefeasibility study. This does not mean jumping immediately to a scale of study such as is now required in a full-blown feasibility study; it means acquiring information in those areas that are best calculated to improve the estimates of the outcomes. At some point, of course, a decision must be reached either to support or not to support the project, and some residual risk of error will always remain, but it should usually be possible to reduce the ambiguities to some reasonable level so that a decision may be reached. In this way the prefeasibility studies help weed out unattractive proposals and assist in identifying at an early stage those projects that are most attractive and that deserve priority treatment. They also permit exploration of a large number of options within any sector or industry.

Within the past six months feasibility loans in Colombia and Ecuador have been amended to permit prefeasibility studies. In Colombia the planning agency responsible for the feasibility loan was desirous of having this option open to them, and such an amendment has been approved. The Ecuador feasibility loan was amended to approve the cost of "prefeasibility investigations which are expected to lead to specific development projects in Ecuador." This language is curious and confusing. Clearly one would not consciously undertake a study that was not designed to lead to a specific project, but it is possible to interpret the language of the amendment as simply substituting the word prefeasibility for feasibility, and if there is simply a substitution of words, the real differences in focus, scope, and intent between a prefeasibility study (as characterized above) and an existing feasibility study may be completely missed. It does not appear, at this time, that the result of these emendations will be to initiate quick exploration of alternatives as suggested in this Memorandum.

It may be argued that following the route of prefeasibility studies is apt to introduce lengthy delays in project identification and support since it introduces the notion of studying a variety of projects before a final selection is made. Such a line of argument usually points to the fact that needs are great, that the best projects are really well-known to the country, that projects in almost any area are productive, and that it is anticipated that local and foreign resources will be available to support all of the projects being studied. However, a properly designed and executed series of prefeasibility studies should facilitate rather than delay project selection. Such studies should be able to identify quickly the most promising projects, weed out the obviously unpromising, and only subject to further study those where the initial results are doubtful.

It should also be pointed out that prefeasibility studies can be effective in stimulating the participation of the private sector in project planning. This can be done through linking a prefeasibility loan to a program of private investment surveys, such as the one the

United States now has in operation. In the investment survey program the company puts up 50 per cent of the money and the U.S. government puts up the other 50 per cent. If, after study, the company decides to undertake the investment, it repays the cost of the survey to the government. If the company decides not to undertake the investment, the completed survey is made publicly available to other potential investors. If a private company in a less developed country wants to make a prefeasibility study, funds might be made available to it on some matching basis. The match need not be 50-50, however. One interesting possibility for extending incentives to private industry is to change the participation rate from 50-50 to some other basis. If, for example, it is desired to give preferred treatment to some industry or sector or if there are typically greater risks attached to one kind of investment than another, a participation rate that involves the government in supplying 60, 70, or even 90 per cent of the cost might be attractive. If the investment were finally made by the private company, it presumably would reimburse the government. In other circumstances the government might choose to participate to less than 50 per cent, of course. Having a range of participation rates and incentives to offer provides a potentially effective instrument for encouraging private investment. Whereas the current procedures under feasibility loans tend to have a bias toward large public sector projects, a program of prefeasibility studies, with a sliding scale on participation rates, should have the effect of materially stimulating private investment, both indigenous and United States. This is one of the uniquely attractive features of the prefeasibility approach.

#### THE DESIGN OF PREFEASIBILITY STUDIES

A substantive case for prefeasibility studies as a means for acquiring information, reducing uncertainty, and expanding the list of alternatives is a strong one, but some of the other circumstances surrounding their potential use are worth discussing. It has been argued that they would be smaller in size (in terms of the funds

required), more rapid in execution, and more flexible in use than current feasibility studies. These aspects deserve some attention. Moreover, one might ask such questions as: Who is to do them? Who is to be responsible for their overall coordination? and What changes would be required in current ways of operating?

Let us start with some consideration of the potential size and cost of such studies. Examples of current experience with prefeasibility type studies can be obtained from several different sources including the investment survey program of AID that covers grants for surveys of industrial opportunities; experience of the Bureau of Reclamation with irrigation projects; and experience of the Corps of Engineers with various kinds of flood control projects. As might be expected, these data show that the ratio of survey or prefeasibility study cost to total project cost is negatively related to project size. Data from the AID investment survey grants show that there is a preponderance of cases of survey studies costing less than 1 per cent of the total cost of the project when project cost exceeds \$5 million. For projects costing between \$1 million and \$5 million the typical ratio of survey costs to total costs is in the 1 to 3 per cent range. Data on projects authorized under the 1957 flood control bill tell a similar story. The average ratio of survey costs to project costs has been .65 per cent for the relatively expensive basin studies and 1.52 per cent for the smaller local drainage studies. Total cost for the two classes of projects averaged \$19 million and \$3 million respectively.

Some indication of the relationship between the costs of initial surveys and feasibility studies is provided by the experience of the Bureau of Reclamation on irrigation projects. This experience is summarized in Fig. 1. Although the proportions vary somewhat depending on the size of the project, the reconnaissance reports cost only one-fifth to one-tenth as much as a normal feasibility report; yet on the basis of the reconnaissance reports a decision is made tentatively whether or in what order to undertake a project. We should not try to generalize from one kind of project to all others, but it seems

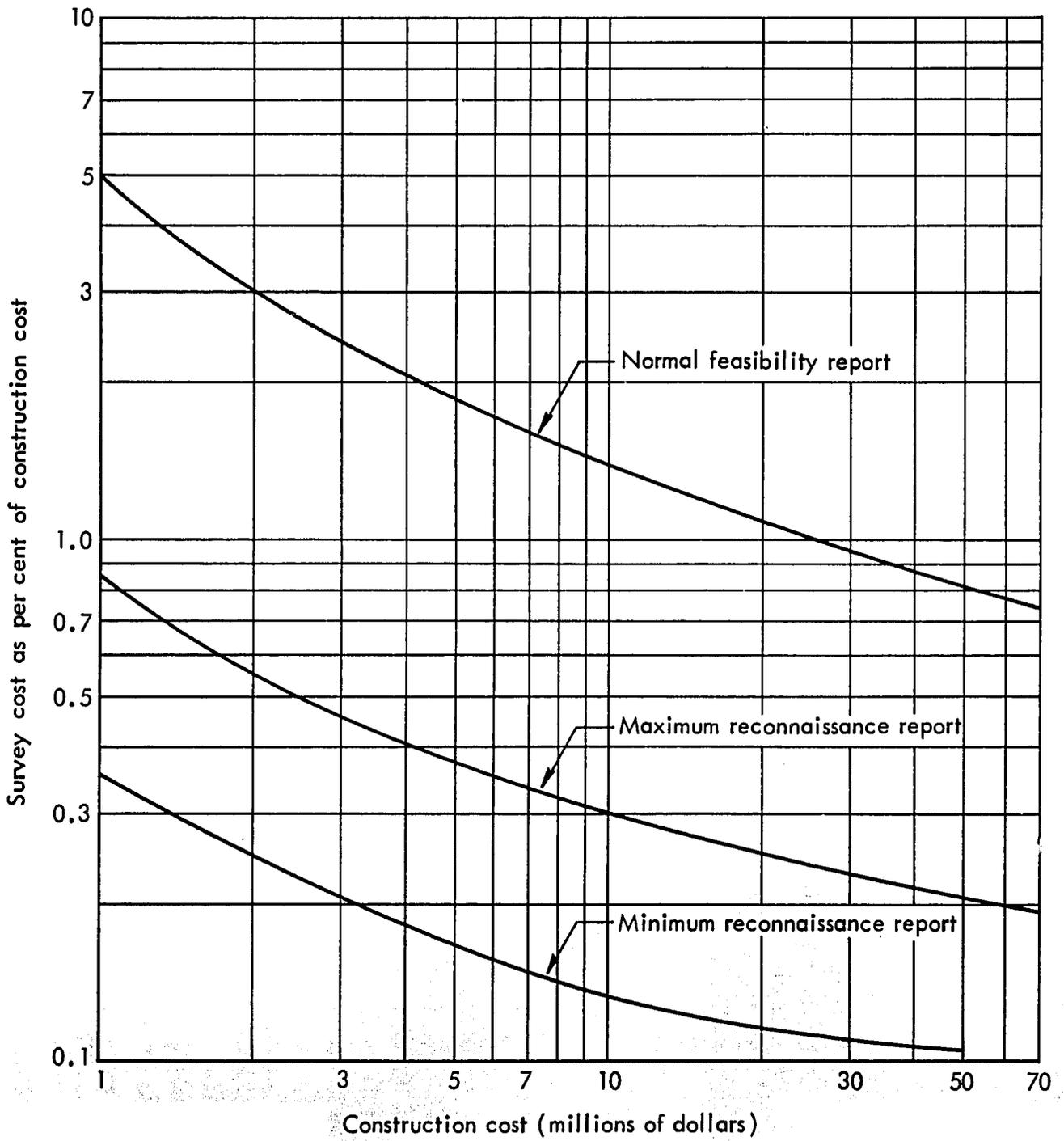


Fig. 1—Relationship of survey costs to estimated construction cost for irrigation projects

plausible to assume that a prefeasibility study should cost less than half as much as a normal feasibility study.

In order to draw the contrast more sharply we might characterize prefeasibility studies, in a loose way, as requiring one economist and one engineer for one month. Such a characterization is obviously not meant to describe an operational rule. It is both possible and desirable that a half dozen professional people working together for several months could undertake a systematic study of a number of interrelated projects in the same sector. It is most important that prefeasibility studies should not be undertaken on a piecemeal basis; there is a need for comparing projects within the same sector and between sectors, and an appropriate set of priorities can only be achieved by making both kinds of comparisons. Thus, even if some specific studies are ultimately parceled out to various contractors, it is desirable to have one contractor primarily responsible for the scheduling and programming of the set of prefeasibility studies.

If prefeasibility studies are to be particularly effective the professionals undertaking them must be of a high quality; yet, in most of the countries there is a lack of middle management personnel (engineers, economists, and so on) who are capable of undertaking prefeasibility studies. The number of available personnel is usually small, and they are spread thinly over a number of government and private offices. In a few cases competence has been built up to a sufficient level to cover a particular sector, as in electric power in Colombia, but in general the problem is a serious one, and one cannot expect that the countries can undertake such studies with their own resources. It is possible that the need could be met by AID Mission personnel; however, this puts a heavy responsibility and workload on the Mission staff. It is also important to recognize that the kinds of skills required are rather different from skill compositions generally found in technical assistance staffs in the Missions. The need is primarily for economists and engineers and not for agronomists, nutritionists, or similar technical skills. At current levels of hiring it is doubtful that AID has enough personnel of the requisite skills to carry out an extensive program of prefeasibility studies.

The alternative is to put greater emphasis on the planning assistance of outside contractors and to provide the foreign exchange costs of such services. This planning assistance could best be provided by a single contractor who would, over a period of years, develop the program of studies, undertake the analyses, and work in an intimate fashion with the ministries, planning agencies, and similar bodies in the country to help train them in techniques of project evaluation. On an individual country basis the cost of such contractor assistance would be relatively modest, probably not over \$1 million to \$2 million per year for the larger countries. A more effective constraint than cost is the availability of the services of reputable contractors.

Of greater importance than the question of whether prefeasibility studies should be carried out by direct hire or contract personnel is the matter of unified responsibility for the scheduling of such studies. If centralized authority does not reside in either AID or (preferably) a private contractor, it is particularly doubtful that the sectoral approach to capital project analysis will be followed. Whether analysis is "quick and dirty" or relatively intensive, it is of great importance that project evaluation not be confined to the project-by-project approach. While much of the effort can usefully continue to be focused on this level, there appear to be substantial returns to increasing the emphasis on a sectoral approach to capital (as well as technical) aid in many countries and sectors. The advantages include not only improved identification, analysis, and selection of projects, but also improved capability to generate useful conditions to attach to loans and to provide better coordination with technical aid projects and overall program goals.

#### SECTORS AND SECTORAL POLICIES

The concept of a sector is not easily defined. One of the few things that can be said is that a sector is a level of economic aggregation between a national economy and an individual project or firm. In manufacturing, a sector may be understood to be similar to the economic concept of an industry. Usually it involves the provision

of similar services or the production of similar goods. For countries at the lowest stages of development, AID might find it advisable to distinguish only two sectors, say agriculture, and commerce and industry. In a larger and better developed country, AID might usefully distinguish between a greater number of sectors such as power, transportation, irrigation, agriculture, cement, steel, and nonferrous metals. The choice should be based on such factors as the organization of decisionmaking in the economy and government, the percentage of AID funds in each area, and the existing organization of the AID Mission.

It is much easier to argue the need for the sectoral approach than to define a sector. The critical issue, of course, is economic interdependence. Decisions with respect to the timing, location, scale, and technology of investments in any area of the economy affect decisions in every other area, but certain areas are more closely related than others. The trick is to define sectors in such a way that attention can be focused on the analysis of critical alternatives -- alternatives that require major decisions as to resource allocation and where the choice might be significantly altered for the better by U.S. influence. The exercise of such influence can make as real a contribution to a country's economic development as the financial resources provided by foreign aid because it can result in more efficient use of existing or planned capital or other resources.

Perhaps the best way to illustrate the types of alternatives mentioned here is to give some examples. An earlier RAND Memorandum illustrates technological alternatives in the field of transportation that might usefully be examined.<sup>1</sup> There the relative economic advantages of various Indian transportation modes are examined (namely railroads, highways, extra high voltage power transmission lines, and coastal shipping) as well as alternative ways to expand the capacity of individual modes, such as improved signaling and longer trains to

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<sup>1</sup>Alan Carlin, A Possible U.S. Policy Towards Indian Transportation: An Illustration of Improved Sectoral Policies, The RAND Corporation, RM-4379-AID, June 1965.

increase the line capacity of the Indian Railways. In electric power, important technological alternatives include the choice among basic energy sources. Questions of location might include whether power stations would be more economically built at the energy source or load center or, more generally, whether an activity should be located near markets or raw materials. Considerations of scale in the case of electric power might include the trade-off between economies of scale and reliability in the choice of size of generating units. The alternatives to building an additional railroad track along the South-east Coast of India may range from enlarged coastal shipping capacity to the installation of improved signaling and introduction of diesel electric locomotives, or some combination of these. Many of these alternatives cannot be satisfactorily analyzed in the context of a single project because of limitations of information and funds available for the preparation of a single project feasibility study, but can be effectively analyzed along with a number of other related projects in a somewhat broader study approaching a sector in scope. A single project may not permit AID to obtain enough information to examine the interesting options without appearing to meddle unjustifiably in the host country's affairs. The coastal shipping authorities, for example, may see little reason to supply data in connection with a loan to the railroads.

Once the principal alternatives have been distinguished, which often involves gathering extensive technical as well as economic data, the choice of U.S. policy involves first the fairly straightforward application of economic theory, particularly cost-benefit analysis, to the alternatives presented. Consideration of these options on a sectoral rather than a project or firm basis enables the analyst to examine a number of alternatives not open to the individual project or firm. Yet the level of aggregation is sufficiently low that it is still fruitful to use cost-benefit analysis. A sectoral approach corresponds closely to the existing organization found in most governments and in AID Missions, thus making the applicability and operational usefulness of sectoral policies readily apparent. Finally,

the identification of particular sectors with the corresponding technical subject matter makes possible considerable technical specialization in the preparation of sectoral policies.

More generally, sectoral policies have a very important potential role to play in the formulation of an effective aid program. They form a bridge between the broad aims of the program as a whole and the individual project, making it possible to evaluate the project in its proper perspective and to relate it to the more general goals of the program. Without sectoral policies, it is very difficult to make a meaningful selection of either sectors for the concentration of U.S. aid or objectives and projects within a sector.

#### Influencing Country Policy

A good sectoral policy should do more than identify the issues and suggest better solutions. It should also discuss how the influence necessary to bring about such solutions can best be exercised by the United States. There are at least three general methods of interest. The United States could:

(1) Attempt to influence country policy in the desired direction purely by persuasion either (a) on a short-term basis through sectoral studies, preferably carried out with the cooperation and participation of the recipient country, or (b) on a somewhat longer term basis through technical aid projects;

(2) Offer to make aid freely available, possibly on concessional terms, for desired projects that would otherwise face long delays or even a doubtful future at the hands of the recipient country; or

(3) Pursue a more active policy by attaching conditions to aid projects desired by the recipient,<sup>1</sup> usually in the sector concerned, either (a) by using an indirect approach of attempting to obtain changes in the institutions responsible for policy making in the sector

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<sup>1</sup>This categorization is somewhat complicated by the fact that a condition can often usefully be attached to capital aid in a given sector -- the condition that the country accept technical aid in the same sector that it would not otherwise willingly accept.

if they are believed to be responsible for the less than optimum alternatives in the past, or (b) by directly attempting to change particular policies.

It is pointless to attempt to make general rules as to which of these three implementation methods should be followed in any given case. In general, however, the amount of detailed supervision time required of AID personnel and the possible hard feelings by the country concerned increase in the same order, so that it would seem best to resort to (2) and especially (3) only when the easier approaches fail and the problem is felt to be sufficiently important.

Clearly it is difficult to prepare a detailed sectoral policy for every sector of every country receiving U.S. aid, and impossible to do so every year. In fact, it is much better to concentrate those AID resources that can be made available for the preparation of sectoral policies on a relatively small number of sectors. One of the primary problems with the present effort is that talent and ability are spread too thinly. As the returns to quality are very high in such activities, the incentives producing the present emphasis on quantity should be reversed. An encouraging start towards this goal is evident in the recent Pakistan Long-Range Assistance Strategy (LAS) and particularly in the Indian LAS, which emphasize much more careful and meaningful sectoral policy statements.

The text of the Indian LAS is broken down roughly by sector, while a series of extensive sectorally oriented annexes are appended that present and discuss the policy to be adopted in each of a greater number of sectors. There is, for example, an annex on "Energy Development," one of the major areas of U.S. economic aid, and another annex on "Transport Development." While we do not share all the views expressed in these two sections,<sup>1</sup> they represent the most complete statements yet made by AID concerning policy in these two important sectors. At the same time, it should not be concluded from this that even the

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<sup>1</sup>See Alan Carlin, A Possible U.S. Policy Towards Indian Transportation: An Illustration of Improved Sectoral Policies, op. cit.

comparatively extensive sectoral treatment of U.S. aid policy towards India in the LAS could not be substantially improved. One of the more glaring omissions, in terms of coverage, is exports and the means for increasing them. In terms of depth, on the other hand, while the irrigation section represents a major advance on Indian (and AID) thinking on the subject, it considerably oversimplifies many of the problems involved.

A start towards achieving an emphasis on quality would be to eliminate sectoral policy statements from the annual CAP submissions, which might be limited to brief statements of revisions needed in standing policy statements. The Long-Range Assistance Strategy could well form the vehicle for those standing statements.

#### THE CONDUCT OF SECTORAL STUDIES

The benefits of an increased effort to develop the sectoral approach would not be limited to improvements in the quality of decision with respect to individual capital projects. In view of the shortage of project applications, the contribution that such studies could make towards improved project identification would probably be of even greater importance. One example of a sector study that clearly led to a later AID capital project is the first U.S. sponsored study of Indian transportation, that by Sanderson and Porter Company of New York in 1956-1957.<sup>1</sup> One of their stronger recommendations was that the Indian Railways adopt centralized traffic control (CTC) on selected one track lines that are near capacity utilization. Although the Railways did not act on this recommendation for several years, they requested assistance for a CTC project (other than those specifically studied by Sanderson and Porter) as part of the Third Railway Loan from the Development Loan Fund, signed in 1960. The Sanderson

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<sup>1</sup>The study was primarily concerned with the Railways, but also dealt with coastal shipping. This and other aspects of the study are reviewed and referenced in Alan Carlin, "An Evaluation of U.S. Government Aid to India," unpublished doctoral dissertation, Massachusetts Institute of Technology, 1964, pp. 55-69.

and Porter Company also strongly favored the introduction of diesel traction. Although this has ultimately been adopted, and several U.S. loans have been made for diesel locomotives, the role of the S&P study in this development was probably much less important than in the case of CTC.

Sectoral studies also serve as a form of direct technical aid. Their preparation provides high level, coordinated, technical and economic advice, one of the truly critical shortages in many less developed countries. Particularly if they are carried out with the cooperation of the relevant ministries of the government concerned, one of the most significant functions of sectoral studies can be that of directly affecting opinion in the host country rather than indirectly influencing host country policies through the influence that the study will have on AID policy. Thus, in the sector concerned, such a study might suggest other technological possibilities that the host country would adopt without further encouragement.

There are a number of situations where sectoral studies can be particularly usefully employed. One is the case already mentioned where a number of projects raise issues that cannot easily be settled in connection with individual project reviews because the range of alternatives is particularly broad. More generally, it would seem worthwhile to undertake such studies for any sector that is expected to receive substantial amounts of U.S. aid, whether or not specific problems can be identified ahead of time. The recent transportation study<sup>1</sup> and the energy study<sup>2</sup> are examples of long needed studies that could have been justified in either way. An expenditure of 1 or even 2 per cent of the aid funds to a sector for research during a year would surely not be too much. Another case is a sector that appears to be promising but where there is very little progress. The purpose would be to suggest useful ideas for the development of the lagging sector, as by pinpointing profitable potential investment projects.

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<sup>1</sup>Surveys and Research Corporation and Coverdale and Colpitts, India Coal Transport Study, September 23, 1963 and June 1, 1964. This Study is often referred to as the ICTS.

<sup>2</sup>Report of the Energy Survey of India Committee, Delhi, June 1964.

Still another case where sectoral surveys might prove especially useful is when there is a suspicion that policies in the sector may be seriously awry. The transportation study, for example, was undertaken in response to the coal transportation crisis of 1961-1962, but was soon expanded to a consideration of some of the long-term problems, such as comparative costs of various transport modes, which had long been questioned. In many ways it can be said that the coal transport crisis was used as an excuse for undertaking a study of a sector about which many had become uneasy. The 1962 loan to Iran to finance the preparation of master electrification plans for the ten largest load centers is another example of a sectoral study designed to suggest solutions to a problem observed in a particular sector, namely the chaos existing in the distribution of electricity in Iran. Many other sectors in many countries deserve similar attention for similar reasons, from transportation in Turkey to exports in India and agriculture in Chile.

Perhaps little of what has been said in this section is controversial. The argument here is not that totally new types of activity need to be undertaken but rather that AID needs to lay greatly increased emphasis upon the sectoral approach. As already noted, the Pakistan and particularly the Indian LASs lay considerable emphasis on a sectoral approach, while the India Coal Transport Study and the Energy Survey represent major sectoral studies. Although the number and quality of such studies and policy statements has probably increased, particularly over the last few years, the argument made here is that still more effort can very usefully be directed to this end.

## V. INCREASING THE SUPPLY AND EFFECTIVE USE OF PERSONNEL

Each of the previous sections makes some reference to the importance of having qualified personnel in essential decisionmaking on economic assistance. Country programs must be formulated and performance commitments negotiated along with other loan terms; project proposals must be reviewed and the progress of approved projects monitored, and, if the suggestions here are followed, guidance must be supplied for prefeasibility and sectoral studies. Undertaking the activities that are needed to ensure the effective operation of U.S. economic assistance policies places increasing demands on personnel. This accentuates a shortage of personnel that now exists. Adequate provision for needed personnel skills is perhaps the most acute problem that faces AID. If this problem cannot be solved, then many of the other suggestions made here will prove difficult, if not impossible to implement. Consequently, the remarks in this section are briefly addressed to steps that might help to increase the effective supply of technical research and decisionmaking skills within the Agency or to use existing resources in a better way.

### THE DISTRIBUTION OF PERSONNEL IN AID FIELD STAFFS

The field staff of AID consists of the direct hire personnel in the Missions and associated contract personnel who are primarily in the technical assistance specialties. It is useful to compare the current distribution of personnel (1) in relation to a simplified functional classification of personnel, and (2) in relation to the likely size of the work load (to the extent that it can be reasonably defined).

A two-fold functional classification of personnel activities will indicate some basic contrasts between them. First, there are activities that are essentially advisory in character. Second, there are activities requiring specific approval of programs and projects and that lead to decisions to commit U.S. funds and resources to those programs. This is the management or decisionmaking function.

Advisory functions include activities in the preparation of pre-feasibility and sectoral studies and in developing the framework for national economic plans and investment budgets as well as most technical assistance. As the name implies, these functions lead to reports and recommendations for action.

The second kind of function requires evaluation of existing or proposed programs and decisions as to the conditions under which U.S. economic assistance will be made available to support these programs. This category includes project evaluation and monitoring, decisions on program criteria and their relationship to aid levels, actual negotiation of loans, and similar matters. The essential characteristic is the exercise of the power of decision to support or not to support a particular program or project.

It should be evident that these personnel functions are not necessarily mutually exclusive. The exercise of decisionmaking power does not preclude providing advice and other recommendations on programs nor does it prevent tactful and discreet guidance. There is a good deal of overlap between the two; an individual or a Mission may fill both roles almost simultaneously, though some divisions may be drawn to mark the passage from one to the other. In some respects the very act of bargaining on the performance criteria in program loans and over the amount and conditions of a loan is a way of conveying signals and "advice" to the country. Nevertheless, the distinction is significant because there are dangers in a too thorough mixing of the two kinds of functions. Although the analog is far from perfect, there is a family resemblance to the advocate on one hand and the judge on the other. AID recognizes the potential danger in its admonition in the Manual Orders to beware of becoming too closely identified with a specific formulation of project or program proposals. The reason is obvious; if AID personnel become deeply and intimately engrossed in the work of a specific proposal, a presumption is created that the decision on the submission will be favorable. Such a situation is both awkward and embarrassing and can be avoided by refraining from close identification with the project preparation phase. By the same

token, post-approval of a submission will usually require personnel with an entirely different orientation.

Functions that are central to decisionmaking on AID are properly reserved to the Agency itself and should not be delegated, but those that are chiefly advisory in character might be fulfilled through the use of other than direct-hire agency personnel. The final choices in the various cases depend on an assessment of the relative advantages of the alternative ways to accomplish these functions and the associated costs of doing so.

Table 8 presents statistics on the percentage distribution of non-clerical personnel in the Missions. Details are shown for each of the four regions separately and for the ten countries that were the largest recipients of aid in 1963, and for that group comprising the second ten largest recipients. For the purposes of this analysis the personnel have been divided into three classes: (1) those directly concerned with program direction and coordination; (2) other management personnel; and (3) technical assistance personnel. Classification into these three groups has been based on the occupational codes and description of position titles in AID Manual Order 333.3, February 16, 1963. The three groups are defined in the following way: Group 1 includes development loan officers, those identified with program and capital development staffs, as well as all persons listed as economists, economic advisors, or economic analysts. Group 2 includes supervisory and administrative personnel such as those in personnel, accounting and finance, supply, and similar housekeeping functions. Group 3 includes all those technicians with the specific skills and activities indicated by the industry or the sector shown.

One of the more striking features of Table 8 is the distribution of personnel among the three groups. The majority of personnel, 75 per cent, in fact, are in technical assistance, and only 6 per cent in Group 1, program administration. Still, the preponderance of technical assistance personnel is notable. Moreover, these percentages do not tell the whole story since Table 8 shows only direct-hire personnel.

Table 8

NON-CLERICAL U.S. PERSONNEL IN AID COUNTRY MISSIONS BY FIELD OF ACTIVITY  
FOR SELECTED COUNTRIES AND GROUPINGS OF COUNTRIES

1963

(number of persons)

	Tot.	Prog. Adm. <sup>a</sup>	Other Manage. <sup>b</sup>	TECHNICIANS								
				Tot.	Agric. & Food	Ind. & Min.	Trans.	Health & San.	Pub. Educ.	Pub. Saf.	Pub. Adm.	All Other
All AID recipients	4673	291	878	3504	766	337	324	326	358	200	158	1119
Near East - South Asia	1223	63	212	948	201	115	148	86	81	11	45	266
Latin America	1097	97	198	802	208	48	53	85	122	59	45	213
Far East	1249	72	198	979	105	102	91	109	70	103	45	374
Africa - Europe	1071	59	270	742	252	67	23	46	85	27	23	247
Total, ten largest AID recipients	1383	99	233	1051	215	151	50	131	92	78	50	289
India	129	16	27	86	29	10	0	25	5	0	1	16
Pakistan	226	17	32	177	32	51	8	17	6	3	13	47
South Vietnam	337	13	41	283	24	17	10	61	22	51	6	92
Turkey	174	6	26	142	37	21	2	0	22	0	18	42
Korea	124	8	29	87	13	32	4	2	1	2	8	25
Argentina	35	6	9	20	12	0	4	1	1	0	0	2
Colombia	75	8	14	53	16	2	3	3	14	3	0	14
Brazil	220	19	29	172	42	15	7	22	21	19	4	44
United Arab Republic	59	6	24	29	10	3	10	0	0	0	0	6
Israel	4	0	2	0	0	0	2	0	0	0	0	0
Total, second ten largest AID recipients	851	66	192	593	95	45	73	29	48	27	40	161
Total, remainder of AID recipients	2439	126	453	1860	456	141	201	166	218	95	68	669

Notes:

<sup>a</sup>Includes all persons with program and capital development functions and all persons listed as economists, economic advisors, or economic analysts.

<sup>b</sup>Includes persons with specialized staff functions (for example, counsel, auditor, executive officer).

Sources:

AID, Operations Report (W-129) for June 30, 1963, and The Staffing and Personnel Rosters for Near East - South Asia, Latin America, Far East, and Africa - Europe, as of May 25, 1964.

To this should be added contract personnel in the field of technical assistance who are available to the Mission. Of all technical assistance personnel in 1963 about 70 per cent were direct hire and 30 per cent were on contract. This can be seen from Table 9, which also shows the distribution by type for the regions and for the largest AID recipient countries. If technical assistance personnel on contract are added to the totals, the distribution among the three groups is as follows:

Program direction	5 per cent
Other management	14 per cent
Technical assistance	81 per cent

Thus, in this period, only 5 per cent of total personnel were devoted to program management and coordination. It must be remembered that this group is intended to cover those functions that are intimately and directly related to project and program evaluation and review, and to making decisions on the conditions for the allocation of aid among competing alternative destinations. In particular circumstances and in some countries, personnel in the other categories are so used; but it would take a detailed survey of each position to determine this. However, it is typically somewhat unusual to find technical personnel employed for a majority of their time on the problems of program evaluation and management.<sup>1</sup> The 5 per cent figure just cited may be an underestimate, but it seems unlikely that additional information would cause it to be adjusted upward by more than a few per cent. Furthermore, it is instructive to look at the actual number of persons classified in Group 1 for the ten largest AID recipients. The figures range from 6 in Argentina, Turkey, and the UAR to 19 in Brazil, 17 in Pakistan, and 16 in India. This is rather lean provision for personnel who have the responsibility for direction, evaluation, and decision on the programs and projects in a country. The overhead management

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<sup>1</sup>It is possible that in some countries a portion of the administration and negotiation functions in program lending are performed by embassy rather than Mission personnel. The implications of such a situation for coordination of total country assistance might be explored.

Table 9

DIRECT-HIRE AND CONTRACT PERSONNEL IN  
TECHNICAL ASSISTANCE, 1963

Countries	Total No. of Persons	Direct-Hire		Contract	
		No.	Per Cent	No.	Per Cent
All AID Recipients	4956	3504	70.7	1452	29.3
Near East - South Asia	1461	948	64.9	513	35.1
Latin America	948	802	84.6	146	15.4
Far East	1475	979	66.4	496	33.6
Africa - Europe	1029	742	71.4	297	28.6
Total, ten largest AID recipients	1616	1051	65.0	565	35.0
India	191	86	45.0	105	55.0
Pakistan	309	177	57.3	132	42.7
South Vietnam	399	283	70.9	116	29.1
Turkey	201	142	70.6	59	29.4
Korea	179	87	48.6	92	51.4
Argentina	24	20	83.3	4	16.7
Colombia	61	53	86.9	8	13.1
Brazil	221	172	77.8	49	22.2
United Arab Republic	29	29	100.0	0	0
Israel	0	0	-	0	-
Total, second ten largest AID recipients	879	593	67.5	286	32.5
Total, remainder of AID recipients	2461	1860	75.6	601	24.4

Sources:

Number of direct-hire personnel: Table 8.

Number of contract personnel: Personnel Administration and Operations of the Agency for International Development, Special Hearings, Committee on Appropriations, U.S. Senate, 88th Congress, 1st Session, 1963, pp. 36-37.

group in personnel, finance, and housekeeping has typically two or three times the number. It might also be noted that in every one of these countries the total personnel in program administration is less than the technical assistance staff in agricultural specialties.

Examination of management data for the NESAs region provides some further evidence of the magnitude of a personnel shortage. NESAs authorized 43 loans involving a net commitment of \$0.76 billion in Fiscal Year 1963, but devoted only three to four man-years of Washington professional loan officer time to pre-authorization analysis, depending on the definition of analysis used (see Table 10). In addition, some time was spent by loan officers attached to the field Missions, the legal staff, and engineers stationed both in Washington and the field. Of these, the field loan officers probably spent the largest amount of time. Since there are approximately an equal number of field and Washington-based loan officers,<sup>1</sup> the three to four man-years might be approximately doubled if both were included. There are 13 NESAs Washington-based engineers.<sup>2</sup> If the Washington engineers spend, say, one-quarter of their time on pre-authorization analysis, and the lawyers, Washington desk personnel, and field-based engineers one more between them, the total would be roughly 10 to 12 man-years per year, or roughly three man-months per project. If average professional man-year costs are taken as \$25,000 per man-year,<sup>3</sup> the total cost is only 0.03 to 0.04 per cent of Fiscal Year 1963 net NESAs authorizations.<sup>4</sup> The amount of time and the personnel devoted to a review and evaluation

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<sup>1</sup>According to the information furnished to the Senate Appropriations Committee in June 1963, there were eight Washington-based loan officers and nine field-based. See Personnel Administration and Operations of Agency for International Development, Special Hearings, 88th Congress, 1st Session, June 6, 1963, Washington, U.S. Government Printing Office, 1963, pp. 307-316.

<sup>2</sup>Ibid.

<sup>3</sup>This is the average for direct-hire overseas employees; presumably the average for Washington employees would be less.

<sup>4</sup>In addition, something is spent for AID-financed studies related to project evaluation carried out by private contractors. The number of projects involved at least in the case of NESAs is very small.

Table 10

PROFESSIONAL WORKLOAD DISTRIBUTION, DIVISIONS OF NEAR EAST &  
SOUTH ASIA AND OFFICE OF CAPITAL DEVELOPMENT & FINANCE, 1963  
(man years)

Activity	Time Spent
Keeping informed	0.9
General inquiries	2.1
Writing policy	1.1
Developing projects	1.4
Intensive review	3.0
Clearing loan papers	0.5
Post authorization	0.8
Negotiation	0.3
Conditions precedent review	1.7
Implementation	6.2
Reporting	0.2
Systems development	0.1
Personnel matters	0.3
Administrative matters	4.2
<b>Total</b>	<b>22.8</b>

Source:

Agency for International Development, Near East and South  
Asia, Office of Management Operations.

of the project proposals is quite small, whether this is measured in the absolute amount of professional time devoted to the project or to the total volume of business done.

Another aspect to the problem of organization of personnel concerns the composition between direct-hire and contract. What can be said about the appropriate composition of personnel by type of employment? We exempt from this discussion those in program administration and other management positions, for they must exercise direct decisions on aid allocations. Such functions are not easily delegated to contract personnel. The discussion is limited primarily to those in technical assistance. As Table 9 shows, in 1963 70 per cent of all technical assistance personnel were on direct hire and 30 per cent on contract. In the field, contractors are drawn from two groups, the universities and the normal commercial companies (that is, the so-called "for profit" contractors).<sup>1</sup> What are the considerations that should be taken into account in choosing the ratio between direct-hire and contract personnel? Perhaps the 70-30 proportion might be significantly altered, in one direction or the other, to provide an improvement in the overall effectiveness of operation. One relevant consideration is the relative cost of providing a man for one year in the various fields. AID itself has conducted a study along these lines, attempting to get provisional answers to these questions.<sup>2</sup> This study found that the cost per man of university-related contractors had a range between \$19,000 and \$43,000 per year with a weighted average of \$27,000; "for profit" contractors had cost ranges between \$22,000 and \$68,000 with a weighted average of \$35,000 as drawn from a randomly selected worldwide sample of contracts outstanding. By the same token AID direct-hire staff costs per man in Pakistan, Chile, Thailand, and Nigeria (which are presumed to be representative of their regions) fell between \$25,000 and \$30,000. Thus, on the average, all three of the

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<sup>1</sup>There are contractors from nonprofit organizations as well, for example, State of California, Institute for Free Labor Development.

<sup>2</sup>This report was prepared under the direction of W. P. Kelly, Associate Assistant Administrator for Procurement Policy, Office of Material Resources, AID, Comparison of Overseas Service Costs, February 27, 1964. The costs of technicians supplied by non-university, non-profit contractors were not explicitly considered.

sources fell between \$27,000 and \$35,000. The pertinent costs were intended to include basic salaries, living quarters allowance, post differential, travel, education of dependents, fringe benefits, and overhead for the direct-hire personnel.

Cost comparisons, however, can be deceptive, and some qualifications must be noted. In the first place it is not at all clear that the selected samples cover exactly comparable personnel by type of skill in the three groups. A general notion of the markets for various skills suggests strongly that some types of skills (for example, engineers and scientists) are more expensive than, say, experts in public administration or nutrition and the "for profit" contractors appear to be heavily weighted with engineering firms. Second, we have no good way of assessing the relative quality of direct-hire and contract personnel in the same specialty. Third, it is possible that overhead costs are underestimated for direct-hire personnel. The uncertainties in cost estimation and cost comparability imply similar uncertainties about the meaning of the results. A range of \$27,000 to \$35,000 is not very large, given these uncertainties. One may tentatively conclude that these results do not clearly demonstrate that personnel drawn from one of the sources is necessarily less expensive than those from the other sources. It would, of course, be desirable to have additional data on which to base conclusions.

There are, however, considerations other than cost relevant to this issue. It is frequently argued that the use of contract personnel permits greater flexibility and tailoring of the staff to the particular needs of the time. Contracts can be terminated at the convenience of the Agency and they can be made for a specific period of time when the need for a given skill can be reasonably well foreseen. Consequently, they do not create the presumption of an indefinite commitment to the person hired. This degree of flexibility becomes a particular advantage if the demand is a fluctuating one that requires both shifts in composition and changes in actual size of the technical assistance force.

It appears that the demand for technical assistance has many of these characteristics, with changes in emphasis on skills taking place from one year to the next as is shown in Table 11 for a sample of 20 countries with the largest technical assistance budget in 1962. The percentage changes in technical assistance commitments show a number of very wide swings, both plus and minus. It is just this kind of demand that is difficult to meet with a direct-hire personnel, because as requirements change some individuals will be transferred to activities with which they are unfamiliar, or else they will be underutilized in the field of their competence. Either result is undesirable and inefficient. A fluctuating demand is more readily met by short-term contracting, although there are limits to this method involved in the costs of preparing the person for the job, and there may also be delays in recruiting. Country and area familiarity is of course a desirable quality in the technical advisor, but it would appear that as long as there is some direct-hire coordinating staff on normal rotation, the requirements for continuity and familiarity can be satisfied.

A vital but often ignored aspect of a technical assistance operation of a given country is its relationship to the capital project generation process. There have been complaints, for example, that contractors -- and especially university contractors -- are not informed of this aspect of their duties and have therefore been unwilling or unprepared to extend cooperation to the capital development staff in the Mission. There is no doubt a natural tendency for technical assistance to be narrowly focused on the specific; although the benefits of specialization should not be lost, it is important that both the direct-hire and the contract personnel be aware of responsibilities in helping to develop project proposals. The technical assistance program will often reveal the need for specific capital projects; consequently, the means must be found to coordinate technical assistance work more closely with capital development work, which will enrich both sides of the operation. Control of contract personnel in technical assistance should also be close; and their work should be integrated with the work of the rest of the Mission. In some countries

Table 11

1962-63 CHANGE IN TECHNICAL ASSISTANCE COMMITMENTS AS A PER CENT OF 1962  
COMMITMENTS FOR THE LARGEST TECHNICAL ASSISTANCE RECEIVING COUNTRY MISSIONS

	Total Tech. Asst. Commitment FY 1962 (millions)	(1963 value - 1962 value) ÷								1962 value	
		Food & Agric.	Indus. & Min'g.	Trans.	Labor	Health & Sanit'n.	Educ.	Pub. Saf.	Pub. Adm.	Com. Dev. & Soc. Wel.	Hous.
Nigeria	20.1	-212	*	-74	-	-38	+555	-	+84	-	-
India	19.2	-23	-56	-	-	-94	-68	-	+750	-	-
Indonesia	17.3	0	-48	-22	-61	-27	+9	0	-54	-	*
South Vietnam	11.3	-100	+513	-76	-	-16	-6	-	-100	*	-
Liberia	10.6	-100	-	-67	-	-58	-11	+269	-25	-	-
Somali Republic	10.1	+39	-	-93	-	*	-70	+15	-61	-	-
Brazil	9.8	+636	+79	+479	+372	+80	-39	+117	+40	-	-
Peru	8.7	-85	-88	+82	-9	-75	-78	+106	-80	-	-76
Sudan	8.3	-16	-84	-82	-	-	-84	-	-	-	-
Colombia	8.1	-58	-100	-17	+105	-83	-72	*	+25	-	-
Pakistan	8.0	+4	-16	-33	+100	-35	-39	+1192	-34	-	-
Afghanistan	7.4	0	+46	+1808	-	-	+135	-	-29	-	-
Thailand	6.9	+154	+50	-77	-	+20	*	-100	+10	+13	-
Ecuador	6.9	-47	+84	-	-21	-18	-71	+190	-52	-	+60
Jordan	6.8	+140	+167	*	-100	-71	*	-100	*	-	-
Korea	6.5	+31	-65	-91	-	-	-	-100	+343	-	-
Ethiopia	6.4	-44	-34	-91	-	*	+93	+311	-	-	-
Tunisia	6.3	-84	-6	-	-83	-	-30	+116	-88	-	-
Cambodia	5.4	-44	-	-86	-	-24	-59	-100	-	-	-
Bolivia	5.1	+35	+279	+65	+12	+195	0	+22	+132	-58	-

## Notes:

\* negligible.

+ indicates no obligations in Fiscal Year 1962, obligations of \$100,000 or more in Fiscal Year 1963.

- indicates obligations of \$100,000 or less in both Fiscal Year 1962 and Fiscal Year 1963.

0 indicates obligations of more than \$100,000 in both years but no appreciable difference.

## Sources:

Agency for International Development (W-129) for June 30, 1963 and June 30, 1962.

and on some contracts (for example, Peru) this merging seems to have been quite successful.

Although the evidence is mostly circumstantial, it does point to the desirability of fulfilling some substantial part of technical assistance needs through the contract process. Existing cost figures seem to indicate that there are relatively unimportant differences in cost by source (but it would be most helpful if additional work could be done in costs, particularly by specific skill types). The advantages of contract personnel in terms of the flexibility of the operation and, most important, the ability to make contracts for specific periods of time are distinct advantages in trying to meet a fluctuating demand. However, we also feel that it might improve matters measurably if estimates were made for each country of the likely demands for technical assistance for about a 3-year period in the future. This would permit a somewhat better planning of the operation even though the estimates are most certainly subject to errors. This might also assist the Agency in fostering a healthy degree of specialization among its technical assistance contractors. A particular contractor, for instance, might be able to look forward to a series of projects in a particular field, applying the insights gained in one country to the problems faced in the next.

#### INCREASING THE EFFECTIVE SUPPLY OF SKILLS

The shortage of personnel is not in numbers but in the skills that are required, and among the skills the shortage is primarily in economics and engineering.

At present AID is managing a construction and engineering program of approximately \$4 billion or perhaps slightly more. Although there is some confusion as to the definition of engineering personnel, it appears that for the monitoring function alone AID has approximately one engineer for each \$10 million of program. (This excludes personnel for design, construction supervision, and other functions not directly concerned with monitoring.) By comparison the Department of Defense has approximately six monitoring engineers per \$10 million, and twelve

large private U.S. engineering firms engaged in construction have two monitors per unit of \$10 million. Although there are undoubtedly differences in the kinds of projects among the three, these figures suggest that AID is very short of engineers for essential monitoring and evaluation tasks.

The situation seems to be worse with respect to economists. Although it is difficult to get unequivocal evidence on the point, one experiment was performed. From a selection of Missions in twelve countries, those persons considered to have general program responsibilities were identified; there were 88 such individuals.<sup>1</sup> Of these 88 officers, 30 had masters' degrees (but the field of the degree was not ascertainable), and nine had doctorates, of which seven appeared to be in economics. Of the twelve Missions sampled, eight had no person with a doctoral degree in any of the programming activities. Thus there appears to be relatively few people with advanced degrees in economics performing functions in these Missions. The same is true in AID Washington. The offices concerned with capital development and program development and coordination have a shortage of economists.

There are several steps that might be taken to correct the situation, though in any case the solution is apt to be difficult to achieve and will take time. The most obvious and direct step is to try to hire the economists and engineers that are required. AID has had a recruitment program underway, but the results have not been very encouraging. We completely support the intent and purpose of this effort and emphasize the importance of giving this effort the greatest assistance within AID. It seems unlikely, however, that reliance should be placed solely on this measure.

The alternative is to obtain the necessary skills and assistance through contract. This would enable AID to draw upon talents, both academic and corporate, that it possibly cannot obtain on a direct-hire basis. By judicious choice of contractors, work in project

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<sup>1</sup>The Missions included were India, Pakistan, Turkey, Afghanistan, Brazil, Chile, Colombia, Peru, Taiwan, Korea, South Vietnam and Nigeria. Data are from AID, Staffing Pattern and Personnel Roster, May 25, 1964, and from the State Department, Biographic Register. See also the notes to Table 8.

evaluation, prefeasibility studies, aggregate programming, and sectoral surveys might be substantially increased and improved. The sources of such assistance are the universities, private corporations, and individual consultants. Where a consulting firm is used, it is most important that AID verify that both economic and engineering or technical talents are available in the group. Unless the task is quite clearly limited to a specific technical analysis, there is the possibility that market and other economic considerations will be inadequately covered or omitted from consideration.

There have been several instances in which contracts have been made with universities, and additional possibilities are open. Since the attraction is often in obtaining the services of senior faculty members with stature and experience and since such personnel are frequently heavily committed, it may be necessary to contract with several universities jointly in order to get a sufficient scale of effort started in a single large country. This means a greater effort to concentrate the limited resources that are available in the field.

Finally, there are advantages in having for each country a single contractor who is primarily responsible for the research and evaluation work, rather than multiple contractors with individual responsibilities for sectors or industries. The advantages are in ease of administration, fixing of responsibilities, and flexibility of operation. No one contractor probably has all the skills necessary over a period of time, but it should be possible for the prime contractor to obtain additional help when necessary. For the eight to twelve countries that are the major recipients of aid, we suggest that AID consider a single contractor responsible for work in project preparation and appraisal and related studies.

#### CONSERVING THE USE OF EXISTING SKILLS

Adding personnel resources is a first priority, but it is also important to conserve or use more effectively the resources now at AID's command. One attractive opportunity for conservation of scarce staff lies in a greater centralization of technical review personnel in the field.

The possibilities for organization of the project staff range from extreme centralization, with virtually all of the staff being concentrated in AID Washington, to the present arrangement in which each Mission is primarily responsible for performing its own evaluations. In between there is a possibility of some quasi-centralization of certain skilled staff at a regional or subregional level. There is some precedent for regional centralization of the project staff in the Regional Office for Central America and Panama. ROCAP performs most of the functions that would ordinarily be handled by Missions in each of the countries included in the group. These activities are also centrally handled in the recently organized Regional USAID/Africa, but in this case centralization -- for a group of admittedly rather small individual programs in Western Africa -- has gone even further in that the staff will be based in AID/Washington and will undertake periodic trips to the constituent countries.

A strong argument can be made for greater centralization than now exists for certain professional skills, particularly those in engineering categories. With current procedures, an engineer or a technician in a Mission is called upon to pass on many different kinds of projects, but he can really be knowledgeable only for those projects that match his training. An engineer with training in the power field may be quite lost in trying to deal effectively with an irrigation project. There are undoubtedly economies of scale in the utilization of personnel in capital development work so that a degree of centralization greater than now exists would probably have a major payoff for AID. One attractive possibility is centralization at the subregional level so that, for example, in Latin America one office might serve Argentina, Brazil, Chile, and Bolivia, and a second office Peru, Ecuador, Colombia, and Central America.

In addition, AID now suffers from a lack of interregional cooperation at the loan appraisal stage. This is especially true in the use of technical specialists. Often a given bureau will assign a technician whose expertise in the problem at hand is only peripheral or will hire an outside consultant when, at the same time, an expert of

precisely the kind needed is available in another bureau. Such simple devices as lists of specialists by rather narrowly defined skills would be highly useful here.

The information contained in Table 11 suggests that the time of skilled personnel is not necessarily concentrated on the key tasks. The problems are similar in the Missions and in Washington. Personnel are frequently absorbed in some activities when they might be usefully employed otherwise. One specific example deserves mention. For several months each year the key personnel in a Mission are intensively absorbed in the preparation of the annual Country Assistance Program (CAP). It is a demanding task; Mission personnel have been known to worry aloud that they were not "filling in the boxes fast enough." Whatever other uses the CAPs may have (and there are several that suggest themselves), it is not clear that these documents in their present form are essential to programming decisions in allocating aid. On the other hand, there is a need for an effective management information flow system that will convey the kind of information needed to the persons requiring it in order to make sensible decisions. Unfortunately the components of such a system have never been adequately studied and defined. We urge that such a study be undertaken to define what is needed, when, and by whom. Such a study should also determine the most efficient means to collect such information; it seems likely that collection and reporting procedures will be found that do not so heavily require the time of key professionals.

In addition to recruiting able economists for the loan offices, a substantial training program in the economic aspects of project analysis would appear to offer substantial returns for both loan officers and AID technical personnel involved with project review. The Economic Development Institute (EDI), an affiliate of the World Bank, offers a course very similar to that recommended here. It is not known whether AID loan officers could be enrolled in it, but inquiries indicate that few if any AID personnel ever have. If they could, this would appear to offer a relatively easy way to carry out this suggestion. The next best alternative would probably be to

contract with some university to provide such a course for AID personnel. This might be done in conjunction with other U.S. development lending institutions in the Washington area. It is important, however, that the course given be at least comparable to that offered by the EDI.

Appendix A

THE EL ALTO AIRPORT: THE COSTS OF INVOLVEMENT

An example of the serious administrative and institutional problems that AID can encounter in project lending is the experience with the El Alto Airport project in La Paz, Bolivia. In October 1954, the Development Loan Fund (DLF) entered into a loan agreement with Bolivia to finance construction of a single main runway and other improvements at La Paz. At that time the existing runway was unpaved, unlighted, and was dangerously short even for large, propeller-driven aircraft, let alone jets, because of the high altitude (over 12,000 feet) of the field. The loan, involving a U.S. dollar cost of \$1.5 million, was to cover the \$800,000 estimated cost of dollar imports and \$700,000 for some of the local currency cost. The remaining local currency cost -- about \$1.6 million -- was to be covered by counterpart local currency generated by a separate U.S. grant aid program in Bolivia.

For the consulting engineering work, Airways Engineering Corporation, a U.S. firm, was selected in mid-1960. Under the guidance of Airways, bids for the construction work were solicited by the Bolivian Government in early 1961. Two U.S. firms and one local Bolivian firm responded. The bids were opened in July 1961, and the local firm, Bartos e Cia (a Bolivian-Peruvian consortium), was declared winner.

It was at this point that the El Alto project ran aground. One of the U.S. firms that had participated in the bidding, Oman-Farnsworth Wright, immediately complained that its own bid was \$220,000 lower than that of Bartos and that the decision in favor of Bartos should be rescinded in favor of the low bid. The Bolivian authorities replied that while Oman's bid was indeed the lowest of the three, the bid had been disqualified because Oman had attached a conditional clause to it. According to Bolivian law such a bid was alleged to be illegal. Oman maintained that during the time bids were being formulated, it was concerned about the availability of locally produced cement to meet the time schedule set down in the bid request. Therefore Oman did stipulate in its bid that construction would be subject to delays if sufficient

locally produced cement were not available when needed. However, after the bids were submitted but before Bartos was declared winner, Oman obtained satisfactory assurance that an adequate and timely supply of locally produced cement would be available and it therefore withdrew the condition. Very well, said the Bolivians, but under Bolivian law the withdrawal cannot be recognized.

The situation deteriorated rapidly. The Oman complaint reached some Congressmen who made inquiries of DLF about why the low bidder had not been given the contract. Charges were made that the recipient country was discriminating in favor of its own nationals. DLF maintained that under U.S. law the lowest qualified bidder must be given the contract, and so far as DLF could determine Oman did meet this qualification. Therefore DLF had no alternative but to reject the Bartos contract (in October 1961) and to refuse to disburse dollars under the loan agreement on grounds that the Bolivian government had not satisfied the "conditions precedent." Immediately the La Paz press blasted the United States in its handling of the loan. It would be a clear-cut invasion of Bolivian national sovereignty to back down to American demands, so the papers maintained. They went on to accuse DLF of not really being serious in wanting to finance the airport in the first place, and maintained that the current conflict was only an excuse for DLF's pulling out. DLF immediately defended itself by saying that it was not pulling out and that the loan agreement had not been canceled -- only that dollars could not be disbursed under the loan until Bolivia satisfied the conditions set down by DLF.

During this time the Bolivian government sought to bolster its case by making public a report in which it maintained that Oman's bid was lowest only because its cost estimate for concrete was 40 per cent below the official calculations made prior to the bid request. To the government, Oman's estimate seemed unreasonably low because generally only a 10 per cent maximum disparity is admissible in judging whether a bid is eligible. According to the government calculations the rest of Oman's bid was \$284,000 higher than the Bartos bid. The report declared that \$180,000 had already been spent by Bartos under the

the government therefore could not in good conscience renig on the contract.

This impasse between the United States and Bolivia, lasting over a number of months, generated a heated correspondence besides seriously straining relations between the two countries. The project record shows a number of cables received from the U.S. Ambassador to Bolivia asking permission to issue this or that public statement in reply to Bolivian charges, or outlining the situation as it went from bad to worse and asking for guidance. In examining the dialogue one is forcefully reminded about how relations between countries can be jeopardized over issues that in a real sense are trivial.

Finally, a rather unorthodox solution was found by persuading Bartos to reduce its bid to match Oman's, and by persuading Oman to withdraw. Simultaneously, the AID loan was expanded (in September 1962) from the original \$1.5 million to \$2.7 million to cover about 80 per cent of the \$3.4 million total cost estimated for the project. The AID loan included \$2.3 million for direct dollar costs and \$0.4 million for some of the local currency costs. The remaining \$0.7 million of local currency requirements was to be covered from counterpart local currency funds. Under the new arrangement, construction was started on July 4, 1962 with a ceremony that was attended by the U.S. Ambassador and other dignitaries.

This did not mark the end of El Alto's difficulties; the construction contractor faced a critical shortage of working capital in late 1962 that delayed work. The firm also had trouble in getting cement of adequate quality. In mid-1963 defective sections of new pavement were discovered which necessitated repair. The Bolivian government had difficulties, extending over years, with the Airways consulting firm. In mid-1961, even before the problem of construction bids had arisen, the government objected to the consulting engineer sent to La Paz by Airways and a replacement was made. But the government also became dissatisfied with the new engineer and in mid-1963 was strongly considering terminating the Airways contract. It was dissuaded from doing so because it realized that no more AID money could be disbursed for the project until

a new consulting contract, acceptable to AID, was signed -- and that could take a considerable amount of time.

During the summer of 1964 the project hit another snag when Panagra, the main airline servicing the area, disagreed with Airways on the location and type of radio beacons necessary to make the runway operative for jet aircraft. Meetings were held with Panagra, AID, and Bolivian government officials, and it was agreed that Panagra's request for change would be honored. The cost was covered by loan funds for the runway extension, and AID granted permission to purchase materials for the beacons in Argentina and Chile in order to save time of shipment from the United States. The beacons were installed for jet operation by October. Thus, from the time the original DLF loan agreement was signed in 1959, it took 5 years to get a usable jet airport.

But the troubles were not over. On completion of the runway the next step was to obtain a loan for facilities -- the terminal, cargo facilities, management training for the personnel, fire and crash equipment, and so on. The Bolivian government submitted a proposal for a loan totaling \$2,742,000 in the fall of 1964. AID found it necessary to revise a number of the estimates within the application, consulted with FAA about the airport facilities proposed, and checked regulations on equipment, necessarily delaying the loan application approval. In the meantime, Airways, the consulting engineering firm, was still working for the Bolivian government, but was not getting paid for its services. The Bolivians wanted Airways to provide services through February 1965 and proposed that they be paid from funds to be provided in the forthcoming AID loan for airport facilities.

During December 1964 the political pot began to boil concerning unpaid fees, a delay in the loan approval, a new regime in Bolivia, and a bad press. An Airways official visited Bolivia and reported the above request for services and the suggested payment scheme to the AID Mission. He reported that Bolivian officials were disturbed by U.S. "punitive" action toward them in delaying the new loan, and they took it as a sign that the U.S. government had no confidence in

the new junta. AID officials also heard from friends in the Bolivian government that Airways had reported a slowdown in AID for political reasons. By law the payment of the consulting firm is the responsibility of the Bolivian government; even a new loan could not help them out because AID statutes rule that funds from a loan may not be used to pay debts already incurred by the borrower.

Articles appeared in the Bolivian press castigating U.S. AID for stalling and blaming the delay on loss of confidence of the United States in the new regime. Resulting U.S. action was a long letter from the U.S. AID Mission chief in Bolivia to the Bolivian Director of Civil Aeronautics saying that the United States would be happy to discuss the new loan whenever a meeting could be arranged. The payment of the fees to Airways, however, was a responsibility of the Bolivian government under the original loan commitment. If the government could not provide the funds for the Airways contract, a serious doubt could arise as to Bolivia's ability to maintain and operate the airport, as well as repay the loans. Such doubts might jeopardize the proposed AID loan for airport facilities.

As of spring 1965, Airways had not been paid, the new loan had not been signed, and the Government of Bolivia was already falling behind in payment on the original loan.

Appendix B

THE CENTO RAILROAD: ECONOMIC LOSSES VS. POLITICAL GAINS

The idea of joining the Turkish and Iranian railroad systems is one that can be traced back at least as far as 1937. By 1959 a 284 mile gap still remained in the barren area between Mus in Eastern Turkey and Sharifkhaneh in Western Iran. The reasons for the delays in effecting this junction are not hard to find. The 1959 study for the Development Loan Fund by Coverdale and Colpitts (the second such study contracted by the United States) concluded that "in view of the estimated light traffic volume of the proposed railroad link and its relatively high cost, we earnestly recommend the study of a modern two-lane highway as an alternative."<sup>1</sup> In spite of the bleakness of the economic forecast, the Turkish and Iranian governments apparently continued to favor the project strongly.<sup>2</sup> As a result, the United States conceived the idea of splitting the project into two phases. The first phase consisted of a 64 mile section in Turkey and a 28 mile section in Iran that were somewhat more easily defended on economic grounds. These portions of the link were financed by the United States in 1959 and 1960. In 1962, Turkey and Iran requested development loans for the remaining 182 miles, and in March 1963, Robert R. Nathan Associates was commissioned to make a third study of the (now smaller) project.<sup>3</sup> The new study concluded that even under the most optimistic projections the net revenue resulting from the project would not cover the operating costs until 1988, and would not cover total costs by 1993, the last year studied.

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<sup>1</sup>As quoted in Agency for International Development, Capital Assistance Paper, Turkey-Iran: CENTO Railroad (U), AID-DLC/P-210, March 3, 1964, p. 9 (Confidential). This AID paper is hereafter referred to as "the loan paper."

<sup>2</sup>Ibid., pp. 46-49.

<sup>3</sup>Robert R. Nathan Associates, Inc., "Economic Review of the Turkey-Iran Railway Link," Washington, July 1963.

With this background, it is interesting to examine the Capital Assistance Paper prepared by AID for the second phase of the project. The focus of this report is on the implications to be derived from a comparison of the loan paper with the report of Nathan Associates (the basic research input into the AID report). In particular, it would appear that the temptation to "lean over backwards" to justify the project may have led AID to make several errors of analysis and to adopt certain analytic conventions that are most difficult to defend. Although AID eventually concluded that the project did not meet the economic criteria required for development loans, the eventual decision to go ahead with the project (using supporting assistance funds) was undoubtedly influenced by the AID analysis since the final decision involved a balance of economic loss against political and perhaps military gains. The differences in the profitability calculations in the two reports will be discussed under three headings.

1. INCLUSION OF "EXTERNAL BENEFITS" AND EXCLUSION OF LOSSES FROM TRAFFIC DIVERSION

The loan paper includes a \$1,000,000 figure representing the saving in freight costs in the first year of operation which would supposedly result from Iranian imports shipped via Iskenderon in Turkey to the Azerbaijan area of Western Iran over the proposed railroad line. These imports are now landed at one of two Southern Iranian ports and largely carried by railroad to the Azerbaijan region of Western Iran. This adjustment in freight costs is appropriate, however, only under the assumption that the net operating balance to which the adjustment is applied relates only to that part of total traffic on the new line that does not represent a diversion from the Persian Gulf route. This is not the case. In fact, it would appear that most of the additional revenue estimated by AID to be generated by the project would arise from a diversion of traffic from existing Iranian railroads serving Gulf ports. The benefits from such a diversion are equal to the difference between

the long run marginal costs of moving the traffic over the two routes.

In symbols, let

- R and C = revenue and costs of the new or "undiverted" traffic generated on the Turkish and Iranian railroads by the project,
- $R_T$  and  $C_T$  = revenue and costs of "diverted" traffic over the proposed new route from Iskenderon largely through Turkey, and
- $R_I$  and  $C_I$  = revenue and costs of the traffic proposed to be diverted if it were continued to be carried by the old route from the Persian Gulf through Iran.

The net benefits from the project as a whole would be

$$(R - C) + (C_I - C_T), \quad ^1$$

which is equivalent to

$$(R + R_T) - (C + C_T) - (R_I - C_I) + (R_I - R_T).$$

Neither the Nathan report nor the AID loan paper choose the appropriate concept. The former employs

$$(R + R_T) - (C + C_T) - (R_I - C_I),$$

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<sup>1</sup>No benefits are included for savings in shipping costs which might be thought to exist on cargo to or from Western Europe or North America that is unloaded at Iskenderon rather than Persian Gulf ports. Shipping rates, the only evidence available, are affected by a number of the factors besides distance, and are not substantially different (see Nathan, op. cit., pp. 28-29). The presumption here is that rate differences between new and old routes are a relatively arbitrary measure of differences in benefits. As a working hypothesis we are assuming that the benefit is the volume of goods moved and is thus independent of route.

while the latter appears to use

$$(R + R_T) - (C + C_T) + (C_I - C_T).$$

The basis for the AID estimate thus exceeds that of the Nathan report by

$$(R_I - C_T) = (R_I - C_I) + (C_I - C_T),^1$$

which according to Table B-1 should be roughly \$3 million in 1969, a very significant difference. But calculations suggest that  $R_I - R_T$  is fairly small, so that while the Nathan concept is not strictly correct, their figures would not be substantially affected by the addition of the missing term. The conclusion is that the result of the adjustments made under this heading by the AID loan paper had the effect of substantially increasing project benefits above what can be justified by the Nathan figures.

## 2. USE OF "OPTIMISTIC" NATHAN ESTIMATES

The Nathan report contained not one but two sets of revenue and expense estimates, based on "optimistic" and "cautious" assumptions. The loan paper, on the other hand, quotes only the "optimistic" estimates. The difference, based mainly on varying traffic estimates, was considerable (see Table B-2), although the computed profitability of the overall project was little affected (see Table B-1). The significance of this would be very little except that as already noted the loan paper also omits the diversion losses  $(R_I - C_I)$  resulting from the assumed transfer of the traffic from the Iranian to the Turkish State Railway. Reference to Table B-1 will show that it is only if these diversion losses are omitted that

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<sup>1</sup>The loan paper mentions these diversion losses, but they are not included in the summary table, which according to the paper shows "the rail line breaking even in 1983 and showing a positive return to the economy thereafter" (AID, op. cit., p. 32).

Table B-1  
COMPARATIVE PROFITABILITY ESTIMATES  
(thousands of dollars)

	1963		1969			1983	
	Nathan		Nathan		Loan Paper	Nathan	
	Optimistic	Cautious	Optimistic	Cautious		Optimistic	Loan Paper
Revenue (R + R <sub>T</sub> )	6,212	1,908	7,329	2,138	7,835	11,507	12,887
Operating expenses	<u>5,031</u>	<u>1,896</u>	<u>5,890</u>	<u>2,145</u>	<u>6,268</u>	<u>9,277</u>	<u>10,310</u>
Operating balance	1,181	12	1,439	- 7	1,567	2,230	2,577
Capital charges	<u>3,489</u>	<u>3,489</u>	<u>3,489</u>	<u>3,489</u>	<u>3,684</u>	<u>3,162</u>	<u>4,337</u>
Balance before diversion adjustment (R + R <sub>T</sub> ) - (C + C <sub>T</sub> )	-2,308	-3,477	-2,050	-3,496	-2,117	- 932	-1,760
Net loss from diversion (C <sub>I</sub> - R <sub>I</sub> )	1,658	- 696	-2,094	- 818		-2,094	
"External benefits" (C <sub>I</sub> - C <sub>T</sub> )					<u>1,000</u>		<u>1,803</u>
Net balance	-3,966	-4,173	-4,144	-4,314	-1,117	-3,026	43

Sources:

Compiled from Agency for International Development, Capital Assistance Paper, Turkey-Iran: CENTO Railroad (U), AID-DLC/P-210, March 3, 1964 (Confidential), and Robert R. Nathan Associates, Inc. "Economic Review of the Turkey-Iran Railway Link," Washington, July 1963.

Table B-2

NATHAN FREIGHT TRAFFIC ESTIMATES  
(thousands of tons per year)

	Optimistic		Cautious	
	Eastbound	Westbound	Eastbound	Westbound
Turkish internal traffic	12	5	5	2
Bilateral trade movement	12	5	5	2
Iranian transit traffic	200	45	70 <sup>a</sup>	10
Iranian internal traffic	<u>25</u>	<u>5</u>	<u>5</u>	<u>2</u>
Total	249	60	85	16

Note:

<sup>a</sup>Given as 20 by Nathan on page 2, but this is assumed to be an error, based on later discussion.

Source:

Robert R. Nathan Associates, Inc., "Economic Review of the Turkey-Iran Railway Link," Washington, July 1963, p. 2.

it makes much difference whether the "optimistic" or "cautious" estimates are used.

Although the loan paper states the assumptions used by Nathan in making the "optimistic" estimates, it does not give any indication that there may be some doubt about their validity. The Nathan report, itself, however, tends to cast doubt on them. For example, the report was clearly skeptical of one of the most crucial assumptions underlying the "optimistic" estimate, namely, "that maritime rates from ports in Western Europe and North America to Iskenderon (and vice versa) will compare slightly more favorably with rates to the Persian Gulf than they do at present."<sup>1</sup> The Nathan report concludes that "on balance, we think it most likely that the unusually high rates at either may be reduced, while the general rate level at Iskenderon may continue to be but marginally lower than at Korramshahr."<sup>2</sup>

More generally, the report states the following:<sup>3</sup>

In the light of the many uncertain elements, it is entirely possible that actual operating results might fall, at least in some respects, outside the range of our estimates. We regard it as highly improbable, however, that actual developments could be sufficiently more favorable than our optimistic estimates to yield to either of the railroad systems within the foreseeable future revenues high enough to cover the cost of constructing and operating the proposed railway connection.

It is generally agreed that any single-valued estimate of an uncertain variable is less useful than a forecast that reflects the inherent uncertainty of the process being estimated. The AID report does not deny the fact that future Turkish railway revenues are difficult to estimate, but it does not make very clear that its

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<sup>1</sup>Nathan, op. cit., p. 2.

<sup>2</sup>Ibid., p. 29. It is of interest that it is the Persian Gulf rates that seem most likely to fall in the near future. See The New York Times, June 13, 1964, p. 52.

<sup>3</sup>Nathan, op. cit., p. 8.

single-valued estimates are approximately the same as the "optimistic" forecasts of the Nathan report. To be sure, it is an accepted practice to devise rejection or acceptance tests on the basis of the "best likely" or "worst likely" forecasts respectively, but such a procedure presumes that economic factors are the only items of any importance to the decision. This was not the case here. It was known that the primary motivation for consideration of the railway loan was political. The basic question to be answered was the magnitude of the economic disadvantage that the project would likely entail. The decisionmaker's problem was to determine whether economic disadvantage outweighed political advantage. The economic forecast should not therefore have been presented only in terms of the "most favorable" set of outcomes that could be considered believable.

### 3. INCREASED RATES OF TRAFFIC GROWTH

The AID loan paper also adopted rates of growth of traffic that were substantially higher than those used in the report of Nathan Associates. Comparison of the revenue and expense data for the "optimistic" Nathan estimates with those of the AID loan paper given in Table B-2 shows the small but favorable effects that these changes have on the predicted operating balance.<sup>1</sup> It is quite possible that the higher figure is a better estimate, but there is no evidence that detailed research of the sort needed to establish such a change was carried out by the AID staff. The above argument concerning the use of single-valued estimates is also relevant here.

In summary, the AID loan paper made three dubious changes in the Nathan estimates, all of which had the effect of making the project more economically justified:

(1) Inclusion of illusory "external benefits" and exclusion of real losses from traffic diversion from the Iranian railroads,

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<sup>1</sup>The loan paper estimates of 1963 revenues and expenses can be assumed to be the same as the Nathan "optimistic" estimates.

(2) Use of "optimistic" Nathan estimates alone and without suitable warnings, and

(3) Use of higher assumed rates of traffic growth without adequate justification.

While the first change represented a serious analytic error, the significance of all three changes lies rather in the fact that they suggest that the economic analysis of the project was not prepared in such a way as to facilitate comparison of economic disadvantages with political advantages (which were probably the basic factors involved in the decision on the project). A military case was also made for the project, but it would appear to be somewhat doubtful. An annex to the loan paper argued, among other things, that a railroad would be easier to maintain under combat conditions than a system of military motor roads of equal cost. To the extent that there is any sort of received doctrine on this subject, the contrary seems to be true. Other things being equal, a railroad is easier to interdict than a system of motor roads of equal cost.

These criticisms should not be understood as being criticisms of the ultimate decision or of the fact that a political argument dominated an economic calculation. To the contrary, one of the conclusions that an outside investigator of AID operations is likely to reach is that greater imagination might be exercised in the formulation of projects that offer substantial political advantages. The principal quarrel here is with the manner in which the evidence was presented for decision. Unless political advantages can always be stretched to cover economic disadvantages -- and this hardly seems defensible -- the economic outcome of a project with important joint political and economic implications should not be presented in terms of the most "optimistic" outcomes.

Appendix C

THE BOKARO STEEL PLANT: THE IMPORTANCE OF SOCIAL PRICING  
AND ACCURATE DEMAND FORECASTS

One of AID's more celebrated projects-to-be, India's Bokaro steel mill, met a premature death in 1963 when the House of Representatives prohibited the use of U.S. funds in its construction. Although the ostensible reason for opposition to Bokaro was its ownership by the Indian Government, several other factors contributed to this opposition. One was a belief that the economics of Bokaro were, at best, marginal; another, a concern for the haste with which AID and the Government of India were planning the mill's construction. The first objection was probably in error and arose from the use of actual not social prices in the project report prepared by the United States Steel Corporation. The second objection appears to have been justified. However, AID's response to it could have been more flexible were the consequences of the Indian Government's price policies fully understood and considered in U.S. Steel's report. In both instances, AID's position before Congress was weakened by an inadvertent acceptance of Indian pricing policies. An important lesson to be drawn from the Bokaro affair is the need for using social and not existing prices in project evaluation.

SOCIAL PRICING

U.S. Steel assumed that the expected profitability of the Bokaro mill would be a suitable measure of its economic worth. This it did as would any private company reacting to the prices received for its products. Not surprisingly, it found that Bokaro would incur losses during its first stage, and would earn a return of only 9 per cent before payment of corporate income taxes and 5 per cent after taxes in its third and last stage.<sup>1</sup> These rates of return, modest at best,

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<sup>1</sup> Approximations based on data presented in United States Steel Corporation, A Techno-Economic Survey of a Proposed Integrated Steel Mill at Bokaro, Bihar State, India, report submitted to AID, March 1963, Vol. III. These rates assume Bokaro's receipt of retention prices in force in 1962 and exclude excise duties on finished steel.

were considered wholly inadequate by an official of U.S. Steel.<sup>1</sup> This official was probably aware that Bokaro's meager profits would be a consequence of the pricing of steel by the Government of India, not necessarily basic technical and economic deficiencies of the project. Unfortunately members of Congress did not appear to be equally aware of this fact.

At the time of the U.S. Steel study, prices for steel established by the Indian government were based on the out-of-date capital costs of India's private sector mills. They were also based on a rate of return set by the Government that was lower than any reasonable estimate of the marginal rate of return on investment in Indian industry. In short, these prices did not reflect all costs of producing steel in a new Indian mill and, when assumed for the Bokaro mill, resulted in anticipated profits that were unduly low. Were fully remunerative prices allowed India's steel mills, those prices used by U.S. Steel would have been increased by nearly 50 per cent.<sup>2</sup>

Perhaps a more appropriate price for use in determining the net benefits of the Bokaro mill to the Indian economy is the average import price of those types of steel to be produced by the mill, a measure of the "opportunity" cost of not erecting the Bokaro plant. To some extent, a comparison of this price with Bokaro's projected

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<sup>1</sup>After repeated questioning by members of the Congressional Subcommittee that considered the Bokaro project, Norman B. Obbard, Executive Vice President of the United States Steel Corporation, declared that U.S. Steel would not invest its own money in Bokaro because the anticipated rate of return did not compare favorably with rates of return earned elsewhere. Testimony, August 15, 1963, U.S. Congress, House Committee on Appropriations, Foreign Operations Appropriations for 1964, Hearings before Subcommittee, Part 4, 88th Congress, 1st Session, Washington, U.S. Government Printing Office, 1963, p. 1641.

<sup>2</sup>For a discussion of Indian pricing of steel, see William A. Johnson, Steel in India: A Study of Planned Industrial Growth, Chapter 5, The RAND Corporation, forthcoming.

costs of production entered into the U.S. decision on the Bokaro project.<sup>1</sup> However, this comparison, in its simplicity, was an implied acceptance of still another administered price, India's rate of exchange. India's rupee is overvalued and any direct comparison of Indian with foreign prices would place most if not all Indian goods at a substantial disadvantage.

We have priced the rupee at 14 cents rather than the official 21 cents, a "shadow" rate of exchange that in our opinion assumes a minimum justified devaluation. Shadow pricing is a risky exercise. Once the analyst adjusts one price that has been artificially distorted, where does he stop? Should unskilled labor be assigned a zero wage because of its alleged zero marginal productivity? Should the prices of other inputs subject to price controls, such as coal, be changed to more accurately reflect the production costs of these inputs? Although one can easily become lost in the shadows, this risk must be taken. Rough computations indicate that in all but one instance the consequences of price distortions for India's steel industry are relatively minor.<sup>2</sup> The exception is the price of foreign exchange. To discuss meaningfully the social profitability of India's investment in steel, it is necessary to make some adjustment in this price.

Estimates of a crude social rate of return on investment in the Bokaro steel mill are presented in Table C-1. At the end of its first stage Bokaro would recoup to the Indian economy approximately 12 per cent of its plant costs each year; at the end of its third and last stage, 24 per cent. These rates do not reflect delays necessarily incurred before the mill reaches full productivity. Accordingly, a

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<sup>1</sup>For example, see U.S. Congress, pp. 1629-1630.

<sup>2</sup>In particular, extremely rough estimates were made of the social costs of Bokaro's coal, electricity, rail services, and indirect foreign exchange expenditures incurred in the use of imported crude oil and machinery to generate electric power. The total underestimation of Bokaro's social costs amounts to no more than Rs. 8 per ton of finished steel and, for all practical purposes, is insignificant.

more appropriate measure of the project's economic worth is its internal social rate of return, that rate which would equate the present value of future revenues and costs of the mill. Rough estimates of this rate range between 13 and 15 per cent, depending on assumptions made about how fast the mill could be erected and commissioned and the rate of replacement appropriate in its first years.

It is evident that Bokaro's social profitability would be substantially greater than that indicated by the U.S. Steel report. It is also far greater than the actual rates of return earned by railways and power, the two industries that have received much of America's aid to India.<sup>1</sup> Perhaps most significant, measures of the project's internal social rate of return are equal to or slightly higher than most discount rates thought appropriate for India's economy.<sup>2</sup> This being so, India's investment in the Bokaro steel mill would appear to be marginal, although still justified.

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<sup>1</sup>This, admittedly, is not a very meaningful comparison. Both industries are also subject to price administration by central or state governments. The average annual rate of return accruing to India's railways was 4.6 per cent between 1956 and 1961. A. P. Carlin, "An Evaluation of U.S. Government Aid to India," unpublished doctoral dissertation, Massachusetts Institute of Technology, 1964, p. 83. The average rate of return accruing to India's electricity undertakings in 1958-1959 was 3.3 per cent. Planning Unit, Indian Statistical Institute, Price Policy for Electricity Undertakings, New Delhi, 1962 (mimeograph), p. 111.

<sup>2</sup>Most analysts generally accept rates ranging between 10 and 15 per cent. One study has placed the marginal rate of return on investment in modern private Indian industry at 20 per cent before taxes and after depreciation. Louis Lefebvre and M. Datta Chaudhuri, Transportation Policy in India, New Delhi, Perspective Planning Commission (mimeograph), p. 12. Another has placed the marginal rate of return on investment in Indian agriculture at 3 per cent. David W. Hopper "Allocation Efficiency in Indian Agriculture," Journal of Farm Economics (forthcoming). A recent inquiry into the costs of transporting Indian coal, prepared for the World Bank, has employed a rate of return of 12 per cent. Surveys and Research Corporation and Coverdale & Colpitts, Consulting Engineers, India Coal Transport Study, Washington, 1964, Appendix C, p. 178.

Table C-1

REVISED ESTIMATES OF THE COSTS OF PRODUCTION AND THE  
PROFITABILITY OF THE PROPOSED BOKARO STEEL MILL  
(Rs. per ton of finished steel)

	First Stage	Third Stage
<u>Capital cost<sup>a</sup></u>		
Domestic component	1863	1004
Foreign exchange component (assuming the rupee equal to 14¢, not 21¢)	<u>3521</u>	<u>2188</u>
Total	5384	3192
<u>Weighted average c.i.f. import price<sup>b</sup></u>		
Actual	820	820
Revalued assuming the rupee to equal 14¢, not 21¢	1230	1230
<u>Costs of producing steel at Bokaro</u>		
Probable works costs <sup>c</sup>	326	326
Increase in costs of employing foreign personnel corresponding to the assumed devaluation of the rupee <sup>d</sup>	44	1
Replacement computed at 4 per cent of revised capital costs	<u>215</u>	<u>128</u>
Total	585	455
<u>Profits from the manufacture of steel at Bokaro before payment of corporate income taxes</u>		
In rupees	645	775
As a percentage of adjusted capital costs	12.0	24.3

Notes:

<sup>a</sup> Estimated from data presented in United States Steel Corporation, A Techno-Economic Survey of a Proposed Integrated Steel Mill at Bokaro, Bihar State, India, Vol. III, 1963, p. 4.

<sup>b</sup> Computed from Government of India, Monthly Statistics of the Foreign Trade of India, New Delhi, April 1, 1961 through December 31, 1962. The product mix envisioned in the U.S. Steel report is assumed in this computation.

<sup>c</sup>Includes operating and administrative expenses but excludes depreciation charges and excise taxes on finished steel. Estimated from data presented by United States Steel Corporation, Vol. III, Exhibits C-5 through C-16.

<sup>d</sup>The wages of imported personnel represent the only substantial element of Bokaro's operating costs to be incurred in foreign exchange. The maximum annual cost of foreign personnel at the end of the first stage of the Bokaro mill was estimated by U.S. Steel to be \$19 million; by the end of the third stage, \$1.6 million. Ibid., Vol. II, p. 146. Were these amounts revalued at one rupee equal to 14¢, rupee costs of production per ton of finished steel would be increased by Rs. 44 and Rs. 1 respectively.

<sup>e</sup>It is assumed that sums are spent on replacement within one year of their allocation, In fact, this will probably not be true during the early years of the Bokaro plant's existence. If so, the crude social rate of return earned by the mill would be still higher during these years.

The inadequacies of Indian steel prices and, consequently, U.S. Steel's estimates of Bokaro's profitability were not unknown. They were pointed out to AID by Richard Eckaus of Massachusetts Institute of Technology. They were also pointed out to Congress by an official of AID.<sup>1</sup> Our contention is not that AID was necessarily unaware of the shortcomings of the Bokaro report, but rather that these shortcomings and their consequences could have been avoided had U.S. Steel been instructed, either in its contract with AID or by a qualified economist appointed to oversee its report, to use social prices for both steel and foreign exchange. It was not sufficient for a qualified economist to review the project report after its completion. Rather, he should have influenced the report as it was prepared. It is doubtful that any economist, no matter how well established, could have counteracted the negative impression created by the report prepared by U.S. Steel.

#### ESTIMATES OF INDIAN DEMAND FOR STEEL

The Bokaro incident also suggests the importance of accurate demand estimates to properly assess the need and urgency of a project. Prices affect not only the profitability of an industry, but also the demand for the industry's output. Although U.S. Steel's projections of future Indian demand for steel appear to have been reasonably accurate, assuming the continuation of existing price controls by the Government of India, the assumption of higher prices reflecting social rather than existing costs would have resulted in somewhat lower projections of demand.<sup>2</sup> In short, U.S. Steel's failure to utilize

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<sup>1</sup>Testimony by W. S. Gaud, July 24, 1963, U.S. Congress, p. 1479.

<sup>2</sup>This assumption would have been of more than academic interest. Early in 1965 the Indian Finance Ministry, recognizing that steel prices have been kept too low, levied substantial increases in excise taxes on scarce types of steel, primarily flat products that are to be produced by the Bokaro mill. Price increases for these products averaged about 13 per cent; the maximum price increase was 20 per cent, and further price increases are anticipated. Although it is now too early to gauge the effect of these price changes, it would be surprising if they did not result in some reduction in demand.

social prices not only biased downward its estimates of Bokaro's social profitability, it also biased upward its estimates of future Indian needs for steel.

The use of social rather than existing prices in estimating future Indian demand for steel might have persuaded AID to postpone a commitment to the project until surveys of Bokaro's raw materials, thought essential by U.S. Steel, had been completed. Both AID and the Government of India were unwitting victims of the latter's price policies. The Indian government's estimates of future demand for steel, based implicitly on controlled steel prices, encouraged the belief that Indian demand was so great that the erection of the Bokaro mill had to begin without delay. The sense of urgency toward the project among Indian planners was, to some extent, shared by officials of the United States Government. Were U.S. Steel's demand estimates adjusted for unduly low prices charged Indian consumers of steel, they might have shown that work on the Bokaro mill could have been delayed a year or two without risking severe shortages of the types of steel the mill is to produce. Equipped with lower estimates of future Indian needs for steel, AID might have been more responsive to legitimate objections to the haste with which the project was being advanced.

These objections resulted, in large part, from doubts about the raw materials to be consumed by the Bokaro mill. The industry's raw materials difficulties have been chronic throughout the past decade and, to some extent, could have been avoided by proper planning. Bokaro would probably have been no more fortunate and, for this reason, U.S. Steel thought that at least two years would be necessary to verify the quantity and quality of Bokaro's principal raw materials.<sup>1</sup> One Congressman, aware that opposition to Bokaro could prove fatal to American participation in the project, urged AID to agree not to allocate funds to Bokaro from the foreign aid appropriation for fiscal 1964.<sup>2</sup> This, he argued, would be advisable given the political

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<sup>1</sup>United States Steel Corporation, Vol. II, p. 20.

<sup>2</sup>Representative Conte, statements made in U.S. Congress, pp. 1183-1185, 1566, and 1576-1577.

realities of the moment, and would also allow time to resolve doubts about Bokaro's raw materials. His suggestion was ignored by AID.

AID's reluctance to defer expenditures on Bokaro may have been motivated by noneconomic considerations. The only substantive objection to postponement brought out in Congressional testimony on the project, despite repeated questioning, was that Indian demand for steel was so overwhelming that serious shortages would accompany any delay.<sup>1</sup> In fact, evidence suggests that India's needs for steel were not so overwhelming that some delay in the Bokaro project would have been intolerable.

Projections of future Indian demand for steel are presented in Table C-2. Our estimates are based on an anticipated increase in India's industrial production more or less the same as that assumed by U.S. Steel and somewhat lower than that assumed by Indian planners.<sup>2</sup> Were the future price of steel to continue to bear the same relationship to other prices as it did in 1962, our projections would be only slightly lower than those made by U.S. Steel. On the other hand, if

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<sup>1</sup>For example, see the testimony of former Ambassador Galbraith, U.S. Congress, pp. 1532-1533 and 1568.

<sup>2</sup>Our demand estimates are based on data for the decade ending March 31, 1962 that have been subjected to the familiar statistical tool, multiple regression analysis. The data and methods used are discussed fully in Johnson, Chapter 7 and Appendix E. The dependent variable, aggregate Indian demand for steel, is assumed to be a function of three independent variables: the average price of steel relative to India's wholesale price index; India's official index of industrial production; and Indian consumption of steel. This last variable is an attempt to measure the extent to which shortages of steel have resulted in overindenting by consumers in an effort to obtain the amounts of steel actually wanted. All relationships proved highly significant. Demand projections based on this analysis assume an annual rate of growth in industrial production of 8 per cent during the Third Plan period (1961-1966) and 11 per cent during the Fourth Plan period (1966-1971). They also assume full supply of all indents for steel.

Table C-2

ESTIMATES OF TOTAL INDIAN DEMAND FOR SALABLE STEEL  
1965-1966 and 1970-1971  
(millions of metric tons)

Projections made by:	Last Year of Third Plan Period (1965-1966) <sup>a</sup>	Last Year of Fourth Plan Period (1970-1971) <sup>a</sup>
Perspective Planning Division, Indian Planning Commission <sup>b</sup>	7.66	13.34
United States Steel Corporation <sup>c</sup>	6.92	11.24
Revised estimates assuming: continuance of the same price of steel in force in 1962 (Rs. 619 per ton) <sup>d</sup>	6.80	11.19
Establishment of prices covering all costs of producing steel (Rs. 822 per ton) <sup>e</sup>	6.32	10.71
(Rs. 948 per ton) <sup>f</sup>	6.02	10.41

Notes:

<sup>a</sup>India's fiscal year extends from April 1 through March 31.

<sup>b</sup>Perspective Planning Division, Indian Planning Commission, Demand for Steel, Special Steel and Pig Iron, India: 1960-1970, New Delhi, 1961 (mimeograph), p. 11.

<sup>c</sup>U.S. Steel Corporation, A Techno-Economic Survey of a Proposed Integrated Steel Mill at Bokaro, Bihar State, India, 1963, Vol. I.

<sup>d</sup>Actual average selling price for all steel in 1962.

<sup>e</sup>Revised average selling price for all steel including Rs. 60 per ton, the average costs of transporting finished steel to markets, and allowing a 15 per cent return on investment.

<sup>f</sup>Revised average selling price for all steel including Rs. 60 per ton, the average costs of transporting finished steel to markets, and allowing a 15 per cent return on investment.

it is assumed that higher prices are established by the government, these projections would fall by between 0.48 and 0.78 million tons, depending on the rate of return allowed India's steel mills. In short, were Indian steel properly priced relative to other commodities, annual Indian demand for steel equal to a large proportion of the proposed initial capacity of the Bokaro plant, 1.04 million tons of salable steel, would vanish. Moreover, about two years would elapse before demand would increase to a level commensurate with that projected by U.S. Steel. Clearly, some delay in initiating the Bokaro project would have been permissible.

Unfortunately, our analysis applies to steel in the aggregate and not simply to flat products, the type of steel to be rolled by the Bokaro mill. This was a consequence of the limited data available to us. Even so, there is reason to believe that much of the unjustified Indian demand for steel resulting from unduly low steel prices is, in fact, demand for flat products. A disproportionate number of questionable uses of Indian steel, probably encouraged by low steel prices, involve these products. An example has been the Indian government's use of sheet steel in village construction in place of the more traditional mud, brick, thatch, and tile. Another has been the accumulation of excessive inventories of flat products by several government factories to hedge against possible scarcities of these types of steel. Indian demand for flat products is probably more responsive to price increases than the demand for other types of steel. Therefore, a relatively large proportion of spurious demand -- demand that is a function of unduly low steel prices -- would in fact be demand for this type of steel.

Consideration of the Bokaro project divorced from consideration of Indian price policies resulted in an assessment of the project that was misleading. To some extent it contributed to the eventual rejection of United States participation in the Bokaro mill. This post-mortem, although now a futile exercise as far as United States participation in Bokaro is concerned, may nonetheless be useful to AID in the future.

Subsequent project reports may be equally misleading as long as social pricing plays no part in them. Unless future techno-economic surveys are truly economic there is little assurance that the unhappy experience with Bokaro will not be repeated.