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The Grant Component in United States Economic Aid to Less-Developed Countries

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THE GRANT COMPONENT IN UNITED STATES ECONOMIC
AID TO LESS-DEVELOPED COUNTRIES

by

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A Report Submitted in
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the Degree of Master of Science

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SECTION I

AN INTRODUCTION TO AID ANALYSIS

Foreign aid, since its comparatively recent inception, continually has been the subject of polemics. Though volumes have been written concerning its rationale, implementation, burden, impact, etc., only recently, with the concept of grants economics, have assessments of economic aid on a quantitative subsidy basis been possible. These pioneering efforts have led the way toward a clearer understanding of foreign aid by identifying the real transfers involved.

The object of the following analysis is to ferret out the grant component of official United States economic aid to less-developed countries from 1953 to 1969. The United States is chosen due to availability of data and because U.S. aid historically has contributed over fifty percent of net global foreign aid. Economic aid is defined as "all flows to less-developed countries and multilateral institutions provided by governmental agencies,"¹ which meet the two following tests:

- a. their prime objective is to promote economic welfare and development in less-developed countries; and
- b. their financial terms are intended to be concessional.

¹O.E.C.D., Resources for the Developing World, Paris, 1970, p. 323.

SECTION II

THE MODEL OF GRANTS ECONOMICS

"Grants economics identifies the bilateral exchange versus the unilateral transfer components in the varying admixture of market and nonmarket economic activity."¹ A grant is an outright gift for which no repayment or favor is expected. Certain portions of U.S. aid are one hundred percent grant (e.g., Peace Corps expenditures, contributions to multinational organizations, surplus food donations, etc.). In addition, portions of development and Eximbank² loans, due to their varying concessionary terms, are conventionally labeled grants. A loan, however, at or above the prevailing market rate of interest and without concessions in repayment terms contains zero, or occasionally negative, percent grant. As the loan terms "soften" from this point, the proportion of grant increases, approaching one hundred percent.³

Concessionary Factors

The analysis of the grant equivalent embodied in foreign economic aid loans is the crux of this research. At the outset the

¹Janos Horvath, "On the Evaluation of International Grants Policy," Public Finance, No. 2, 1971, (forthcoming).

²Export-Import Bank of the United States.

³But never reaching it as long as repayment of some kind, regardless of how concessional ("soft"), is due.

contract terms to be considered are interest rates, years of maturity and moratorium (grace) periods. The basic formula proposed for the analysis was published by Professor Ohlin⁴ in 1966 and recently expanded by Professor Horvath.⁵ This formula calculates the discounted present value of the loan principal and interest repayments. These repayments are deducted from the face value of the loan, resulting in the grant equivalent. The grant equivalent can be considered to be the resources sacrificed by the donor country because of its aid loan at comparatively "soft" terms as opposed to the return which could be earned if invested domestically. During the grace years, only interest is repaid. Interest and principal repayments are made during the remainder of the loan (the interest during the grace and nongrace years may differ). Professor Ohlin⁶ presents the grace years interest repayments as:

$$P_1 = \int_0^G i_G L e^{-dt} dt = \frac{i_G}{d} L (1 - e^{-dG}) \quad (1)$$

and the nongrace years principal and interest repayments as:

$$P_2 = \int_G^T \left[\frac{L}{T-G} + i_T L \left(1 - \frac{t-G}{T-G}\right) \right] e^{-dT} dt =$$

$$\frac{i_T}{d} L e^{-dG} + \left(1 - \frac{i_T}{d}\right) L \frac{e^{-dG} - e^{-dT}}{d(T-G)} \quad (2)$$

⁴Goran Ohlin, Foreign Aid Policies Reconsidered, O.E.C.D., Paris, 1966, pp. 101-104.

⁵Horvath, op. cit.

⁶Ohlin, loc. cit.

where

- L face value of loan
- P present value
- i_G interest during grace years
- i_T interest during nongrace years
- d comparative rate of discount (opportunity cost)
- T maturity of loan (in years)
- t individual years within the loan maturity
- G grace period (in years)
- e base of natural logarithm, 2.718

The grant ratio, g , is given as:

$$g = \frac{L - (P_1 + P_2)}{L} \quad (3)$$

Inserting the P_1 and P_2 values,

$$g = \frac{L - \left[\frac{i_G}{d} L (1 - e^{-dG}) + \frac{i_T}{d} L e^{-dG} + \left(1 - \frac{i_T}{d}\right) L \frac{e^{-dG} - e^{-dT}}{d(T-G)} \right]}{L} \quad (4)$$

which reduces to,

$$g = 1 - \left[\frac{i_G}{d} (1 - e^{-dG}) + \frac{i_T}{d} e^{-dG} + \left(1 - \frac{i_T}{d}\right) \cdot \left(\frac{e^{-dG} - e^{-dT}}{d(T-G)} \right) \right] \quad (5)$$

For example, a loan which has a 10-year grace period at 2% interest and a total maturity of 40 years at 3% interest (the 3% interest is applied to the last 30 years of the loan) and using a comparative discount rate (d) of 10% gives,

$$g = 1 - \left[\frac{.02}{.10} (1 - e^{-(.1)10}) + \frac{.03}{.10} e^{-(.1)10} + \left(1 - \frac{.03}{.10}\right) \cdot \left(\frac{e^{-(.1)10} - e^{-(.1)40}}{.1(40-10)} \right) \right]$$

$$\begin{aligned}
&= 1 - \left[.2(1-e^{-1}) + .3e^{-1} + (1-.3) \cdot \left(\frac{e^{-1}-e^{-4}}{3} \right) \right] \\
&= 1 - \left[.2(1-0.367879) + .3(0.367879) + .7 \left(\frac{0.367879-0.018316}{3} \right) \right] \\
&= 1 - \left[0.126424 + 0.110363 + 0.081564 \right] \\
&= 1 - \left[0.318351 \right] = 0.6816 \text{ (or 68.16\% grant)}
\end{aligned}$$

The discount rate of 10% is utilized throughout the following analysis and represents the rate of return private investors want to earn in developing countries.⁷ This rate also is used in Organization for Economic Cooperation and Development (O.E.C.D.) calculations and, therefore, will provide a comparison basis.

Trading Factors

To account for three additional factors which are inherent in grant ratio analysis, Professor Horvath⁸ includes the following trading factors: (1) g_1 --tied aid; (2) g_2 --loans repayable in local currency; and (3) g_3 --surplus commodities.

1. The tying of aid to purchases in the donor country tends to reduce the aid value to the recipient. This results if the prices paid for equipment or commodities in the donor country are higher

⁷John Pincus, "The Cost of Foreign Aid," Review of Economics and Statistics, November, 1963, p. 361. Dr. Pincus also uses 5% and 5-3/4% to approximate the domestic opportunity cost and the World Bank lending rate, respectively. (If the U.S. Treasury borrowing rate were utilized, the grant component would reflect the cost of foreign aid loans to the United States government. Due to periodic fluctuations in the discount rate, this latter procedure would result in varying grant ratios for similar loan terms.)

⁸Horvath, op. cit.

than world market prices, or if such equipment is designed inappropriately for the recipient's economy.⁹ Because the recipient country cannot import commodities from the cheapest source, this extra cost clearly reduces the grant element of transfers.¹⁰ This computation can be done with the following general formula:

$$\epsilon_1 = \frac{P_w - P_{U.S.}}{P_w} \times \text{percent of aid tied}$$

where,

P_w the price index on the world market

$P_{U.S.}$ the U.S. price index¹¹

Tied aid is, in a sense, a "negative grant" which is acceptable to recipient countries as "tied aid is better than no aid."¹² There are cases where the direct costs alone offset the concessionary value of the loan terms. The U.S. initiated tied aid to reduce balance of payments deficits. In 1958, when foreign aid-financed materials (except for Eximbank loans) could be purchased anywhere in the free world wherever the price was lowest, less than half of U.S. aid dollars were spent in American markets. Restrictions on such expenditures in

⁹For a more complete discussion of the ramifications of aid tying, see I.M.D. Little and J.M. Clifford, International Aid: A Discussion of the Flow of Public Resources from Rich to Poor Countries, Chap. VII (Chicago: Aldine Publishing Co., 1966).

¹⁰The U.N. Conference on Trade and Development Secretariat has estimated that the reduction in the value of a loan due to tying is at least 10 to 20 percent.

¹¹For the tied aid trading factor index calculation, see Appendix B, Table 1, p. 137.

¹²Ohlin, op. cit., p. 94.

foreign markets were imposed in late 1959. The balance of payments gain from tied aid, however, is less than the face value of the aid because, even if aid were offered untied, it is likely that the U.S. would sell at least a few commodities. The true U.S. gain is the difference between the exports resulting from tied aid and those exports attributable to an equivalent amount of untied aid.¹³ Forty percent of U.S. aid-financed, domestically purchased commodities is assumed to be attributable to equivalent amounts of aid, had it been offered on an untied basis. This percentage is a conservative assumption used because, in 1959, before aid-tying restrictions were initiated, and in the following two years, when a "backlash" is apparent, the percents of U.S. aid-financed commodities purchased domestically are 47.41%, 41.00%, and 44.17%, respectively. Tied aid is defined as development loans under tying restrictions and all Eximbank loans.¹⁴

2. Loan repayment terms may be offered in local currency. Since restrictions prevent the conversion of this currency to U.S. dollars (or any other currency), repayments eventually return to the recipient country. Specifically, the U.S. retains part of the proceeds for its own uses within the recipient country (e.g., payment of embassy personnel) and returns the remainder in the form of loans and grants. The O.E.C.D. treats local currency loans as grant-like-

¹³See Bimal Jalan, "Gains to Donor Countries from Tied Aid," Finance and Development, September, 1969, pp. 14-18.

¹⁴Surplus agricultural commodities sold under Public Law 480 are a form of tied aid, but as the data obtained is in export values, they are not subject to the tied aid formula.

flows which is technically inaccurate. Dr. Pincus¹⁵ has estimated them as 80 percent grant and 20 percent loan. To identify precisely the Pincus estimate, local currency loans are analyzed by the following procedure:

Initially they are submitted to the grant ratio formula described above. From the exchange equivalent (the grant equivalent complement) the funds designated for U.S.-use are deducted. The remaining exchange equivalent then is treated as follows: (a) the portion designated for grants is valued as 100% grant, and (b) the loan portion is submitted to the grant ratio formula a second time.¹⁶ The second exchange equivalent is subject to one final manipulation (the g_2 factor). These funds are blocked except for U.S.-use in the recipient country. "The trick is to value the blocked local currency at its true worth to the donor country by use of what is called a 'shadow' rate of exchange, as opposed to the nominal rate; in other words, the rate at which the donor would be willing to buy the blocked balances."¹⁷ The calculation of this "shadow exchange rate" index is presented in Appendix B, page 136. The index is multiplied by the percent of total aid the blocked local currency loans represent. The product reflects the official (higher) exchange rate versus the market rate and, there-

¹⁵Pincus, op. cit., p. 362.

¹⁶For the local currency loan grant ratio calculations, see the yearly Trading Factor and Local Currency Grant Ratio Calculations tables in Appendix A.

¹⁷Charles P. Kindleberger, Power and Money: The Politics of International Economics and the Economics of International Politics (New York: Basic Books, 1970), p. 135.

fore, indicates an additional grant component. Due to occasional currency depreciation, the g_2 trading factor is raised 15.4 percent.¹⁸ The factor is raised an additional 50 percent due to waivers on installments and interest.¹⁹

In the 1950's and early 60's, local currency loans comprised the major portion of U.S. development loans and, in 1962, were rapidly converted to dollar loans. Since 1967, virtually all development loans were on dollar repayment terms.²⁰

3. For the third trading factor, Professor Horvath²¹ provides a generalized formula to reduce the domestic, government supported price of surplus agricultural commodities to export market values. However, as the agricultural aid data was obtained in terms of export market values,²² the third trading factor formula is not required.²³

¹⁸U.S. Department of Agriculture, P.L. 480 Concessional Sales, Economic Research Service, Foreign Agricultural Economic Report No. 65, September, 1970, p. 36. From 1956 to 1969, of \$5.2 billion lent, the purchasing power depreciated by \$0.8 billion. The local currency development loans are assumed to be reduced by approximately the same percentage.

¹⁹Horvath, op. cit.

²⁰In some cases, the borrower can be a public agency or a private enterprise within the recipient country. The loan then may involve repayment by the non-governmental borrower to the recipient country government in local currency. The recipient government, in turn, repays the Agency for International Development in dollars. These loans are termed two-step loans.

²¹Horvath, op. cit.

²²P.L. 480 Concessional Sales, op. cit., p. 7.

²³Dr. Pincus, op. cit., p. 363, analyzed surplus agricultural commodity aid with three methods: (1) valued at U.S. prices, (2) valued at export market prices, and (3) valued at world market prices using estimates of elasticity of demand for U.S. exports.

From the preceding discussion of the grant ratio, the comprehensive grant ratio formula is presented,

$$g' = 1 - \left[\frac{i_G}{d} (1 - e^{-dG}) + \frac{i_T}{d} e^{-dG} + \left(1 - \frac{i_T}{d}\right) \cdot \left(\frac{e^{-dG} - e^{-dT}}{d(T-G)} \right) \right] + g_1 + g_2 \quad (7)$$

where,

- g' the comprehensive grant ratio
- i_G the interest rate during the grace period
- i_T the interest rate during the nongrace period
- d the comparative rate of discount (10%)
- e the base of the natural logarithm, 2.718
- G the grace period
- T maturity of the loan
- g_1 tied aid trading factor
- g_2 local currency loans trading factor

Stated verbally, the comprehensive grant ratio measures initially the loan terms (the interest rate both during grace and nongrace years, the comparative rate of discount, the length of repayment, and the grace period) plus incorporates two trading factor adjustments (tied aid and local currency repayment provisions).²⁴

²⁴For a thorough mathematical discussion of additional factors and refinements to the comprehensive grant ratio formula, see Janos Horvath and Donald P. Minassian, "A Mathematical Exposition of International Grants," Mimeographed, 1970.

A Note on the Grant Ratio Base

The grant ratio concept has been discussed and analyzed concerning the cost of aid to the donor country and the benefit of such aid to the recipient country. The grant ratio inherent in an aid flow, however, may differ from either. For example, an aid flow consisting of a Public Law 480 (P.L. 480) dollar sale contains the following grant element considerations:

a. The aid cost to the U.S. is valued at domestic prices and, therefore, must be reduced to world market rates, thus reducing the grant ratio. Also, the surplus goods sold were not produced for the aid program originally, but constituted a part of the U.S. exchange economy during initial economic transactions. Their cost to the government necessarily would be affected. If the surplus commodities merely were being stored, giving them away to save storage costs might be economically advantageous (the prospect of domestic usage being quite dim), resulting in a grant ratio of zero.

b. From a benefit-to-the-recipient standpoint, the surplus commodities could be valued in the local economy, thus reducing, or possibly increasing, the grant ratio. A decrease also may occur if the recipient is not able to utilize the surplus commodities in an efficient manner. In addition, the commodities could upset the balance of the recipient economy's agricultural price structure, creating a negative trading factor effect.

c. Finally, the contract terms of repayment analyzed by the grant ratio formula (discounted at a chosen rate) could result in a different figure.

To summarize, the "pure" grant ratio, calculated on a contract terms basis, may be equivalent to the ratio based on the donor's cost or the recipient's benefit. In certain cases, however, the "pure" grant ratio may vary from either. This is an important fact to bear in mind in future grant discussions and research.

SECTION III

U.S. FOREIGN ASSISTANCE

The period covered in this grant analysis is 1953 through 1969. The post World War II years through 1952 are considered the Marshall Plan era when the majority of aid was directed toward European countries in a recovery effort. 1953 was selected as the first year aid was extended primarily on a world-wide basis. Direct military aid, by definition, is excluded from the scope of research.

Program Evolution

From 1948 to 1952, the Economic Cooperation Administration (E.C.A.) administered U.S. foreign aid. The Mutual Security Act was passed in 1951 and reported on aid transactions through 1953. The Foreign Operations Administration (F.O.A.) was the official agency from 1953 to 1955. At that time, the International Cooperation Administration (I.C.A.) was organized and operated until 1961. The Development Loan Fund was established and operated concurrently from 1957 to 1961. In 1961, all predecessor agency functions were taken over by the present Agency for International Development (A.I.D.). Public Law 480, the Agricultural Trade Development and Assistance Act, was passed in 1954, and administered surplus agricultural commodities under the Food for Freedom program. The Peace Corps was created in 1961 and the Export-Import Bank has existed since 1984. Through the

above agencies the U.S. has contributed annually 55 to 60 percent of all O.E.C.D./D.A.C.¹ aid.

Aid Channels

U.S. aid is administered through four channels: the Agency for International Development, the Peace Corps, the Export-Import Bank, and the P.L. 480 program. Each aid flow is presented briefly.

Agency for International Development

A.I.D. administers funds under the following categories:

a. Development Loans--Loans are offered in both dollar and local currency. They are authorized at similar terms on the basis of project, program and sector loans. Dollar repayable loans are submitted to the grant ratio formula for analysis, while local currency loans are treated by the procedure described on page 8.

b. Supporting Assistance--The majority of this aid is valued as 100% grant, but does include some loans. Supporting assistance is designed to help overcome economic or political instability whether internal or external, and may include project technical assistance. This aid primarily is granted to countries engaged in a major defense effort and, in the 1950's, was termed Defense Support. Approximately 10 percent of supporting assistance is termed counterpart funds.² This portion, designated for U.S.-use in the recipient country,

¹Organization for Economic Cooperation and Development/Development Assistance Committee. Members are: Australia, Austria, Belgium, Canada, Denmark, France, W. Germany, Italy, Japan, the Netherlands, Norway, Portugal, Sweden, Switzerland, the United Kingdom, and the United States.

²Counterpart funds are the local currency proceeds of foreign aid. For more information, see Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1968, pp. 1-7.

constitutes an exchange element and is deducted from the supporting assistance categories in the Appendix A grant ratio calculations.

c. Technical Cooperation (also termed Technical Assistance)-- This type of aid is considered 100 percent grant and consists of (1) students, trainees, experts, and volunteers in foreign countries, (2) the supply of equipment for research or training, and (3) the support of educational programs. The Peace Corps is considered a special form of technical assistance.

d. Multinational Assistance--Two types of aid are covered by this category: (1) contributions to the development effort of the U.N. and its associate organizations, and (2) capital subscriptions to multilateral financial institutions. These funds are treated as full grants.

e. Contingency Fund--These funds are reserved for emergency situations resulting from economic or political crises. They also are treated as full grants.

f. Administrative Expenses--These appropriations, considered part of the cost of assistance, are treated as full grants.

The Peace Corps

See (c) Technical Cooperation above.

Export-Import Bank

This institution, to promote U.S. domestic exports, is not financed by the Federal budget. Although Eximbank has the possibility of borrowing from the U.S. Treasury, its resources are obtained through loan repayments.

Eximbank is in a sense two institutions: one issues insurance

and guarantees, and the other authorized various types of loans. The former transactions are not considered foreign aid. The latter consists of (a) long term loans, (b) commodity credits, (c) exporter credits, (d) special foreign trade (emergency) credits, and (e) discount credits, all of which are treated in the following manner:

a. Long Term Loans--The loan terms are analyzed by the grant ratio formula, as U.S. capital equipment and defense support articles and services are financed by these funds.

b. Commodity Credits--These funds are not considered aid as they primarily are designated for the exportation of raw cotton at terms of twelve months or less, and, therefore, constitute an exchange transaction.

c. Exporter Credits--These loans are available to U.S. export firms to finance commodity shipments. The loan terms, which are analyzed by the grant ratio formula, are generally "harder" than the long term loans (see (a) above).

d. Emergency Credits--These credits are not considered aid as they primarily are used for military purposes or for stabilizing local currency crises. Credits for the latter are usually canceled without being utilized.

e. Discount Credits--Initiated in 1966, these credits are lent to commercial U.S. banks against their holding of export debt obligations to make export financing more attractive. These loans are not treated as aid and are at or near private interest rates.

In summary, Eximbank aid appropriations consist of long term loans and exporter credits and are treated as loans. However, some conflict of definition does arise; for example, Mexico does not

consider any Eximbank transactions as foreign aid.³

Food for Peace

In 1954, P.L. 480 initiated three aid categories: Title I (sales for local currencies), Title II (donations for emergency relief and economic assistance), and Title III (donations to U.S. voluntary agencies). Title IV (sales for dollars) was introduced in 1959. In 1966, the earlier programs were replaced by P.L. 808 (the Food for Peace Act) which provided two categories: Title I (sales for dollars and local currencies) and Title II (donations). The program still is referred to as P.L. 480 in spite of the legislative change. Barter also is included and consists of the exchange of agricultural commodities for (1) materials for which the U.S. is a consistent net importer, (2) commodities required for foreign aid programs, and (3) materials or equipment required for off-shore construction programs. In Appendix A the Food for Peace program is analyzed in the following manner:

- a. Local Currency Sales--treated as local currency loans, see page 8.
- b. Dollar Sales--treated as loans.
- c. Emergency Assistance and Economic Development Donations--treated as 100 percent grants.
- d. Donations--treated as 100 percent grants.
- e. Barter---as part of these funds are designated for U.S.-use, 74.3 percent are treated as full grants to recipient countries and the

³I.M.D. Little and J.M. Clifford, op. cit., p. 233.

remaining 25.7 percent as an exchange element.⁴

A Note on the Private Sector

In addition to the official U.S. aid program, the private sector of the economy extends export credits and investments, accounting for approximately one-third of net global financial resource movements. As these financial flows are in the mainstream of the exchange economy, being motivated by profit considerations, the concepts of the grants economy do not apply.

⁴P.L. 480 Concessional Sales, op cit., p. 32. 25.67 percent of all P.L. 480 agreements from 1954 to mid-1969 are earmarked for U.S.-use. This gross percentage, in the absence of specific data, is assumed for the barter category.

SECTION IV

COMPUTING THE GRANT RATIO

In the computation of the grant ratio, grants are valued as aid at nominal value, and the grant equivalent in loans is calculated by the grant ratio formula using a 10% comparative discount rate. To review briefly the criteria presented earlier:

1. The following categories are considered 100 percent grant:

Technical Cooperation

Defense Support

Multinational Assistance

Contingency Fund

Administrative (or other) Expenses

Peace Corps

Food for Peace

- a. Emergency Assistance and Economic Development Donations

- b. Donations

2. The following authorizations are considered dollar loans:

Development Loans (in dollars)

Export-Import Bank

- a. Long Term Loans

- b. Exporter Credits

Food for Peace

- a. Dollar Sales

3. The following categories are considered local currency loans with the U.S.-use funds deducted from the exchange component and the remaining funds granted or reloaned to the recipient country. The exchange equivalent of the reloaned funds is analyzed by trading factor g_2 --the shadow rate of exchange index.

Development Loans (local currency)

Food for Peace

a. Local Currency Sales

4. Food for Peace Barter is considered 74.3 percent grant.

5. Supporting (Development) Assistance is treated as 90 percent grant.

6. Tied aid, consisting of portions of A.I.D. commitments and all Eximbank loan authorizations, is analyzed by trading factor g_1 --the difference in exports due to tied aid and exports attributable to equivalent flows of untied aid--multiplied by a U.S. versus World Price Index.

7. The g_2 trading factor (in No. 3 above) is adjusted upward, due to local currency depreciations and installment and interest waivers, 15.4% and 50%, respectively.

From 1964 to 1969, the development loans were calculated on an individual basis resulting in detailed grant equivalent information. Prior to 1964, due to unavailable data, loan terms applied to the respective total loan figures are yearly averages. Average terms also are applied to all Eximbank loans and Food for Peace sales.

In local currency P.L. 480 sales and local currency development loans, a percentage of the exchange equivalent is designated for U.S.-use (in the recipient country) with the remainder termed country-use

funds, returned to the recipient in the form of loans and grants. The percentage designated for U.S.-use is assumed to be the same in both P.L. 480 sales and development loans for a given year.¹

Two data problems should be noted:

(a) All data is presented on the basis of aid commitments as opposed to actual deliveries. Commitments, defined as firm obligations, are the best means to assess comparatively donor aid policies and are a useful indication of the direction the programs may be expected to take. Dr. Pincus aptly sums up this point in the following quotation:

. . . data are expressed on the basis of aid commitments . . . not in terms of actual flow of funds . . . [The] totals are . . . greater than those shown in the O.E.C.D. . . . [It is] necessary to present the data on a commitment basis . . . because data on loan terms and conditions were not available on a flow-of-funds basis.²

(b) The assumed portions of loan repayment terms are based on multiple resources and are composite estimates. Actual loan computations were programmed and run on an electronic computer.

The Grant Data and Calculation Tables

Before proceeding to the summary of results, Appendix A, which contains the calculations and supporting data for the grant ratio, should be discussed briefly. Appendix A contains three main tables.

¹This is assumed because detailed information is available concerning U.S. and country-use funds for Food for Peace local currency sales. The bulk of countries receiving Food for Peace sales also receive local currency development loans.

²John Pincus, Economic Aid and International Cost Sharing (Baltimore, Md.: The Johns Hopkins Press, 1965), p. 134.

1. Fiscal Year Grant Ratio of U.S. Economic Aid Commitments.

These tables summarize the aid commitments by category and present the grant ratio. In the second and third columns, the grant and loan portion of the total aid, shown in the first column, is calculated. The grant and loan portions of the aid may not equal the total aid commitments as an exchange element may be present. This exchange element is omitted since it does not affect the grant ratio results. The fourth column gives the grant equivalent (determined by the grant ratio formula) of the loan portion. The fifth column gives the total grant equivalent of the aid by adding the grant portion (second column) and the grant equivalent of the loans (fourth column). Dividing the total grant equivalent (fifth column) by the total aid commitment (first column) results in the summary grant ratio, shown in the final column.

2. Fiscal Year Grant Element and Trading Factors Data.

These tables contain the supporting information specifying the data utilized in the grant ratio calculations on the preceding table (e.g., loan terms, amount of tied aid, etc.).

3. Fiscal Year Trading Factor and Local Currency Loan Grant Ratio Calculations.

These tables first present the g_1 (tied aid) calculations. Secondly, the local currency grant ratio is calculated for P.L. 480 and/or development loans. Finally, the exchange equivalent, a by-product of the preceding calculation, is submitted to the g_2 (shadow exchange rate) calculation.

As previously noted, during the 1964-1969 period, detailed information concerning development loans has been obtained. For these

years, a fourth table, Fiscal Year Loan Data and Grant Ratios, is included in Appendix A. These tables present the individual loan commitments, country by country, with their respective loan terms and the inherent grant ratios.

SECTION V

AN ASSESSMENT OF THE GRANT COMPONENTS

Summary

Yearly U.S. aid commitments, respective grant equivalents, and grant ratios are shown in Table 1. The total aid commitment is \$65.9 billion, the grant equivalent is \$47.9 billion, and the corresponding weighted average grant ratio is .7269.

Details of the comprehensive grant ratios are shown in Table 2. The ratios have been fairly constant with the exception of the last three years considered. During the full period analyzed, the ratio has varied from a high of .8542 in 1953 to a low of .4996 in 1967. The effect of g_1 (aid tying) has varied from zero in base year 1953 to -9.67% in 1968. This trading factor's effect has been increasing, although fluctuations have occurred. The effect of g_2 (soft currency loans), with minor variations, has been relatively negligible. The trend of the comprehensive grant ratio has shown a slow decline. This can be seen graphically in Graph 1, which also depicts the increasing trend of total official aid. Official aid reached an all time peak of \$6.191 billion in 1967.

A glance at Graph 1 reveals that major fluctuations in the comprehensive grant ratio occurred in four periods: 1955-56, +.0934; 1956-57, -.1244; 1959-60, +.0818; and 1966-67, -.1382. In the 1955-56 period, the increase is due primarily to two factors:

(a) the Food for Peace commitments (having, in general, high grant ratios), increased approximately three-fold, and (b) Eximbank funds (which have low grant ratios), decreased by roughly one-third. Eximbank fluctuations are also the prime influence in the remaining three periods. In the 1956-57 grant ratio increase, Eximbank funds increased roughly five-fold; in the 1959-60 decrease, Eximbank funds were cut by approximately one-half; and in the 1966-67 decrease, Eximbank funds were decreased by a factor of nearly two and one-half. Decreases in the comprehensive grant ratio reflect a widening gap between total official aid and the grant equivalent.

Table 3 contains grant ratios of the various types of dollar and local currency loans. The local currency loans generally have higher grant ratios than dollar loans. While the terms of repayment usually are harder in the local currency loans, the majority of their repayments are re-lent or granted back to the recipient country, raising significantly the grant ratio. Yet, in 1961-1964, the grant ratio is higher for dollar development loans than for local currency development loans. The main factor in this interesting paradox is that, in these years, U.S.-use funds constitute more than the inherent exchange equivalent in the local currency loans and even require a portion of the grant equivalent, thus reducing the total grant equivalent in the original loan terms. Table 3 also indicates the decreasing trend of local currency development loans and local currency P.L. 480 sales, while P.L. 480 dollar sales are climbing.¹

¹By 1971, all P.L. 480 sales will be on a dollar basis.

The terms of development loans and P.L. 480 sales averaged over 3% interest in the 1950's. In 1961, the majority were at 0.75% interest. From this extremely generous level, interest rates slowly have grown harder until the levels of 2% interest during grace years and 3% interest during nongrace years were reached in 1969.

From completely untied aid prior to 1959 (except for Eximbank loans), the percent of U.S. aid-financed, domestically purchased commodities reached 98.94% in 1969.

Concluding Remarks

Three principal conclusions are drawn from the subject analysis.

1. While total official U.S. aid generally has increased during the 1953-1969 period, the comprehensive grant ratio has experienced a slow decreasing trend. In only three fiscal years during the period analyzed, 1967, 1968, and 1969, has the ratio dropped below 60 percent. However, a significant point is to be made here. The huge increase of Eximbank loans is the prime factor in this recent grant ratio decrease. For example, in 1965, the grant ratio is .792 and, in 1967, it is .586. The exclusion of Eximbank loans from the calculations results in grant ratios of .856 and .840, respectively, thus eliminating the apparent total grant ratio decrease.

2. The effects of tied aid have been estimated to average approximately 10 to 20 percent, with individual cases as high as 49.3 percent.²

²Robert M. Stern, "International Financial Issues in Foreign Economic Assistance to the Less-Developed Countries," International Seminar on Problems of Economic Development and Structural Change, edited by I.G. Stewart, Edinburgh University Press, 1969, p. 53.

The World Export Index (Appendix B) has shown this figure to average 10.72% from 1953 through 1969 (14.25% during the last decade). The effect on the grant ratio during the period analyzed has averaged -3.69% (-4.59% during the last decade).

3. The grant ratio of local currency development loans and local currency P.L. 480 sales during 1953-1969 is .7611 and .7588, respectively. Dr. Pincus's³ initial estimate of 80 percent grant and 20 percent loan is substantiated as quite accurate.

³Pincus, "The Cost of Foreign Aid," p. 362.

Table 1. U.S. AID COMMITMENTS AND GRANT RATIOS, 1953-1969

Year	Total aid commitment (millions of dollars)	Total grant equivalent (millions of dollars)	Grant ratio (g)
1969	3,789.2	2,461.5	.6496
1968	5,295.0	3,319.5	.6269
1967	6,191.0	3,626.9	.5858
1966	5,075.0	3,674.2	.7240
1965	4,271.4	3,383.0	.7920
1964	4,363.7	3,413.0	.7821
1963	4,472.3	3,543.4	.7923
1962	4,649.4	3,675.7	.7906
1961	4,276.2	3,127.2	.7313
1960	3,405.7	2,576.2	.7564
1959	3,791.7	2,557.9	.6746
1958	3,313.8	2,384.3	.7195
1957	4,256.1	3,045.6	.7156
1956	2,686.2	2,243.3	.8400
1955	2,224.3	1,660.8	.7466
1954	1,466.0	1,184.3	.8078
1953	<u>2,374.9</u>	<u>2,026.7</u>	<u>.8534</u>
Total	65,901.9	47,903.5	.7269

Source: Appendix A: Tables 1-57.

Table 2. U.S. COMPREHENSIVE GRANT RATIOS, 1953-1969

Year	Grant ratio (g)	Trading factor effects		Comprehensive grant ratio (g')
		Aid tying (g ₁)	Soft currency (g ₂)	
1969	.6496	-.0829	+0.0008	.5675
1968	.6269	-.0967	+0.0021	.5323
1967	.5858	-.0866	+0.0004	.4996
1966	.7240	-.0458	+0.0008	.6790
1965	.7920	-.0359	+0.0030	.7591
1964	.7821	-.0260	+0.0014	.7575
1963	.7923	-.0264	+0.0009	.7668
1962	.7906	-.0227	+0.0004	.7683
1961	.7313	-.0247	--	.7066
1960	.7564	-.0116	+0.0176	.7624
1959	.6746	-.0237	+0.0033	.6542
1958	.7195	-.0123	+0.0080	.7152
1957	.7156	-.0097	+0.0086	.7145
1956	.8400	-.0029	+0.0082	.8453
1955	.7466	-.0088	+0.0043	.7421
1954	.8078	-.0030	+0.0028	.8076
1953	<u>.8534</u>	<u>--</u>	<u>+0.0008</u>	<u>.8542</u>
Weighted Average	.7269	-.0369	+0.0035	.6935

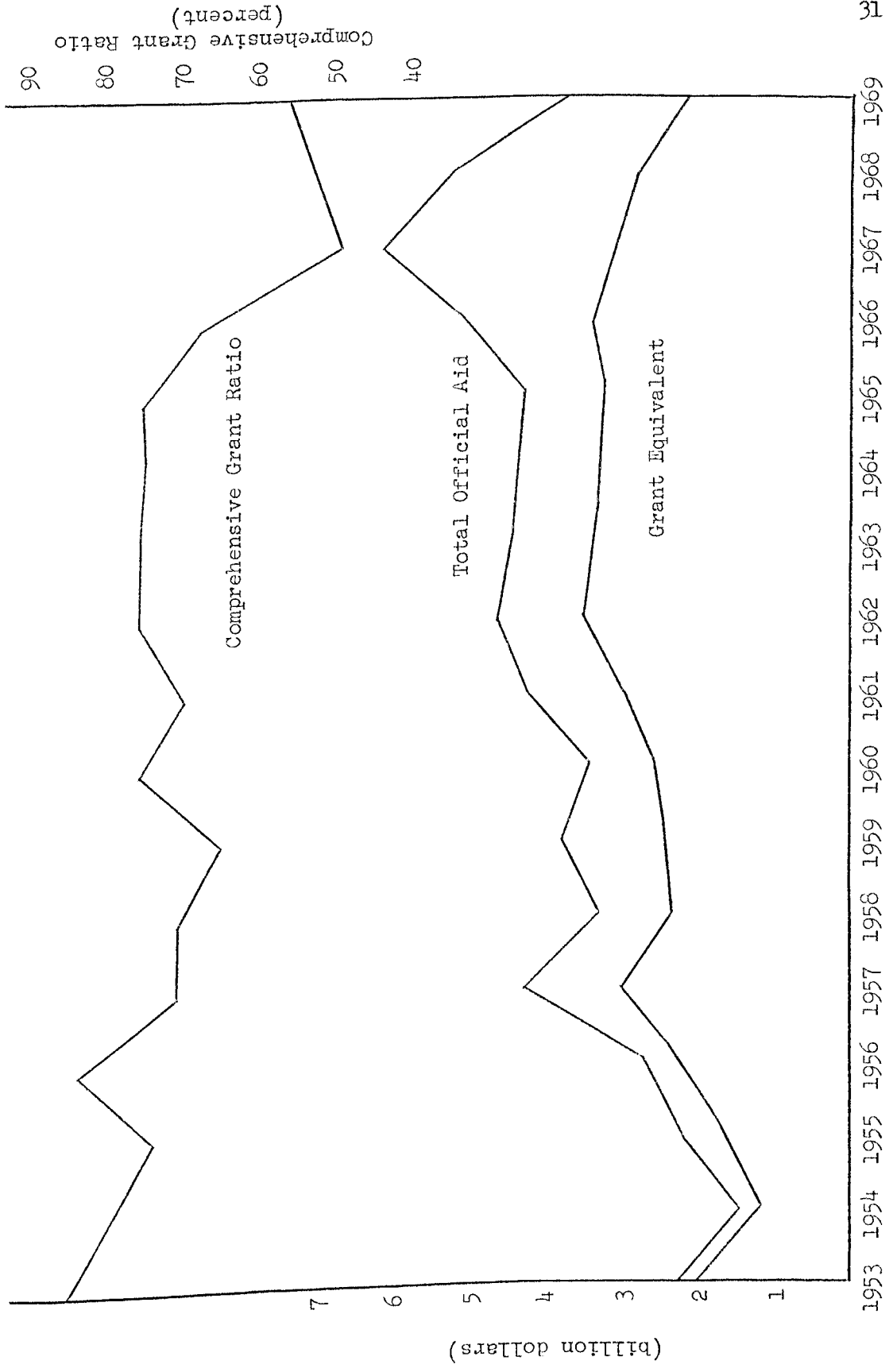
Source: Appendix A: Tables 1-57.

Table 3. GRANT RATIOS OF U.S. FOREIGN AID LOANS 1953-1969 (millions of dollars)

Year	Dollar loans				Local currency loans			
	Develop- ment	Grant ratio	PL 480	Grant ratio	Develop- ment	Grant ratio	PL 480	Grant ratio
1969	722.2	.6831	411.0	.6099	--	--	337.0	.7709
1968	1,044.0	.7244	306.0	.6099	--	--	723.0	.8076
1967	1,108.6	.7234	178.0	.6138	--	--	803.0	.7839
1966	1,207.8	.7330	181.0	.6138	24.6	.7927	866.0	.7917
1965	1,128.0	.7641	158.0	.6138	34.9	.7937	1,142.0	.8517
1964	1,249.0	.8299	46.0	.6547	65.7	.7991	1,056.0	.8193
1963	1,159.2	.8172	58.0	.6956	128.8	.7997	1,088.0	.8416
1962	877.1	.8172	19.0	.7366	219.3	.7998	1,030.0	.8181
1961	261.8	.8092	--	--	392.7	.8001	951.0	.7368
1960	177.1	.5052	--	--	343.9	.7174	824.0	.6831
1959	15.6	.5441	--	--	505.6	.7559	724.0	.4927
1958	7.6	.5164	--	--	244.5	.7517	658.0	.6960
1957	--	--	--	--	332.7	.7520	908.0	.6960
1956	8.4	.4904	--	--	202.4	.7446	439.0	.6877
1955	--	--	--	--	209.5	.7913	73.0	.6877
1954	--	--	--	--	100.0	.7330	--	--
1953	--	--	--	--	16.4	.7317	--	--
	8,966.4	.7601	1,357.0	.6182	2,821.0	.7611	11,622.0	.7588

Source: Appendix A: Tables 1-57.

Graph 1. U.S. GRANT EQUIVALENT AND COMPREHENSIVE GRANT RATIO, 1953-1969



Appendix A: Table 1. FISCAL YEAR 1969 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Development Loan	722,218	0	722,218	493,324	493,324	.6831
Supporting Assistance	464,448	418,003	0	--	418,003	.9000
Technical Cooperation	270,905	270,905	0	--	270,905	1.0000
Multinational	138,200	138,200	0	--	138,200	1.0000
Contingency Fund	13,870	13,870	0	--	13,870	1.0000
Administrative	80,151	80,151	0	--	80,151	1.0000
Food For Peace	1,014,000 ^a					
1. Local currency sales	337,000	0	337,000	259,793	259,793	.7709
2. Dollar sales	411,000	0	411,000	250,669	250,669	.6099
3. Emergency assistance & economic development	111,000	111,000	0	--	111,000	1.0000
4. Donations	154,000	154,000	0	--	154,000	1.0000
5. Barter	1,000	743	0	--	743	.7433
Peace Corps	100,300	100,300	0	--	100,300	1.0000
Export-Import Bank	985,100	0	985,100	170,521	170,521	.1731
	3,789,192	1,287,172	2,455,318	1,174,307	2,461,479	.6496 ^b

Sources: Export-Import Bank of the United States, Fiscal Year 1969 Report; U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1969; Agency for International Development, Operations Report, June 30, 1969; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aTotal of Food For Peace funds, items 1, 2, 3, 4, and 5.

^bWeighted average.

Appendix A: Table 2. FISCAL YEAR 1969 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans	See Fiscal Year 1969 Loan Data and Grant Ratios (Appendix A: Table 4).
Supporting Assistance	10% of counterpart funds generated is reserved for U.S.-uses. ^a
Other	All other A.I.D. and Peace Corps funds are valued as 100% grants.
Tied Aid (g ₁)	98.94% (see <u>Operations Report</u>) of A.I.D. financed commodities (\$1,013.7 million) purchased in the U.S., plus Eximbank loans of \$985.1 million.
Local Currency Loans (g ₂)	
1. Development	Virtually no local currency Development Fund Loans.
2. PL 480	\$337,000,000, of which U.S.-use funds are \$72,421,300 and recipient country-use funds are \$264,578,700. Of country-use funds, \$150,254,200 (56.8%) are grants and \$114,324,500 (43.2%) are loans. Average loan terms are 2% interest during 10 years grace and 3% interest during the remainder of the 40 year maturity (68.2% grant ratio).
Eximbank	Average terms are 6% interest on 11.2 year maturities with a 1 year grace period.
PL 480 Dollar Sales	Average terms are 2.6% interest on 31 year maturities with 8 years grace.
PL 480 Barter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1969; Agency for International Development, Operations Report, June 30, 1969; Export-Import Bank of the United States, Fiscal Year 1969 Report; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aSee Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969, p. 4.

Appendix A: Table 3. FISCAL YEAR 1969 TRADING FACTOR AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

g_1 --Tied Aid

Tied aid consists of (1) \$1,013.7 million (98.94% of A.I.D. funds used for domestic commodity purchases) less \$409.8 million (40% of A.I.D. funds which is assumed to be the "normal" amount of exports attributable to an equivalent amount of untied aid)^a plus (2) \$985.1 million of Eximbank loans which equals \$1,589.0 million. This tied aid divided by \$3,789.2 million total aid equals 41.9 (percent of tied aid).

$$41.9\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .419 \times \frac{110.2 - 132}{110.2} =$$

$$.419 \times -.1978 = -0.0829$$

g_2 --Local Currency Loans

P.L. 480 Title 1

	\$337.0	million total aid
of which	229.8	grant equivalent (68.2%)
and	107.2	exchange equivalent
minus	72.4	U.S.-use funds
equals	34.8	country-use funds
of which	19.8	56.8% grants (see Appendix A: Table 2)
and	15.0	43.2% reloaned funds (see Appendix A: Table 2)
of which	10.2	grant equivalent (68.2%)
and	4.8	exchange equivalent

See notations at end of table.

Appendix A: Table 3. (continued)

The total grant ratio is: \$229.8 million
 19.8
 10.2

\$259.8 divided by \$337.0 = .7709

Application of the shadow exchange rate ratio plus depreciation
 and waiver of repayments:

(a) Shadow exchange rate of 0.371 x exchange equivalent per- centage of .0013 (\$4.8/\$3,789.2) =	.00048
(b) Currency depreciation of 15.4%, raise (a) by	.00007
(c) Waiver on installments and interest, approximately 50% of (a) =	<u>.00024</u>
Total ϵ_2	.00079

Sources: Appendix A: Tables 1 and 2; Appendix B: Tables 1 and 2.

^aSee page 7.

Appendix A: Table 4. FISCAL YEAR 1969 LOAN DATA AND GRANT RATIOS

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
<u>Near East & South Asia</u>						
Afghanistan	1.25	2	10	3	40	0.681654
Ceylon	5.00	2	10	3	40	0.681654
India	194.00	2	10	3	40	0.681654
Pakistan	71.00	2	10	3	40	0.681654
	3.00	2	10	3	40	0.681654
	1.50	2	10	3	40	0.681654
	20.00	2	10	3	40	0.681654
Turkey	40.00	2	10	3	40	0.681654
<u>Latin America</u>						
Bolivia	1.70	2	10	2.5	40	0.694222
	2.00	2	10	3	40	0.681654
	1.00	2	10	3	40	0.681654
	2.40	2	10	2.5	40	0.694222
Chile	20.00	2	10	2.5	40	0.694222
	10.00	2	10	3	40	0.681654
	2.50	2	10	3	40	0.681654
Colombia	15.00	2	10	3	40	0.681654
	10.00	2	10	3	40	0.681654
	60.00	2	10	3	40	0.681654
	2.10	2	10	3	40	0.681654
	10.00	2	10	3	40	0.681654

See notations at end of table.

Appendix A: Table 4. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i_G	G	i_T	T	
Costa Rica	5.00	2	10	2.5	40	0.694222
	7.10	2	10	3	40	0.681654
Dominican Republic	8.00	2	10	3	40	0.681654
Ecuador	2.00	2	10	3	40	0.681654
	1.20	2	10	3	25	0.629845
El Salvador	8.20	2	10	3	40	0.681654
Guatemala	0.63	2	10	3	40	0.681654
	2.00	2	10	3	40	0.681654
Guyana	12.90	2	10	3	40	0.681654
	2.50	2	10	3	40	0.681654
Honduras	0.50	2	10	3	40	0.681654
Jamaica	0.314	2	10	3	40 ^b	0.681654
Nicaragua	0.230	2	10	3	40 ^b	0.681654
Panama	1.30	2	10	3	40	0.681654
	3.50	2	10	3	40	0.681654
	3.70	2	10	3	40	0.681654
	4.60	2	10	3	40	0.681654
Paraguay	5.00	2	10	3	40	0.681654
	2.60	2	10	3	40	0.681654
Peru	0.50	2	10	3	40 ^b	0.681654
Venezuela	0.027	2	10	3	40 ^b	0.681654
Regional	30.00	2	10	2.5	40	0.694222

See notations at end of table.

Appendix A: Table 4. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Regional (continued)	7.07	2	10	3	40 ^b	0.681654
Other	7.07	2	10	3	40 ^b	0.681654
<u>East Asia</u>						
Indonesia	44.00	2	10	3	40	0.681654
	6.30	2	10	3	40	0.681654
Korea	10.00	2	10	3	40	0.681654
	5.00	2	10	3	40	0.681654
	5.00	2	10	3	40	0.681654
<u>Africa</u>						
Ethiopia	3.00	2	10	3	40	0.681654
	10.00	2	10	3	40	0.681654
Liberia	0.975	2	10	2.5	40	0.694222
	4.00	2	10	3	40	0.681654
	0.65	2	10	3	40	0.681654
Malagasy Republic	0.30	2	10	3	40	0.681654
Morocco	5.00	2	10	3	40	0.681654
	3.00	2	10	3	40	0.681654
Nigeria	2.10	2	10	3	40	0.681654
	2.80	2	10	3	40	0.681654
	2.30	2	10	3	40	0.681654
Tunisia	6.20	2	10	3	40	0.681654
Uganda	3.20	2	10	3	40	0.681654

See notations at end of table.

Appendix A: Table 4. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i_G	G	i_T	T	
Regional	7.50	2	10	3	40	0.681654
	10.00	2	10	2.5	40	0.694222
	0.35	2	10	3	40	0.681654
Miscellaneous	<u>2.152</u>	2	10	3	40 ^b	<u>0.681654</u>
Total	722.218					0.683067 ^c

Source: U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1969.

^a i_G = interest during grace years; G = number of grace years; i_T = interest during remainder of loan; and T = total number of years in the loan.

^bAssumed terms, due to unavailable information.

^cWeighted average.

Appendix A: Table 5. FISCAL YEAR 1968 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Development Loan	1,043,986	0	1,043,986	756,292	756,292	.7244
Supporting Assistance	594,502	535,052	0	--	535,052	.9000
Technical Cooperation	295,744	295,744	0	--	295,744	1.0000
Multinational	134,909	134,909	0	--	134,909	1.0000
Contingency Fund	27,538	27,538	0	--	27,538	1.0000
Administrative	81,325	81,325	0	--	81,325	1.0000
Food For Peace	1,287,000 ^a					
1. Local currency sales	723,000	0	723,000	583,895	583,895	.8076
2. Dollar sales	306,000	0	306,000	186,629	186,629	.6099
3. Emergency assistance & economic development	100,000	100,000	0	--	100,000	1.0000
4. Donations	152,000	152,000	0	--	152,000	1.0000
5. Barter	6,000	4,460	0	--	4,460	.7433
Peace Corps	106,800	106,800	0	--	106,800	1.0000
Export-Import Bank	1,723,200	0	1,723,200	354,807	354,807	.2059
	5,295,004	1,437,828	3,796,186	1,881,623	3,319,451	.6269 ^b

Sources: Export-Import Bank of the United States, Fiscal Year 1968 Report; U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1968; Agency for International Development, Operations Report, June 30, 1968; Peace Corps, Seventh Annual Report, June 30, 1968; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aTotal of Food For Peace funds, items 1, 2, 3, 4, and 5.

^bWeighted average.

Appendix A: Table 6. FISCAL YEAR 1968 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans	See Fiscal Year 1968 Loan Data and Grant Ratios (Appendix A: Table 8).
Supporting Assistance	10% of counterpart funds generated is reserved for U.S.-uses. ^a
Other	All other A.I.D. and Peace Corps funds are valued as 100% grants.
Tied Aid (g ₁)	98.41% (see <u>Operations Report</u>) of A.I.D. financed commodities (\$1,142.7 million) purchased in the U.S., plus Eximbank loans of \$1,723.2 million.
Local Currency Loans (g ₂)	
1. Development	Virtually no local currency Development Fund Loans.
2. PL 480	\$723,000,000, of which U.S.-use funds are \$121,174,800 and recipient country-use funds are \$601,825,200. Of country-use funds, \$248,914,900 (41.4%) are grants and \$352,910,300 (58.6%) are loans. Average loan terms are 2% interest during 10 years grace and 2½% interest during the remainder of the 40 year maturity (69.4% grant ratio).
Eximbank	Average terms are 6% interest on 12.7 year maturities, and 2.6 years grace.
PL 480 Dollar Sales	Average terms are 2.6% interest on 31 year maturities and 8 years grace.
PL 480 Barter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1968; Agency for International Development, Operations Report, June 30, 1968; Export-Import Bank of the United States, Fiscal Year 1968 Report; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 4.

Appendix A: Table 7. FISCAL YEAR 1968 TRADING FACTOR AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

g_1 --Tied Aid

Tied aid consists of (1) \$1,142.7 million (98.41% of A.I.D. funds used for domestic commodity purchases) less \$464.5 million (40% of A.I.D. funds which is assumed to be the "normal" amount of exports attributable to an equivalent amount of untied aid)^a plus (2) \$1,723.2 million of Eximbank loans which equals \$2,401.4 million. This tied aid divided by \$5,295.0 million total aid equals 45.4 (percent of tied aid).

$$45.4\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .454 \times \frac{104.7 - 127}{104.7} =$$

$$.454 \times -.2130 = -0.0967$$

g_2 --Local Currency Loans

P.L. 480 Title 1

	\$723.0	million total aid
of which	501.8	grant equivalent (69.4%)
and	221.2	exchange equivalent
minus	121.2	U.S.-use funds
equals	100.0	country-use funds
of which	41.4	41.4% grants (see Appendix A: Table 6)
and	58.6	58.6% reloaned funds (see Appendix A: Table 6)
of which	40.7	grant equivalent (69.4%)
and	17.9	exchange equivalent

See notations at end of table.

Appendix A: Table 7. (continued)

The total grant ratio is: \$501.8 million
 41.4
 40.7

\$583.9 divided by \$723.0 = .8076

Application of the shadow exchange rate ratio plus depreciation
 and waiver of repayments:

(a) Shadow exchange rate of 0.371 x exchange equivalent percentage of 0.00338 (\$17.9/\$5,295.0) =	.00125
(b) Currency depreciation of 15.4%, raise (a) by	.00019
(c) Waiver on installments and interest, approximately 50% of (a) =	<u>.00063</u>
Total ϵ_2	.00079

Sources: Appendix A: Tables 5 and 6; Appendix B: Tables 1 and 2.

^aSee page 7.

Appendix A: Table 8. FISCAL YEAR 1968 LOAN DATA AND GRANT RATIOS

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
<u>Near East & South Asia</u>						
Afghanistan	0.711	1	10	2.5	40	0.757434
Indonesia	225.00	2	10	2.5	40	0.694222
	23.00	2	10	2.5	40	0.694222
	37.00	2	10	2.5	40	0.694222
Pakistan	115.00	2	10	2.5	40	0.694222
	2.00	1	10	2.5	40	0.757434
	6.80	2	10	2.5	40	0.694222
	0.97	2	10	2.5	40	0.694222
	0.42	2	10	2.5	40	0.694222
Turkey	40.00	2	10	2.5	40	0.694222
	7.50	1	10	2.5	40	0.757434
	3.00	2	10	2.5	40	0.694222
	5.00	2	10	2.5	40	0.694222
	12.50	2	10	2.5	40	0.694222
<u>Latin America</u>						
Argentina	1.00	1	10	2.5	40	0.757434
Brazil	0.717	1	10	2.5	40	0.757434
	10.3	2	10	2.5	40	0.694222
	75.0	2	10	2.5	40	0.694222
	15.4	2	10	2.5	40	0.694222
	32.0	2	10	2.5	40	0.694222

See notations at end of table.

Appendix A: Table 8. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Brazil (continued)	27.4	2	10	2.5	40	0.694222
	5.8	2	10	2.5	40	0.694222
	13.4	2	10	2.5	40	0.694222
Chile	23.0	1	10	2.5	40	0.757434
	16.30	2	10	2.5	40	0.694222
	15.00	1	10	2.5	40	0.757434
Colombia	58.00	2	10	2.5	40	0.694222
	15.00	2	10	2.5	40	0.694222
Costa Rica	3.00	1	10	2.5	40	0.757434
	0.49	2	10	2.5	40	0.694222
Dominican Republic	12.00	2	10	2.5	40	0.694222
	7.10	2	10	2.5	40	0.694222
	2.65	2	10	2.5	40	0.694222
El Salvador	1.90	2	10	2.5	40	0.694222
	3.00	3	8	4	30	0.546102
	1.03	2	10	2.5	40	0.694222
Guatemala	8.60	2	10	2.5	40	0.694222
Guyana	2.60	2	10	2.5	40	0.694222
	1.10	2	10	2.5	40	0.694222
	1.00	1	10	2.5	40	0.757434
Honduras	1.48	2	10	2.5	40	0.694222
	9.50	2	10	2.5	40	0.694222

See notations at end of table.

Appendix A: Table 8. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Nicaragua	1.864	2	10	2.5	40	0.694222
	10.20	--	--	2.5	35	0.542189
	2.20	2	10	2.5	40	0.694222
	9.40	2	10	2.5	40	0.694222
Panama	0.33	2	10	2.5	40	0.694222
	0.50	2	10	2.5	40	0.694222
	15.00	3.5	5	3.5	30	0.505248
Paraguay	1.00	2	10	2.5	40	0.694222
Uruguay	15.00	2	10	2.5	40	0.694222
Other	0.325	2	10	2.5	-- ^c	0.748911
<u>East Asia</u>						
Indonesia	7.50	1	10	2.5	40	0.757434
	12.50	2	10	2.5	40	0.694222
Korea	10.00	2	10	2.5	40	0.694222
	5.00	2	10	2.5	40	0.694222
	15.00	2	10	2.5	40	0.694222
	2.00	2	10	2.5	40	0.694222
Philippines	2.00	3.5	5	3.5	25	0.479558
	1.10	3.5	5	3.5	25	0.479558
<u>Africa</u>						
Ethiopia	1.00	2	10	2.5	40	0.694222
Ghana	15.00	2	10	2.5	40	0.694222

See notations at end of table.

Appendix A: Table 8. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i_G	G	i_T	T	
Liberia	0.525	2	10	2.5	40	0.694222
Malawi	7.0	2	10	2.5	40	0.694222
Mali	0.855	2	10	2.5	40	0.694222
Morocco	8.00	2	10	2.5	40	0.694222
	5.00	2	10	2.5	40	0.694222
Niger	0.90	1	10	2.5	40	0.757434
Nigeria	4.60	1	10	2.5	40	0.757434
	5.10	2	10	2.5	40	0.694222
Tunisia	10.00	2	10	2.5	40	0.694222
	0.265	2	10	2.5	40	0.694222
Regional	13.60	2	10	2.5	40	0.694222
Miscellaneous	64.904	2	10	2.5	40 ^b	0.694222
Total	1,043.986					0.724427 ^d

Source: U.S. President, The Foreign Assistance Program, Annual Report to Congress, Fiscal Year 1968.

^a i_G = interest during grace years; G = number of grace years; i_T = interest during remainder of loan; and T = total number of years in the loan.

^bAssumed terms, due to unavailable information.

^cIndefinite maturity; 99 years used for grant ratio calculation.

^dWeighted average.

Appendix A: Table 9. FISCAL YEAR 1967 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Development Loan	1,108,622	0	1,108,622	801,928	801,928	.7234
Supporting Assistance	718,350	646,515	0	--	646,515	.9000
Technical Cooperation	315,534	315,534	0	--	315,534	1.0000
Multinational	143,636	143,636	0	--	143,636	1.0000
Contingency Fund	49,772	49,772	0	--	49,772	1.0000
Administrative	79,504	79,504	0	--	79,504	1.0000
Food For Peace	1,270,000					
1. Local currency sales	803,000	0	803,000	629,472	629,472	.7839
2. Dollar sales	178,000	0	178,000	109,256	109,256	.6138
3. Emergency assistance & economic development	110,000	110,000	0	--	110,000	1.0000
4. Donations	157,000	157,000	0	--	157,000	1.0000
5. Barter	22,000	16,353	0	--	16,353	.7433
Peace Corps	104,500	104,500	0	--	104,500	1.0000
Export-Import Bank	2,401,100	0	2,401,100	463,412	463,412	.1930
	6,191,018	1,622,814	4,490,722	2,004,068	3,626,882	.5858 ^b

Sources: Export-Import Bank of the United States, Fiscal Year 1967 Report; U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1967; Agency for International Development, Operations Report, June 30, 1967; Peace Corps, Seventh Annual Report, June 30, 1968; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aTotal of Food For Peace funds, items 1, 2, 3, 4, and 5.

^bWeighted average.

Appendix A: Table 10. FISCAL YEAR 1967 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans	See Fiscal Year 1967 Loan Data and Grant Ratios (Appendix A: Table 12).
Supporting Assistance	10% of counterpart funds generated is reserved for U.S.-uses. ^a
Other	All other A.I.D. and Peace Corps funds are valued as 100% grants.
Tied Aid (g_1)	96.23% (see <u>Operations Report</u>) of A.I.D. financed commodities (\$1,349.5 million) purchased in U.S., plus Eximbank loans of \$2,401.1 million.
Local Currency Loans (g_2)	
1. Development	Virtually no local currency Development Fund Loans.
2. PL 480	\$803,000,000, of which U.S.-use funds are \$169,433,000 and recipient country-use funds are \$633,567,000. Of country-use funds, \$214,715,900 (33.9%) are grants and \$418,851,100 (66.1%) are loans. Average loan terms are approximately 1% interest during 10 years grace and 2½% interest during the remainder of the 40 year maturity (75.7% grant ratio).
Eximbank	Average terms are 6% interest on 12 year maturities and 2 years grace.
PL 480 Dollar Sales	Approximate average terms are 2.5% interest on 30 year maturities and 8 years grace.
PL 480 Barter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1967; Agency for International Development, Operations Report, June 30, 1967; Export-Import Bank of the United States, Fiscal Year 1967 Report; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 4.

Appendix A: Table 11. FISCAL YEAR 1967 TRADING FACTOR AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

g_1 --Tied Aid

Tied aid consists of (1) \$1,349.5 million (96.23% of A.I.D. funds used for domestic commodity purchases) less \$560.9 million (40% of A.I.D. funds which is assumed to be the "normal" amount of exports attributable to an equivalent amount of untied aid)^a plus (2) \$2,401.1 million of Eximbank loans which equals \$3,189.7 million. This tied aid divided by \$6,191.0 million total aid equals 51.5 (percent of tied aid).

$$51.5\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .515 \times \frac{105.3 - 123}{105.3} =$$

$$.515 \times -.1681 = -0.0866$$

g_2 --Local Currency Loans

P.L. 480 Title 1

	\$803.0	million total aid
of which	607.9	grant equivalent (75.7%)
and	195.1	exchange equivalent
minus	169.4	U.S.-use funds
equals	25.7	country-use funds
of which	8.7	33.9% grants (see Appendix A: Table 10)
and	17.0	66.1% reloaned funds (see Appendix A: Table 10)
of which	12.9	grant equivalent (75.7%)
and	4.1	exchange equivalent

See notations at end of table.

Appendix A: Table 11. (continued)

The total grant ratio is: \$607.9 million
 8.7
 12.9

\$629.5 divided by \$803.0 = .7839

Application of the shadow exchange rate ratio plus depreciation
 and waiver of repayments:

(a) Shadow exchange rate of 0.371 x exchange equivalent per-	
centage of 0.00066 (\$4.1/\$6,191.0) =	.00024
(b) Currency depreciation of 15.4%, raise (a) by	.00003
(c) Waiver on installments and interest, approximately	
50% of (a) =	<u>.00012</u>
	Total g ₂ .00039

Sources: Appendix A: Tables 9 and 10; Appendix B: Tables 1 and 2.

^aSee page 7.

Appendix A: Table 12. FISCAL YEAR 1967 LOAN DATA AND GRANT RATIOS

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
<u>Near East & South Asia</u>						
Afghanistan	4.60	1	10	2.5	40	0.757434
	12.00	1	10	2.5	40	0.757434
	0.40	1	10	2.5	40	0.757434
Ceylon	7.50	1	5	2.5	25	0.612357
India	12.00	1	10	2.5	40	0.757434
	9.30	1	10	2.5	40	0.757434
	132.00	1	10	2.5	40	0.757434
	50.00	1	10	2.5	40	0.757434
Israel	5.50	3.5	5	3.5	20	0.445817
Jordan	1.80	1	10	2.5	40	0.757434
Pakistan	4.00	1	10	2.5	40	0.757434
	10.70	1	10	2.5	40	0.757434
	3.70	1	10	2.5	40	0.757434
	2.40	1	10	2.5	40	0.757434
	1.50	1	10	2.5	40	0.757434
	13.10	1	10	2.5	40	0.757434
	70.00	1	10	2.5	40	0.757434
	25.00	1	10	2.5	40	0.757434
Turkey	65.00	1	10	2.5	40	0.757434
	30.50	1	10	2.5	40	0.757434
	2.00	1	10	2.5	40	0.757434

See notations at end of table.

Appendix A: Table 12. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Turkey (continued)	22.40	1	10	2.5	40	0.757434
	4.50	1	10	2.5	40	0.757434
	2.60	1	10	2.5	40	0.757434
	3.40	1	10	2.5	40	0.757434
	4.50	1	10	2.5	40	0.757434
<u>Latin America</u>						
Bolivia	9.50	1	10	2	40	0.770002
	1.50	1	10	2.5	40	0.757434
Brazil	31.60	1	3	3.5	15	0.434382
	41.20	1	5	6	20	0.471084
	8.40	1	10	2.5	40	0.757434
	100.00	1	10	2.5	40	0.757434
	14.80	1	5	5.5	15	0.454532
	1.80	1	6	3.5	25	0.603130
	0.10	1	10	2.5	40	0.757434
Chile	10.00	1	10	2.5	40	0.757434
	2.50	1	10	2.5	40	0.757434
Colombia	100.00	1	10	2.5	40	0.757434
Costa Rica	5.00	1	10	2.5	40	0.757434
Dominican Republic	5.00	1	5	2.5	20	0.573425
	1.40	1	10	2.5	40	0.757434
	8.70	1	10	2.5	40	0.757434

See notations at end of table.

Appendix A: Table 12. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Dominican Republic (continued)	2.00	1	10	2.5	40	0.757434
El Salvador	0.40	1	5	3.5	25	0.577926
Guatemala	2.20	1	10	2.5	40	0.757434
	5.00	1	5	2.5	20	0.573425
	0.758	1	10	2.5	40	0.757434
Guyana	7.50	1	10	2.5	40	0.757434
	0.60	1	10	2.5	40	0.757434
Honduras	7.00	1	10	2.5	40	0.757434
Nicaragua	2.20	1	10	2.5	30	0.725535
	2.00	1	10	2.5	30	0.725535
	5.00	1	5	3.5	25	0.577926
Panama	3.50	1	10	2.5	40	0.757434
	3.056	1	5	3.5	30	0.603616
	4.10	1	10	2.5	40	0.757434
	6.60	1	5	3.5	30	0.603616
	3.10	1	10	2.5	40	0.757434
	1.50	1	10	2.5	40	0.757434
	1.00	1	10	2.5	40	0.757434
Paraguay	1.90	1	10	2.5	40	0.757434
Peru	7.50	1	10	2.5	40	0.757434
	5.50	1	10	2.5	40	0.757434
	3.20	1	10	2.5	40	0.757434

See notations at end of table.

Appendix A: Table 12. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Peru (continued)	1.20	1	10	2.5	40	0.757434
Uruguay	0.775	1	10	2.5	40	0.757434
Regional	20.00	1	10	2.5	40	0.757434
<u>East Asia</u>						
Korea	12.50	1	10	2.5	40	0.757434
	12.00	1	10	2.5	40	0.757434
	12.70	1	10	2.5	40	0.757434
	17.50	1	10	2.5	40	0.757434
	3.00	1	10	2.5	40	0.757434
	3.00	1	10	2.5	40	0.757434
Philippines	4.70	3.5	5	3.5	25	0.479558
	2.00	3.5	5	3.5	25	0.479558
Thailand	3.50	3.5	5	3.5	25	0.479558
<u>Africa</u>						
Congo	2.50	1	10	2.5	22	0.684147
Dahomey	0.85	1	10	2.5	40	0.757434
Ethiopia	5.80	1	10	2.5	40	0.757434
Ghana	20.00	1	10	2.5	40	0.757434
	2.00	1	10	2.5	40	0.757434
Kenya	0.35	--	--	1	40	0.679126
Liberia	0.85	1	10	2.5	40	0.757434
	0.09	1	10	2.5	40	0.757434

See notations at end of table.

Appendix A: Table 12. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Liberia (continued)	0.30	1	10	2.5	40	0.757434
	0.65	1	10	2.5	40	0.757434
Malagasy Republic	2.00	1	10	2.5	40	0.757434
Morocco	1.60	1	10	2.5	40	0.757434
	1.30	1	10	2.5	40	0.757434
Nigeria	6.00	1	10	2.5	40	0.757434
Somali Republic	2.40	1	10	2.5	40	0.757434
	2.00	1	10	2.5	40	0.757434
	8.50	1	10	2.5	40	0.757434
	0.32	--	--	5.5	15	0.216939
Sudan	2.70	1	10	2.5	40	0.757434
Tanzania	0.90	1	10	2.5	40	0.757434
Tunisia	0.41	1	10	2.5	40	0.757434
	15.00	1	10	2.5	40	0.757434
	6.20	1	10	2.5	40	0.757434
	0.50	1	10	2.5	40	0.757434
	0.225	1	10	2.5	40	0.757434
	0.29	1	10	2.5	40	0.757434
	0.60	1	10	2.5	40	0.757434
Uganda	4.70	1	10	2.5	40	0.757434
	0.25	1	10	2.5	40	0.757434
Regional	1.50	4	5	4	20	0.411523

See notations at end of table.

Appendix A: Table 12. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i_G	G	i_T	T	
Regional (continued)	0.50	4	5	4	20	0.411523
	1.60	1	10	2.5	40	0.757434
	3.60	1	10	2.5	40	0.757434
	0.125	1	10	2.5	40	0.757434
Miscellaneous	1.623	1	10	2.5	40 ^b	0.757434
Total	1,108.622					0.723355 ^c

Source: U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1967.

^a i_G = interest during grace years; G = number of grace years; i_T = interest during remainder of loan; and T = total number of years in the loan.

^bAssumed terms, due to unavailable information.

^cWeighted average.

Appendix A: Table 13. FISCAL YEAR 1966 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Development Loan	1,207,776	0	1,207,776	885,300	885,300	.7330
Local Currency						
Development Loan	24,648	0	24,648	19,538	19,538	.7927
Supportive Assistance	702,653	632,388	0	--	632,388	.9000
Technical Cooperation	312,507	312,507	0	--	312,507	1.0000
Multinational	137,759	137,759	0	--	137,759	1.0000
Contingency Fund	209,028	209,028	0	--	209,028	1.0000
Administrative	70,595	70,595	0	--	70,595	1.0000
Food For Peace	1,346,000 ^a					
1. Local currency sales	866,000	0	866,000	685,612	685,612	.7917
2. Dollar sales	181,000	0	181,000	111,098	111,098	.6138
3. Emergency assistance & economic development	87,000	87,000	0	--	87,000	1.0000
4. Donations	180,000	180,000	0	--	180,000	1.0000
5. Barter	32,000	23,786	0	--	23,786	.7433
Peace Corps	113,200	113,200	0	--	113,200	1.0000
Export-Import Bank	950,800	0	950,800	206,419	206,419	.2171
	5,074,966	1,766,263	3,230,224	1,907,967	3,674,230	.7240 ^b

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1966; U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1966; Agency for International Development, Operations Report, June 30, 1966; Peace Corps, Seventh Annual Report, June 30, 1968; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aTotal of Food For Peace funds, items 1, 2, 3, 4, and 5.

^bWeighted average.

Appendix A: Table 14. FISCAL YEAR 1966 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans	See Fiscal Year 1966 Loan Data and Grant Ratios (Appendix A: Table 16).
Supporting Assistance	10% of counterpart funds generated is reserved for U.S.-uses. ^a
Other	All other A.I.D. and Peace Corps funds are valued as 100% grants.
Tied Aid (α_1)	90.17% (see <u>Operations Report</u>) of A.I.D. financed commodities (\$1,110.5 million) purchased in U.S., plus Eximbank loans of \$950.8 million.
Local Currency Loans (α_2)	
1. Development	Assumed 2% of Development Loans = \$24,648,480 (assumed 20% retained for U.S.-use). ^b Average terms are 10 years grace at 1% interest and 40 years maturity at 2 $\frac{1}{2}$ % interest (75.7% grant ratio).
2. PL 480	\$866,000,000, of which U.S.-use funds are \$173,459,800 and recipient country-use funds are \$692,540,200. Of country-use funds, \$159,076,500 (23.0%) are grants and \$533,463,700 (77.0%) are loans. Average loan terms are approximately 10 years grace at 1% interest and 40 years maturity at 2 $\frac{1}{2}$ % interest (75.7% grant ratio).
Eximbank	Average terms are approximately 5 $\frac{1}{2}$ % interest on 12 year maturities and 2 years grace.
PL 480 Dollar Sales	Approximate average terms are 2 $\frac{1}{2}$ % interest on 30 year maturities and 8 years grace.
PL 480 Barter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1966; Agency for International Development, Operations Report, June 30, 1966; Export-Import Bank of Washington, Report to the Congress, June 30, 1966; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 4.

^bSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

Appendix A: Table 15. FISCAL YEAR 1966 TRADING FACTOR AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

ϵ_1 -- Tied Aid

Tied aid consists of (1) \$1,110.5 million (90.17% of A.I.D. funds used for domestic commodity purchases) less \$492.6 million (40% of A.I.D. funds which is assumed to be the "normal" amount of exports attributable to an equivalent amount of untied aid)^a plus (2) \$950.8 million of Eximbank loans which equals \$1,568.7 million. This tied aid divided by \$5,075.0 million total aid equals 30.9 (percent of tied aid).

$$30.9\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .309 \times \frac{104.5 - 120}{104.5} =$$

$$.309 \times -.1483 = -0.0458$$

ϵ_2 -- Local Currency Loans

P.L. 480 Title 1

	\$866.0	million total aid
of which	655.6	grant equivalent (75.7%)
and	210.4	exchange equivalent
minus	173.5	U.S.-use funds
equals	36.9	country-use funds
of which	8.5	23.0% grants (see Appendix A: Table 14)
and	28.4	77.0% reloaned funds (see Appendix A: Table 14)
of which	21.5	grant equivalent (75.7%)
and	6.9	exchange equivalent

See notations at end of table.

Appendix A: Table 15. (continued)

The total grant ratio is: \$655.6 million
 8.5
 21.5

\$685.6 divided by \$866.0 = .7917

Development Loans

\$24.6 million total aid
of which 18.6 grant equivalent (75.7%)
and 6.0 exchange equivalent
minus 4.9 U.S.-use funds
equals 1.1 country-use funds
of which 0.3 23.0% grants (see Appendix A: Table 14)
and 0.8 77.0% reloaned funds (see Appendix A: Table 14)
of which 0.6 grant equivalent (75.7%)
and 0.2 exchange equivalent

The total grant ratio is: \$18.6 million
 0.3
 0.6

\$19.5 divided by \$24.6 = .7927

Application of the shadow exchange rate ratio plus depreciation
and waiver of repayments:

(a) Shadow exchange rate of 0.371 x exchange equivalent per-	
centage of .00139 (\$7.1 ^b /\$5,075.0) =	.00051
(b) Currency depreciation of 15.4%, raise (a) by	.00007
(c) Waiver on installments and interest, approximately	
50% of (a) =	<u>.00026</u>
	Total π_2 .00084

Sources: Appendix A: Tables 13 and 14; Appendix B: Tables 1 and 2.

Appendix A: Table 15. (continued)

^aSee page 7.

^b\$6.9 million plus \$0.2 million.

Appendix A: Table 16. FISCAL YEAR 1966 LOAN DATA AND GRANT RATIOS

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
<u>Near East & South Asia</u>						
Afghanistan	0.80	1	10	2.5	40	0.757434
	2.00	1	10	2.5	40	0.757434
India	50.00	1	10	2.5	40	0.757434
	100.00	1	10	2.5	40	0.757434
	150.00	1	10	2.5	40	0.757434
Iran	6.50	3.5	5	3.5	25	0.479558
Israel	10.00	3.5	5	3.5	25	0.479558
Jordan	1.60	1	10	2.5	40	0.757434
	6.30	1	10	2.5	40	0.757434
Pakistan	50.00	1	10	2.5	40	0.757434
	70.00	1	10	2.5	40	0.757434
Turkey	70.00	1	10	2.5	40	0.757434
	3.60	1	10	2.5	40	0.757434
	12.30	1	10	2.5	40	0.757434
	28.10	1	10	2.5	40	0.757434
	15.00	1	10	2.5	40	0.757434
<u>Latin America</u>						
Bolivia	5.00	1	10	2.5	40	0.757434
	4.30	1	10	2.5	40	0.757434
	2.10	1	10	2.5	40	0.757434
	1.10	1	10	2.5	40	0.757434

See notations at end of table.

Appendix A: Table 16. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Bolivia (continued)	4.75	1	5	2.5	30	0.641999
	4.75	1	10	2.5	40	0.757434
Brazil	8.90	1	10	2.5	40	0.757434
	11.00	1	10	2.5	40	0.757434
	150.00	1	10	2.5	40	0.757434
	2.50	1	10	2.5	40	0.757434
	2.60	1	10	2.5	40	0.757434
	20.00	1	10	2.5	40	0.757434
	0.40	1	10	2.5	40	0.757434
	20.00	1	10	2.5	40	0.757434
	13.30	1	10	2.5	40	0.757434
Chile	80.00	1	10	2.5	40	0.757434
	10.00	1	10	2.5	40	0.757434
Colombia	65.00	1	10	2.5	40	0.757434
	8.50	1	10	2.5	40	0.757434
	8.00	1	10	2.5	40	0.757434
Costa Rica	0.50	1	10	2.5	40	0.757434
Dominican Republic	5.00	1	10	2.5	40	0.757434
	9.50	1	10	2.5	40	0.757434
Ecuador	2.00	1	10	2.5	40	0.757434
El Salvador	1.64	1	10	2.5	40	0.757434
Guatemala	1.55	1	10	2.5	40	0.757434

See notations at end of table.

Appendix A: Table 16. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i_G	G	i_T	T	
Guyana	2.00	1	10	2.5	40	0.757434
	2.00	1	10	2.5	40	0.757434
Honduras	5.20	1	10	2.5	40	0.757434
	1.17	1	10	2.5	40	0.757434
	0.50	1	10	2.5	40	0.757434
	3.00	1	10	2.5	40	0.757434
Nicaragua	2.07	1	10	2.5	40	0.757434
	1.50	1	10	2.5	40	0.757434
	2.00	1	10	2.5	40	0.757434
	5.00	1	10	2.5	40	0.757434
Panama	3.70	1	10	2.5	40	0.757434
	1.70	1	10	2.5	40	0.757434
	4.00	1	10	2.5	40	0.757434
Paraguay	2.10	1	10	2.5	40	0.757434
	4.68	1	10	2.5	40	0.757434
	4.70	1	10	2.5	40	0.757434
Peru	2.10	1	10	2.5	40	0.757434
	1.60	1	10	2.5	40	0.757434
	9.00	1	10	2.5	40	0.757434
Uruguay	5.00	1	10	2.5	40	0.757434
<u>Far East</u>						
Korea	2.00	1	10	2.5	40	0.757434

See notations at end of table.

Appendix A: Table 16. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Korea (continued)	10.00	1	10	2.5	40	0.757434
	3.00	1	10	2.5	40	0.757434
	22.50	1	10	2.5	40	0.757434
	3.76	1	10	2.5	40	0.757434
	1.65	1	10	2.5	40	0.757434
	5.81	1	10	2.5	40	0.757434
	18.60	1	10	2.5	40	0.757434
	3.50	1	10	2.5	40	0.757434
	4.20	1	10	2.5	40	0.757434
	5.00	1	10	2.5	40	0.757434
<u>Africa</u>						
Cameroon	0.60	1	10	2.5	40	0.757434
East Africa Regional	0.85	1	10	2.5	40	0.757434
	0.70	1	10	2.5	40	0.757434
Ethiopia	21.70	1	10	2.5	40	0.757434
	8.00	4	5	4	20	0.411523
	0.225	1	10	2.5	40	0.757434
Guinea	3.00	1	10	2.5	40	0.757434
	0.15	1	10	2.5	40	0.757434
	0.14	1	10	2.5	40	0.757434
Kenya	1.50	1	10	2.5	40	0.757434
Liberia	0.20	1	10	2.5	40	0.757434
Malawi						

See notations at end of table.

Appendix A: Table 16. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i_G	G	i_T	T	
Morocco	2.40	1	10	2.5	40	0.757434
	0.15	5.5	3	5.5	15	0.255868
Nigeria	1.60	1	10	2.5	40	0.757434
	3.00	1	10	2.5	40	0.757434
Sudan	5.90	1	10	2.5	40	0.757434
	3.325	5.5	3	5.5	15	0.255868
	1.30	1	10	2.5	40	0.757434
Tanzania	0.14	1	10	2.5	40	0.757434
Tunisia	15.00	1	10	2.5	40	0.757434
Uganda	0.65	1	10	2.5	40	0.757434
Miscellaneous	0.264	1	10	2.5	40 ^b	0.757434
Total	1,232.424					0.732990 ^c

Source: U.S. President, The Foreign Assistance Program, Annual Report to Congress, Fiscal Year 1966.

^a i_G = interest during grace years; G = number of grace years; i_T = interest during remainder of loan; and T = total number of years in the loan.

^bAssumed terms, due to unavailable information.

^cWeighted average.

Appendix A: Table 17. FISCAL YEAR 1965 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Development Loan	1,128,004	0	1,128,004	861,908	861,908	.7641
Local Currency	34,887	0	34,887	27,690	27,690	.7937
Development Loan	438,662	394,796	0	--	394,796	.9000
Supportive Assistance	309,205	309,205	0	--	309,205	1.0000
Technical Cooperation	134,392	134,392	0	--	134,392	1.0000
Multinational	57,156	57,156	0	--	57,156	1.0000
Contingency Fund	76,485	76,485	0	--	76,485	1.0000
Administrative	1,572,000 ^a					
Food For Peace	1,142,000	0	1,142,000	972,641	972,641	.8517
Local Currency sales	158,000	0	158,000	96,980	96,980	.6138
Dollar sales	57,000	57,000	0	--	57,000	1.0000
Emergency assistance & economic development	183,000	183,000	0	--	183,000	1.0000
Donations	32,000	23,786	0	--	23,786	.7433
Barter	85,400	85,400	0	--	85,400	1.0000
Peace Corps	435,200	0	435,200	102,490	102,490	.2355
Export-Import Bank	4,271,391	1,321,220	2,898,091	2,061,709	3,385,929	.7920 ^b

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1965; U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1965; Agency for International Development, Operations Report, June 30, 1965; Peace Corps, Seventh Annual Report, June 30, 1968; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aTotal of Food For Peace funds, items 1, 2, 3, 4, and 5.

^bWeighted average.

Appendix A: Table 18. FISCAL YEAR 1965 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans	See Fiscal Year 1965 Loan Data and Grant Ratios (Appendix A: Table 20).
Supporting Assistance	10% of counterpart funds generated is reserved for U.S.-uses. ^a
Other	All other A.I.D. and Peace Corps funds are valued as 100% grants.
Tied Aid (g_1)	92.12% (see <u>Operations Report</u>) of A.I.D. financed commodities (\$1,191.6 million) purchased in U.S., plus Eximbank loans of \$435.2 million.
Local Currency Loans (g_2)	
1. Development	3% of Development Loans ^b = \$34,886,730 (assumed 20% retained for U.S.-use). ^c Average terms are 1% interest on 10 years grace and 40 years maturity at 2½% interest (75.7% grant ratio).
2. PL 480	\$1,142,000,000, of which U.S.-use funds are \$148,574,200 and recipient country-use funds are \$993,425,800. Of country-use funds, \$333,989,800 (33.6%) are grants and \$659,436,000 (66.4%) are loans. Average loan terms are approximately 10 years grace at 1% interest and 40 year maturities at 2½% interest (75.7% grant ratio).
Eximbank	Approximate average terms are 5½% interest on 14 year maturities and 2 years grace.
PL 480 Dollar Sales	Assumed average terms are 2½% interest on 30 year maturities and 8 years grace.
PL 480 Barter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, C.E.C.D., Paris, 1969; U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1965; Agency for International Development, Operations Report, June 30, 1965; Export-Import Bank of Washington, Report to the Congress, June 30, 1965; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 4.

^bSee O.E.C.D., Resources for the Developing World, 1962-1968, Paris, 1970, p. 264.

^cSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

Appendix A: Table 19. FISCAL YEAR 1965 TRADING FACTOR AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

g_1 --Tied Aid

Tied aid consists of (1) \$1,191.6 million (92.12% of A.I.D. funds used for domestic commodity purchases) less \$517.4 million (40% of A.I.D. funds which is assumed to be the "normal" amount of exports attributable to an equivalent amount of untied aid)^a plus (2) \$435.2 million of Eximbank loans which equals \$1,109.4 million. This tied aid divided by \$4,271.4 million total aid equals 26.0 (percent of tied aid).

$$26.0\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .260 \times \frac{102.8 - 117}{102.8} =$$

$$.260 \times -.1381 = -0.0359$$

g_2 --Local Currency Loans

P.L. 480 Title 1

	\$1,142.0	million total aid
of which	864.5	grant equivalent (75.7%)
and	277.5	exchange equivalent
minus	148.6	U.S.-use funds
equals	128.9	country-use funds
of which	43.3	33.6% grants (see Appendix A: Table 18)
and	85.6	66.4% reloaned funds (see Appendix A: Table 18)
of which	64.8	grant equivalent (75.7%)
and	20.8	exchange equivalent

See notations at end of table.

Appendix A: Table 19. (continued)

The total grant ratio is: $\$864.5$ million
 $\begin{array}{r} 43.3 \\ \underline{64.8} \end{array}$

$\$972.6$ divided by $\$1,142.0 = .8517$

Development Loans

$\$34.9$ million total aid
of which 26.4 grant equivalent (75.7%)
and 8.5 exchange equivalent
minus 7.0 U.S.-use funds
equals 1.5 country-use funds
of which 0.5 33.6% grants (see Appendix A: Table 18)
and 1.0 66.4% reloaned funds (see Appendix A: Table 18)
of which 0.8 grant equivalent (75.7%)
and 0.2 exchange equivalent

The total grant ratio is: $\$26.4$ million
 $\begin{array}{r} 0.5 \\ \underline{0.8} \end{array}$

$\$27.7$ divided by $\$34.9 = .7937$

Application of the shadow exchange rate ratio plus depreciation
and waiver of repayments:

(a) Shadow exchange rate of 0.371 x exchange equivalent percentage of .00491 ($\$21.0^b / \$4,271.4$) =	.00182
(b) Currency depreciation of 15.4%, raise (a) by	.00028
(c) Waiver on installments and interest, approximately 50% of (a) =	<u>.00091</u>
Total g_2	.00301

Appendix A: Table 19. (continued)

Sources: Appendix A: Tables 17 and 18; Appendix B: Tables 1 and 2.

^aSee page 7.

^b\$20.8 million plus \$0.2 million.

Appendix A: Table 20. FISCAL YEAR 1965 LOAN DATA AND GRANT RATIOS

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
<u>Near East & South Asia</u>						
Afghanistan	0.30	0.75	10	2	40	0.785805
India	10.00	1	10	2.5	40	0.757434
	3.80	1	10	2.5	40	0.757434
	190.00	1	10	2.5	40	0.757434
	3.50	1	10	2.5	40	0.757434
	32.30	1	10	2.5	40	0.757434
	16.50	1	10	2.5	40	0.757434
Israel	7.00	3.5	5	3.5	20	0.445817
	9.00	3.5	5	3.5	20	0.445817
	4.00	3.5	5	3.5	20	0.445817
Jordan	1.64	1	10	2.5	40	0.757434
Nepal	1.00	1	10	2.5	40	0.757434
Pakistan	140.00	0.75	10	2	40	0.785805
	0.50	1	10	2.5	40	0.757434
	15.00	1	10	2.5	40	0.757434
	2.70	1	10	2.5	40	0.757434
	8.20	1	10	2.5	40	0.757434
	4.80	1	10	2.5	40	0.757434
	8.50	1	10	2.5	40	0.757434
	5.90	1	10	2.5	40	0.757434
	80.00	1	10	2.5	40	0.757434
	Turkey					

See notations at end of table.

Appendix A: Table 20. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Turkey (continued)	6.40	1	10	2.5	40	0.757434
	7.69	1	10	2.5	40	0.757434
	2.75	1	10	2.5	40	0.757434
	4.0	1	10	2.5	40	0.757434
	40.0	1	10	2.5	40	0.757434
<u>Latin America</u>						
Bolivia	0.60	0.75	10	2	40	0.785805
	150.00	1	10	2.5	40	0.757434
Brazil	1.00	1	10	2.5	40	0.757434
	0.80	1	10	1	40	0.795139
	11.40	1	10	2.5	40	0.757434
	1.96	1	10	2.5	40	0.757434
	15.00	1	10	2.5	40	0.757434
	25.00	1	10	2.5	40	0.757434
	15.00	1	10	2.5	40	0.757434
	3.30	0.75	10	2	40	0.785805
	80.00	1	10	2.5	40	0.757434
	6.00	1	10	2.5	40	0.757434
Chile	3.65	1	10	2.5	40	0.757434
	3.60	1	10	2.5	40	0.757434
	1.30	1	10	2.5	40	0.757434
	0.65	1	10	2.5	40	0.757434
Costa Rica	0.65	1	10	2.5	40	0.757434

See notations at end of table.

Appendix A: Table 20. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Costa Rica (continued)	1.20	1	10	2.5	40	0.757434
	3.30	1	10	2.5	40	0.757434
Dominican Republic	1.50	1	10	2.5	40	0.757434
	1.00	1	10	2.5	40	0.757434
	5.00	1	10	2.5	40	0.757434
Ecuador	5.30	1	10	2.5	40	0.757434
	3.00	1	10	2.5	40	0.757434
El Salvador	1.20	1	10	2.5	40	0.757434
Guatemala	5.00	0.75	10	1	40	0.810942
Honduras	0.50	1	10	2.5	40	0.757434
Jamaica	3.80	1	3	3.5	25	0.520172
Mexico	21.50	3.5	5	3.5	25	0.479558
Nicaragua	4.00	0.75	10	2	40	0.785805
	3.00	1	10	2.5	40	0.757434
	0.60	1	10	2.5	40	0.757434
	5.40	1	10	2.5	40	0.757434
	1.30	1	10	2.5	40	0.757434
Panama	2.00	0.75	10	2	40	0.785805
	2.40	0.75	10	2	40	0.785805
	1.30	1	10	2.5	40	0.757434
Peru	2.00	1	10	2.5	40	0.757434
British Guiana	5.50	1	10	2.5	40	0.757434

See notations at end of table.

Appendix A: Table 20. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Central America	35.00	1	10	2.5	40	0.757434
	4.50	0.75	10	2.5	40	0.773237
<u>Far East</u>						
Korea	24.60	1	10	2.5	40	0.757434
	24.20	1	10	2.5	40	0.757434
Thailand	20.60	3.5	5	3.5	25	0.479558
<u>Africa</u>						
Cameroon	3.20	1	10	2.5	40	0.757434
Guinea	1.00	0.75	10	2	40	0.785805
	1.40	1	10	2.5	40	0.757434
Kenya	0.55	1	10	2.5	40	0.757434
	7.20	1	10	2.5	40	0.757434
Liberia	1.55	1	10	2.5	40	0.757434
	0.40	1	10	2.5	40	0.757434
Malagasy Republic	0.15	1	10	2.5	40	0.757434
	2.70	1	10	2.5	40	0.757434
Nigeria	7.60	1	10	2.5	40	0.757434
	2.80	1	10	2.5	40	0.757434
Somali Republic	0.60	5.5	3	5.5	15	0.255868
	0.125	0.75	10	2	40	0.785805
Tanzania	0.075	0.75	10	2	40	0.785805
	10.00	1	10	2.5	40	0.757434
Tunisia						

See notations at end of table.

Appendix A: Table 20. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i_G	G	i_T	T	
Tunisia (continued)	6.75	1	10	2.5	40	0.757434
Miscellaneous	3.351	1	10	2.5	40 ^b	0.757434
Total	1,162.891					0.764055 ^c

Source: U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1965.

^a i_G = interest during grace years; G = number of grace years; i_T = interest during remainder of loan; and T = total number of years in the loan.

^bAssumed terms, due to unavailable information.

^cWeighted average.

Appendix A: Table 21. FISCAL YEAR 1964 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Development Loan	1,248,952	0	1,248,952	1,036,505	1,036,505	.8299
Local Currency						
Development Loan	65,734	0	65,734	52,528	52,528	.7991
Supportive Assistance	360,013	324,012	0	--	324,012	.9000
Technical Cooperation	297,133	297,133	0	--	297,133	1.0000
Multinational	116,304	116,304	0	--	116,304	1.0000
Contingency Fund	107,387	151,387	0	--	107,387	1.0000
Administrative	75,905	75,905	0	--	75,905	1.0000
Food For Peace	1,415,000 ^a					
1. Local Currency sales	1,056,000	0	1,056,000	865,181	865,181	.8193
2. Dollar sales	46,000	0	46,000	30,116	30,116	.6547
3. Emergency assistance & economic development	81,000	81,000	0	--	81,000	1.0000
4. Donations	189,000	189,000	0	--	189,000	1.0000
5. Barter	43,000	31,962	0	--	31,962	.7433
Peace Corps	76,200	76,200	0	--	76,200	1.0000
Export-Import Bank	601,100	0	601,100	129,717	129,717	.2158
	4,363,728	1,298,903	3,017,786	2,114,047	3,412,950	.7821 ^b

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1964; U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1964; Agency for International Development, Operations Report, June 30, 1964; Peace Corps, Seventh Annual Report, June 30, 1968; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aTotal of Food For Peace funds, items 1, 2, 3, 4, and 5.

^bWeighted average.

Appendix A: Table 22. FISCAL YEAR 1964 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans	See Fiscal Year 1964 Loan Data and Grant Ratios (Appendix A: Table 24).
Supporting Assistance	10% of counterpart funds generated is reserved for U.S.-uses. ^a
Other	All other A.I.D. and Peace Corps funds are valued as 100% grants.
Tied Aid (g ₁)	86.38% (see <u>Operations Report</u>) of A.I.D. financed commodities (\$993.5 million) purchased in U.S., plus Eximbank loans of \$601.1 million.
Local Currency Loans (g ₂)	
1. Development	Assumed 5% of Development Loans = \$65,734,300 ^b (assumed 20% retained for U.S.-use). Average terms are 0.75% interest on 10 years grace, and 40 year maturities at 2% interest (78.6% grant ratio).
2. PL 480	\$1,056,000,000, of which U.S.-use funds are \$180,787,200 and recipient country-use funds are \$875,212,800. Of country-use funds, \$398,221,800 (45.5%) are grants and \$476,991,000 (54.5%) are loans. Assumed average loan terms are 1% interest on 10 years grace and 2½% interest on 40 years maturity (75.7% grant ratio).
Eximbank	Approximate average terms are 5-3/4% interest on 12.5 year maturities and 2.5 years grace.
PL 480 Dollar Sales	Assumed average terms are 2% interest on 30 year maturities and 8 years grace.
PL 480 Barter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1964; Agency for International Development, Operations Report, June 30, 1964; Export-Import Bank of Washington, Report to the Congress, June 30, 1964; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 4.

^bSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

Appendix A: Table 23. FISCAL YEAR 1964 TRADING FACTOR AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

ϵ_1 -- Tied Aid

Tied aid consists of (1) \$993.5 million (86.38% of A.I.D. funds used for domestic commodity purchases) less \$460.1 million (40% of A.I.D. funds which is assumed to be the "normal" amount of exports attributable to an equivalent amount of untied aid)^a plus (2) \$601.1 million of Eximbank loans which equals \$1,134.5 million. This tied aid divided by \$4,363.7 million total aid equals 26.0 (percent of tied aid).

$$26.0\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .260 \times \frac{101.8 - 112}{101.8} =$$

$$.260 \times -.1002 = -0.0260$$

ϵ_2 -- Local Currency Loans

P.L. 480 Title 1

	\$1,056.0	million total aid
of which	799.4	grant equivalent (75.7%)
and	256.6	exchange equivalent
minus	180.8	U.S.-use funds
equals	75.8	country-use funds
of which	34.5	45.5% grants (see Appendix A: Table 22)
and	41.3	54.5% reloaned funds (see Appendix A: Table 22)
of which	31.3	grant equivalent (75.7%)
and	10.0	exchange equivalent

See notations at end of table.

Appendix A: Table 23. (continued)

The total grant ratio is: \$799.4 million
 34.5
31.3

\$865.2 divided by \$1,056.0 = .8193

Development Loans

\$65.7 million total aid
 of which 51.6 grant equivalent (78.6%)
 and 14.1 exchange equivalent
 minus 13.1 U.S.-use funds
 equals 1.0 country-use funds
 of which 0.5 45.5 % grants (see Appendix A: Table 22)
 and 0.5 54.5% reloaned funds (see Appendix A: Table 22)
 of which 0.4 grant equivalent (78.6%)
 and 0.1 exchange equivalent

The total grant ratio is: \$51.6 million
 0.5
0.4

\$52.5 divided by \$65.7 = .7991

Application of the shadow exchange rate ratio plus depreciation
 and waiver of repayments:

(a)	Shadow exchange rate of 0.371 x exchange equivalent percentage of .00231 (\$10.1 ^b /\$4,363.7) =	.00085
(b)	Currency depreciation of 15.4%, raise (a) by	.00013
(c)	Waiver on installments and interest, approximately 50% of (a) =	<u>.00043</u>
	Total ϵ_2	.00141

Appendix A: Table 23. (continued)

Sources: Appendix A: Tables 21 and 22; Appendix B: Tables 1 and 2.

^aSee page 7.

^b\$10.0 million plus \$0.1 million.

Appendix A: Table 24. FISCAL YEAR 1964 LOAN DATA AND GRANT RATIOS

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
<u>Near East & South Asia</u>						
Afghanistan	7.70	0.75	10	2	40	0.785805
	2.00	0.75	10	2	40	0.785805
Greece	7.70	3.5	5	3.5	25	0.479558
India	225.00	0.75	10	2	40	0.785805
	50.00	0.75	10	2	40	0.785805
	23.00	0.75	10	2	40	0.785805
	11.80	0.75	10	2	40	0.785805
	7.80	0.75	10	2	40	0.785805
	7.20	0.75	10	2	40	0.785805
	3.10	0.75	10	2	40	0.785805
	2.95	0.75	10	2	40	0.785805
	2.00	0.75	10	2	40	0.785805
Iran	1.50	3.5	3	3.5	20	0.418494
Israel	12.00	3.5	5	3.5	20	0.445817
	8.00	3.5	5	3.5	20	0.445817
Nepal	1.00	0.75	10	0.75	40	0.817226
Pakistan	100.00	0.75	10	2	40	0.785805
	18.10	0.75	10	2	40	0.785805
	18.10	0.75	10	2	40	0.785805
	14.00	0.75	10	2	40	0.785805
	12.50	0.75	10	2	40	0.785805

See notations at end of table.

Appendix A: Table 24. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio	
		i_G	G	i_T	T		
Pakistan (continued)	10.40	0.75	10	2	40	0.785805	
	8.70	0.75	10	2	40	0.785805	
	8.50	0.75	10	2	40	0.785805	
	7.53	0.75	10	2	40	0.785805	
	7.20	0.75	10	2	40	0.785805	
	6.00	0.75	10	2	40	0.785805	
	3.80	0.75	10	2	40	0.785805	
	3.60	0.75	10	2	40	0.785805	
	3.40	0.75	10	2	40	0.785805	
	2.80	0.75	10	2	40	0.785805	
	2.70	0.75	10	2	40	0.785805	
	Turkey	70.00	0.75	10	2	40	0.785805
20.40		0.75	10	2	40	0.785805	
18.10		0.75	10	2	40	0.785805	
4.40		0.75	10	2	40	0.785805	
4.00		0.75	10	2	40	0.785805	
2.50		0.75	10	2	40	0.785805	
1.10		0.75	10	2	40	0.785805	
<u>Latin America</u>	Argentina	0.32	0.75	10	2	40	0.785805
		6.80	0.75	10	2	40	0.785805
		1.40	0.75	10	0.75	40	0.817226

See notations at end of table.

Appendix A: Table 24. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Bolivia	33.20	0.75	10	2	40	0.785805
	3.70	--	--	0.75	40	0.697991
	2.40	0.75	10	2	40	0.785805
	0.65	--	--	5.75	10	0.156349
	0.60	0.75	10	2	40	0.785805
Brazil	20.40	0.75	10	2	40	0.785805
	20.00	0.75	10	2	40	0.785805
	16.70	0.75	10	2	40	0.785805
	15.00	0.75	10	2	40	0.785805
	7.40	0.75	10	2	40	0.785805
	7.00	0.75	10	2	40	0.785805
	6.50	0.75	10	2	40	0.785805
	5.50	0.75	10	2	40	0.785805
	5.30	0.75	10	0.75	40	0.817226
	4.30	0.75	10	2	40	0.785805
	2.70	0.75	10	2	40	0.785805
	2.40	--	--	0.75	40	0.697991
	1.40	0.75	10	2	40	0.785805
	0.80	0.75	10	2	40	0.785805
	Chile	55.00	0.75	10	2	40
8.70		0.75	10	2	40	0.785805
7.00		0.75	10	0.75	40	0.817226

See notations at end of table.

Appendix A: Table 24. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Chile (continued)	3.00	--	--	0.75	40	0.697991
	2.10	0.75	10	2	40	0.785805
Colombia	60.00	0.75	10	2	40	0.785805
	10.00	0.75	10	2	40	0.785805
	4.00	0.75	10	2	40	0.785805
	1.30	0.75	10	2	40	0.785805
	0.45	0.75	10	2	40	0.785805
Costa Rica	0.25	0.75	10	2	40	0.785805
	5.00	0.75	10	0.75	40	0.817226
	1.60	0.75	10	2	40	0.785805
	1.40	--	--	0.75	40	0.697991
Ecuador	13.30	0.75	10	2	40	0.785805
	1.60	0.75	10	2	40	0.785805
	1.20	0.75	10	2	40	0.785805
	0.65	0.75	10	2	40	0.785805
El Salvador	5.20	0.75	10	2	40	0.785805
	3.10	0.75	10	2	40	0.785805
	0.70	0.75	10	2	40	0.785805
Guatemala	2.00	0.75	10	2	40	0.785805
	0.70	0.75	10	2	40	0.785805
Honduras	5.00	0.75	10	2	40	0.785805
	2.00	0.75	10	2	40	0.785805

See notations at end of table.

Appendix A: Table 24. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
Jamaica	1.50	--	--	0.75	40	0.697991
	1.30	--	--	3.5	25	0.411344
Mexico	20.00	--	--	2	30	0.546610
	2.00	--	--	3.5	20	0.368985
Panama	5.10	0.75	10	0.75	40	0.817226
	2.40	0.75	10	2	40	0.785805
Paraguay	3.00	0.75	10	2	40	0.785805
	12.10	0.75	10	2	49	0.805094
Peru	6.60	0.75	10	2	40	0.785805
	6.00	0.75	10	2	40	0.785805
Regional	2.20	0.75	10	2	40	0.785805
	2.00	0.75	10	0.75	40	0.817226
Uruguay	1.90	0.75	10	2	40	0.785805
	10.00	0.75	10	2	40	0.785805
Far East	10.00	--	--	0.75	40	0.697991
	3.00	0.75	10	2	40	0.785805
Korea	2.40	0.75	10	2	40	0.785805
	7.75	0.75	10	2	40	0.785805
	8.40	0.75	10	2	40	0.785805
	11.00	0.75	10	2	40	0.785805

See notations at end of table.

Appendix A: Table 24. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i _G	G	i _T	T	
<u>Africa</u>						
Congo	2.70	0.75	10	2	40	0.785805
East Africa	1.50	0.75	10	2	40	0.785805
Ethiopia	0.70	0.75	10	2	40	0.785805
Ivory Coast	5.00	0.75	10	2	40	0.785805
Liberia	7.00	0.75	10	2	40	0.785805
	0.35	0.75	10	2	40	0.785805
Mali	1.10	0.75	10	2	40	0.785805
Morocco	2.30	0.75	10	2	40	0.785805
Niger	1.80	0.75	10	2	40	0.785805
Nigeria	14.00	0.75	10	2	40	0.785805
	8.60	0.75	10	2	40	0.785805
	3.80	0.75	10	2	40	0.785805
	3.20	0.75	10	2	40	0.785805
	1.80	0.75	10	2	40	0.785805
Senegal	1.30	0.75	10	2	40	0.785805
	1.90	0.75	10	2	40	0.785805
Tanganyika	1.00	0.75	10	2	40	0.785805
	0.85	0.75	10	2	40	0.785805
	0.14	0.75	10	2	40	0.785805
Tunisia	10.00	0.75	10	2	40	0.785805
	7.40	0.75	10	2	40	0.785805

See notations at end of table.

Appendix A: Table 24. (continued)

Recipient country	Loan (millions of dollars)	Terms ^a				Grant ratio
		i_G	G	i_T	T	
Tunisia (continued)	2.00	0.75	10	2	40	0.785805
	0.80	--	--	5.75	17	0.220671
Uganda	0.40	0.75	10	2	40	0.785805
Miscellaneous	40.696	0.75	10	2	40 ^b	0.785805
Total	1,314.686					0.829948 ^c

Source: U.S. President, The Foreign Assistance Program, Annual Report to the Congress, Fiscal Year 1964.

^a i_G = interest during grace years; G = number of grace years; i_T = interest during remainder of loan; and T = total number of years in the loan.

^b Assumed terms, due to unavailable information.

^c Weighted average.

Appendix A: Table 25. FISCAL YEAR 1963 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Development Loan	1,159,173	0	1,159,173	947,276	947,276	.8172
Local Currency						
Development Loan	128,797	0	128,797	102,999	102,999	.7997
Supportive Assistance	410,465	369,419	0	--	369,419	.9000
Technical Cooperation	346,796	346,796	0	--	346,796	1.0000
Multinational	148,686	148,686	0	--	148,686	1.0000
Contingency Fund	149,196	149,196	0	--	149,196	1.0000
Administrative	57,572	57,572	0	--	57,572	1.0000
Food For Peace	1,452,000 ^a					
1. Local Currency sales	1,088,000	0	1,088,000	915,661	915,661	.8416
2. Dollar sales	58,000	0	58,000	40,345	40,345	.6956
3. Emergency assistance & economic development	89,000	89,000	0	--	89,000	1.0000
4. Donations	170,000	170,000	0	--	170,000	1.0000
5. Barter	47,000	34,935	0	--	34,935	.7433
Peace Corps	54,700	54,700	0	--	54,700	1.0000
Export-Import Bank	564,900	0	564,900	116,821	116,821	.2068
	4,472,285	1,420,304	2,998,870	2,123,102	3,543,406	.7923 ^b

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1963; Agency for International Development, Operations Report, June 30, 1963; Peace Corps, Seventh Annual Report, June 30, 1968; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aTotal of Food For Peace funds, items 1, 2, 3, 4, and 5.

^bWeighted average.

Appendix A: Table 26. FISCAL YEAR 1963 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans	Approximate average terms are 0.75% interest on both 10 years grace and 40 years maturity.
Supporting Assistance	10% of counterpart funds ^a generated is reserved for U.S.-uses.
Other	All other A.I.D. and Peace Corps funds are valued as 100% grants.
Tied Aid (g_1)	78.97% (see <u>Operations Report</u>) of A.I.D. financed commodities (\$905 million) purchased in U.S., plus Eximbank loans of \$564.9 million.
Local Currency Loans (g_2)	
1. Development	Assumed 10% of Development Loans = \$128,797,000 (assumed 20% retained for U.S.-use). ^b Terms are the same as other Development Loans (81.7% grant ratio).
2. PL 480	\$1,088,000,000, of which U.S.-use funds are \$165,702,400 and recipient country-use funds are \$922,297,600. Of country-use funds, \$415,033,900 (45.0%) are grants and \$507,263,700 (55.0%) are loans. Assumed average terms are 0.75% interest on 10 years grace and 1% interest on 35 years maturity (79.4% grant ratio).
Eximbank	Approximate average terms are 5.75% interest on 11.5 year maturities and 2 $\frac{1}{2}$ years grace.
PL 480 Dollar Sales	Assumed average terms are 1 $\frac{1}{2}$ % interest on 30 year maturities and 8 years grace.
PL 480 Earter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; Agency for International Development, Operations Report, June 30, 1963; Export-Import Bank of Washington, Report to the Congress, June 30, 1963; U.S. Department of Agriculture, P.L. 480 Congressional Sales, September, 1970.

^aSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 4.

^bSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

Appendix A: Table 27. FISCAL YEAR 1963 TRADING FACTORS AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

g_1 --Tied Aid

Tied aid consists of (1) \$905.0 million (78.97% of A.I.D. funds used for domestic commodity purchases) less \$458.4 million (40% of A.I.D. funds which is assumed to be the "normal" amount of exports attributable to an equivalent amount of untied aid)^a plus (2) \$564.9 million of Eximbank loans which equals \$1,011.5 million. This tied aid divided by \$4,472.3 million total aid equals 22.6 (percent of tied aid).

$$22.6\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .226 \times \frac{100.3 - 112}{100.3} =$$

$$.226 \times -.1167 = -.0264$$

g_2 --Local Currency Loans

P.L. 480 Title 1

	\$1,088.0	million total aid
of which	863.9	grant equivalent (79.4%)
and	224.1	exchange equivalent
minus	165.7	U.S.-use funds
equals	58.4	country-use funds
of which	26.3	45.0% grants (see Appendix A: Table 26)
and	32.1	55.0% reloaned funds (see Appendix A: Table 26)
of which	25.5	grant equivalent (79.4%)
and	6.6	exchange equivalent

See notations at end of table.

Appendix A: Table 27. (continued)

The total grant ratio is: \$863.9 million
 26.3
 25.5

\$915.7 divided by \$1,088.0 = .8416

Development Loans

\$128.8 million total aid
 of which 105.2 grant equivalent (81.7%)
 and 23.6 exchange equivalent
 minus 25.8 U.S.-use funds
 equals -2.2

These \$2.2 million U.S.-use funds must be procured from the grant equivalent funds, therefore equaling a total grant equivalent of \$103.0 million. The total grant ratio is \$103.0 divided by \$128.8 = .7997.

Application of the shadow exchange rate ratio plus depreciation and waiver of repayments:

(a) Shadow exchange rate of 0.371 x exchange equivalent percentage of .00147 (\$6.6/\$4,472.3) =	.00054
(b) Currency depreciation of 15.4%, raise (a) by	.00008
(c) Waiver on installments and interest, approximately 50% of (a) =	<u>.00027</u>
Total ϵ_2	.00089

Sources: Appendix A: Tables 25 and 26; Appendix B: Tables 1 and 2.

^aSee page 7.

Appendix A: Table 28. FISCAL YEAR 1962 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Development Loan	877,135	0	877,135	716,795	716,795	.8172
Local Currency						
Development Loan	219,284	0	219,284	175,383	175,383	.7998
Supportive Assistance	704,498	634,048	0	--	634,048	.9000
Technical Cooperation	457,783	457,783	0	--	457,783	1.0000
Multinational	176,197	176,197	0	--	176,197	1.0000
Administrative & Other	104,511	104,511	0	--	104,511	1.0000
Food For Peace	1,496,000 ^a					
1. Local currency sales	1,030,000	0	1,030,000	842,643	842,643	.8181
2. Dollar sales	19,000	0	19,000	13,995	13,995	.7366
3. Emergency assistance & economic development	88,000	88,000	0	--	88,000	1.0000
4. Donations	161,000	161,000	0	--	161,000	1.0000
5. Barter	198,000	147,173	0	--	147,173	.7433
Peace Corps	29,500	29,500	0	--	29,500	1.0000
Export-Import Bank	584,500	0	584,500	128,648	128,648	.2201
	4,649,408	1,798,212	2,729,919	1,877,464	3,675,676	.7906 ^b

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1962; Agency for International Development, Operations Report, June 30, 1962; Peace Corps, Seventh Annual Report, June 30, 1968; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aTotal of Food For Peace funds, items 1, 2, 3, 4, and 5.

^bWeighted average.

Appendix A: Table 29. FISCAL YEAR 1962 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans	Approximate average terms are 0.75% interest on both 10 years grace and 40 years maturity.
Supporting Assistance	10% of counterpart funds generated is reserved for U.S.-uses. ^a
Other	All other A.I.D. and Peace Corps funds are valued as 100% grants.
Tied Aid (g ₁)	66.29% (see Operations Report) of A.I.D. financed commodities (\$586 million) purchased in U.S., plus Eximbank loans of \$584.5 million.
Local Currency Loans (g ₂)	
1. Development	Assumed 20% of Development Loans = \$219,283,800 (assumed 20% retained for U.S.-use). ^b Terms are the same as other Development Loans (81.7% grant ratio).
2. PL 480	\$1,030,000,000, of which U.S.-use funds are \$184,370,000 and recipient country-use funds are \$845,630,000. Of country-use funds, \$402,097,100 (47.6%) are grants and \$443,532,900 (52.4%) are loans. Assumed average terms are 0.75% interest on 10 years grace and 1% interest on 35 years maturity (79.4% grant ratio).
Eximbank	Approximate average terms are 5.75% interest on 13 year maturities and 2½ years grace.
PL 480 Dollar Sales	Assumed average terms are 1% interest on 30 year maturities and 8 years grace.
PL 480 Barter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; Agency for International Development, Operations Report, June 30, 1962; Export-Import Bank of Washington, Report to the Congress, June 30, 1962; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 4.

^bSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

Appendix A: Table 30. FISCAL YEAR 1962 TRADING FACTORS AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

g_1 --Tied Aid

Tied aid consists of (1) \$586.0 million (66.29% of A.I.D. funds used for domestic commodity purchases) less \$353.6 million (40% of A.I.D. funds which is assumed to be the "normal" amount of exports attributable to an equivalent amount of untied aid)^a plus (2) \$584.5 million of Eximbank loans which equals \$816.9 million. This tied aid divided by \$4,649.4 million total aid equals 17.6 (percent of tied aid).

$$17.6\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .176 \times \frac{99.2 - 112}{99.2} =$$

$$.176 \times -.1290 = -0.0227$$

g_2 --Local Currency Loans

P.L. 480 Title 1

	\$1,030.0	million total aid
of which	817.8	grant equivalent (79.4%)
and	212.2	exchange equivalent
minus	184.4	U.S.-use funds
equals	27.8	country-use funds
of which	13.2	47.6% grants (see Appendix A: Table 29)
and	14.6	52.4% reloaned funds (see Appendix A: Table 29)
of which	11.6	grant equivalent (79.4%)
and	3.0	exchange equivalent

See notations at end of table.

Appendix A: Table 30. (continued)

The total grant ratio is: \$817.8 million
 13.2
11.6

\$842.6 divided by \$1,030.0 = .8181

Development Loans

\$219.3 million total aid
 of which 179.2 grant equivalent (81.7%)
 and 40.1 exchange equivalent
 minus 43.9 U.S.-use funds
 equals -3.8

These \$3.8 million U.S.-use funds must be procured from the grant equivalent funds, therefore equaling a total grant equivalent of \$175.4 million. The total grant ratio is \$175.4 divided by \$219.3 = .7998.

Application of the shadow exchange rate ratio plus depreciation and waiver of repayments:

(a) Shadow exchange rate of 0.371 x exchange equivalent percentage of .00064 (\$3.0/\$4,649.4) =	.00023
(b) Currency depreciation of 15.4%, raise (a) by	.00003
(c) Waiver on installments and interest, approximately 50% of (a) =	<u>.00012</u>
Total g ₂	.00038

Sources: Appendix A: Tables 28 and 29; Appendix B: Tables 1 and 2.

^aSee page 7.

Appendix A: Table 31. FISCAL YEAR 1961 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Development Loan	261,776	0	261,776	211,829	211,829	.8092
Local Currency	392,664	0	392,664	314,170	314,170	.8001
Development Loan	707,110	707,110	0	--	707,110	1.0000
Defense Support	379,469	341,522	0	--	341,522	.9000
Supportive Assistance	195,127	195,127	0	--	195,127	1.0000
Technical Cooperation	105,277	105,277	0	--	105,277	1.0000
Multinational	12,539	12,539	0	--	12,539	1.0000
Department of State Fund	53,252	53,252	0	--	53,252	1.0000
Administrative & Other	1,317,000 ^a					
Food For Peace	951,000	0	951,000	700,697	700,697	.7368
1. Local currency sales	75,000	75,000	0	--	75,000	1.0000
2. Emergency assistance & economic development	147,000	147,000	0	--	147,000	1.0000
3. Donations	144,000	107,035	0	--	107,035	.7433
4. Barter	852,000	0	852,000	156,598	156,598	.1838
Export-Import Bank	4,276,214	1,743,862	2,457,440	1,383,294	3,127,156	.7313 ^b

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1961; International Cooperation Administration, Operations Report, June 30, 1961; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aTotal of Food For Peace funds, items 1, 2, 3, and 4.

^bWeighted average.

Appendix A: Table 32. FISCAL YEAR 1961 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans	Approximate average terms are 0.75% interest on both 10 years grace and 37.5 years maturity.
Supporting Assistance	10% of counterpart funds generated is reserved for U.S.-uses. ^a
Other	All other I.C.A. ^b funds are valued as 100% grants.
Tied Aid (g ₁)	44.17% (see <u>Operations Report</u>) of I.C.A. financed commodities (\$466 million) purchased in U.S., plus Eximbank loans of \$852.0 million.
Local Currency Loans (g ₂)	
1. Development	Assumed 60% of Development Loans = \$392,664,000 (assumed 20% retained for U.S.-use) ^c at the same terms as other Development Loans (80.9% grant ratio).
2. PL 480	\$951,000,000, of which U.S.-use funds are \$250,303,200 and recipient country-use funds are \$700,696,800. Of country-use funds, \$325,543,700 (46.5%) are grants and \$375,153,100 (53.5%) are loans. Assumed average terms are 0.75% interest during 10 years grace and 1% interest on 30 years maturity (77.3% grant ratio).
Eximbank	Approximate average terms are 5.75% interest on 10.5 year maturities and 1½ years grace.
PL 480 Barter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; International Cooperation Administration, Operations Report, June 30, 1961; Export-Import Bank of Washington, Report to the Congress, June 30, 1961; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 4.

^bInternational Cooperation Administration.

^cSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

Appendix A: Table 33. FISCAL YEAR 1961 TRADING FACTORS AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

g_1 --Tied Aid

Tied aid consists of (1) \$466.0 million (44.17% of I.C.A. funds used for domestic commodity purchases) less \$422.0 million (40% of I.C.A. funds which is assumed to be the "normal" amount of exports attributable to an equivalent amount of untied aid)^a plus (2) \$852.0 million of Eximbank loans which equals \$896.0 million. This tied aid divided by \$4,276.2 million total aid equals 21.0 (percent of tied aid).

$$21.0\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .210 \times \frac{100.2 - 112}{100.2} =$$

$$.210 \times -.1178 = -0.0247$$

g_2 --Local Currency Loans

P.L. 480 Title 1

	\$951.0	million total aid
of which	735.1	grant equivalent (77.3%)
and	215.9	exchange equivalent
minus	250.3	U.S.-use funds
equals	-34.4	

These \$34.4 million U.S.-use funds must be procured from the grant equivalent funds, therefore equaling a total grant equivalent of \$700.7 million, which divided by \$951.0 million = .7368

See notations at end of table.

Appendix A: Table 33. (continued)

<u>Development Loans</u>	
	\$392.7 million total aid
of which	317.7 grant equivalent (80.9%)
and	75.0 exchange equivalent
minus	78.5 U.S.-use funds
equals	-3.5

These \$3.5 million U.S.-use funds must be procured from the grant equivalent funds, therefore, equaling a total grant equivalent of \$314.2 million, which divided by \$392.7 million = .8001.

There is no exchange equivalent for the application of the shadow exchange ratio.

Sources: Appendix A: Tables 31 and 32; Appendix B: Tables 1 and 2.

^aSee p. 7.

Appendix A: Table 34. FISCAL YEAR 1960 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Development Loan	177,140	0	177,140	89,491	89,491	.5052
Local Currency						
Development Loan	343,860	0	343,860	246,685	246,685	.7174
Defense Support	786,543	786,543	0	--	786,543	1.0000
Supportive Assistance	277,273	249,546	0	--	249,546	.9000
Technical Cooperation	156,583	156,583	0	--	156,583	1.0000
Other	143,302	143,302	0	--	143,302	1.0000
Food For Peace	1,116,000 ^a					
1. Local currency sales	824,000	0	824,000	562,874	562,874	.6831
2. Emergency assistance & economic development	38,000	38,000	0	--	38,000	1.0000
3. Donations	105,000	105,000	0	--	105,000	1.0000
4. Barter	149,000	110,752	0	--	110,752	.7433
Export-Import Bank	405,000	0	405,000	87,399	87,399	.2158
	3,405,701	1,589,726	1,750,000	986,449	2,576,175	.7564 ^b

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1960; International Cooperation Administration, Operations Report, June 30, 1960; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aTotal of Food For Peace funds, items 1, 2, 3, and 4.

^bWeighted average.

Appendix A: Table 35. FISCAL YEAR 1960 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans	Approximate average terms are $3\frac{1}{2}\%$ interest on both 5 years grace and 30 years maturity.
Supporting Assistance	10% of counterpart funds generated is reserved for U.S.-uses. ^a
Other	All other I.C.A. funds are valued as 100% grants.
Tied Aid (g_1)	40.67% (see <u>Operations Report</u>) of I.C.A. financed commodities (\$423 million) are purchased in U.S., plus Eximbank loans of \$405.0 million.
Local Currency Loans (g_2)	
1. Development	66% of Development Loans ^b = \$343,860,000 (assumed 20% retained for U.S.-use). ^c Terms are the same as other Development Loans (50.5% grant ratio).
2. PL 480	\$824,000,000, of which U.S.-use funds are \$191,497,600 and recipient country-use funds are \$632,502,400. Of country-use funds, \$275,265,000 (43.5%) are grants and \$357,237,400 (56.5%) are loans. Assumed average terms are $3\frac{1}{2}\%$ interest on both 5 years grace and 25 years maturity (48.0% grant ratio).
Eximbank	Approximate average terms are 5.75% interest on 12.5 year maturities and $2\frac{1}{2}$ years grace.
PL 480 Barter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; International Cooperation Administration, Operations Report, June 30, 1960; Export-Import Bank of Washington, Report to the Congress, June 30, 1960; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 4.

^bSee O.E.C.D., The Flow of Financial Resources to Countries in the Course of Economic Development in 1960, Paris, 1962, p. 16.

^cSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

Appendix A: Table 36. FISCAL YEAR 1960 TRADING FACTORS AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

g_1 --Tied Aid

Tied aid consists of (1) \$423.0 million (40.67% of I.C.A. funds used for domestic commodity purchases) less \$416.0 million (40% of I.C.A. funds which is assumed to be the "normal" amount of exports attributable to an equivalent amount of untied aid)^a plus (2) \$405.0 million of Eximbank loans which equals \$412.0 million. This tied aid divided by \$3,405.7 million total aid equals 12.1 (percent of tied aid).

$$12.1\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .121 \times \frac{101.3 - 111}{101.3} =$$

$$.121 \times -.0958 = -0.0116$$

g_2 --Local Currency Loans

P.L. 480 Title 1

	\$824.0	million total aid
of which	395.5	grant equivalent (48.0%)
and	428.5	exchange equivalent
minus	191.5	U.S.-use funds
equals	237.0	country-use funds
of which	103.1	43.5% grants (see Appendix A: Table 35)
and	133.9	56.5% reloaned funds (see Appendix A: Table 35)
of which	64.3	grant equivalent (48.0%)
and	69.6	exchange equivalent

See notations at end of table.

Appendix A: Table 36. (continued)

The total grant ratio is: \$395.5 million
 103.1
64.3

\$562.9 divided by \$824.0 = .6831

Development Loans

\$343.9 million total aid
 of which 173.7 grant equivalent (50.5%)
 and 170.2 exchange equivalent
 minus 68.8 U.S.-use funds
 equals 101.4 country-use funds
 of which 44.1 43.5% grants (see Appendix A: Table 35)
 and 57.3 56.5 reloaned funds (see Appendix A: Table 35)
 of which 28.9 grant equivalent (50.5%)
 and 28.4 exchange equivalent

The total grant ratio is: \$173.7 million
 44.1
28.9

\$246.7 divided by \$343.9 = .7174

Application of the shadow exchange rate ratio plus depreciation
 and waiver of repayments:

(a) Shadow exchange rate of 0.371 x exchange equivalent per-
 centage of .02877 ($\$98.0^b / \$3,405.7$) = .01067
 (b) Currency depreciation of 15.4%, raise (a) by .00164
 (c) Waiver on installments and interest, approximately
 50% of (a) = .00533
 Total E_2 .01764

Appendix A: Table 36. (continued)

Sources: Appendix A: Tables 34 and 35; Appendix B: Tables 1 and 2.

^aSee page 7.

^b\$69.6 million plus \$28.4 million.

Appendix A: Table 37. FISCAL YEAR 1959 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Development Loan	15,636	0	15,636	8,508	8,508	.5441
Local Currency						
Development Loan	505,570		505,570	382,160	382,160	.7559
Defense Support	807,923	807,923	0	--	807,923	1.0000
Supportive Assistance	282,034	253,831	0	--	253,831	.9000
Technical Cooperation	167,753	167,753	0	--	167,753	1.0000
Other	105,359	105,359	0	--	105,359	1.0000
Food For Peace	1,017,000 ^a					
1. Local currency sales	724,000	0	724,000	356,715	356,715	.4927
2. Emergency assistance & economic development	30,000	30,000	0	--	30,000	1.0000
3. Donations	131,000	131,000	0	--	131,000	1.0000
4. Barter	132,000	98,116	0	--	98,116	.7433
Export-Import Bank	890,400	0	890,400	216,545	216,545	.2432
	3,791,675	1,593,982	2,135,606	963,928	2,557,910	.6746 ^b

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1959, Part II, p. 128; International Cooperation Administration, Operations Report, June 30, 1959; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aTotal of Food For Peace funds, items 1, 2, 3, and 4.

^bWeighted average.

Appendix A: Table 38. FISCAL YEAR 1959 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans	Approximate average terms are 3% interest on both 5 years grace and 30 years maturity.
Supporting Assistance	10% of counterpart funds generated is reserved for U.S.-uses. ^a
Other	All other I.C.A. funds are valued as 100% grants.
Tied Aid (g ₁)	47.41% (see <u>Operations Report</u>) of I.C.A. financed commodities (\$475 million) are purchased in U.S., plus Eximbank loans of \$890.4 million.
Local Currency Loans (g ₂)	
1. Development	97% of Development Loans ^b = \$505,569,800 (assumed 20% retained for U.S.-use) ^c at same terms as other Development Loans (54.4% grant ratio).
2. PL 480	\$724,000,000, of which U.S.-use funds are \$367,285,200 and recipient country-use funds are \$356,714,800. Of country-use funds, assume \$231,864,620 (65%) ^d are loans and \$124,850,180 are grants. Assumed average terms are 3% interest on both 5 years grace and 25 years maturity (51.6% grant ratio).
Eximbank	Approximate average terms are 5% interest on 11.5 year maturities and 2½ years grace.
PL 480 Barter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; International Cooperation Administration, Operations Report, June 30, 1959; Export-Import Bank of Washington, Report to the Congress, June 30, 1959, Part II, p. 128; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 4.

^bCalculation based on information from Charles R. Frank, Jr., Debt and Terms of Aid, Overseas Development Council, Washington, D.C., 1970, p. 8.

^cSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

^dCalculation based on data in U.S. Department of Agriculture, P.L. 480 Concessional Sales, Table 2, p. 32.

Appendix A: Table 39. FISCAL YEAR 1959 TRADING FACTOR AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

g_1 -- Tied Aid

Tied aid consists of \$890.4 million of Eximbank loans. This tied aid divided by \$3,791.7 million total aid equals 23.5 (percent of total aid).

$$23.5\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .235 \times \frac{99.0 - 109}{99.0} =$$

$$.235 \times -.1010 = -0.0237$$

g_2 -- Local Currency Loans

P.L. 480 Title 1

	\$724.0	million total aid
of which	373.6	grant equivalent (51.6%)
and	350.4	exchange equivalent
minus	367.3	U.S.-use funds
equals	-16.9	

These \$16.9 million U.S.-use funds must be procured from the grant equivalent funds, therefore equaling a total grant equivalent of \$356.7 million, which divided by \$724.0 million = .4927.

Development Loans

	\$505.6	million total aid
of which	275.0	grant equivalent (54.4%)
and	230.6	exchange equivalent
minus	101.1	U.S.-use funds
equals	129.5	country-use funds

Appendix A: Table 39. (continued)

of which 84.2 65.0% grant (see Appendix A: Table 38)
 and 45.3 35.0% reloaned funds (see Appendix A: Table 38)
 of which 24.6 grant equivalent (54.4%)
 and 20.7 exchange equivalent

The total grant ratio is: \$275.0 million

84.2

24.6

\$383.8 divided by \$505.6 = .7559

Application of the shadow exchange rate ratio plus depreciation
 and waiver of repayments:

(a) Shadow exchange rate of 0.371 x exchange equivalent per-
 centage of .00545 ($\$20.7/\$3,791.7$) = .00202
 (b) Currency depreciation of 15.4%, raise (a) by .00031
 (c) Waiver on installments and interest, approximately
 50% of (a) = .00101
 Total g_2 .00334

Sources: Appendix A: Tables 37 and 38; Appendix B: Tables 1 and 2.

Appendix A: Table 40. FISCAL YEAR 1958 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Local Currency						
Development Loan	102,093	0	102,093 ^a	76,743	76,743	.7517
Defense Support	777,668	679,668	98,000	71,887	751,555	.9664
Local Currency						
Development Assistance	52,000	0	52,000	39,088	39,088	.7517
Technical Cooperation	148,010	148,010	0	--	148,010	1.0000
Special Assistance	147,352	147,352	0	--	147,352	1.0000
Other	247,638 ^b	247,638	0	--	247,638	1.0000
Food For Peace	982,000					
1. Local currency sales	658,000	0	658,000	457,968	457,968	.6960
2. Emergency assistance & economic development	51,000	51,000	0	--	51,000	1.0000
3. Donations	173,000	173,000	0	--	173,000	1.0000
4. Barter	100,000	74,330	0	--	74,330	.7433
Export-Import Bank	857,000	0	857,000	217,592	217,592	.2539
	3,313,761	1,520,998	1,767,093	863,278	2,384,276	.7195 ^c

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1959, Part II, p. 128;
International Cooperation Administration, Operations Report, June 30, 1959; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^a\$90,437,000 in local currency loans.

^bTotal of Food For Peace funds, items 1, 2, 3, and 4.

^cWeighted average.

Appendix A: Table 41. FISCAL YEAR 1958 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans (also Defense Support and Development Assistance Loans)	Approximate average terms are 3% interest on both 5 years grace and 25 years maturity.
Other	All other I.C.A. funds are valued as 100% grants.
Tied Aid (z_1)	No procurement restrictions on I.C.A. funds. Eximbank loans are \$857.0 million.
Local Currency Loans (z_2)	
1. Development	27% of Development Loans ^a = \$244,530,210 (assumed 20% retained for U.S.-use) ^b at same terms as other Development Loans (51.6% grant ratio).
2. PL 480	\$658,000,000, of which U.S.-use funds are \$168,448,000 (25.6%) ^c and recipient country-use funds are \$489,552,000. Of country-use funds, assume \$318,189,300 (65%) ^c are loans and \$171,362,700 are grants. Assumed average terms are 3% interest on both 5 years grace and 20 years maturity (48.0% grant ratio).
Eximbank	Approximate average terms are 5% interest on 12.5 year maturities and 2½ years grace.
PL 480 Earter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; Export-Import Bank of Washington, Report to the Congress, June 30, 1958, Part II, p. 128; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aCalculation based on information from Charles R. Frank, Jr., Debt and Terms of Aid, p. 8.

^bSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

^cCalculation based on data in U.S. Department of Agriculture, P.L. 480 Concessional Sales, Table 2, p. 32.

Appendix A: Table 42. FISCAL YEAR 1958 TRADING FACTOR AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

g_1 -- Tied Aid

Tied aid consists of \$857.0 million of Eximbank loans. This tied aid divided by \$3,313.8 million total aid equals 25.9 (percent of tied aid).

$$25.9\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .259 \times \frac{101.2 - 106}{101.2} =$$

$$.259 \times -.0474 = -0.0123$$

g_2 -- Local Currency Loans

P.L. 480 Title 1

	\$658.0	million total aid
of which	315.8	grant equivalent (48.0%)
and	342.2	exchange equivalent
minus	168.4	U.S.-use funds
equals	173.8	country-use funds
of which	113.0	65% grants (see Appendix A: Table 41)
and	60.8	35% reloaned funds (see Appendix A: Table 41)
of which	29.2	grant equivalent (48.0%)
and	31.6	exchange equivalent

The total grant ratio is: $\$315.8$ million
 $\underline{113.0}$
 $\underline{29.2}$

$$\$458.0 \text{ divided by } \$658.0 = .6960$$

Appendix A: Table 42. (continued)

		<u>Development Loans</u>	
	\$244.5	million total aid	
of which	126.2	grant equivalent (51.6%)	
and	118.3	exchange equivalent	
minus	48.9	U.S.-use funds	
equals	69.4	country-use funds	
of which	45.1	65% grants (see Appendix A: Table 41)	
and	24.3	35% reloaned funds (see Appendix A: Table 41)	
of which	12.5	grant equivalent (51.6%)	
and	11.8	exchange equivalent	

The total grant ratio is: $\frac{\$126.2}{45.1 + 12.5}$

$\$183.8$ divided by $\$244.5 = .7517$

Application of the shadow exchange rate ratio plus depreciation and waiver of repayments:

(a)	Shadow exchange rate of $0.371 \times$ exchange equivalent percentage of $.01309$ ($\$43.4^a / \$3,313.8$) =	.00485
(b)	Currency depreciation of 15.4% , raise (a) by	.00074
(c)	Waiver on installments and interest, approximately 50% of (a) =	<u>.00243</u>
	Total g_2	.00802

Sources: Appendix A: Tables 40 and 41; Appendix B: Tables 1 and 2.

^a $\$31.6$ million and $\$11.8$ million.

Appendix A: Table 43. FISCAL YEAR 1957 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Defense Support	1,141,922	1,017,539	124,383	93,536	1,111,075	.9730
Development Assistance	208,317	0	208,317 ^a	156,654	156,654	.7520
Technical Cooperation	144,558	144,558	0	--	144,558	1.0000
Other	168,893	168,893	0	--	168,893	1.0000
Food For Peace	1,525,000 ^b					
1. Local currency sales	908,000	0	908,000	631,968	631,968	.6960
2. Emergency assistance & economic development	51,000	51,000	0	--	51,000	1.0000
3. Donations	165,000	165,000	0	--	165,000	1.0000
4. Barter	401,000	298,063	0	--	298,063	.7433
Export-Import Bank	1,067,400	0	1,067,400	318,405	318,405	.2983
	4,256,090	1,845,053	2,308,100	1,200,563	3,045,616	.7156 ^c

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1959, Part II, p. 128; International Cooperation Administration, Operations Report, June 30, 1957; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aLocal currency.

^bTotal of Food For Peace funds, items 1, 2, 3, and 4.

^cWeighted average.

Appendix A: Table 44. FISCAL YEAR 1957 GRANT ELEMENT AND TRADING
FACTORS DATA

Development Loans	Development Assistance and part of Defense Support = \$332.7 million. Average approximate terms are 3% interest on both 5 years grace and 25 years maturity.
Other	All other I.C.A. funds are valued as 100% grants.
Tied Aid (α_1)	No procurement restrictions on I.C.A. funds. Eximbank loans = \$1,067.4 million.
Local Currency Loans (α_2)	
1. Development	Virtually 100% of loans = \$332.7 million (assume 20% retained for U.S.-use). ^a The terms equal a 51.6% grant ratio.
2. PL 480	\$908,000,000, of which U.S.-use funds are assumed to be \$232,448,000 (25.6%) ^b and recipient country-use funds are \$675,552,000. Of country-use funds, \$439,108,800 are loans (65%) ^b and \$236,443,200 are grants. Assumed average terms are 3% interest on both 5 years grace and 20 years maturity (48.0% grant ratio).
Eximbank	Approximate average terms are 5% interest on 17.5 year maturities and 2 $\frac{1}{2}$ years grace.
PL 480 Barter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; Export-Import Bank of Washington, Report to the Congress, June 30, 1957, Part II, p. 128; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

^bCalculation based on data in U.S. Department of Agriculture, P.L. 480 Concessional Sales, Table 2, p. 32.

Appendix A: Table 45. FISCAL YEAR 1957 TRADING FACTOR AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

g_1 -- Tied Aid

Tied aid consists of \$1,067.4 million of Eximbank loans. This tied aid divided by \$4,256.1 million total aid equals 25.1 (percent of tied aid).

$$25.1\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .251 \times \frac{103.0 - 107}{103.0} =$$

$$.251 \times -.0388 = -0.0097$$

g_2 -- Local Currency Loans

P.L. 480 Title 1

	\$908.0	million total aid
of which	435.8	grant equivalent (48.0%)
and	472.2	exchange equivalent
minus	232.4	U.S.-use funds
equals	239.8	country-use funds
of which	155.9	65% grants (see Appendix A: Table 44)
and	83.9	35% reloaned funds (see Appendix A: Table 44)
of which	40.3	grant equivalent (48.0%)
and	43.6	exchange equivalent

The total grant ratio is: $\begin{array}{r} \$435.8 \\ 155.9 \\ \hline 40.3 \end{array}$

\$632.0 divided by \$908.0 = .6960

Appendix A: Table 45. (continued)

Development Loans

\$332.7 million total aid
 of which 171.7 grant equivalent (51.6%)
 and 161.0 exchange equivalent
 minus 66.5 U.S.-use funds
 equals 94.5 country-use funds
 of which 61.4 65% grants (see Appendix A: Table 44)
 and 33.1 35% reloaned funds (see Appendix A: Table 44)
 of which 17.1 grant equivalent (51.6%)
 and 16.0 exchange equivalent

The total grant ratio is: \$171.7
 61.4
 17.1

\$250.2 divided by \$332.7 = .7520

Application of the shadow exchange rate ratio plus depreciation and waiver of repayments:

(a) Shadow exchange rate of 0.371 x exchange equivalent percentage of 0.01400 ($\$59.6^a / \$4,256.1$) =	.00519
(b) Currency depreciation of 15.4%, raise (a) by	.00079
(c) Waiver on installments and interest, approximately 50% of (a) =	<u>.00259</u>
Total g_2	.00857

Sources: Appendix A: Tables 43 and 44; Appendix B: Tables 1 and 2.

^a\$43.6 million plus \$16.0 million.

Appendix A: Table 46. FISCAL YEAR 1956 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Defense Support	1,172,530	1,074,705	97,825 ^a	70,696	1,145,401	.9800
Local currency						
Development Assistance	112,975	0	112,975	84,121	84,121	.7446
Technical Cooperation	126,817	126,817	0	--	126,817	1.0000
Other	21,572	21,572	0	--	21,572	1.0000
Administrative	33,660	33,660	0	--	33,660	1.0000
Food For Peace	984,000 ^b					
1. Local currency sales	439,000	0	439,000	301,900	301,900	.6877
2. Emergency assistance & economic development	63,000	63,000	0	--	63,000	1.0000
3. Donations	184,000	184,000	0	--	184,000	1.0000
4. Barter	298,000	221,503	0	--	221,503	.7433
Export-Import Bank	234,600	0	234,600	61,371	61,371	.2616
	2,686,154	1,725,257	884,400	518,088	2,243,345	.8400 ^c

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1959, Part II, p. 128; International Cooperation Administration, Operations Report, June 30, 1956; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^a\$89,395 in local currency.

^bTotal of Food For Peace funds, items 1, 2, 3, and 4.

^cWeighted average.

Appendix A: Table 47. FISCAL YEAR 1956 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans	Development Assistance and part of Defense Support = \$210.8 million. Approximate average terms are 3% interest on both 3 years grace and 25 years maturity.
Other	All other I.C.A. funds are valued as 100% grants.
Tied Aid (g_1)	No procurement restrictions on I.C.A. funds. Eximbank loans are \$234.6 million.
Local Currency Loans (g_2)	
1. Development	96% of Development Loans ^a = \$202.37 million (assume 20% retained for U.S.-use) ^b at same terms as other Development Loans (49.0% grant ratio).
2. PL 480	\$439,000,000, of which U.S.-use funds are assumed to be \$112,384,000 (25.6%) ^c and recipient country-use funds are \$326,616,000. Of country-use funds, \$212,300,400 are loans (65%) ^c and \$114,315,600 are grants. Assumed average terms are 3% interest on both 3 years grace and 20 years maturity (45.1% grant ratio).
Eximbank	Approximate average terms are 5% interest on 14 year maturities and 2 years grace.
PL 480 Barter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; Export-Import Bank of Washington, Report to the Congress, June 30, 1956, Part II, p. 128; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aSee O.E.C.D., The Flow of Financial Resources to Developing Countries in 1961, Paris, 1963, p. 71.

^bSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

^cCalculation based on data in U.S. Department of Agriculture, P.L. 480 Concessional Sales, Table 2, p. 32.

Appendix A: Table 48. FISCAL YEAR 1956 TRADING FACTOR AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

g_1 --Tied Aid

Tied aid consists of \$234.6 million of Eximbank loans. This tied aid divided by \$2,686.2 million total aid equals 8.7 (percent of tied aid).

$$8.7\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .087 \times \frac{100.7 - 104}{100.7} =$$

$$.087 \times -.0328 = -0.0029$$

g_2 --Local Currency Loans

P.L. 480 Title 1

\$439.0 million total aid
of which 198.0 grant equivalent (45.1%)
and 241.0 exchange equivalent
minus 112.4 U.S.-use funds
equals 128.6 country-use funds
of which 83.6 65% grants (see Appendix A: Table 47)
and 45.0 35% reloaned funds (see Appendix A: Table 47)
of which 20.3 grant equivalent (45.1%)
and 24.7 exchange equivalent

The total grant ratio is: \$198.0 million
83.6
20.3

$$\$301.9 \text{ divided by } \$439.0 = .6877$$

Appendix A: Table 48. (continued)

<u>Development Loans</u>		
	\$202.4	million total aid
of which	99.2	grant equivalent (49.0%)
and	103.2	exchange equivalent
minus	40.5	U.S.-use funds
equals	62.7	country-use funds
of which	40.8	65% grants (see Appendix A: Table 47)
and	21.9	35% relouaned funds (see Appendix A: Table 47)
of which	10.7	grant equivalent (49.0%)
and	11.2	exchange equivalent

The total grant ratio is: \$ 99.2 million
 40.8
 10.7

$$\$150.7 \text{ divided by } \$202.4 = .7446$$

Application of the shadow exchange rate ratio plus depreciation and waiver of repayments:

(a) Shadow exchange rate of 0.371 x exchange equivalent percentage of 0.01336 ($\$35.9^a / \$2,686.2$) =	.00495
(b) Currency depreciation of 15.4%, raise (a) by	.00076
(c) Waiver on installments and interest, approximately 50% of (a) =	<u>.00248</u>
Total g_2	.00819

Sources: Appendix A: Tables 46 and 47; Appendix B: Tables 1 and 2.

^a\$24.7 million plus \$11.2 million.

Appendix A: Table 49. FISCAL YEAR 1955 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Defense Support	807,146	807,146	0	--	807,146	1.0000
Development Assistance	256,329	46,829	209,500 ^a	155,994	202,823	.7913
Technical Cooperation	111,796	111,796	0	--	111,796	1.0000
Other	32,568	32,568	0	--	32,568	1.0000
<u>Food For Peace</u>	<u>385,000^b</u>					
1. Local currency sales	73,000	0	73,000	50,202	50,202	.6877
2. Emergency assistance & economic development	52,000	52,000	0	--	52,000	1.0000
3. Donations	135,000	135,000	0	--	135,000	1.0000
4. Barter	125,000	92,913	0	--	92,913	.7433
Export-Import Bank	<u>631,500</u>	<u>0</u>	<u>631,500</u>	<u>176,315</u>	<u>176,315</u>	<u>.2792</u>
	2,224,339	1,278,252	914,000	382,511	1,660,763	.7466 ^c

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1959, Part II, p. 128; International Cooperation Administration, Operations Report, November 16, 1955; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aLocal currency.

^bTotal of Food For Peace funds, items 1, 2, 3, and 4.

^cWeighted average.

Appendix A: Table 50. FISCAL YEAR 1955 GRANT ELEMENT AND TRADING FACTORS DATA

Development Loans	\$209.5 million of Development Assistance at approximate average terms of 3% interest on both 3 years grace and 25 years maturity.
Other	All other I.C.A. funds are valued as 100% grants.
Tied Aid (ϵ_1)	No procurement restrictions on I.C.A. funds. Eximbank loans are \$631.5 million.
Local Currency Loans (ϵ_2)	
1. Development	Assume 100% of loans (assume 20% retained for U.S.-use). ^a The terms equal a 49.0% grant ratio.
2. PL 480	\$73,000,000, of which U.S.-use funds are assumed to be \$18,688,000 (25.6%) ^b and recipient country-use funds are \$54,312,000. Of country-use funds, \$35,302,800 are loans (65%) ^b and \$19,009,200 are grants. Assumed average terms are 3% interest on both 3 years grace and 20 year maturities (45.1% grant ratio).
Eximbank	Approximate average terms are 4.75% interest on 13 year maturities and 3 years grace.
PL 480 Barter	74.3 is the average percent of PL 480 collections earmarked for country-use.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; Export-Import Bank of Washington, Report to the Congress, June 30, 1955, Part II, p. 128; U.S. Department of Agriculture, P.L. 480 Concessional Sales, September, 1970.

^aSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

^bCalculation based on data in U.S. Department of Agriculture, P.L. 480 Concessional Sales, Table 2, p. 32.

Appendix A: Table 51. FISCAL YEAR 1955 TRADING FACTOR AND LOCAL
CURRENCY GRANT RATIO CALCULATIONS

g_1 --Tied Aid

Tied aid consists of \$631.5 million of Eximbank loans. This tied aid divided by \$2,224.3 million total aid equals 28.4 (percent of tied aid).

$$28.4\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .284 \times \frac{97.0 - 100}{97.0} =$$

$$.284 \times -.0309 = -0.0088$$

g_2 --Local Currency Loans

P.L. 480 Title 1

\$73.0 million total aid
of which 32.9 grant equivalent (45.1%)
and 40.1 exchange equivalent
minus 18.7 U.S.-use funds
equals 21.4 country-use funds
of which 13.9 65% grants (see Appendix A: Table 50)
and 7.5 35% reloaned funds (see Appendix A: Table 50)
of which 3.4 grant equivalent (45.1%)
and 4.1 exchange equivalent

The total grant ratio is: \$32.9 million
13.9
3.4

\$50.2 divided by \$73.0 = .6877

Appendix A: Table 51. (continued)

		<u>Development Loans</u>	
	\$209.5	million total aid	
of which	102.7	grant equivalent (49.0%)	
and	106.8	exchange equivalent	
minus	41.9	U.S.-use funds	
equals	64.9	country-use funds	
of which	42.2	65% grants (see Appendix A: Table 50)	
and	22.7	35% reloaned funds (see Appendix A: Table 50)	
of which	11.1	grant equivalent (49.0%)	
and	11.6	exchange equivalent	

The total grant ratio is: $\frac{\$102.7 \text{ million}}{42.2}$
 $\frac{11.1}{11.1}$

$\$156.0$ divided by $\$209.5 = .7446$

Application of the shadow exchange rate ratio plus depreciation and waiver of repayments:

(a) Shadow exchange rate of 0.371 x exchange equivalent percentage of 0.00705 ($\$15.7^a / \$2,224.3$) =	.00261
(b) Currency depreciation of 15.4%, raise (a) by	.00040
(c) Waiver on installments and interest, approximately 50% of (a) =	<u>.00131</u>
Total g_2	.00432

Sources: Appendix A: Tables 49 and 50; Appendix B: Tables 1 and 2.

^a $\$4.1$ million plus $\$11.6$ million.

Appendix A: Table 52. FISCAL YEAR 1954 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Defense Support	650,000	650,000	0 ^a	--	650,000	1.0000
Development Assistance	322,800	122,800	100,000	73,300	196,100	.6075
Technical Cooperation	100,300	100,300	0	--	100,300	1.0000
Relief	33,000	33,000	0	--	33,000	1.0000
Other	109,500	109,500	0	--	109,500	1.0000
Export-Import Bank	<u>250,400</u>	<u>0</u>	<u>250,400</u>	<u>95,402</u>	<u>95,402</u>	<u>.3810</u>
	1,466,000	1,015,600	350,400	168,702	1,184,302	.8078 ^b

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1959, Part II, p. 128;
Foreign Operations Administration, Monthly Operations Report, July 31, 1954.

^aLocal currency.

^bWeighted average.

Appendix A: Table 53. FISCAL YEAR 1954 GRANT ELEMENT AND TRADING
FACTORS DATA

Development Loans	\$100.0 million of Development Assistance at approximate average terms of 3% interest on both 3 years grace and 20 years maturity.
Other	All other F.O.A. ^a funds are valued as 100% grants.
Tied Aid (σ_1)	No procurement restrictions on F.O.A. funds. Eximbank loans are \$250.4 million.
Local Currency Loans (σ_2)	
Development	Assume 100% of loans (assume 20% retained for U.S.-use) ^b are local currency. The terms equal a 45.1% grant ratio.
Eximbank	Approximate average terms are 4% interest on 18.5 year maturities and 3 $\frac{1}{2}$ years grace.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; Export-Import Bank of Washington, Report to the Congress, June 30, 1954, Part II, p. 128.

^aForeign Operations Administration.

^bSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

Appendix A: Table 54. FISCAL YEAR 1954 TRADING FACTOR AND LOCAL
CURRENCY GRANT RATIO CALCULATIONS

g_1 --Tied Aid

Tied aid consists of \$250.4 million of Eximbank loans. This tied aid divided by \$1,466.0 million total aid equals 17.1 (percent of tied aid).

$$17.1\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .171 \times \frac{97.3 - 99}{97.3} =$$

$$.171 \times -.0175 = -0.0030$$

g_2 --Local Currency Loans

Development Loans

	\$100.0	million total aid
of which	45.1	grant equivalent (45.1%)
and	54.9	exchange equivalent
minus	20.0	U.S.-use funds
equals	34.9	country-use funds
of which	22.7	65% grants (see Appendix A: Table 53)
and	12.2	35% reloaned funds (see Appendix A: Table 53)
of which	5.5	grant equivalent (45.1%)
and	6.7	exchange equivalent

The total grant ratio is: \$45.1 million
22.7
5.5

$$\$73.3 \text{ divided by } \$100.0 = .7330$$

Application of the shadow exchange rate ratio plus depreciation
and waiver of repayments:

Appendix A: Table 54. (continued)

(a) Shadow exchange rate of 0.371 x exchange equivalent percentage of 0.00457 ($\$6.7/\$1,466.0$) =	.00169
(b) Currency depreciation of 15.4%, raise (a) by	.00026
(c) Waiver on installments and interest, approximately 50% of (a) =	<u>.00085</u>
Total \mathcal{E}_2	.00280

Sources: Appendix A: Tables 52 and 53; Appendix B: Tables 1 and 2.

Appendix A: Table 55. FISCAL YEAR 1953 GRANT RATIO OF UNITED STATES ECONOMIC AID COMMITMENTS (thousands of dollars)

Aid category	Total aid commitment	Grant portion	Loan portion	Grant equivalent of loans	Total grant equivalent	Grant ratio
Defense Support	1,549,100	1,549,100	0 ^a	--	1,549,100	1.0000
Development Assistance	71,700	55,300	16,400	12,000	67,300	.9386
Technical Cooperation	128,000	128,000	0	--	128,000	1.0000
Relief	36,000	36,000	0	--	36,000	1.0000
Other	19,000	19,000	0	--	19,000	1.0000
Export-Import Bank	<u>571,100</u>	<u>0</u>	<u>571,100</u>	<u>227,298</u>	<u>227,298</u>	<u>.3980</u>
	2,374,900	1,787,400	587,500	239,298	2,026,698	.8534 ^b

Sources: Export-Import Bank of Washington, Report to the Congress, June 30, 1959, Part II, p. 128;
Foreign Operations Administration, Monthly Operations Report, July 31, 1954.

^aLocal currency.

^bWeighted average.

Appendix A: Table 56. FISCAL YEAR 1953 GRANT ELEMENT AND TRADING
FACTORS DATA

Development Loans	\$16.4 million of Development Assistance at approximate average terms of 3% interest on both 3 years grace and 20 year maturities.
Other	All other F.O.A. ^a funds are valued as 100% grants.
Tied Aid (σ_1)	No procurement restrictions on F.O.A. funds. Eximbank loans are \$571.1 million.
Local Currency Loans (σ_2)	
Development	Assume 100% of loans (assume 20% retained for U.S.-use) ^b are local currency. The terms equal a 45.1% grant ratio.
Eximbank	Approximate average terms are 4% interest on 22.5 year maturities and 2 $\frac{1}{2}$ years grace.

Sources: Alexis E. Lachman, The Local Currency Proceeds of Foreign Aid, O.E.C.D., Paris, 1969; Export-Import Bank of Washington, Report to the Congress, June 30, 1953, Part II, p. 128.

^aForeign Operations Administration.

^bSee Lachman, The Local Currency Proceeds of Foreign Aid, p. 16.

Appendix A: Table 57. FISCAL YEAR 1953 TRADING FACTOR AND LOCAL CURRENCY GRANT RATIO CALCULATIONS

g_1 -- Tied Aid

Tied aid consists of \$571.1 million of Eximbank loans. This tied aid divided by \$2,374.9 million total aid equals 24.0 (percent of tied aid).

$$24.0\% \times \frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} = .240 \times \frac{100.0 - 100}{100} =$$

$$.240 \times - - - = - -$$

g_2 -- Local Currency Loans

Development Loans

	\$16.4	million total aid
of which	7.4	grant equivalent (45.1%)
and	9.0	exchange equivalent
minus	3.3	U.S.-use funds
equals	5.7	country-use funds
of which	3.7	65% grants (see Appendix A: Table 56)
and	2.0	35% reloaned funds (see Appendix A: Table 56)
of which	0.9	grant equivalent (45.1%)
and	1.1	exchange equivalent

The total grant ratio is: \$ 7.4 million
 3.7
0.9

$$\$12.0 \text{ divided by } \$16.4 = .7317$$

Application of the shadow exchange rate ratio plus depreciation and waiver of repayments:

Appendix A: Table 57. (continued)

(a) Shadow exchange rate of 0.371 x exchange equivalent percentage of 0.00046 (\$1.1/\$2,374.9) =	.00046
(b) Currency depreciation of 15.4%, raise (a) by	.00007
(c) Waiver on installments and interest, approximately 50% of (a) =	<u>.00023</u>
Total g_2	.00076

Sources: Appendix A: Tables 55 and 56; Appendix B: Tables 1 and 2.

Appendix B: INDEX COMPUTATIONS

Two indices are required in the trading factor analysis: one to measure the relationship of United States versus world market export prices and the other to reflect the difference between official versus market currency exchange rates. The former is used in the aid tying calculations to indicate the loss of exports had aid been offered on an untied basis, while the latter is utilized in shadow exchange rate calculations for local currency loans.

U.S. versus World Export Price Index--g₁

The index figures in Appendix B: Table 1, which represent the value of U.S. export prices, are assumed to reflect a "basket of goods" commodity mix similar to actual aid-financed domestic commodity expenditures. The United Kingdom, France, Germany, Italy, Canada, and Japan are assumed to represent the bulk of the countries which could effectively compete with the United States for these commodity expenditures. In Table 1 the U.S. export price index is compared with the average price index of the competing countries and the percent difference shown. This percentage reflects the loss of exports attributable to foreign aid due to the price differential had aid been offered untied.¹

¹While this procedure measures the percent change in the export price index of the U.S. versus the "world market," the magnitude of this percent change does not indicate the true world market price of the exports (e.g., if Country A and Country B sell a commodity at \$10 and \$20 per unit, respectively, a 50% price increase by Country A and a 10% price increase by Country B will still leave Country A with a price advantage). An index including the actual yearly mix of foreign aid

Official versus Market Currency Exchange Rate Index-- g_2

Due to limited availability of data, three countries, India, Pakistan, and Brazil, are used in the calculation of the shadow exchange rate index. These countries represent approximately 65% of the 1954-1969 P.L. 480 sales and approximately 47% of other local currency sales during this period. The weighting of these countries, which reflects the flow of financial resources in both categories, are: India 65%, Pakistan 21%, and Brazil 14%. The index calculated in Table 2 is assumed to approximate the data for the remaining countries receiving local currency loans. The exchange rate for each year is the rate as of June 30.

To calculate the index, the average local currency units per U.S. dollar from Table 2 are utilized in the following manner:

$$\begin{aligned} \text{India} &= \frac{5.26}{7.56} = 0.696 \text{ at } 65\% \text{ weighting} = 0.452 \\ \text{Pakistan} &= \frac{4.41}{8.44} = 0.523 \text{ at } 21\% \text{ weighting} = 0.110 \\ \text{Brazil} &= \frac{75.76}{158.73} = 0.477 \text{ at } \frac{14\%}{100\%} \text{ weighting} = \frac{0.067}{0.629} \end{aligned}$$

0.629 reflects the market value of local currency repayments, while its complement (1 - 0.629), 0.371, indicates the grant proportion which is to be utilized in the shadow exchange rate calculations for trading factor g_2 .

commodities with U.S. versus world market prices for each commodity was not used due to a lack of available data. However, the index figures in Table 1 do reflect the relative change in the competitiveness of U.S. versus world export commodities.

Appendix B: Table 1. EXPORT TRADE INDEX: 1953 = 100

Country	1953	1954	1955	1956	1957	1958
United States	100	99	100	104	107	106
United Kingdom	100	99	101	105	110	109
France	100	94	95	99	101	97
Germany	100	98	98	101	103	103
Italy	100	99	98	102	102	101
Canada	100	98	99	103	105	103
Japan	100	96	91	94	97	94
Total Non-U.S. Index	600	584	582	604	618	607
Average Non-U.S. Index	100	97.3	97.0	100.7	103.0	101.2

$$\left(\frac{P_{\text{world}} - P_{\text{U.S.}}}{P_{\text{world}}} \right) \times P_{\text{world}} \quad \text{--} \quad \text{--} \quad .0175 \quad \text{--} \quad .0309 \quad \text{--} \quad .0328 \quad \text{--} \quad .0388 \quad \text{--} \quad .0474$$

Sources: United Nations Statistical Yearbook 1959, Eleventh Issue, New York, 1960; United Nations Statistical Yearbook 1965, Seventeenth Issue, New York, 1966; United Nations Statistical Yearbook 1969, Twenty-first Issue, New York, 1970.

1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
109	111	112	112	112	112	117	120	123	127	132
109	111	112	114	117	119	122	129	129	122	125
89	94	94	94	95	98	100	103	102	104	105
103	105	110	111	110	111	113	114	114	112	114
94	97	93	90	95	98	96	94	94	91	N.A.
105	105	100	97	97	98	100	103	106	111	115
94	96	92	89	88	87	86	84	87	88	92
594	608	601	595	602	611	617	627	632	628	551
99.0	101.3	100.2	99.2	100.3	101.8	102.8	104.5	105.3	104.7	110.2
-.1010	-.0958	-.1178	-.1290	-.1167	-.1002	-.1381	-.1483	-.1681	-.2130	-.1978

Appendix B: Table 2. OFFICIAL VERSUS MARKET CURRENCY EXCHANGE RATE INDEX (U.S. dollars per unit of foreign currency)

Year	India (Rupee)		Pakistan (Rupee)		Brazil (Cruzeiro)	
	Official ^a	Market ^b	Official ^a	Market ^b	Official ^a	Market ^b
1969	.1325	.0900	.2098	.1000	.2498 ^c	.0002
1968	.1326	.0800	.2089	.1009	.3135 ^c	.0002
1967	.1330	.0800	.2095	.1050	.3720 ^c	.0003
1966	.1332	.0700	.2095	.1100	.0005	.0004
1965	.2094	.1050	.2096	.1050	.0006	.0004
1964	.2095	.1300	.2097	.1100	.0009	.0006
1963	.2101	.1550	.2103	.1300	.0017	.0013
1962	.2107	.1300	.2111	.1200	.0029	.0021
1961	.2091	.1375	.2096	.1150	.0040	.0035
1960	.2105	.1400	.2109	.1350	.0056	.0050
1959	.2110	.1500	.2114	.1300	.0070	.0068
1958	.2103	.1950	.2107	.1330	.0077	.0073
1957	.2094	.1900	.2098	.1300	.0145	.0130
1956	.2099	.2000	.2103	.1350	.0125	.0115
1955	.2090	n.a. ^d	.3013	n.a. ^d	.0550	.0134
1954	.2115	n.a. ^d	.3048	n.a. ^d	.0550	.0185
1953	.2113	n.a. ^d	.3043	n.a. ^d	.0550	.0233
Average	.1919	.1323	.2266	.1185	.0132	.0063
Average per U.S. Dollar	5.26	7.56	4.41	8.44	75.76	158.73

Source: Wall Street Journal, Foreign Exchange Listings, 1953-1969.

^aSelling prices for bank transfers in the U.S. for payments abroad.

^bMarket prices for foreign banknotes.

^cSince July 6, 1948, the official exchange rate was 5.40541 cents per cruzeiro. On February 13, 1967, new cruzeiros were issued at the ratio of 1 to 1000 old cruzeiros.

^dNot available.

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