Logistics Management Institute

The Impact of U.S. Economic Assistance on the U.S. Economy: Interim Report

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Carl H. Groth
Douglas M. Brown
Paul F. Dienemann
Debra E. Goldstone
Frans Nauta
Joseph Pelzman

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Logistics Management Institute
6400 Goldsboro Road
Bethesda, Maryland 20817-5886

Executive Summary

THE IMPACT OF U.S. ECONOMIC ASSISTANCE ON THE U.S. ECONOMY

The goals of the U.S. economic assistance program focus on promoting economic growth, human capacity development, and pluralism in recipient countries and are supported by over $6 billion in funds appropriated under the Foreign Assistance Act of 1961 (FAA) in annual amendments. Besides supporting development goals, the FAA has always emphasized that U.S. economic assistance is to be spent on U.S. goods and services unless the President determines that procurement of non-U.S. goods and services will not adversely affect the U.S. economy.

In the face of severe budget and trade deficits, it has become increasingly important to the Administrator of the Agency for International Development (A.I.D.) and to Congress to determine what impact the U.S. economic assistance program has on the U.S. economy. Recent estimates of the proportion of economic assistance that returns to the U.S. economy vary widely and do not provide a sufficiently accurate baseline for determining the impact of assistance on the U.S. economy.

Our assessment of expenditures in seven A.I.D country missions found that this "flowback" proportion varies as a function of A.I.D. program, development project profile, and geographical condition. Although our survey estimated flowback proportions ranging from 56 percent in Honduras to 80 percent in Egypt, inaccuracies inherent in retrospective survey methods probably overestimate these flowback proportions.

We developed a matrix of project input and output categories to help A.I.D. identify those projects that promote greater use of U.S. goods and services. We believe efforts to increase the flowback percentage without changing the current assistance program profile of project types and recipient countries would increase the cost of assistance. Examples include replacing local contractors, basic construction materials, and local project support staff with U.S. counterparts.

We also undertook a macroeconomic assessment to attempt to correlate U.S. economic assistance and exports over time. The results of this assessment indicated

that 36 cents of additional U.S. merchandise exports worldwide can be associated with the last dollar of economic assistance. Projects aimed at policy reform, private enterprise, and sectoral development appear to have the potential for a continuing stream of U.S. exports beyond the life of these projects. Although econometric methods should not be relied on to estimate flowback proportions, they do address dynamic relationships between aid and trade that the year-by-year accounting survey methods do not address.

We found that none of the A.I.D. automated information systems provides comprehensive data for direct calculation of the amount of assistance expenditures used for goods and services of U.S. origin. A.I.D. needs to undertake several new management initiatives to produce measurement of the flowback of bilateral economic assistance to the U.S. economy that is reasonably accurate. We recommend A.I.D. undertake the following initiatives:

- Establish standard project output and input categories to facilitate consistent measurement across projects and missions
- Streamline A.I.D.'s regulations covering those aspects of project management, contracting, and accounting that deal with buy American requirements
- Clarify A.I.D.'s definitions of "source" and "origin" and improve each mission's ability to assess the origin of goods and services accurately
- Modify one or more of the automated information systems used by A.I.D. to support contract and financial management so as to record appropriate source and origin data systematically.

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CHAPTER 1

INTRODUCTION

BACKGROUND

The Administrator of the Agency for International Development (A.I.D.) is responsible for managing over $6 billion in U.S. economic assistance and $1 billion more in agricultural aid to over 70 developing countries. The goals of the U.S. economic assistance program focus on promoting economic growth, human capacity development, and pluralism in recipient countries and are supported by funds appropriated under the Foreign Assistance Act of 1961 (FAA) in annual amendments. Besides supporting development goals, the FAA has always emphasized that U.S. economic assistance is to be spent on U.S. goods and services unless the President determines that procurement of non-U.S. goods and services will not adversely affect the U.S. economy.

Since any one good can be made up of components from different countries, an A.I.D. rule specifies that the country of origin is where at least 50 percent of the components of the good originate. This rule facilitates decision making but allows only an approximation of the true economic beneficiaries of the purchase of the good.

The A.I.D. rule for determining the origin of a service is different from that for a good. The national origin of a service is the country in which the service company's ownership is registered. This rule also facilitates decision making about origin but may result in a less accurate approximation of true economic impact even than the rule for goods. Whereas, the factors of production for a good tend to spend their receipts in the country where that good is produced; the factors of production for a service can spend much of their receipts where the service is being rendered. This means that significant portions of payments for economic development services may be spent in the country receiving those services and not in the country where the service company's ownership resides. Since A.I.D. assistance in the form of services has tended to increase relative to commodity assistance, measurement of the economic impact of services has become more important.

Although U.S. export promotion programs have been kept distinct from economic assistance programs for the most part, increasing concern with the international competitiveness of U.S. business firms and with the U.S. trade deficit have recently stimulated interest in using the economic assistance program to promote U.S. exports. One central question is whether the U.S. economic assistance program can provide effective leverage in promoting the sale of U.S. goods and services. To establish a baseline from which to answer this question, the Administrator requires an assessment of the proportion of A.I.D.'s economic assistance expenditures that is used to procure goods and services of U.S. origin.

One fundamental accounting problem that makes this quantitative question such an issue is that A.I.D.'s financial and contract management information systems record reliable data only on the national source of the supplier of goods and services being purchased, not on the national origin of the goods and services themselves. In a simple world economy where only final products crossed national boundaries, there would be no difference between source and origin. In the increasingly complex real-world economy, however, the supplier nation of a good or service may provide only a small part of the full value of that good or service. For example, an LMI employee recently bought a Volvo automobile from a U.S. dealer. Although Volvo is a Swedish company, this car was assembled in Belgium using, among other components, tires manufactured in Brazil but purchased from an Italian company. If this car had been purchased by an A.I.D. mission the Mission Accounting and Control System (MACS) would have recorded it as of U.S. source, although the mission would have had to authorize its purchase under a waiver of the buy American requirements as of non-U.S. origin. Thus, the source of a good identifies only where it was purchased, whereas the origin identifies where it was produced.

A final complication is that a large portion of U.S. economic assistance can be in the form of either cash transfers to recipient government or grants to research institutions or private voluntary organizations (PVOs). In the case of cash transfers, the actual disposition of these funds is not accurately known. Cash transfers, dispersed principally under the Economic Support Fund (ESF) program, are intended to reduce severe balance of payment problems, promote policy reform in key economic sectors, or allow import of critical commodities. Although cash transfer funds are to be accounted for properly by the recipient countries, it is often difficult to determine whether the use of the funds was to buy something from the United States that would

have been bought anyway – thereby allowing the allocation of other funds for different purposes. This difficulty in determining whether the U.S. assistance actually led to additional purchases of U.S. goods and services is called the "additionality" issue.

Grant arrangements do not now allow A.I.D. to require the grantee to submit expenditure data details that would show identification of the origin of goods and services purchased by the grantee. The Office of Management and Budget (OMB) would have to approve changes to the way that grantees report to A.I.D. in order to make such data available.

OBJECTIVE

The objective of this report is to present the results of our assessment of the economic impact of bilateral U.S. economic assistance on the U.S. economy.

SCOPE

The assessment considers:

- The range and relative values of A.I.D.'s portfolio of programs and project categories
- The range and relative values of goods and services that are inputs to A.I.D. projects
- The relationships between bilateral economic assistance and trade flows
- The host country economic environment, particularly commercial market development
- A.I.D.'s management processes and information systems that bear on buy American requirements.

CHAPTER 2

ASSESSMENT

ASSESSMENT METHODOLOGY

The Historical Record

The proportion of U.S. bilateral economic assistance that is spent on U.S. goods and services, hereafter referred to as "flowback," has been estimated by A.I.D. to range between 64 and 75 percent during the period 1979 – 1987, based on a model developed in the 1970s in the Economic Affairs section of A.I.D.'s Policy and Program Coordination Office (PPC/EA). The EA model is described in detail in an A.I.D. memorandum at Appendix A.

The EA model depends on some assumptions that may have outlived their validity, particularly about the two largest components of economic assistance. First, the EA model assumes that the ratio of procurement from the United States to procurement from non-U.S. sources for countries receiving ESF cash transfers is the same as the ratio of these countries' imports from the United States to their imports from all other countries. This assumption presumes that each of these countries purchases from the United States with ESF at the same rate as they purchase from the United States with other funds. However, ESF cash transfers are provided largely to countries that have extraordinarily close relationships to the United States and would therefore be expected to result in more U.S. procurement than would otherwise occur. We believe that ESF project assistance is used to purchase fewer goods and services from the United States now than when this rule of thumb was determined. Second, one of many assumptions related to development assistance grants assumed that 30 percent of expenditures on construction, local logistics, and local training were made in the United States. We believe that this proportion is now much lower.

The EA model was used to estimate flowback proportions as recently as August 1988, with 70 percent being the last proportion estimated for FY87. At the time of that estimate, PPC recommended that the model be replaced by more accurate measurements related to actual disbursements recorded in the financial

information system and that A.I.D.'s Financial Management Office become responsible for developing flowback estimates (See memorandum of August 19, 1988 in Appendix A).

In response to A.I.D.'s recognition of the weaknesses of the EA model and increasing congressional concern with the relationship between economic assistance and trade, several flowback assessments were made in 1989 and 1990. A General Accounting Office (GAO) analysis conducted in 1989 and 1990 estimated that 43 percent of A.I.D. disbursements in 1987 went to U.S. sources. The GAO estimate was based on disbursements identified with U.S.-addressed payees. The source of disbursement data was A.I.D.'s Mission Accounting and Control System (MACS). The GAO believed that this 43 percent estimate understated the actual procurement from the United States because some cash transfers to foreign governments were actually tied to procurement in the United States.[1]

A.I.D. subsequently contracted for flowback surveys to be made in six country missions in 1990. The results of these mission surveys are shown in Table 2-1.[2] The range of flowback proportions is as important as the overall weighted average flowback proportion.

LMI Methodology

Our methodology was two-fold. The major effort was a survey of expenditures at seven A.I.D. missions to obtain mission staff estimates of project flowback for fiscal years 1988-1990. These estimates were obtained from interviews with project officers and support staff, working from a baseline of expenditure data reported out of the MACS. The MACS baseline data reported expenditures for each project by appropriation code and by budget element in three payment currency categories. These categories were U.S. dollars, host-nation currency, and other currencies. The interviews with project officers obtained their estimates of the real origin of goods and services that were purchased under each project budget element.

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[1] "Economic Assistance: Integration of Japanese Aid and Trade Policies," U.S. General Accounting Office, GAO/NSIAD-90-149, May 1990.

[2] Survey data for all countries in Table 2-1 are from "ANE Bureau SARs Project Information" (Draft), by Development Associate, Inc., Arlington, Va, and Development Alternatives, Inc., Washington, D.C., June 22, 1990. Survey data for Thailand is from "Analysis of FY 1988 USAID/Thailand Expenditures by Source and Nationality," by KMA and Associates, Washington, D.C., 31 August 1989.

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TABLE 2-1

RESULTS OF SURVEYS OF FY89 U.S. A.I.D. DISBURSEMENT DISTRIBUTION OF PROCUREMENT TO U.S. AND NON-U.S. SOURCES FOR SELECTED COUNTRIES

Country	Total disburse-ments $M	Distribution of procurement			
		U.S. sources		Non-U.S. sources	
		$M	%	$M	%
Jordan	51.7	32.9	64	18.7	36
Philippines	163.8	16.6	10	147.2	90
Pakistan	452.9	329.3	73	123.5	27
Afghanistan	51.7	28.2	55	23.5	45
Egypt	774.4	544.8	70	229.6	30
Thailand	19.8	5.4	27	14.4	73
Total	1514.3	957.2	63	556.9	37

The other part of our methodology was an econometric analysis of long-term flows of economic assistance and trade between the United States and all of its aid recipients. During the conduct of our seven-country assessment, we also gathered information relating to our second task: to recommend improvements to A.I.D.'s management of buy American requirements. A major part of this next task is to recommend improved ways to measure and assess the disposition of U.S. economic assistance.

The basic unit of expenditure that was collected at the country missions was an estimate of the payment that accrued to the U.S. economy in FY88, FY89, and FY90 for each development project being reviewed. These project payment estimates were broken down into payments for each element of a standardized set of project input budget elements. Since project budget elements varied widely among projects and missions, we selected five broad element categories within which we could record all types of project inputs. The five budget element categories are: commodities, construction, project operational support, technical assistance, and training.

Project inputs identify the composition of goods and services that were purchased on behalf of a development project, but they do not reflect the purpose of

the project. To reflect purpose, we categorized each project in one of six functional categories. These functional categories are: agriculture and rural development, civil works, education and training, health and population control, policy reform, and private sector development.

We included administrative operating expenses (OE) for each mission in our overall assessment, but analyzed them separately from development project and program expenditures. These operating expenses are the cost of carrying out development assistance as practiced by A.I.D. and are included as part of A.I.D.'s budget category of development assistance. OE accounted for $437 million in FY90, or about 18 percent of A.I.D.'s worldwide development assistance budget.

The expenditure data gathered at A.I.D. missions in Egypt, El Salvador, Guatemala, Honduras, Indonesia, Kenya, and Zaire were cross-tabulated to provide flowback estimates for several dimensions of the A.I.D. portfolio. The principal dimension was A.I.D. programs, including Development Assistance (DA), Development Fund for Africa (DFA), and the three components of ESF – Commercial Import Program (CIP), cash transfers, and project assistance. We also cross-tabulated the data to provide flowback estimates under all combinations of project purposes and project inputs. Although we were not able to review all project data because of insufficient time and the unavailability of some project officers, we believe the flowback estimates we obtained are representative of the portfolio combinations and recipient country conditions.

EMPIRICAL ANALYSIS RESULTS

Table 2-2 displays the aggregate program budget funding for fiscal years 1988-1990 for the seven country missions from which we gathered expenditure data during October and November of 1990. The table shows the dominance of large programs in Egypt, particularly the ESF program. Subsequent displays of aggregate data in this report should be viewed in the light of the very large Egyptian program values.

Table 2-3 presents an estimate for each program component in each country of the flowback to the U.S. economy as a percentage of total expenditures. These flowback estimates are based on our discussions with mission staff. We separately made an estimate of flowback for each country mission's expenditures based on the currency in which payment was made. These data were obtained from the mission

TABLE 2-2

THREE-YEAR U.S. A.I.D. PROGRAM FUNDING FOR SELECTED COUNTRIES BY PROGRAM COMPONENT

(Thousand of current dollars, FY88-FY90)

Program component	Country							Total
	Egypt	El Salvador	Guatamala	Hond-uras	Indonesia	Kenya	Zaire	
Development assistance (DA)	0	191,731	93,424	117,025	131,335	409	0	533,924
Development fund for Africa (DFA)	0	0	0	0	0	107,274	99,499	206,773
Economic support fund (ESF)	2,459,315	510,621	216,789	230,017	1,991	20,000	0	3,438,733
PL480	513,313	142,007	78,238	59,233	61,140	26,745	61,210	941,886
Total	2,972,628	844,359	388,451	406,275	194,466	154,428	160,709	5,121,316

Source: A.I.D. Congressional presentations for FYs 90 and 91. Expenditures for FY90 in the FY91 Congressional presentation are estimates

MACS, and the flowback proportion was taken to be simply the total paid in U.S. dollars divided by the overall total expenditures. Figure 2-1 compares the results of this simple estimate based on MACS currency data with project review estimates for five of the seven countries shown in Table 2-3. Figure 2-1 indicates that flowback proportions obtained from MACS data for development assistance projects do not differ markedly from those obtained by much more time consuming project review methods. Flowback proportions for ESF program expenditures, however, do vary significantly according to the estimating technique used, with much lower proportions identified in project reviews.

Table 2-4 presents the aggregate flowback proportions that we estimated in examining project assistance in six countries, arrayed by combinations of project input and output categories. Table 2-5 presents comparable flowback proportions for FY90 only in Egypt. Data for Egypt are presented separately because detailed data on inputs and project categories were available only for FY89 and because the magnitude of U.S. assistance to Egypt swamps data for the other six countries. The lower entry ("Cell % U.S.") in each cell of Table 2-4 and Table 2-5 is the proportion of

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TABLE 2-3

FLOWBACK TO THE U.S. ECONOMY FROM PROGRAM COMPONENTS AS A PERCENT OF TOTAL EXPENDITURES

(Average for FYs 88-90)

Program component	Country							Total	Total w/o Egypt
	Egypt	El Salvador	Guatamala	Hond-uras	Indonesia	Kenya	Zaire		
Development assistance (DA/DFA)	NA	38	41	44	47	55	57	46	46
Economic support fund (ESF)	77	58	77	53	NA	95	74	74	63
CIP	100	NA	NA	NA	NA	100	98	100	100
Cash transfer	100	65	78	54	NA	NA	NA	75	64
Project assistance	66	37	72	47	NA	35	48	63	39
PL480	100	100	100	100	100	100	100	100	100
Operating expenses	51	33	60	36	27	30	47	35	34
Total	80	60	73	56	59	74	73	76	69
Total without PL and OE	77	53	66	51	47	73	62	70	56

Note: Proportions are estimates derived from brief reviews of project expenditures, and may overstate the actual proportions by a much as 15 percent for some DA/DFA, and for cash transfer and project ESF.
NA = Not applicable

expenditures made for the particular combination of project input and output that returned to the U.S. economy. For example, the lower entry in the top left-hand cell of Table 2-4 indicates that 49 percent of the value of commodities purchased for civil works projects returned to the U.S. economy. For comparison, only 21 percent of project support for private sector projects returned to the U.S. economy. The upper entry in each cell ("% of All Exp") of Table 2-4 and Table 2-5 shows how large the expenditure is for each input/output combination relative to all expenditures. For example, in Table 2-4, the combination of commodities used in civil works projects accounted for 6 percent of all project expenditures, while construction in support of civil works projects amounted to 13 percent of total project expenditures.

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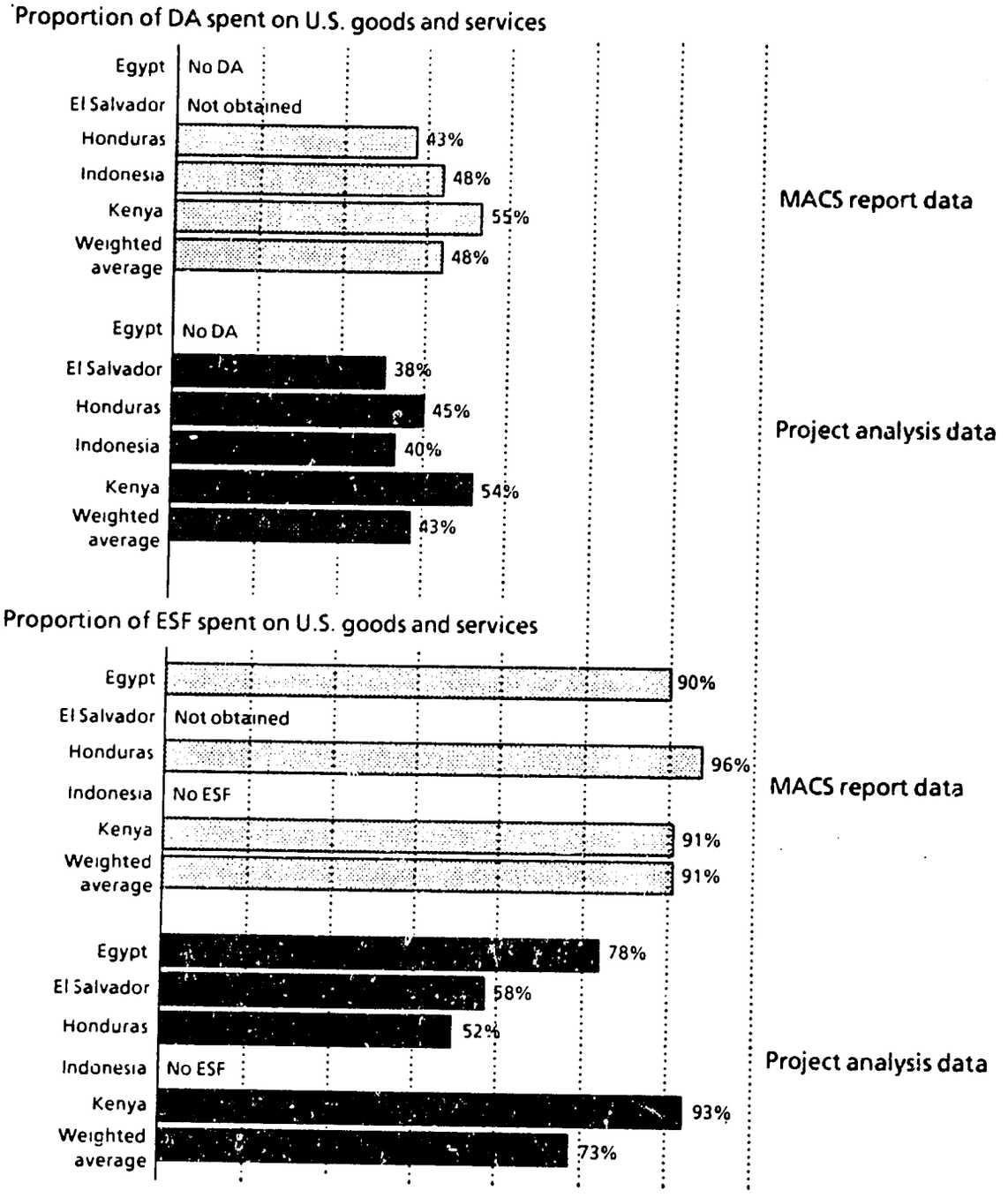

FIG. 2-1. COMPARISON OF FLOWBACK ESTIMATES FROM MACS REPORT AND PROJECT ANALYSIS DATA

Project reviews lasted from one-half hour to several hours for each project. We discovered that the assessment of flowback for projects with a more complex combination of inputs and contractual arrangements could vary depending on the time and intensity of the review. The review of one project in Indonesia lasted

TABLE 2-4

PROPORTIONS OF TOTAL PORTFOLIO ASSISTANCE AND PROPORTIONS OF CELL TOTAL SPENT ON U.S. GOODS AND SERVICES FOR SIX COUNTRIES[1]

(FY88 – FY90)

("% of All Exp" is cell expenditure as a percent of total expenditures for all cells; "Cell % U.S." is cell U.S. expenditures as a percent of cell expenditures)

Project input budget element		Project category						Total
		Agriculture and rural development	Civil works	Education and training	Policy reform	Population and health	Private sector	
Commodities	% of All Exp	7%	6%	<1%	7%	5%	6%	33%
	Cell % U.S.	45%	49%	38%	90%	78%	62%	65%
Construction	% of All Exp	1%	3%	1%	0%	<1%	1%	6%
	Cell % U.S.	3%	5%	24%	18%	10%	5%	9%
Project support	% of All Exp	4%	4%	3%	6%	5%	3%	25%
	Cell % U.S.	21%	3%	43%	8%	23%	21%	18%
Technical assistance	% of All Exp	9%	1%	3%	3%	5%	3%	25%
	Cell % U.S.	78%	39%	77%	78%	53%	69%	69%
Training	% of All Exp	1%	<1%	7%	<1%	2%	1%	11%
	Cell % U.S.	63%	54%	71%	63%	50%	36%	64%
Total	% of All Exp	22%	15%	15%	16%	17%	14%	100%
	Cell % U.S.	53%	26%	62%	61%	52%	50%	51%

[1]El Salvador, Guatemala, Honduras, Indonesia, Kenya, and Zaire.

several hours over a two-day period and resulted in the flowback proportion falling from 70 percent after an initial discussion with the project officer to 56 percent after further discussion when the project officer had reviewed his records and consulted with other project staff. We believe that the estimated flowback proportions shown in Tables 2-3 and 2-4 should be considered as estimates of the upper end of a range of proportions that could be as much as 15 percentage points lower, because of the inaccuracies of such retrospective reviews of project expenditures.

TABLE 2-5

PROPORTIONS OF TOTAL PORTFOLIO ASSISTANCE AND PROPORTIONS OF CELL TOTAL SPENT ON U.S. GOODS AND SERVICES FOR EGYPT, FY90

("% of All Exp" is cell expenditure as a percent of total expenditures for all cells; "Cell % U.S." is cell U.S. expenditures as a percent of cell expenditures)

Project input budget element		Project category						Total
		Agriculture and rural development	Civil works	Education and training	Policy reform	Population and health	Private sector	
Commodities	% of All Exp	1%	6%	0%	0%	2%	39%	48%
	Cell % U.S.	94%	100%	0%	0%	65%	82%	84%
Construction	% of All Exp	4%	20%	4%	0%	<1%	<1%	29%
	Cell % U.S.	74%	72%	0%	0%	94%	24%	62%
Project support	% of All Exp	1%	1%	<1%	0%	1%	1%	4%
	Cell % U.S.	13%	50%	54%	0%	60%	1%	38%
Technical assistance	% of All Exp	5%	7%	<1%	1%	<1%	3%	16%
	Cell % U.S.	94%	96%	75%	96%	98%	84%	93%
Training	% of All Exp	<1%	<1%	1%	<1%	<1%	<1%	2%
	Cell % U.S.	18%	77%	92%	100%	35%	64%	64%
Total	% of All Exp	11%	34%	6%	1%	4%	43%	100%
	Cell % U.S.	78%	81%	25%	96%	62%	80%	76%

BUY AMERICAN DATA COLLECTION AND MANAGEMENT PROCESSES

None of the A.I.D. automated information systems can provide comprehensive data for direct calculation of the amount of assistance expenditures spent on goods and services of U.S. origin. Origin data can be retrieved only from an assortment of project officer and commodity manager files and from project officer experiences. The Contract Information Management System (CIMS) provides only one data field within which source and origin data are collected. This data field is on only the CIMS form that is used for A.I.D. direct procurement and not on the form for host country procurement actions. Furthermore, CIMS is automated only in A.I.D.Washington,

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where contract data on paper forms from the field are manually entered into the CIMS computer system. An automated version of CIMS for missions is just beginning to be field tested in a few pilot locations. We understand that plans call for installing CIMS in almost 30 country missions in the near future, but that funding shortages will probably cause delays.

Commodity managers in the missions and at A.I.D.Washington who purchase commodities directly are often able to identify both source and origin of these commodities because of the documentation that is required. Suppliers of commodities purchased under the CIP are required to file an Application for Approval of Commodity Eligibility (AID Form 11) in order to obtain approval from A.I.D. to sell the appropriate commodity and a Suppliers Certificate (Form 282) in order to obtain payment. Although the blocks of Form 11 that had required information about the source and origin of commodities have recently been deleted, Form 282 requires that the suppliers certify that the source and origin of the commodities meet A.I.D. regulations. In general, our reviews indicated that source certification documents are submitted by suppliers, but that there are not currently enough data provided on these documents to allow estimation of U.S. flowback. There needs to be some effort devoted to obtaining more details on source and origin from suppliers and to ensuring that A.I.D. procurement officials give greater attention to monitoring these data. The A.I.D. Washington CIP office and some field commodity management offices have automated their records. These automated systems could be modified to report source and origin data, but these systems would reflect only part of the total expenditures.

Services that are purchased with A.I.D. funds are not subject to the documentation required for commodities. Current A.I.D. regulations consider services to be of U.S. origin when provided by an individual who is a citizen of the United States or a firm whose legal place of business is the United States and is predominantly owned by U.S. citizens. Determination of where disbursements for services are spent requires knowledge of the distribution of payments by the supplier for his resources.

A.I.D.'s Information Resource Management (IRM) office has an IRM Plan and is carrying out strategic business systems planning. This plan needs to be considered in assessing information system options for improving A.I.D.'s long-term ability to manage buy American requirements. In the near-term (for at least several years),

MACS is the only existing automated system solution to improving buy American data collection, collation, and reporting. Many A.I.D. staff believe that MACS can be modified to provide such a system, based on tracking of disbursement data. An alternative automated information system could be developed for collecting and processing buy American data on microcomputers.

A.I.D. has an extensive set of regulations and handbooks that, if followed more rigorously, could provide source and origin data at several points in the project lifecycle. In particular, a number of project officers and project planners suggested that paying greater attention to the Procurement Plan when preparing the Project Paper could yield a credible forecast of U.S. flowback. Others suggested that the annual project review could yield a retrospective estimate for each project similar to the reviews that we conducted.

A project management information system now in development by the IRM office could be modified at very little cost to handle buy American data requirements. This Mission Information Decision Assistance System (MIDAS) is being developed under the PACE database management system of Wang Corporation, however, and will therefore be limited to use by those missions who have PACE, that is, approximately one-half of all missions.

A.I.D. mission staff believe that U.S. goods and services should receive preference in procurement, and they expressed disappointment with what they perceived to be a failure of U.S. business to pursue markets in their countries aggressively. When faced with compelling reasons for purchasing non-U.S. goods and services, mission staff and directors considered waivers as a necessary part of procurement actions.

ECONOMETRIC ANALYSIS

Our econometric analysis investigated the trade and aid relationship between the United States and the aid-recipient countries. Appendix I places the trade and aid relationship in perspective and outlines an economic approach that could be used to assess the relationship between aid and trade. A partial set of estimates for the econometric model is generated and evaluated.

The volume of aid disbursements is trivial compared to total U.S. exports, amounting to only a little over one percent of all U.S. exports of goods and services in

1989, for example. Although the United States provides economic assistance to over 70 developing countries, the major portion of the aid is concentrated in a small number of recipients. Just over 56 percent of total U.S. economic aid in FY89 was received by only five countries: Israel, Egypt, the Philippines, Pakistan, and El Salvador. There is no correlation between U.S. assistance and the U.S. trade deficit. Most of the trade deficit can be explained by trade with countries we do not provide economic assistance to, such as Japan, Germany, Taiwan, and Canada. These major U.S. trading partners are also our major trade competitors, who do use their economic assistance to promote foreign trade opportunities for themselves.

The predominant economic policy question concerning the relationship between U.S. aid deliveries and exports to the affected beneficiary countries requires the determination of the value of U.S. exports to those countries as a direct outcome of the aid. Past attempts to provide empirical answers to this question have not successfully resolved methodological and data problems, nor have they been able to reduce uncertainties associated with lesser developed country (LDC) behavior and the behavior of competing aid donors.

We present in Appendix I an econometric modeling approach to the aid/trade relationship that tests the relationships between U.S. exports to each aid recipient and U.S. economic assistance, along with other variables representing assistance alternatives, recipient country economic characteristics, and U.S. imports. We use only merchandise, or goods, export data because disaggregated trade data on services are not available.

A word of caution should always accompany econometric estimates. In this case, one needs to remember that regressions can measure the degree of association between variables but cannot confirm causation. This is especially true given that we are concerned with variations across time as well as across LDC beneficiaries. Despite these caveats, our evaluations show significantly clear relationships between U.S. economic assistance and merchandise exports.

The export-supply model in Appendix I specifies that U.S. merchandise exports to its aid recipients are determined by the relative size of imports from the recipients country and the recipient country's population, GNP, and aid flows. Pooling data across all recipients over the 1978-88 period, our regression results suggest that an increase in U.S. aid of one dollar is associated with an increase of 36 cents of U.S.

exports. Although these econometric results are not useful for estimating buy American proportions on an annual basis, they are useful for indicating that there are clearly positive dynamic relationships between U.S. assistance and exports over time. These results help place the country-survey results in perspective by reminding us that the survey results measure only the direct flowback of particular U.S. assistance expenditures one year at a time and that they do not measure the more complex economic dynamics over time between assistance and trade.

A small loan guarantee program, for example, which is not even counted as an A.I.D. expenditure, can generate imports of U.S. goods and establish in a market a U.S. presence that might otherwise not have occurred. A small technical assistance program can result in the lifting of import restrictions and other regulatory controls, opening new markets for U.S. goods and services. A small rural development program can create a new market for U.S. exports in order to sustain local production.

In particular, the econometric results give some insight into the issue of additionality, in which there is a question as to how much economic assistance increases U.S. imports by a given country from what they would have been without the assistance. These econometric results suggest, for example, that as a result of an increment of one dollar of economic assistance, the United States is able to export 36 cents more of its goods than it otherwise would have.

CHAPTER 3

CONCLUSIONS

Reviews of currency disbursements do not provide sufficiently accurate estimates of U.S. flowback. Retrospective flowback estimation by project officers using their project records and MACS data significantly improves the accuracy of estimation over the calculation of flowback proportions directly from currency disbursement data. However, even these retrospective review estimates can vary substantially, depending on the complexity of a project's content and management conditions, knowledge of the true origin of goods and services, and the time devoted to the review. We found estimates of complex projects to vary by as much as 15 percentage points. Furthermore, personnel absences and turnover prevent consistent coverage across projects. Finally, non-standardized project input budget elements make the aggregation of disbursements according to analytically useful categories extremely difficult.

Despite the inaccuracy of estimations made from retrospective reviews, flowback proportions do appear to vary systematically as a function of program category, project profile, and geography. Flowback proportions in the countries we reviewed varied between 52 and 99 percent for ESF and between 35 and 62 percent for DA/DFA. A project profile, defined by particular combinations of inputs and outputs, can have a flowback proportion anywhere from 0 to 100 percent. Geographic conditions affect flowback by placing constraints on U.S. business incentives and determine special requirements for goods and services that are more efficiently obtained locally or from other non-U.S. sources.

The most accurate direct measurement of flowback would be one based on actual disbursements recorded in MACS, if the MACS could be modified to include appropriate, reliable origin information. Reliable origin information could be provided by the vendors with A.I.D. staff monitoring and validating the data. Some revision of project, contract, and financial management procedures would be required, along with additional training for host nation, mission, and A.I.D

Washington staff. MACS and the Financial Accounting and Control System(s) (FACS) in Washington, D.C. could be modified to collect, store, and report the data.

Less costly and less accurate alternatives to a disbursement-based approach would be to forecast the flowback at project inception or when financial commitments are made. Combinations of these forecasting alternatives with subsequent tracking of actual flowback in a modified MACS could sharpen early project procurement planning at some additional cost. Consideration could be given over the longer term to broadening the scope of CIMS or MIDAS to handle buy American tracking or to satisfying this requirement by new applications development outside of MACS, FACS, CIMS, or MIDAS.

Figure 3-1 portrays several representative options for management systems to assess flowback data. Surveys such as this one are examples of Option 1. Such surveys could be done periodically to establish data to be used for parametric estimation of the U.S. flowback. Option 2 could provide project officer forecasts of origin expenditures at some increased cost. Option 3 could provide more accurate forecasts from vendor-supplied data. Option 4 could record actual disbursements and report flowback most accurately, at even greater cost. Option 5 builds the flowback estimation process into the annual project review process. This option would be comparable in cost to Option 1, but would suffer from the inaccuracies of a retrospective review. These five options will be the basis for our subsequent analysis of buy American assessment and management systems.

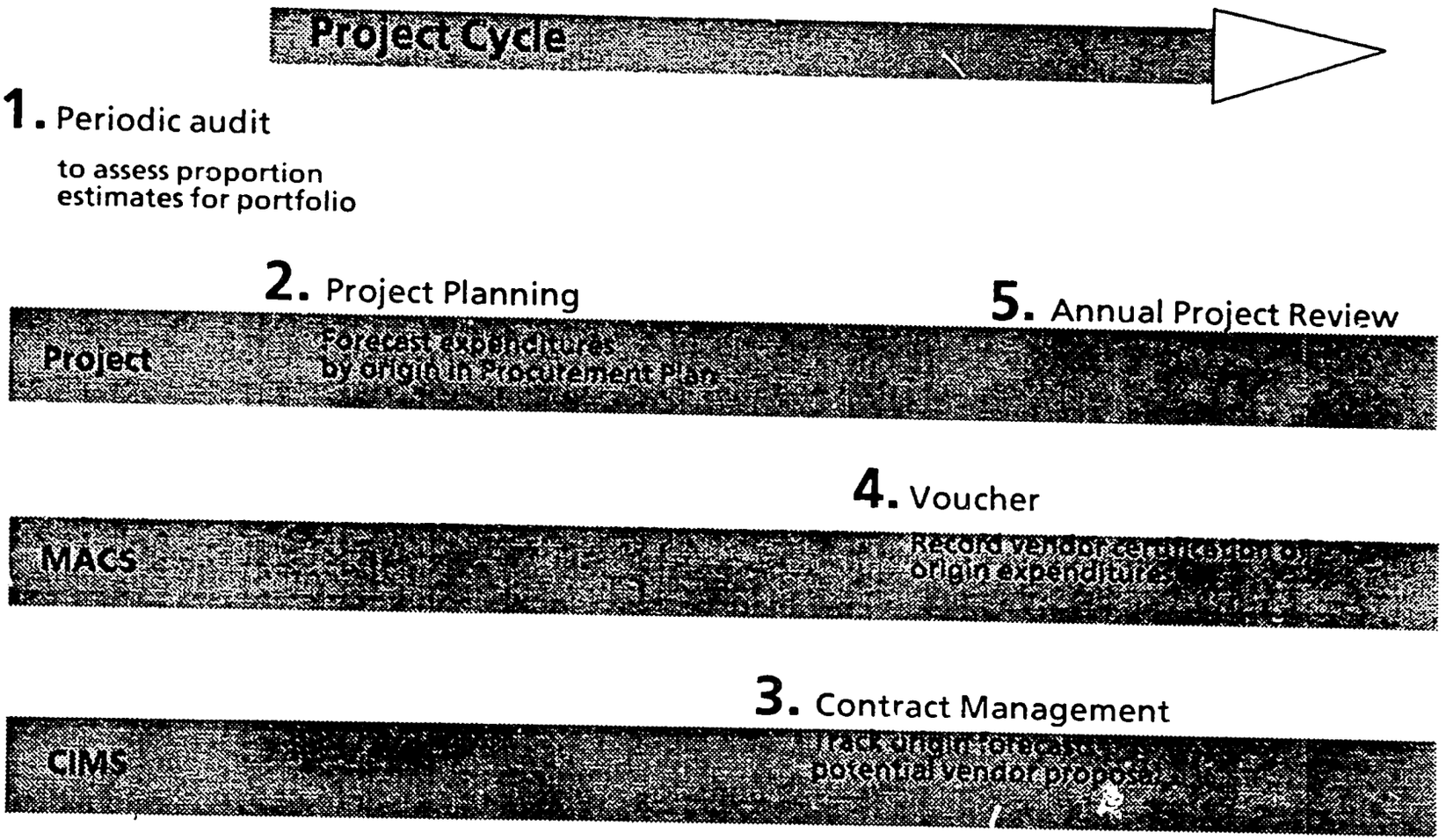

Fig. 3-1 BUY AMERICA MANAGEMENT SYSTEM OPTIONS

GLOSSARY

A.I.D.	=	Agency for International Development
CIMS	=	Contract Information Management System
DA	=	development assistance
DFA	=	Development Fund for Africa
ESF	=	Economic Support Fund
FAA	=	Foreign Assistance Act
FACS	=	Financial Accounting and Control System(s)
GAO	=	General Accounting Office
IRM	=	Information Resource Management
LDC	=	lesser developed country
MACS	=	Mission Accounting and Control System
MIDAS	=	Mission Information Decision Assistance System
OE	=	operating expenses
OMB	=	Office of Management and Budget
PPC/EA	=	Economics Affairs section of A.I.D.'s Policy and Program Coordination Office
PVOs	=	private voluntary organizations

APPENDIX A

BACKGROUND OF A.I.D. 70 PERCENT FLOWBACK ESTIMATE

This appendix contains the following memorandums as background information on the development of the estimate that U.S. economic assistance has typically resulted in 70 percent flowback to the U.S. economy:

February 9, 1990

MEMORANDUM

TO: AA/XA, Ferebee Lewis

FROM: AAA/PPC/EA, Jerome La Pittus

SUBJECT: Expenditure of Foreign Assistance Dollars in the United States

In response to your request (attached note), I'm sending to you the historical record in the form of a set of 5 memos. These memos lay out the history of the 70% figure and, more important, the attempts we have made to substitute hard numbers for the crude assumptions that were used to generate the 70% figure:

DATE	FROM/TO	SUBJECT
6-6-89	Bissell to Kunder	Confirms 70% figure
3-14-89	Kunder to Bissell Kammerer	Asks about 70%
8-19-88	La Pittus to Bissell Bissell to Halligan	Requests Halligan to use AID's accounting system to develop reliable hard numbers
8-88	Richardson to La Pittus	Gives estimates for 1979-1987
8-14-87	Riden to Preeg	Gives EA's methodology for making the calculations

I think the key point is that it is possible to develop the hard numbers. Apparently, PFM never responded to PPC request that FM develop these numbers.

Attachments: a/s

PPC/EA:JLa Pittus:vj:647-8558:Doc #4157A

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AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON D.C. 20523

ASSISTANT
ADMINISTRATOR

APR 6 1989

MEMORANDUM

TO: A-AA/XA, James R. Kunder

FROM: AA/PPC, Richard E. Bissell

SUBJECT: Expenditure of Foreign Assistance Dollars in the United States

REF: Your Memorandum of March 14, USAID Foreign Assistance Dollars Spent on U.S. Goods and Services

Yes, the estimate of 70 percent of U.S. assistance dollars spent in the United States in 1987 is the best estimate to use. The purpose of this memo, however, is to add a cautionary note, because you may encounter other estimates that differ from the 70 percent figure, and to explain briefly what may be behind the differences.

The 70 percent number is an overall figure. It averages ESF, DA and PL 480 expenditure shares. You probably noticed in the memo to La Pittus you referred to in your memo, that the overall figure varies from year to year--one source of variation among estimates. Expenditure of foreign assistance funds in the United States also varies by budget account. For example, Congressman Solarz, recently asked what proportion of DA was spent in the United States. Our best estimate for DA is 65 percent in 1987 and 66 percent in 1988. The figure for ESF is roughly in the range of 50 percent and near 90 percent for PL 480, depending on how much is spent on foreign flag carriers.

I hope this additional information will be useful.

PPC/EA:JHudge:jcb:7-9746:4-5-89:Doc #3745C

Clearance:
AAA/PPC/EA:JLa Pittus

PPC/EA:Judge/jcb:7-9747:4-5-89:Doc #3745C

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AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON D C 20523

ASSISTANT
ADMINISTRATOR

March 14, 1989

INFORMATION MEMORANDUM FOR AA/PPC, Richard Bissell
and LEG, Kelly Kammerer

FROM: AA/XA(Acting), James R. Kunder

SUBJECT: USAID Foreign Assistance Dollars
Spent on U.S. Goods and Services

During recent Congressional hearings, the Administrator was asked about the percentage of USAID expenditures that are returned to the United States. In publications, the Bureau for External Affairs has been estimating that 70% of foreign aid expenditures are for U.S. goods and services.

The 70% estimate is based on the attached August 1, 1988 memorandum to Jerry La Pittus. The methodology for the estimate is outlined in an August 14, 1987 memorandum from PPC/EA, Neal Riden to DAA/PPC, Ernest H. Preeg, entitled "PPC/EA's Procedures for Estimating the Proportion of Foreign Assistance Expenditures Returned as U.S. Procurement". While the latter memorandum uses a number of broad estimates, it does provide a detailed methodology for arriving at the 70% figure.

If you see a reason why the Bureau for External Affairs should no longer use the 70% figure, please let me know.

Thank you.

Enclosure: a/s

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Sept 1975

MEMORANDUM

TO: AA/PFM, Robert Halligan

FROM: AA/PPC, Richard E. Bissell [signed]

SUBJECT: Estimating the Proportion of Foreign Assistance Returned as U.S. Procurement

Over the years an increasing interest has developed on the part of some Congressmen, Congressional Committees, and various elements in the private sector about the proportion of U.S. foreign assistance expenditures that are returned as U.S. procurement. Because no comprehensive figure is available from any other A.I.D. office, PPC for a number of years provided its estimate in response to such requests. From the very outset we were aware that our estimating procedure, developed in 1973, would at the very best produce a marginally acceptable ball park estimate, and this for only a limited period of time. Nevertheless, 15 years later we are still using this increasingly deficient method, and in view of the unavailability of required data it is not possible to improve the empirical base of our procedures.

Given the persistent requests for information about the various domestic impacts of A.I.D.'s programs, it is in the Agency's own interest to have a reasonably accurate system of determining the relationship between foreign assistance expenditures and U.S. sales. To establish the required data base for such an estimating procedure would require an Agency-wide system capable of generating detailed data on disbursements by payee. Because financial accounting data such as this falls within your realm, I respectfully request that your Bureau establish the necessary information systems and take full responsibility for producing timely annual estimates of the proportion of foreign assistance returned as U.S. procurement. I would be glad to discuss this matter if you would like. Moreover, if you agree, I suggest that appropriate staff from PPC and PFM meet to develop the output required, their formats for presentation, and schedule for production.

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Clearance:
AAA/PPC/EA:J. La Pittus

PPC/EA:NRiden:vj:Ext. 79746:18 August 88:Doc #3457C

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August 19, 1988

ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR, PPC

FROM: AAA/PPC/EA, Jerome R. La Pittus

SUBJECT: Preparation of Estimates of the Proportion of Foreign Assistance Returned as U.S. Procurement

Problem: Your approval is needed on the attached request to the PFM Bureau that it assume responsibility for the preparation of estimates of the proportion of foreign assistance returned as U.S. procurement.

Discussion: In an earlier memorandum we discussed the procedures used by PPC/EA to ascertain estimates of subject, and in view of non-correctable deficiencies in PPC/EA's procedures and data base, recommended that A.I.D./PFM be invited to take over this function. The attached memorandum is in accordance to your oral response to that recommendation.

Recommendation: That you sign the attached memorandum to AA/PFM, Robert Halligan.

Approved: _____

Disapproved: _____

Date: _____

PPC/EA:NRiden:vj/647-9746/08-18-88/Doc #3459C

August 1, 1988

MEMORANDUM

TO: AAA/PPC/EA, Jerry La Pittus

FROM: PPC/EA, Warrior J. Richardson

SUBJECT: Percentage of Foreign Assistance Returned as US Procurement

The percentage of foreign assistance administered by AID, plus PL-480, that was spent on U.S. goods and services in FY's 1979-1986 are presented below:

FY	Total Foreign Assistance* Plus PL-80 $(billions)	Proportion Spent in U.S.
1979	4.3	73
1980	4.8	69
1981	5.5	75
1982	5.7	71
1983	6.0	72
1984	6.6	72
1985	9.4	64
1986	8.7	66
1987	6.9	70

* Includes DA, ESF, contributions to international organizations and programs, Disaster Relief, Administrative Expenses, Functional DA Undistributed, and other programs; excludes contributions to multilateral development banks and military assistance.

Doc 3439C

August 14, 1987

MEMORANDUM

TO: DAA/PPC, Ernest H. Preeg

FROM: PPC/EA, Neal Riden

SUBJECT: PPC/EA's Procedures for Estimating the Proportion of Foreign Assistance Expenditures Returned as U.S. Procurement

This memorandum sets forth and discusses, in summary form, (a) the procedures used by PPC/EA to ascertain the proportion of foreign assistance expenditures returned as US procurement, (b) the need for improved estimates, and (c) in view the deficiencies in PPC/EA's procedures and data base, a recommendation that AID/FM take over this function.

Estimating Procedures

To estimate the percentage of foreign assistance expenditures returned as US procurement using PPC/EA's procedures it is necessary to divide foreign assistance into categories. This division is necessary because the percentage of foreign assistance that returns to the US as procurement differs for each spending category. It is worth noting that the first five of the categories listed below account for 85% of foreign assistance expenditures.

Foreign Assistance Categories

I. Commodities
   Development Loans
   Development Grants
   Sahel
   ESF

-30

II. Development Loans
III. Development Grants
IV. Sahel
V. ESF
Other
Cash
VI. International Organizations
VII. Disaster Relief
VIII. Administrative Expenses
XI. Other Programs
X. Functional D.A. Undistributed

Figures for categories II through X are derived by aggregating accounts found in AID's W-210 report. For category I expenditures, the FT 10, FT 14, and FT 21 reports all provide the FY grand total for AID/W effectuated commodity procurement. The FT 21 report also provides the US-offshore split for these commodities.

Since the percentages used by PPC/EA to determine US procurement from development loans, development grants, and the Sahel have been estimated ex-commodities, it is necessary to allocate commodities to these expenditures categories in order to arrive at ex-commodity bases. In doing this it is assumed that the percentage of commodity cost attributed to each of these categories is the same as the percentage of total aid attributed to each category. For example, give that

C = Commodity Cost
E = ESF, Economic Support Funds
S = Sahel
D = DA, Development Assistance
L = DL, Devleopment Loans
G = DG, Development Grants

Then

(E/ (E+S+D))C = ESF protion of commodity cost
(S/ (E+S+D))C = Sahel protion of commodity costs
(D/ (E+S+D))C = DA portion of commodity costs

This method of allocation between categories assures the full distribution of AID/W commodity costs. DA is divided between DL and DG in the same manner:

(L/ (L+G))D = DL portion of commodity costs
(G/ (L+G))D = DG portion of commodity costs

With the steps above completed, commodity costs are subtracted from the respective totals for DL, DG, Sahel, and ESF to determine their ex-commodity bases. These residuals then become the figures for categories II through V.

The US-offshore split for commodities is obtained from the FT-21 report. For categories II through X the following percentages are used to obtain the US-offshore split.

		US	Offshore
II.	DL	46.1	53.9
III.	DG	66.2	33.8
IV.	Sahel	66.2	33.8
V.	ESF		
	Non-Cash	*	**
	Cash	***	****
VI.	International Organizations	100.0	
VII.	Administrative Espenses	81.0	19.0
VIII.	Disaster Relief	61.9	38.1
XI.	Other Programs	60.7	39.3
X.	Functional DA Undistributed	57.6	42.4

Evaluation

Except for expenditure category V, ESF, the percentage figures for US-offshore splits listed above have been essentially unchanged since 1973. At that time the figures were derived, in part, from an examination of the US-offshore split of their respective major components. In some cases arbitrary assumptions were applies. Elements of that process are discussed below.

Development Loans (DL)

The components examined in determining the US-offshore split for DL were purchases of local currency, technical services expenditures, and other costs. Local currency purchases were considered to be offshore procurement and actual figures were obtained from the loan division of SER/FM. That office maintained records on local currency purchases by region for each loan account. Now SER/FM only keeps records on local currency purchases associated with projects. Thus, the present SER/FM data for DL are not sufficiently comprehensive to provide a complete estimate of the US-offshore split. given that DL over the years has accounted for a progressively smaller proportion of foreign assistance, the understatement would have a minor overall effect. For example, in FY 1976 DL accounted for 21.9% of total DA+SA, compared with a projected figure of 2.2% for FY 1988.

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* The same as the percentage of ESF commodity costs that return to the US as procurement.

** 1- (US portion)

*** Imports from the US by total imports

**** 1- (US portion)

Technical services includes items such as technical assistance personnel costs, participant training, and construction of facilities. The total for this component was obtained from the "gold budget" report which is no longer published. The US-offshore split is based on an arbitrary assumption that 20% of these expenditures occur offshore. We do not have data to provide an empirical basis for this assumption.

Other costs represent a residual. It is what is left after commodities, local currency pruchases, and tehcnical services have been subtracted from DL. Specific items included are ocean freight costs, inland freight cost, and bank charges, among other things. It is assumed that 30% of these expenditures occur offshore. To update this item would require data input from FM, which would, in turn, have to go to the missions for information.

Devlopment Grants (DG)

The components examined to estimate the percent of US-offshore split from DG were purchase of local currency, technicians and related costs, other services, as well as AID/W and interregional expenditures.

The figures for purchase of local currency from DG were obtained from AID W-253.8 report which is no longer published. Even when it was published the report provided coverage of only local and third country national cost for non-SA funded technical projects. Any attempt to reestimate the US/offshore split for this component should be based on a broader coverage of DG. In any case the data would have to be provided by FM and by Missions.

Expenditures for technicians and related costs were also obtained from the discontinued W-253.8 report. The total represents the sum of direct hire, PASA, and contract personnel costs for non-SA funded technical assistance projects. The estimate of the US-offshore split was based on data of a 3% stratified sample survey of income disposition by AID employees. The survey was conducted in 1962. Any reestimation, in addition to requiring base data from FM and Missions, would also require an updated income desposition survey.

The AID/W and Interregional totals were obtained from the W-211 report. These data are still available from this source on a regular basis. The totals include administrative costs such as Washington salaries and benefits, travel, training, and program support and interregional project costs. The data does not provide a US-offshore split. It was assumed that a figure of 10% for offshore was reasonable.

Other services includes participant training, commodities paid for at missions, and other costs. The offshore proportion of participant costs was estimated at 15% offshore based on the analysis of 2000 PIO/Ps. It was assumed that the bulk of commodities paid for at Missions were obtained offshore. Other costs, including construction facilities, special grants for organizations like the OAS, and local logistics and training cost were estimated at 70% offshore. The OAS grant was assumed to be 100% US procurement. Treatment of the OAS grant is based on the assumption that the OAS spends an amount in the US that is equal to or greater than the contributions it receives. All other unaccounted for expenditures were assumed to be 30% offshore. All data needed to reestimate the US-offshore split for this component would have to be provided by PM and Missions, and a new survey would have to be taken. Moreover, given the increased authority delegated to Missions in recent years to commit funds, commodity procurement by Missions should be examined to determine the extent to which, if any, that the current assumption is valid.

Sahel

The Sahel was not a seperate expenditure entity at the time of the initial estimates in 1973. When it later came into being it was assumed that the US-offshore split was identical to that of DG.

ESF

ESF, after adjustment for its share of commodity costs, is separated into two components, ESF non-cash and ESF cash transfer. For ESF non-cash it is assumed that the US-offshore split reflects the ratio of ESF procurement of US commodities to total ESF procurement of commodities, (another way of describing the split is: US commodity procurement with ESF to total procurement of US and offshore commodities with ESF). The US-offshore split for ESF cash transfers is assumed to be identical to the ratio of imports from the US to total improts for all countries receiving ESF cash transfers.

Other Expenditure Categories

Categories VI through X on average account for about 15% of foreign assistance spending. The US-offshore percentages have been based on reasoned guesses or general observations. For example, the proportion for international organizations is taken as 100% based on the observation that the U.N. spends more in the U.S. than it receives in U.S. contributions. There is no available data on the U.N.'s U.S.-offshore split for

recent years. It is thus not possible to check this assumption against a current benchmark. Moreover, there may be a question of whether the U.N. can be taken to represent the expenditure pattern of all other international organizations to which the U.S. makes contributions.

Administration expenses are divided into three components: U.S. overseas personnel, other overseas expenditures, and Washington. Estimates are made for each component and summed to obtain an overall proportion. The relative importance of these components has surely changed over time.

The proportions for functional DA undistributed, disaster relief, and other programs are reasoned guesses. These elements are, however, sufficiently small so that they hardly effect the outcome.

Improved estimates

Given the persistent requests for information about the various domestic impacts of AID's programs, it is in the Agency's own interest to have an empirically based indicator of the relationship between foreign assistance and US sales, and on employment. The US procurement proportion is a summary way of indicating such impacts.

The rational behind PPC/EA's procedures is for the most part technically sound, but given the data gaps form the outset, and the necessity of relying on seat of the pants assumptions in many cases, the parameters developed in 1973 have been viewed capable of producing only ball park estimates. From a methodological point of view, it is questionable whether the way in which commodity cost, which plays an important role in the US-offshore split, is allocated among AID sources of finance is tenable for other than the short term. Moreover, given present data availability, it is not feasible to improve the empirical basis of the estimates. The adoption of an empirically-based estimating approach would require an Agency-wide system capable of generating detailed data on disbursements by payee. Such a system would allow the Agency to move away from the present approach. Because financial accounting data is the realm of AID/FM, that is the office to institute the proposed new system.

Recommendation

That PPC taken such steps as are necessary to promote the establishment by AID/FM of an accounting and information system that will generate data on disbursements by payee that indicates country of origin.

APPENDIX B

EGYPT

PROGRAM OVERVIEW

The A.I.D. program for Egypt includes the economic support fund (ESF) program and agricultural products transferred under the PL 480 program. Table B-1 shows the overall Egypt program budget summary for fiscal years 1988-1990. Approximately 70 percent of ESF funding is for projects and 30 percent for the commodity import program (CIP) and cash transfers (CT). There is no USAID development assistance program in Egypt.

TABLE B-1

PROGRAM FUNDING OVERVIEW: USAID EGYPT

(Thousands of current dollars)

Program component	FY88	FY89	FY90 (e)	Total
Development assistance (DA)	0	0	0	0
Economic support fund (ESF)	717,820	815,000	926,495	2,459,315
PL480	182,126	178,187	153,000	513,313
Total	899,946	993,187	1,079,495	2,972,628

Source: A.I.D Congressional Presentations for FYs 90 and 91

(e) = estimated

ASSESSMENT OF FLOWBACK TO THE UNITED STATES

We examined only expenditures in FY89 at the mission because of the large number of projects involved. Table B-2 shows the percentages of U.S. assistance for each program that was used to purchase goods and services of U.S.origin, as we determined from our examination.

Table B-3 shows the flowback from ESF project expenditures for FY89 that we estimated by project category and budget element.

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TABLE B-2

FLOWBACK TO THE UNITED STATES FROM
USAID EGYPT PROGRAM EXPENDITURES

(Percent of total expenditures spent on goods and services of U.S. origin)

Program component	FY89
Economic support fund (ESF)	77%
Commodity import program (CIP)	100%
Cash transfer (CT)	100%
Projects	66%
PL480	100%
Total	81%

TABLE B-3

FLOWBACK TO THE UNITED STATES FROM
USAID EGYPT FY89 PROJECT EXPENDITURES

(Percent of total expenditures)

Budget element	Project category						
	Agriculture and rural development	Civil works	Education and training	Policy reform	Population and health	Private sector	Total
Technical Assistance	94	96	75	96	98	84	93
Training	18	77	92	100	35	64	64
Project Support	13	50	54	NA	60	1	38
Construction	74	72	0	NA	94	24	62
Commodities	94	100	NA	NA	65	82	84
Total	78	81	25	96	62	80	76

OPERATING EXPENSES

The flowbacks from operating expenses are shown in Table B-4.

TABLE B-4

FLOWBACK FROM USAID EGYPT OPERATING EXPENSES

(Thousands of current dollars and percent of total expenditures)

Expense category	Average percent	Thousands of dollars		
		FY88	FY89	FY90
U.S. direct hire personnel	45	776	925	644
Local national personnel	0	0	0	0
Contract personnel	45	249	81	138
Housing	38	454	461	57
Office operations	35	1,128	978	312
Procurement	100	NA	N/A	1,426
Total	42	2,607	2,445	2,577

APPENDIX C

EL SALVADOR

PROGRAM OVERVIEW

The A.I.D. program for El Salvador includes development assistance (DA), economic support fund (ESF), and agricultural products transferred under PL480. The ESF program represents over 60 percent of total U.S. funding for the fiscal years 1988 through 1990. Cash transfers are the largest component of ESF, ranging from 66 to 86 percent during the period. Table C-1 shows the overall program budget summary for fiscal years 1988-1990.

TABLE C-1

PROGRAM FUNDING OVERVIEW: USAID EL SALVADOR

(Thousands of current dollars)

Program component	FY88	FY89	FY90(e)	Total
Development assistance (DA)	70,625	62,288	58,818	191,731
Economic support fund (ESF)	175,379	190,887	144,355	510,621
PL480	54,378	48,082	39,547	142,007
Total	300,382	301,257	242,720	844,359

Source: A.I.D. Congressional Presentations for FYs 90 and 91

(e) = estimated

ASSESSMENT OF FLOWBACK TO THE UNITED STATES

We estimate that from 58 to 63 percent of all the assistance expenditures we examined at the El Salvador mission was used to purchase U.S.-origin goods and services. The proportion varies by year and within the major programs shown in Table C-2.

Our estimates of the flowback for FY89 mission expenditures, broken down by project inputs (budget elements) and output categories, are shown in Table C-3.

TABLE C-2

FLOWBACK TO THE UNITED STATES FROM
USAID EL SALVADOR PROGRAM EXPENDITURES

(Percent of total expenditures spent on goods and services of U.S. origin)

Program component	FY88	FY89	FY90	Total
Development assistance (DA)	38	35	41	38
Economic support fund (ESF)	61	55	58	58
Commodity import program (CIP)	NA	NA	NA	NA
Cash transfer (CT)	65	65	65	65
Projects	38	35	41	37
PL480	100	100	100	100
Total	63	58	61	61

TABLE C-3

FLOWBACK TO THE UNITED STATES FROM
USAID EL SALVADOR FY89 PROJECT EXPENDITURES

(Percent of total expenditures)

Budget element	Project category						
	Agriculture and rural development	Civil works	Education and training	Policy reform	Population and health	Private sector	Total
Technical Assistance	90	19	75	64	49	88	66
Training	40	NA	5	23	70	80	23
Project Support	5	3	80	2	21	15	16
Construction	25	8	30	18	NA	35	18
Commodities	38	45	90	70	89	7	48
Total	44	25	53	8	62	8	38

The overall flowback rate would be higher if it were not for substantial ESF cash transfers to purchase petroleum products from Latin American nations. This practice is permitted under the ESF program and is encouraged by the San Jose

accords among these Latin American nations. Without these purchases, the mission's flowback rate would be 76 percent.

OPERATING EXPENSES

Approximately 33 percent of appropriated operating expense (OE) funds flow back to the United States from El Salvador. Table C-4 shows that flowback for major subcategories of OE disbursements.

TABLE C-4

FLOWBACK FROM USAID EL SALVADOR OPERATING EXPENSES

(Thousands of current dollars and percent of total expenditures)

Expense category	Average percent	Thousands of dollars		
		FY88	FY89	FY90
U.S. direct hire personnel	45	146	108	287
Local national personnel	NA	NA	NA	NA
Contract personnel	20	218	122	125
Housing	0	0	0	0
Office operations	35	609	403	147
Procurement	65	79	0	101
Total	33	1,052	633	660

Note: NA = no appropriated funds expended.

APPENDIX D

GUATEMALA

PROGRAM OVERVIEW

The A.I.D. program for Guatemala has five major goals: (1) support macroeconomic policy reforms by the Government of Guatemala through balance-of-payment assistance, (2) strengthen the judiciary system, (3) promote private-sector-led sustained economic growth, (4) foster better collaboration between private and public sectors, and (5) correct the serious under-investment in population health and basic education. A.I.D.'s portfolio for Guatemala is composed of 45 active development assistance (DA) projects, an economic support fund (ESF) program in the form of cash transfers and project assistance, and PL480 food aid programs. Table D-1 shows the overall program budget summary for fiscal years 1988-1990.

TABLE D-1

PROGRAM FUNDING OVERVIEW: USAID GUATEMALA

(Thousands of current dollars)

Program component	FY88	FY89	FY90(e)	Total
Development assistance (DA)	30,025	33,329	30,070	93,424
Economic support fund (ESF)	79,782	80,524	56,483	216,789
PL480	23,382	28,325	26,531	78,238
Total	133,189	142,178	113,084	388,451

Source: A.I.D Congressional Presentations for FYs 90 and 91

(e) = estimated

ASSESSMENT OF FLOWBACK TO THE UNITED STATES

Our estimates of the percentages of expenditures that are returned to the U.S. economy in the form of purchases of U.S. goods and services are summarized in Table D-2. This U.S. flowback assessment is based on data gathered at the

TABLE D-2

FLOWBACK TO THE UNITED STATES FROM
USAID GUATEMALA PROGRAM EXPENDITURES

(Percent of total expenditures spent on goods and services of U.S. origin)

Program component	FY88	FY89	FY90	Total
Development assistance (DA)	38	38	46	41
Economic support fund (ESF)	99	95	22	78
Cash transfer (CT)	100	100	14	78
Projects	75	61	87	76
PL480	100	100	100	100
Total	87	82	50	73

AID/Guatemala Mission in October 1990. The drop in U.S. flowback in FY90 is due largely to the FY90 balance-of-payment support agreement that, contrary to the agreements in preceding years, made oil imports from certain geographic code "941" countries (Venezuela, Mexico, and Netherlands Antilles) eligible in addition to imports from the United States and debt repayments to international financial institutions. The estimated flowback for each project output category is shown in Table D-3.

WAIVERS

The mission's approach to implementing the new buy American waiver guidance was to issue "class waivers" for new or amended projects, covering broad portions of expenditures over the life of a project to permit local procurement of goods and services up to a stated ceiling by cost category. Because all of these waivers covers less than $5 million each, the mission director has the authority to approve them.

The problem of monitoring class waivers may be illustrated by means of an example. The Cooperative Strengthening Project (520-0286) is an institutional development project intended to develop a self-sufficient cooperative movement in Guatemala. It was amended in August 1990 with an additional $8 million DA grant. The A.I.D. project officer's projection of local currency expenditures was the

TABLE D-3

FLOWBACK TO THE UNITED STATES FROM
USAID GUATEMALA FY89 PROJECT EXPENDITURES

(Percent of total expenditures)

Budget element	Project category						
	Agriculture and rural development	Civil works	Education and training	Policy reform	Population and health	Private sector	Total
Technical assistance	89	80	81	94	77	83	87
Training	39	47	85	NA	55	15	81
Project Support	22	3	27	35	13	35	20
Construction	4	4	NA	NA	NA	NA	4
Commodities	40	83	32	88	27	27	43
Total	44	46	73	84	28	47	49

justification for the new class waiver for local procurement of the specified goods and service up to $3,446,000, or 43 percent of the $8 million amendment.

While this type of class waiver is a legitimate and logical way of satisfying the new buy American guidance, it does create a problem for ensuring that the waiver ceilings are not exceeded over the life of the project. MACS is not designed to handle this task. The accounting burden was levied on the host country implementing agency.

TABLE D-4

FLOWBACK FROM USAID GUATEMALA OPERATING EXPENSES

(Thousands of current dollars and percent of total expenditures)

Expense category	Percent	$000
		FY90
U.S. direct hire personnel	80	175
Local national personnel	0	0
Contract personnel	18	222
Housing	95	131
Office operations	94	500
Procurement	57	250
Total	60	1,278

APPENDIX E

HONDURAS

PROGRAM OVERVIEW

The A.I.D. program for Honduras includes development assistance (DA), economic support funding (ESF), and agricultural products transferred under PL480. Table E-1 shows the overall program budget summary for fiscal years 1988-1990.

TABLE E-1

PROGRAM FUNDING OVERVIEW: USAID HONDURAS

(Thousands of current dollars)

Program component	FY88	FY89	FY90(e)	Total
Development assistance (DA)	44,939	37,716	34,370	117,025
Economic support fund (ESF)	85,000	15,000	130,017	230,017
PL480	20,347	21,216	17,670	59,233
Total	150,286	73,932	182,057	406,275

Source: A.I.D Congressional Presentations for FYs 90 and 91

(e) = estimated

ASSESSMENT OF FLOWBACK TO THE UNITED STATES

Approximately 56 percent of the A.I.D. expenditures that we examined at the Honduras mission resulted in the purchase of U.S. goods and services. That proportion varies within the program components as shown in Table E-2. Table E-3 displays the flowback percentage according to combinations of project output and input categories. The data in Tables E-2 and E-3 are derived from discussions with mission staff in October 1990.

The flowback would be higher were it not for the substantial use of ESF cash transfers to purchase petroleum products from Latin American nations. This practice is permitted under the ESF program and is encouraged by the San Jose

FLOWBACK TO THE UNITED STATES FROM
USAID HONDURAS PROGRAM EXPENDITURES

(Percent of total expenditures spent on goods and services of U.S. origin)

Program component	FY88	FY89	FY90	TOTAL
Development assistance (DA)	42	45	45	44
Economic support fund (ESF)	53	54	52	53
Commodity import program (CIP)	NA	NA	NA	NA
Cash transfer (CT)	54	54	54	54
Projects	42	54	45	47
PL480	100	100	100	100
Total	56	58	55	56

TABLE E-3

FLOWBACK TO THE UNITED STATES FROM
USAID HONDURAS FY89 PROJECT EXPENDITURES

(Percent of total expenditures)

Budget element	Project category						
	Agriculture and rural development	Civil works	Education and training	Policy reform	Population and health	Private sector	Total
Technical assistance	90	57	80	96	55	72	84
Training	90	60	45	80	35	NA	52
Project support	43	86	13	7	36	5	23
Construction	0	0	0	NA	10	NA	1
Commodities	52	95	0	95	95	45	59
Total	62	9	32	55	53	39	46

accords. Without these massive purchases, the mission's flowback rate would be 82 percent.

OPERATING EXPENSES

Approximately 29 percent of appropriated operating expense (OE) funds flow back to the United States from Honduras. Table E-4 shows this flowback for major subcategories of OE disbursements. Contractor line items include contract services such as travel; thus, the flowback rate is somewhat higher than in El Salvador.

TABLE E-4

FLOWBACK FROM USAID HONDURAS OPERATING EXPENSES

(Thousands of current dollars and percent of total expenditures)

Expense category	Average percent	Thousands of dollars		
		FY88	FY89	FY90
U.S. direct hire personnel	45	88	89	90
Local national personnel	0	0	0	0
Contract personnel	45	135	117	127
Housing	0	0	0	0
Office operations	35	49	85	46
Procurement	65	215	350	233
Total	29	716	768	479

APPENDIX F

INDONESIA

PROGRAM OVERVIEW

The A.I.D. program for Indonesia is to improve long-term sustainable employment, increase per capita income, and improve social conditions by promoting economic efficiency and productivity. A.I.D.'s portfolio for Indonesia is composed of 39 projects under development assistance (DA); PL 480 food aid programs; and a proposed project under the economic support fund (ESF) that became active in (FY) 1991, when the Government of Indonesia (GOI) accepted the conditions attached to the project. Table F-1 shows the overall Indonesia program budget summary for fiscal years 1988 – 1990.

TABLE F-1

PROGRAM FUNDING OVERVIEW: USAID INDONESIA

(Thousands of current dollars)

Program component	FY88	FY89	FY90(e)	Total
Development assistance (DA)	40,537	47,798	43,000	131,335
Economic support fund (ESF)	NA	NA	1,991	1,991
PL480	24,470	21,581	15,089	61,140
Total	65,007	69,379	60,080	194,466

Source: A.I.D. Congressional Presentations for FYs 90 and 91.

NA = not applicable, (e) = estimated

ASSESSMENT OF FLOWBACK TO THE UNITED STATES

Table F-2 shows the estimated percent flowback by program component and fiscal year resulting from our examination of mission expenditures. Table F-3 shows the percent flowback by project functional category and budget (input) element. The

HF1

data in Tables F-2 and F-3 are derived from discussions with mission staff in November 1990.

TABLE F-2

FLOWBACK TO THE UNITED STATES FROM
USAID INDONESIA PROGRAM EXPENDITURES

(Percent of total expenditures spent on goods and services of U.S. origin)

Program component	FY88	FY89	FY90	Total
Development assistance (DA)	43	43	55	47
Economic support fund (ESF)	NA	NA	NA	NA
PL480	100	100	100	100
Total	59	61	67	62

TABLE F-3

FLOWBACK TO THE UNITED STATES FROM FY88-FY90
USAID INDONESIA PROJECT EXPENDITURES

(Percent of total expenditures)

Budget element	Project category						
	Agriculture and rural development	Civil works	Education and training	Policy reform	Population and health	Private sector	Total
Technical Assistance	78	56	88	76	66	89	76
Training	36	NA	94	52	65	24	75
Project Support	0	NA	7	6	15	29	10
Construction	0	NA	NA	NA	NA	0	0
Commodities	61	38	63	71	62	23	50
Total	52	52	89	[illegible]	48	48	50

OPERATING EXPENSES

The Comptroller's estimates of flowbacks by operating expense (OE) budget elements for fiscal years 1988 and 1989 are summarized in Table F-4.

TABLE F-4

FLOWBACK FROM USAID INDONESIA OPERATING EXPENSES

(Thousands of current dollars and percent of total expenditures)

Expense category	Average percent	Thousands of dollars	
		FY88	FY89
U.S. direct hire personnel	85	858.7	452.8
Local national personnel	0	0	0
Contract personnel	23	375.7	154.6
Housing	4	70.2	35.4
Office operations	40	354	724.7
Total	27	1,658.6	1,367.5

RETROSPECTIVE PROJECT REVIEWS LACK PRECISION

We reviewed one project in much more detail than other projects to assess the range of error of flowback percentages estimated through these retrospective reviews. This project, Development Studies Project (DSP) II 497-0340; is characterized by a high technical assistance (TA) content to be performed by a major U.S.-based contractor. The approved life-of-project (LOP) funding for this project was a $12 million grant, with an estimated GOI counterpart contribution of $4.3 million. The project is intended to improve trade, industry, and employment policies.

The input-level targets and associated expenditures and disbursements are shown in Table F-5 below, illustrating the difference between those two accounting categories. We will focus the discussion that follows on fiscal year 1988.

The Comptroller's estimate of the percentage flowback to the United States is illustrated in Figure F-1. A first approximation could be obtained by measuring U.S. dollar and other currency payments, using the MACS Currency Type Code. A second approximation could be obtained by applying the MACS Federal Outlay Code, which identifies the U.S./non-U.S. status of each payee. These approximations do not

TABLE F-5

MACS DATA FOR SAMPLE PROJECT (97-0340)

(Thousands of current dollars)

Budget element	Input targets[a]	Cumulative expenditures[b]				Actual disbursements[c]		
		FY87	FY88	FY89	FY90	FY88	FY89	FY90
Technical assistance	6,184	500	2,408	3,845	5,209	2,278	1,417	1,115
Commodities	535	184	351	328	353	137	10	0
Evaluation	120	4	4	16	25	0	12	9
Research	4,895	2,354	2,822	3,343	3,488	435	748	316
Seminars	120	46	49	54	62	2	4	10
Contingency	141	0	0	0	0	NA	NA	NA
Total	11,995	3,088	5,634	7,586	9,137	2,852	2,191	1,450

[a] *Source*: PIR, 30 September 1989.

[b] *Source*: Standard MACS reports at the close of each fiscal year.

[c] *Source*: Comptroller MMIS data based on MACS.

NA = not applicable.

identify possibilities such as foreign firms receiving payments to their U.S. bank accounts, foreign firms that are majority U.S.-owned, U.S. firms that are located outside the United States, or local expenses of U.S. nationals or firms in providing project services. A further refinement is necessary by breaking out the payees as shown in step (3) of Figure F-1.

In this particular example, the assumption is that local currency rupiah payments to non-U.S. payees do, in fact, stay in the local (host country) economy and that dollar (or other nonlocal currency) payments to non-U.S. payees end up in other or third country economies in the absence of data to the contrary.

The final refinement is to estimate the portion of dollar payments to U.S. payees that actually flow back to the U.S. economy. A.I.D. direct payments (such as A.I.D. project staff, direct procurements of U.S. commodities, and short-term U.S. consultants) are classified as U.S. source/origin/nationality in accordance with A.I.D. regulations, even though some of that money does not flow back to the United States, but is consumed locally. A.I.D. disbursements to large contractors, however, can be attributed to geographic destination based on contractor invoices. In this case,

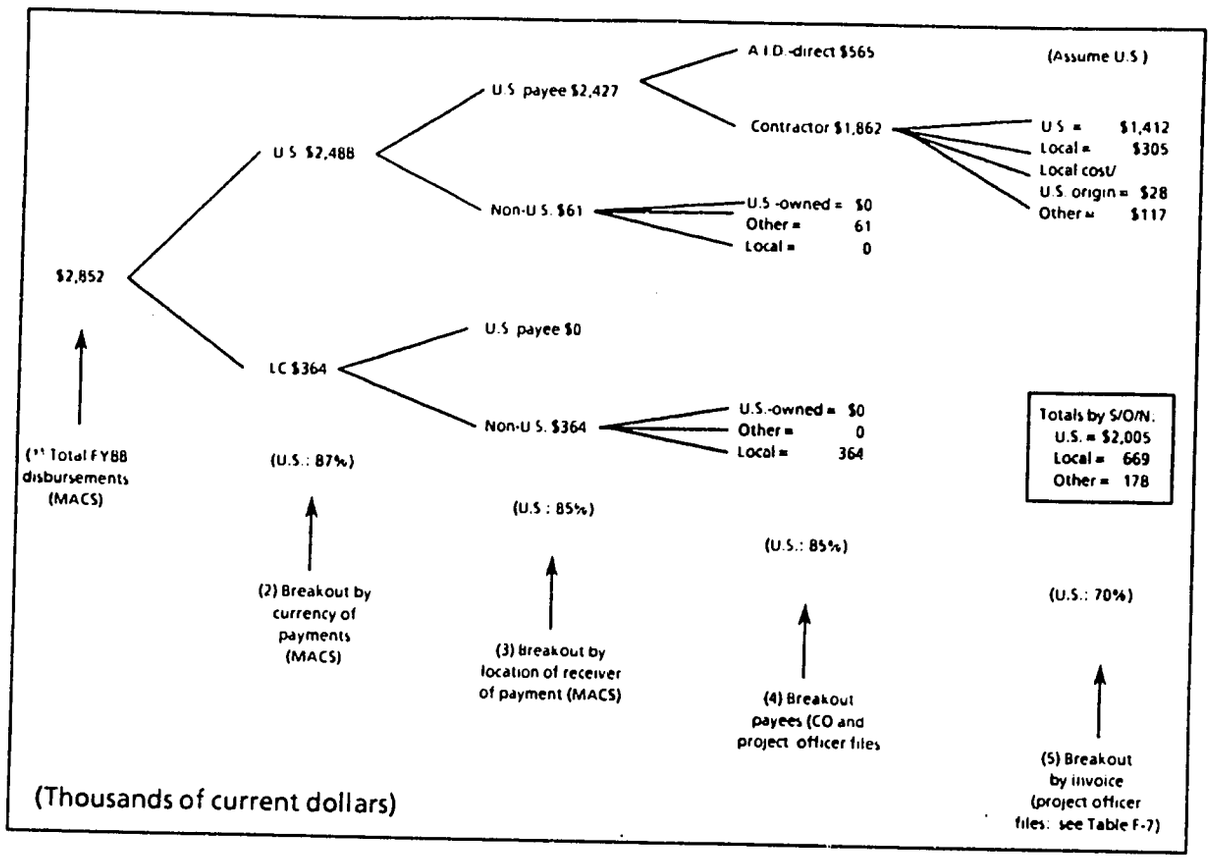

FIG. F-1. ILLUSTRATION OF BREAKOUT BY SOURCE/ORIGIN NATIONALITY: Project 497-0340 FY88 Disbursements

Table F-7 shows the data provided by the project officer to estimate the flowbacks shown in step (5) of Figure F-1.

In sum, based on this detailed approach, the Comptroller's estimate for this particular project in FY88 is 70.3 percent U.S. flowback ($2,005,000 out of $2,852,000), 23.5 percent local, and 6.2 percent other. The corresponding percentages for FY89, developed in the same way, were 58.4 percent U.S. flowback, 33.2 percent local, and 8.4 percent other.

The foregoing calculations tend to overestimate U.S. flowback by including per diem costs in the contractors' offshore costs; most of that per diem will generally be spent in the local economy, not in the United States (except for U.S. travel). Conversely, the calculation tends to underestimate the portion of locally sourced equipment that has U.S. origin. The project officer believes it may be as high as 30 or 40 percent (printers and computers) but is certain of only 6 percent (i.e., $3,000 as indicated in Table F-7). If we revise the calculations accordingly, the net result is a

TABLE F-7

CALCULATION OF FLOWBACKS FROM CONTRACTOR INVOICES (PROJECT 497-0340 FY88)

(Thousands of current dollars)

Off-shore cost			Local cost	
Line item	U.S. nationals	Other nationals	Line item	Cost
Salary	542	81	Rentals	102
Overhead	461	–	Utilities	17
Fringes	97	5	Salaries (local nationals)	57
Post differential	45	9	Equipment (local S/D)	47
Airfares	68	13	Local travel	4
Per diem	121	9	Education allowance	6
Settling-in allowance	7	–	Other direct costs	17
Shipping	13	–	Project Support	55
Storage	5	–	Subtotal local S/OIN	305
Equipment	0	–	Salaries (U.S. national)	25
Other direct costs	53	0	Equipment (U.S. origin)	3
Project support	0	–	Subtotal local source/ U.S. origin	28
Totals	1,412	117	Total local	333

downward adjustment in the TA contract's U.S. flowback from $1.440 to $1.333 million.

Furthermore, a certain percentage of the other A.I.D. direct payments in U.S. currency to U.S. nationals ($565,000 in this example, see Figure F-1) will not flow back to the United States. This amount includes $68,000 for direct procurement of computers off the GSA schedule, which includes both U.S. and Japanese products, with some U.S. brand names classified as Japanese origin per A.I.D. componentry rule (50 percent of cost). While A.I.D. rules accept GSA as U.S. source and origin, in reality the origin may be non-U.S. and, for certain types of products like computers, is likely to be non-U.S. With no information available on the specific computers and their componentry, a reasonable guess is that 50 percent of this procurement flows

back to Japan, not the United States. The remainder of this amount ($565,000 – $68,000) was spent on salaries for A.I.D. project staff (not included in OE), consultants (U.S. nationals), and other project support. A rough estimate of the percentage spent locally rather than flowing back to the United States is 60 percent for expatriates and 25 percent for short-term consultants. If we revise the evaluation accordingly, the net result is a downward adjustment in U.S flowback from $565,000 to $355,000.

Hence, for this particular project we estimate that the actual U.S. flowback in FY88 may have ranged from $1.6 to $2.0 million, or 56 to 70 percent of disbursements.

APPENDIX G

KENYA

PROGRAM OVERVIEW

The A.I.D. program for Kenya is to encourage sustained, broad-based economic growth. Financial and personnel resources are being focused on:

- reducing fertility and population growth, and
- increasing agricultural and small enterprise production, employment, income and foreign exchange earnings.

A.I.D.'s portfolio for Kenya is composed of approximately 23 projects providing development assistance (DA) and development fund for Africa (DFA) program assistance; PL 480 program food aid, commodities under the commodity import program (CIP), and other economic support fund (ESF) project assistance. Table G-1 shows the overall program budget summary for fiscal years 1988–1990. Although Table G-1 shows little DA funding, expenditures are still being made from prior year DA program funding.

TABLE G-1

PROGRAM FUNDING OVERVIEW: USAID KENYA

(Thousands of current dollars)

Program component	FY88	FY89	FY90(e)	Total
Development Fund for Africa (DFA)	32,234	45,040	30,000	107,274
Development assistance (DA)	—	409	—	409
Economic support fund (ESF)	10,000	10,000	—	20,000
PL480	11,144	6,716	8,885	26,745
Total	53,378	62,165	38,885	154,428

Source: A.I.D. Congressional Presentation for FYs 90 and 91

(e) = estimated

ASSESSMENT OF FLOWBACK TO THE UNITED STATES

Table G-2 provides estimates of the percentage of each program's expenditures that is spent on U.S. goods and services, based on data gathered at the Kenya A.I.D. mission in November 1990. The overall flowback estimate of 76 percent is reduced to 73 percent if PL480 is not included. Table G-3 shows the flowback percentages by project category and budget element derived from review of 17 projects comprising over 85 percent of the mission's expenditures for FYs 88-90.

TABLE G-2

FLOWBACK TO THE UNITED STATES FROM
USAID KENYA PROGRAM EXPENDITURES

(Percent of total expenditures spent on goods and services of U.S. origin)

Program component	FY88	FY89	FY90	Total
Development assistance (DA/DFA)	62	55	53	55
Economic support fund (ESF)	90	99	95	95
Commodity import program (CIP)	100	100	100	100
Cash transfer (CT)	NA	NA	NA	NA
Projects	23	42	43	35
PL480	100	100	100	100
Total	81	76	74	76

OPERATING EXPENSES

The USAID Kenya comptroller provided the estimated flowback data for operating expenses (OE) shown in Table G-4.

TABLE G-3

FLOWBACK TO THE UNITED STATES FROM
USAID KENYA FY89 PROJECT EXPENDITURES

(Percent of total expenditures)

Budget element	Project category						
	Agriculture and rural development	Civil works	Education and training	Policy reform	Population and health	Private sector	Total
Technical assistance	69	NA	54	51	40	21	44
Training	79	NA	68	60	7	68	64
Project support	0	NA	NA	33	50	0	37
Construction	NA	NA	NA	NA	NA	0	0
Commodities	79	NA	25	99	78	73	92
Total	75	NA	57	92	56	41	74

TABLE G-4

FLOWBACK FROM USAID KENYA OFFICE EXPENSES

(Thousands of current dollars and percent of total expenditures)

Expense category	Average percent	Thousands of dollars	
		FY89	FY90
U.S. direct hire personnel	87	610	449
Local national personnel	0	0	0
Contract personnel	85	186	282
Housing	2	26	3
Office operations	22	150	224
Procurement	65	115	365
Total	42	1,087	1,323

APPENDIX H

ZAIRE

OVERVIEW OF PROGRAM

The A.I.D. program for Zaire is to address constraints impeding private sector expansion and to promote sustainable, broad-based, market-oriented economic growth and development. This approach is pursued through four assistance themes:

- Policy reform and private sector initiatives
- Agricultural production and productivity
- Transportation infrastructure
- Rual health care and family planning services.

A.I.D.'s portfolio for Zaire is composed of 27 active projects providing development assistance (DA) and development fund for Africa (DFA) program assistance; PL 480 program food aid, commodities under the commodity import program (CIP), and other economic support fund (ESF) project assistance. Table H-1 shows the overall program budget summary for fiscal years 1988 - 1990. Although Table H-1 shows no DA or ESF program funding, expenditures are still being made from prior year DA and ESF program funding.

ASSESSMENT OF FLOWBACK TO THE UNITED STATES

Table H-2 shows the estimated percentage flowback of mission expenditures to the United States by program component and fiscal year. Table H-3 shows the percentage flowback by project category and budget element. The data in Tables H-2 and H-3 were derived from discussions with mission staff in October 1990.

OPERATING EXPENSES

Operating expenses for FY89 are show in Table H-4. The data in Table H-4 was provided by the mission executive officer in October 1990.

TABLE H-1

PROGRAM FUNDING OVERVIEW: USAID ZAIRE

(Thousands of current dollars)

Program component	FY88	FY89	FY90(e)	Total
Development fund for Africa (DFA)	30,499	36,000	33,000	99,499
Development assistance (DA)	–	–	–	–
Economic support fund (ESF)	–	–	–	–
PL480	13,225	31,572	16,413	61,210
Totals	43,724	67,572	49,413	160,709

Source: A.I.D. Congressional Presentations for FYs 90 and 91.

(e) = estimated

TABLE H-2

FLOWBACK TO THE UNITED STATES FROM
USAID ZAIRE PROGRAM EXPENDITURES

(Percent of total expenditures spent on goods and services of U.S. origin)

Program component	FY88	FY89	FY90	Total
Development assistance (DA/DFA)	53	56	59	57
Economic support fund (ESF)	73	79	70	74
Commodity import program (CIP)	98	99	99	98
Cash transfer (CT)	NA	NA	NA	NA
Projects	33	62	58	48
PL480	100	100	100	100
Total	74	86	68	75

TABLE H-3

FLOWBACK TO THE UNITED STATES FROM
USAID ZAIRE FY88 - FY90 PROJECT EXPENDITURES

(Percent of total expenditures)

Budget element	Project category						
	Agriculture and rural development	Civil works	Education and training	Policy reform	Population and health	Private sector	Total
Technical asistance	57	NA	74	40	59	60	58
Training	100	NA	78	NA	16	NA	51
Project support	56	NA	100	0	76	52	54
Commodities	46	NA	NA	NA	63	86	80
Construction	0	19	NA	NA	NA	NA	19
Total	56	19	/o	28	52	81	67

TABLE H-4

FLOWBACK FROM USAID ZAIRE OPERATING EXPENSES

(Thousands of current dollars and percent of total expenditures)

Expense category	Average percent	Thousands of dollars		
		FY88	FY89	FY90
U.S. direct hire personnel	58	409	373	507
Foreign national personnel	71	2	1	2
Contract personnel	78	341	190	472
Housing	<0	1	1	2
Office operations	49	327	380	706
Procurement	75	379	261	256
Total	47	1,458	1,206	1,945

APPENDIX I

ECONOMETRIC ANALYSIS

INTRODUCTION

In this appendix we present an overview of the trade and aid relationship between the United States and the beneficiary developing countries. The following section places the trade and aid relationship in perspective. We subsequently outline an economic approach that could be used to assess the relationship between aid and trade. While we cannot fully test the full econometric model outlined here at this time, we generate and evaluate a partial set of estimates.

THE AID-TRADE RELATIONSHIP

Earlier studies of the U.S. Aid program have noted that the United States has targeted its aid disbursements to beneficiary countries who are not its normal trade partners. To a large extent this observation is correct. Most of U.S. trade is with its three major trading partners, Canada, Japan, and Mexico. Of the total U.S. exports of $349 billion in 1989, U.S. exports to these countries accounted for 22, 12, and 7 percent, respectively.

Total aid disbursements are relatively modest, less than 2 percent the size of U.S. exports in 1989 for example. The major portion of U.S. aid is concentrated on a small number of the 74 aid recipients. The top 5 recipients in 1989 – Israel, Egypt, the Philippines, Pakistan, and El Salvador – made up 56.7 percent of total U.S. economic aid. The second tier of 5 recipients – India, Bangladesh, Guatemala, Costa Rica and Jamaica – made up an additional 13 percent of U.S. economic aid. A third tier of 10 recipients – Morocco, Honduras, the Dominican Republic, Indonesia, Bolivia, Mozambique, Sri Lanka, Kenya, Haiti, and Zaire – represented an additional 12.6 percent of U.S. aid flows. The remaining 54 recipients received 17.9 percent of total U.S. aid.

If concentration in the flow of U.S. economic aid were a new phenomenon, we could regard these data as spurious. In reality, such concentration has characterized aid disbursements for at least 2 decades, increasing during the period. In 1978 the

top 5 recipients received 50.8 percent, the second set of 5 countries received 11.4 percent, and the third set of 10 countries received 12.3 percent of total U.S. aid. The remaining 54 countries received just over 25 percent of total U.S. economic aid in 1978.

The targeting of aid flows to a small set of recipients is not surprising. In an environment where the total dollar amount available is small, the donor country probably will attempt to maximize effectiveness by concentration. The relevant policy question is: do these aid flows return to the United States as payments for additional U.S. exports? Before we look for a statistical relationship between U.S. aid flows and exports to these recipients, we should briefly review some statistics of U.S. trade with the recipient nations.

The major recipients of U.S. economic assistance, besides relying on such assistance also heavily import U.S. goods and services. U.S. exports to Israel in 1989 were 2.25 times the size of U.S. aid to Israel, 2.06 times for Egypt, 5.6 times for the Philippines, 3.3 times for Pakistan and 1.7 times for El Salvador. For the second set of five countries, the ratio of U.S. exports to U.S. aid ranged from 1.3 to 3. Only in the case of very poor recipients do we find the size of U.S. aid exceeding their imports from the United States. Clearly the major U.S. aid recipients spend more than their aid funds on U.S. exports.

Exports from the United States to all aid recipients amounted to only 9 percent of total U.S. exports in 1988. Explanations for this limited purchase of U.S. exports by the majority of aid recipients may lie in their small size and income and competition from other exporters. Aid recipients' exports to the United States during the same year amounted to 8.5 percent of all U.S. imports. Although U.S. trade with its aid recipients is small relative to total U.S. trade, even these small trade flows far exceed the value of U.S. economic assistance to the recipients.

Despite the small size of these trade flows there is a pattern in the data that suggests that by providing aid, the United States is generating a preferred status among its larger aid recipients. In the cases of Israel and Egypt, imports from the United States in 1988 represent approximately 30 percent of these countries' trade with all members of the the Organization for Economic Cooperation and Development (OECD) in 1988. In the cases of El Salvador and Costa Rica it was over 70 percent. For the Philippines, it was 40 percent.

MODELING AID AND TRADE FLOWS

The predominant economic policy question concerning the relationship between U.S. aid deliveries and exports to the affected beneficiary countries requires the determination of the value of U.S. exports to these countries as a direct outcome of the concessionary aid. Past attempts to provide empirical answers to this question have been beset with methodological and data problems as well as with uncertainties associated with lesser developed country (LDC) behavior and the behavior of competing aid donors. This section briefly discusses how this question might be addressed, if all the relevant data were available. The following sections will then present alternative, second-best methods for estimating trade and aid relationships.

The economic implications of providing aid in grant form (or at concessionary loan form) can be treated as a reduction in the cost to the beneficiary LDC. This reduction in cost can be assumed, all other things being equal, to result in an increase in LDC imports from the United States as their domestic buyers substitute the now lower priced U.S. goods for both domestic goods as well as imports from other countries.

To estimate the resulting increase in LDC purchases from the United States would require the use of LDC import demand and U.S. export supply elasticities to determine the responsiveness of LDC buyers and U.S. sellers to a reduction in the cost of purchasing U.S. imports. In addition to the appropriate elasticities, the potential price response by U.S. producers to a change in cost associated with selling to small beneficiary countries must be known or assumed. Subject to supply and cost constraints, U.S. producers may become uncompetitive with alternative suppliers. If LDC import demand were very unresponsive to price changes, U.S. suppliers might simply raise export prices by the amount of the grant equivalent of the aid flows in order to maximize short-run dollar earnings. On the other hand, if U.S. suppliers were interested in increasing their share of the LDC market, they might pass through the entire grant equivalent to LDC consumers. In sum, the total trade expansion will depend on the LDC import demand elasticity, the export supply elasticity, the pricing strategy of U.S. exporters, the magnitude of the grant equivalent, the size of the LDC market, and the current volume of U.S. exports to these countries.

The above approach can be formulated by deriving demand and supply equations for the beneficiary LDC importers and the U.S. exporters. Let the LDC be denoted as country i and the United States as country j. Then our system of equations for the trade of k ($k = 1....K$) goods can be described in the following set of equations:

$$M_{ik} = f\left(P^{D}_{ik}\right) \qquad \text{Eq. I-1}$$

$$P^{D}_{ik} = t_{ik} P^{W}_{jk} \qquad \text{Eq. I-2}$$

$$X_{jk} = g\left(P^{w}_{jk}\right) \qquad \text{Eq. I-3}$$

$$M_{ik} = X_{jk} \qquad \text{Eq. I-4}$$

$$R_{jk} = P^{W}_{jk} \times X_{jk} \qquad \text{Eq. I-5}$$

where M is the volume of LDC imports, X is the volume of U.S. exports, PD_{ik} is the domestic LDC price for commodity class k; PW_{jk} is the world market price assumed to be the price at which the U.S. exports to the LDC market, t_{ik} is the ad-valorem equivalent of the grant portion of the U.S. aid flows applicable to U.S. exports, and R_{jk} is the U.S. export revenue from exporting to the LDC markets.

Totally differentiating equations (I-1) through (I-5) and solving for the proportional changes of imports, export prices, and revenue results in a partial equilibrium framework for exports, imports, and exporter's revenue as a function of the percentage change in grant portion weighted by relative price changes and the elasticities of import demand and export supply.

To derive estimates of the effects of U.S. assistance on U.S. exports to the beneficiary LDCs from this model, several things would be needed. Reliable estimates of LDC import demand and U.S. export supply elasticities are required to determine the responsiveness of LDC buyers and U.S. exporters to changes in cost of

purchasing from the United States. As noted above, we would also have to make assumptions about the potential price response by U.S. exporters.

The partial equilibrium approach just outlined is conceptually straightforward. Nevertheless, implementing it is clouded by a number of methodological and data problems. The most severe problem arises from the fact that the LDC recipients of U.S. aid are not the natural markets for U.S. goods. Furthermore, elasticities for these LDCs are simply unavailable. Finally, aid is not provided just for the purpose of generating additional exports. A whole array of other motivations exists. We now turn to those other issues.

ECONOMETRIC MODELING OF THE RELATIONSHIP BETWEEN U.S. AID AND TRADE FLOWS

The objective of this econometric analysis is to simulate the relationship between U.S. exports and aid flows. In particular, we wish to examine at the margin what an additional dollar of U.S. aid may create in terms of additional U.S. exports. Traditional trade models have generally considered this type of question by focusing on the *law of comparative advantage*. Consequently, the standard trade models focus on the structure of relative autarky prices as the determinant of the pattern of commodity trade.

Tests of comparative advantage, however, are difficult because we do not know these relative autarky prices. All countries have some trade even at distorted prices, thus autarky prices are simply unavailable. Most of the empirical trade models avoid this problem by focusing on those observable factors that explain comparative advantage. In what follows we summarize the major theoretical approaches to modeling trade between countries. The model we used is discussed last.

The Ricardian model attributes comparative advantage entirely to differences in labor requirements of production. If factor prices were equalized by international trade and if production functions were identical, then labor productivities would not differ. The Heckscher-Ohlin (HO) model predicts that a capital-abundant country will export capital-intensive goods. The relationships in this model are among factor abundance, factor intensity, and trade. An analysis of the commodity composition of trade in terms of a generalized factor-proportions model, using Cobb-Douglas

production and preference functions for n goods and m factors, can be reduced to an equation comparing world and U.S. autarky prices.

Empirical evidence on the trade flows between developed countries and between developed and developing countries has cast doubt on the acceptance of differences in relative factor endowments as the only cause of international trade, particularly in the case of manufactured goods trade. An alternative to the Ricardian and HO models was proposed by Linder (1961) who emphasized the role of demand in determining the mix of manufactured goods produced and exported. This introduced the possibility of two-way trade between similar countries. Empirical testing of such two-way trade was first used by Pelzman (1978), with the general equilibrium modeling of this two-way trade introduced by Krugman (1981), Helpman (1981), and Lancaster (1980). These authors added scale economies, imperfect competition, and product differentiation, as ways of generalizing the empirical results. Their basic conclusions are that one should expect more trade between similar economies than between dissimilar economies.

In his "eclectic approach," Markusen (1986) suggests that North-South trade can be explained by HO trade models focusing on differences in factor endowments, while North-North trade can be explained by focusing on intra-industry trade – trade in differentiated manufactured goods. In the case of U.S. trade with LDCs, the HO framework may be applicable whereas, in the case of U.S.-OECD trade, a model that combines monopolistic competition with differing relative factor endowments with non-homothetic demand may be more appropriate.

The econometric exercise we used to test the relationship between U.S. exports and trade is based on a limited set of data, from which we can infer the effects of increased U.S. economic aid. The general formulation is known in the literature as the "gravity-trade equation." Given the complexity of the question raised, we suggest further work along the same lines.

The "gravity-equation" we use here specifies that U.S. merchandise exports to its aid recipients are determined by the relative size of U.S. merchandise imports from the aid recipients and the recipient countries' populations, GNPs, and aid flows. We use merchandise trade data because services trade data are not available in bilateral form for most aid-recipient countries.

The gravity equation we use is:

$$X_{ij}=f\left(M_{ij}, GNP_i, Pop_i, A_{ij}\right) \qquad \text{Eq. I-6}$$

where

X_{ij} = U.S. exports to aid recipient i

M_{ij} = U.S. imports from aid recipient i

$GNPi$ = Country income of aid recipient i

Pop_i = Population of aid recipient i

Ai_{ij} = U.S. aid flow to aid recipient i.

The resulting estimating equation in logarithmic form is:

$$\log X_{ij}=\beta_i \log A_{ij}+\beta_2 \log M_{ij}+\beta_3 Pop_i+\beta_4 \log GNP_i+\mu \qquad \text{Eq. I-7}$$

where we assume that the coefficients are all positive and that μ is a random error term.

Estimates of U.S. Merchandise Export Supply Equations

The results for the U.S. merchandise export supply equation are promising. The overall results in non-log (average relationship) form are presented in Table I-1, and the log (elasticity) estimates are presented in Table I-2. Pooling the equation across all recipients over the 1978–1988 time period, we found that the average relationship (Table I-1) between U.S. exports and aid is positive and greater than one. This result merely reinforces our earlier observation that U.S. exports to LDCs exceed economic assistance to those countries in the aggregate. At the margin, the elasticity of aid supply (Table I-2) suggests that U.S. exports increase by 36 cents for every dollar increase in U.S. aid.

Disaggregating by region, we found that for Africa the average relationship between U.S. exports and aid was as positive as in the overall equation. At the margin, the supply elasticity was 0.31, suggesting that for every dollar increase in U.S. aid, U.S. exports to Africa will increase by 31 cents.

TABLE I-1

RESULTS OF ANALYSIS OF U.S. EXPORT SUPPLY EQUATION:
AVERAGE RELATIONSHIPS

Explanatory variable	USAID	USIMP	POP	GNP	Constant
All recipients	1.0913 (20.130)	0.0336 (2.241)	-0.0029 (-8.924)	0.0177 (14.225)	
East Asia	1.1576* (1.142)	0.2241 (2.197)	-0.0131 (-3.687)	0.0124* (1.318)	1040.1 (4.966)
Near East/ South Asia	1.2831 (18.505)	-0.1466 (-2.308)	-0.0009 (-2.448)	0.0117 (7.732)	90.5475 (3.538)
Africa	1.2529 (7.749)	0.0492 (9.123)	-0.0019 (-4.187)	0.0094 (13.823)	
Latin America	-0.0871* (-0.323)	0.2497 (4.579)	-0.0223 (-2.501)	0.0414 (5.988)	

Note: All coefficients are statistically significant at least at the 95 percent level of confidence unless otherwise indicated by an asterisk (*) Coefficients marked by an asterisk are not statistically significant at the 95 percent level of confidence. The values in parentheses under the coefficients are "t" statistics, which are used to determine confidence levels.

TABLE I-2

RESULTS OF ANALYSIS OF U.S. EXPORTS SUPPLY EQUATION:
MARGINAL RELATIONSHIPS

Explanatory variable	Log USAID	Log USIMP	Log POP	Log GNP	Constant
All recipients	0.3641 (11.463)	0.5288 (22.697)	0.0921 (2.315)	0.0895 (3.564)	
East Asia	0.2023 (2.879)	0.0549* (1.144)	-0.7316 (-2.877)	0.6519* (1.898)	7.0500 (4.818)
Near East/ South Asia	0.3595 (6.537)	0.3666 (6.938)	-0.0749* (-1.242)	0.0760 (2.057)	
Africa	0.3146 (6.474)	0.3519 (10.714)	0.3588 (6.038)	0.0257* (0.854)	-2.0228 (-5.796)
Latin America	0.0109* (0.588)	0.5181 (8.595)	-0.2068 (-3.300)	0.4635 (6.450)	0.6857 (3.535)

Note: All coefficients are statistically significant at least at the 95 percent level of confidence unless otherwise indicated by an asterisk (*) Coefficients marked by an asterisk are not statistically significant at the 95 percent level of confidence. The values in parentheses under the coefficients are "t" statistics, which are used to determine confidence levels.

Applying the same methodology to East Asia, we found that there was no relationship between U.S. aid and U.S. exports when measured in non-log (average) form. Measured in log form, we found a small elasticity (.20) suggesting that for every dollar increase in U.S. aid flows to East Asia, we could expect an increase of 20 cents in exports.

For the Near East/South Asia we found that the average relationship between U.S. exports and aid flows is positive and that at the margin, an increase in U.S. aid by one dollar will increase U.S. exports by 36 cents. Finally, we find no statistical relationship between U.S. exports and aid flows for Latin America.

Tables I-3 and I-4 present some of the results for the export equation when the aid is disaggregated by type. In most cases there is a positive relationship between exports and U.S. aid corresponding to the variations by region for aggregated aid. For example, for every additional dollar of overall economic support fund aid, U.S. exports will increase by 31 cents. For Africa, this figure is 21 cents. Similar magnitudes are found for the other specific aid forms.

Finally, estimating the export equation with the aid disaggregated by assistance function does not significantly alter our conclusions. These results are reported in Tables I-5 and I-6. In most of these equations, the most important explanatory variable however was U.S. imports, not aid flows.

Regional Composition for Econometric Analyses

The Africa region includes: Benin, Botswana, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Djibouti, Equatorial Guinea, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mauritania, Mauritius, Morocco, Mozambique, Niger, Nigeria, Rwanda, Sao Tome, Senegal, Seychelles, Sierra Leone, Somalia, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zaire, Zambia, and Zimbabwe.

The East Asia region includes: Indonesia, Philippines, and Thailand. The Near East/South Asia region includes: Afghanistan, Bangladesh, Cyprus, Egypt, India, Israel, Jordan, Lebanon, Nepal, Oman, Pakistan, Sri Lanka, Turkey, and Yemen.

TABLE I-3

RESULTS OF ANALYSIS OF U.S. EXPORTS SUPPLY EQUATION BY TYPE OF AID: AVERAGE RELATIONSHIPS

Explanatory variable	USAID	USIMP	POP	GNP	Constant
Economic support fund aid					
All recipients	0.4937 (4.803)	0.0911 (5.178)	-0.0012 (-2.243)	0.0104 (7.224)	144.3000 (5.040)
East Asia	0.8534* (0.892)	0.2370 (2.942)	-0.0103 (-3.422)	0.0066* (0.817)	1133.22 (6.302)
Near East/ South Asia	0.9151 (9.299)	0.0990* (1.508)	-0.0007* (-1.462)	0.0087 (4.758)	177.4290 (4.086)
Africa	0.9604 (3.069)	0.0427 (7.826)	-0.0011 (-2.581)	0.0090 (14.566)	
Latin America	0.2794* (0.872)	0.3143 (6.02)	-0.0144* (-1.621)	0.0325 (4.905)	
Development assistance aid					
All recipients	0.4908 (5.427)	0.0894 (5.226)	-0.0011 (-2.159)	0.0101 (7.21)	145.7000 (5.08)
East Asia	0.8062* (0.914)	0.2373 (2.960)	-0.0105 (-3.483)	0.0067* (0.828)	1128.42 (6.226)
Near East/ South Asia	0.6670 (6.627)	0.1324* (1.924)	-0.0006* (-1.236)	0.0077 (4.011)	233.3300 (4.540)
Africa	0.9182 (4.028)	0.0438 (8.068)	-0.0014 (-3.366)	0.0093 (15.091)	
Latin America	0.1925* (0.720)	0.3160 (6.059)	-0.0149* (-1.685)	0.0328 (4.926)	

Note: All coefficients are statistically significant at least at the 95 percent level of confidence unless otherwise indicated by an asterisk (*) Coefficients marked by an asterisk are not statistically significant at the 95 percent level of confidence The values in parentheses under the coefficients are "t" statistics, which are used to determine confidence levels.

The Latin America region includes: Belize, Bolivia, Columbia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Panama, Peru.

TABLE I-4

RESULTS OF ANALYSIS EXPORTS SUPPLY EQUATION BY TYPE OF AID:
MARGINAL RELATIONSHIPS

Explanatory variable	Log USAID	Log USIMP	Log POP	Log GNP	Constant
Economic support fund aid					
All recipients	0.3135 (12.390)	0.5177 (22.919)	0.2196 (6.174)	0.0842 (3.549)	
East Asia	0.0668* (1.939)	0.1077 (2.444)	-0.2763* (-1.235)	0.2382* (0.809)	6.6991 (3.976)
Near East/ South Asia	0.3233 (9.184)	0.2949 (6.216)	0.1804 (3.316)	0.0768 (2.586)	
Africa	0.2119 (4.355)	0.3026 (10.020)	0.5000 (9.512)	0.0182* (0.619)	-2.5052 (-7.717)
Latin America	0.0080* (0.517)	0.5412 (9.315)	-0.1921 (-3.164)	0.4304 (6.231)	
Development assistance aid					
All recipients	0.3168 (10.519)	0.5605 (24.407)	0.1064 (2.883)	0.0836 (3.415)	
East Asia	0.0838* (1.327)	0.1023* (1.991)	-0.4420 (-2.001)	0.2944* (0.943)	7.8167 (5.071)
Near East/ South Asia	0.3143 (6.255)	0.3761 (7.366)	0.0158* (0.283)	0.0715 (2.092)	
Africa	0.1481 (3.077)	0.3292 (10.317)	0.4619 (8.288)	0.0152* (0.505)	-2.3396 (-6.945)
Latin America	0.0100* (0.554)	0.5406 (9.298)	-0.1990 (-3.229)	0.4335 (6.184)	

Note: All coefficients are statistically significant at least at the 95 percent level of confidence unless otherwise indicated by an asterisk (*). Coefficients marked by an asterisk are not statistically significant at the 95 percent level of confidence. The values in parentheses under the coefficients are "t" statistics, which are used to determine confidence levels.

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TABLE I-5

RESULTS OF ANALYSIS OF U.S. EXPORTS SUPPLY EQUATION BY ASSISTANCE FUNCTION: AVERAGE RELATIONSHIPS, ALL RECIPIENTS

Explanatory variable	USAID	USIMP	POP	GNP	Constant
Child survival	16.6752* (1.002)	-0.0036* (-0.17)	-0.0049 (-9.193)	0.0252 (12.571)	
Education and human resources	16.4656 (2.554)	-0.0081* (-0.385)	-0.0050 (-9.268)	0.0254 (12.751)	
Agriculture, food, and nutrition	4.0988 (2.442)	-0.0144* (-0.670)	-0.0052 (-9.513)	0.0260 (12.889)	
Health	4.1754* (0.702)	-0.0058* (-0.275)	-0.0050 (-9.174)	0.0253 (12.624)	
Population	15.0697 (3.263)	-0.0190 (-0.883)	-0.0054 (-9.754)	0.0265 (13.095)	
Private sector, environment, and energy	19.4780 (3.767)	-0.0050* (-0.24)	-0.0049 (-9.248)	0.0250 (12.613)	
Development fund for Africa	0.0153* (0.026)	0.0384 (7.341)	-0.0012 (-3.044)	0.0091 (15.140)	19.3606 (5.792)

Note: All coefficients are statistically significant at least at the 95 percent level of confidence unless otherwise indicated by an asterisk (*) Coefficients marked by an asterisk are not statistically significant at the 95 percent level of confidence. The values in parentheses under the coefficients are "t" statistics, which are used to determine confidence levels.

TABLE I-6

SUPPLY OF U.S. EXPORTS BY ASSISTANCE FUNCTION
MARGINAL RELATIONSHIPS, ALL RECIPIENTS

Explanatory variable	USAID	USIMP	POP	GNP	Constant
Child survival	0.2497* (1.092)	0.5381 (19.966)	0.2349 (5.387)	0.0135 (3.682)	
Education and human resources	0.3051 (3.041)	0.5349 (19.962)	0.2531 (5.838)	0.0937 (3.331)	
Agriculture, food, and nutrition	-0.0132* (-0.233)	0.5396 (19.979)	0.2419 (5.424)	0.1049 (3.714)	
Health	0.0575* (0.602)	0.5392 (20.007)	0.2345 (5.299)	0.1038 (3.689)	
Population	0.0040* (0.038)	0.5392 (19.997)	0.2390 (5.183)	0.1043 (3.707)	
Private sector, environment, and energy	0.3238 (2.908)	0.5176 (18.63)	0.2461 (5.696)	0.0999 (3.569)	
Development fund for Africa	-0.0906* (0.952)	0.2769 (7.954)	-0.5273 (-8.819)	0.0249 (0.734)	

Note: All coefficients are statistically significant at least at the 95 percent level of confidence unless otherwise indicated by an asterisk (*). Coefficients marked by an asterisk are not statistically significant at the 95 percent level of confidence The values in parentheses under the coefficients are "t" statistics, which are used to determine confidence levels.