FOREIGN AID AND INTERNATIONAL TRADE AS INDICATORS OF
POLITICAL INFLUENCE: A CORRELATION ANALYSIS OF
SELECTED COMMUNIST PARTY-STATES

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by

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PREFACE

The twentieth century has witnessed the growing importance of an element of international relations commonly known as "foreign aid." Much has been written about foreign aid -- both for and against.[1] There is no consensus on its proper application, its value to either the donee or the donor, or on its many other facets. However, before investigating a specific question posed by the political aspects of foreign aid, it is appropriate here to discuss the emergence of the programs which followed in the wake of World War II.

While aid is not really a product of World War II, it is closely associated in most minds as an outgrowth of that conflict. Many of the bilateral and multilateral aid programs in existence today can, in fact, trace their origins to the post-war rebuilding of Europe under the aegis of the Marshall Plan. The United States had intended that this plan alleviate not only the economic plight of Western Europe, but included the Soviet Union and the countries it occupied in Eastern Europe, as well. The Soviets, their country one of the most devestated of the war, chose rather to isolate themselves and their occupation zone from the spread of "capitalist influence" which was perceived by them as an outcome of such assistance. Instead, the USSR and its satellites managed to rebuild slowly from within under a centralized economy controlled by the Soviet Union. This process appears to

have taken nearly a decade, during which the isolation
and secrecy characteristic of the Stalinist regime provided
few details of the enormous difficulties which apparently
accompanied that effort. Only after the death of Stalin
(1953) was there either the capability or the desire to
direct Soviet economic interests outward in seeking friend-
ship and interaction with countries of the non-Communist
world.

During the period of the late 1940's and early 1950's
in which the Soviets were rebuilding, the United States and
its Western allies made great progress in returning Europe
to the status quo ante of pre-World War II. In the few
short years of the Marshall Plan, beginning in early 1948,
the United States contributed over $13 billion in economic
assistance to European recovery. There were many reasons
which were identified as motivating factors for this
assistance, not the least of which was the obvious humanitarian
aspect of helping a needy neighbor. Realistically, however,
the most important emphasis should probably be given to more
self-serving interests. Gilbert Winham provided a study in
a recent article in which he identified a number of variables
associated with the Marshall Plan. He concluded that this
program, and probably most other economic aid programs, are
the result of the donor's wish to satisfy his own national
interests, far more so than a purely humanitarian concern for
others. In fact, in the case of the Marshall Plan, he

posited that the two specific factors most prevalent in
"selling" the plan to the Congress and the American public
were: (1) fear of Communist expansion into a weakened
Europe, and (2) the necessity to rebuild Europe in order to
assure the continuation of an economic and political
environment compatible with United States' interests.[2] Not-
withstanding any doubt surrounding the true motivation for
this program, it nonetheless did satisfy these more obvious
motives in that it provided for the rebuilding of Europe and
the foundation of a nominally anti-Soviet ideological front
among the West European allies. In the final analysis,
however, the success of the Marshall Plan undoubtedly went
a long way toward encouraging and justifying the continuing
United States foreign aid program, as well as becoming a
precedent and a model for other programs which followed.

The challenge presented by the spread of potential
influence from the United States and other capitalist economic
powers through the medium of aid programs, did not go un-
noticed by the Soviets and their Communist colleagues. Having
sufficiently recovered from its wartime economy and intent
on seeking a prominent position abroad in the post-Stalin
era, the Soviet Union marked this change in leadership by
inaugurating new policies proclaimed to be in the interests
of "peaceful coexistence" with its non-Communist neighbors.
The switch from the hardline Stalinist policies to the soft-
sell of a coexistence policy appears to have been motivated

by more than mere benevolence. For one thing, the dynamic
recovery of Western Europe, and the continued dominance of
the United States in non-Communist trading markets was
sharply contrasted with the stark existence in Communist
dominated areas. These Communist societies, including Soviet
Russia, were not self-sufficient in satisfying their food
needs, nor could they be totally independent of the non-
Communist world for the supply of other necessary raw
materials. Stalinist economic policy established the USSR
as a major purchaser of commodities and products within its
economic sphere. It thereby caused the satellites to become
more dependent upon the Soviet Union as their major consumer
and forced, by virtue of Soviet planning, specialization by
each country in very narrow fields of industry and products.
Such product specialization also forced the satellites to
become increasingly dependent upon their Communist trading
partners to provide the goods which were not included in
their "slice" of industry. To break this limiting cycle of
economic isolationism, the Soviets vigorously set themselves
to the task of cultivating foreign markets. It is the
pursuit of these markets that was apparently the motivation
for economic aid to countries outside of the Soviet bloc.

Before the initiation of its foreign aid activities,
the Soviet bloc's share of trade with the non-Communist
world was approximately one billion each for exports and
imports, or less than five percent of the total for developed

nations in each category. To increase their share of world markets, the Soviets first had to overcome traditional preferences for Western goods. One method of doing this was to extend economic credits for the purchase of Soviet-made goods to those less-developed nations which could not otherwise finance or afford such purchases. As a further means of stimulating trade and gaining access to needed resources, the Soviets often allowed the repayment of their aid loans in commodities. Many underdeveloped countries which found the competition in Western markets difficult and the demand for their products very unstable, welcomed the opportunity to trade with the Communist bloc. Such trade ties were then beneficial to both the underdeveloped country and the Soviet Union, and ultimately have become an inherent part of the Soviet aid program. At the same time, the Soviets found that penetration of the non-Communist world through routes of economic access provided them means for a two-pronged offensive -- the second pronge being that of political access.

Characteristic of Russian attitudes, going back even to the early nineteenth century czars, was a preoccupation with strengthening its borders against foreign intrusion. It is not suprising then that the first Soviet effort at foreign economic aid was directed at a bordering neighbor, Afghanistan. This small initial effort in 1954, was quickly followed by a succession of offerings to nominally neutralist governments

on or near its borders, each endeavor designed to provide a maximum of publicity for Soviet generosity. Unfortunately for the Soviets, the results of some of the early projects proved to be more embarrassing than successful. Accordingly, there was a period of reflection and reassessment in the Soviet aid program which can be measured by the dearth of expenditures in 1962 and 1963. Following this period, and again almost coincident with another change in leadership, the Soviets set off on a new and expanded program of aid. This venture took the Soviet presence to areas heretofore deemed as capitalist monopolies. Such were the newly independent, former-colonies of Africa and the Far East, as well as the age-old bastion of US "vital interest" -- South America.

In the ongoing competition and conflict between the ideologies of the Communist world and the non-Communist West, each side's foreign aid program has become an instrument of foreign policy in the so-called "Cold War." Competition for ideological and political influence is now perhaps as much a part of foreign aid as the desire to assist the emerging and less developed countries of the world. The question often asked by the theorist -- and seldom answered by the politician -- is Just how much influence is foreign aid capable of providing the donor? An investigation of this question will be the subject of this thesis.

PREFACE FOOTNOTES

1. There is an abundance of information available
on the history, significance, and vicissitudes of both
Soviet and American foreign aid. Among those found to
be most useful for general background data are: Robert
E. Asher, <u>Development Assistance in the Seventies</u>,
(Washington, DC: The Brookings Institution), 1970;
Paul G. Clark, <u>American Aid for Development</u>, (New York:
Praeger), 1972; Marshall I. Goldman, <u>Soviet Foreign Aid</u>,
(New York: Praeger), 1967; Robert S. Walters, <u>American
and Soviet Aid</u>, (Pittsburgh: University of Pittsburgh
Press), 1971. Informative detail commonly expressed by
these authors, and others, is mentioned throughout this
thesis.

2. Gilbert Winham, "Developing Theories of Foreign
Policy Making: A Case Study in Foreign Aid," <u>Journal of
Politics</u>, Volume 32, February, 1970, pp.41-70.

CHAPTER I

Introduction

The concept of foreign aid and its potential and
practical application for political influence by the
donor upon the aid-receiving country, has been the subject
of much debate over past decades. To investigate this
controversy, the approach to be followed here has derived
much of its inspiration from a volume by co-authors Jan
F. Triska of Stanford University and David D. Finley of
Colorado College. Chapter 7 of their book, <u>Soviet Foreign
Policy</u>, entitled "The Soviet Union and the Developing Areas,"
deals, in part, with Soviet foreign economic policies and
associated returns on those policies vis-à-vis less developed
countries (LDCs).[1] The methods applied there for evaluating
the returns (that is to say, the "influence") realized by
the Soviet Union as a result of their policies and actions
in the field of foreign aid, will be the focal point for
further investigation. It will be the purpose of this thesis
to examine the original theory and to attempt to verify (or
refute) the statistical relationships stipulated in earlier
works.[2]

This study will be conducted using two interrelated
methods of analysis. The first technique will employ

certain logic and methods of statistical analysis applicable to the behavioral sciences. In the original study, relatively low-level quantitative techniques of numerical comparison were applied. Additional and somewhat more sophisticated operations involving the use of a standardized computer program (Statistical Package for the Social Sciences) will be used in this thesis. This program, which is capable of producing a vast quantity of statistical measurement, will be used to interpret selected variable relationships. Such statistical measurement is useful, however, only when coupled directly with the second means of analysis. This latter method will attempt to provide an understanding and causation for the empirical data through the synthesis of quantitative measurements and the study of relationships implied by the statistical results.

In the course of this investigation, the methodology will involve replicating the Triska-Finley study. This will be done by taking a data sample from a later period of time, thereby providing a means for diachronic comparison and analysis of the original theory. Following that, an attempt will be made to test the validity of this theory on other groups of countries by varying input criteria and observing the resultant change, if any, in the statistical output. Finally, the results will be analyzed with respect to contemporary changes in foreign aid and related political

behavior exhibited by recipients.

Data Input and Limitations

There are certain limitations and assumptions made in this thesis which must be clearly identified before proceeding with an analysis of the theories put forth by Triska and Finley. The data used in the original study consist of foreign aid statistics for the period 1954 to 1962, and trade and UN voting statistics for the years 1961 and 1962. Therefore, the most current statistical information contained in the book at the time it was published, was at least six years old. The authors do not excuse or comment on this time-difference. Attempting to replicate the study with current data, however, made it apparent that certain information is not available until several years after-the-fact.[3] Preliminary research also indicated that the data necessary to provide input for the desired sample of countries (52 cases), are not readily available from a single source.[4] The most recent year common to all sources was calendar year 1968.

A lag in publication also exists for required data on UN voting statistics. While the results of voting on specific issues are randomly available in numerous publications, the only comprehensive source of these statistics is published

annually in the <u>Yearbook of the United Nations</u>. The most
recent volume in print is for 1969.[5]

The original research used trade and UN voting
statistics for the same two (consecutive) years. To provide
the most currently available statistical information, it will
therefore be necessary to use calendar years 1968 and 1969
as the base-period in replicating this material.[6] The data
published by Triska and Finley in 1968 was for the years
1961 and 1962, providing at best, a six-year lag. By compari-
son, the data used in this thesis will be, respectively, three
and four years old. Because of the inaccessability of more
current data and the comparatively more favorable time-lag for
this current investigation, it is felt that the use of 1968
and 1969 data is fully justified.

The Nature of Aid

Prior to discussing the substantive issues of this
investigation, it is important to define the meaning of
foreign aid. While various forms of foreign aid have
existed for many years, foreign aid programs and concepts
discussed here will be based on the programs introduced
subsequent to World War II. The nature of these programs
has varied from country to country, and the method of
assistance has sometimes varied within the overall programs

of individual countries. However, a generally accepted
definition of foreign aid is the giving of financial,
material, and technical assistance to another country,
either gratuitously, without a requirement for repayment
or reciprocation (grant aid); or providing such assistance
with terms of repayment considerably more generous than
prevailing commercial rates ("soft" loans or credits).[7]

Throughout this study only economic aid for purposes
other than military assistance will be discussed. There are
several reasons for this, not the least of which is that
Triska and Finley used only economic aid in support of the
theory presented in Soviet Foreign Policy. Earlier work
done by Triska for an unpublished study at Stanford University,
did include military aid; however, the statistical results
in that treatise (which was limited to the period 1954-61)
were relatively unchanged when military aid was eliminated.[8]
Additionally, it should be noted that most authors prefer
to discuss military and non-military aid programs separately,
although military aid may often be a concomitant of economic
aid. Military and non-military aid programs, however, are
sufficiently separated both in narrative and statistical
data, so as to eliminate duplication. Another major draw-
back of any analysis which would include military aid, is
the intentional obfuscation of information in this area by
both donor and donee for purposes of "national security."

And finally, the very nature of military assistance tends to relegate that type program to fewer countries and to countries that were previously ideologically sympathetic, or at least preferential, towards the donor.[9] Because the vast majority of foreign aid programs to nonaligned countries have been of a purely economic nature, the elimination of military aid will not prevent presentation of an accurate picture of the relative magnitude of these contrasting programs.

CHAPTER II

The Original Research and Theory

Triska describes the Communist system as being composed of three principal sub-systems. The first is the Communist "party-states," so called because in each the Communist Party is the ruling party. This sub-system consists of the USSR, the People's Republic of China, Poland, Czechoslovakia, East Germany, Rumania, Hungary, Bulgaria, North Korea, North Vietnam, Albania, Outer Mongolia, Cuba and Yugoslavia. The second sub-system includes all other non-ruling Communist parties, numbering approximately seventy-five, which are "aspirationally perceived by the party-states, as well as by themselves, as potential ruling parties within their states." And last is a group of "affinitive, respondent, and receptive" states whose interaction with the party-states makes them appear to be ideologically and politically sympathetic to the party-states in questions involving clear-cut East-West issues. This group is described as the "affinitive states," and is the group which Triska and Finley attempted to identify in their study of relative political influence.[10]

Several factors were taken into account to correlate influence (or in the words of the authors, "to provide indices of affinity"). The first step was to select the countries

to be examined. Twenty states were selected for analysis, using either of two criteria: (1) aid or trade dependence on the party-states, and (2) geographic contiguity to the party-state system. The twenty states identified as satisfying one or both of these criteria were: Afghanistan, Burma, Cambodia, Ceylon, Cyprus, Ethiopia, Finland, Ghana, Guinea, Greece, India, Indonesia, Iran, Iraq, Nepal, Pakistan, Thailand, Turkey, United Arab Republic, and Yemen. To measure the relationship between these countries and the party-states, three indices were utilized. First was the similarity of their voting records in the United Nations General Assembly on issues requiring a clear delineation of East-West differences. Second was a comparison of total quantities of economic aid in the form of credits and grants from the USSR and other party-states balanced against contributions of donors in the industrialized Western World. And lastly, an index was constructed showing the flow of trade, by percentage of overall trade, between the developing nation and the party-states, and between the developing nation and the West.[11]

To arrive at the first index (measuring voting behavior in the United Nations), nineteen significant votes of the UN General Assembly for 1961 and 1962 were selected. In each of these votes, the West (that is at least the USA, the United Kingdom and France) voted on the same side and in direct opposition to the Communist party-states. The subjects dealt

with politically sensitive questions pertaining to such
issues as the Congo, Hungary, Korea, China, Cuba and
nuclear testing. Total votes for the West (B) were sub-
tracted from total votes for the party-states (A), and then
divided by the total number of possible votes including
abstentions.[12] The results were compiled in two tables
(one for each year under consideration), thus producing a
"voting index" for each of the twenty countries. The
resulting indices, and the perhaps more useful "average"
index for the two-year period, are consolidated in Table 1.[13]

TABLE 1

GROUP A: INDICES FOR KEY VOTES AT THE UNITED NATIONS, 1961
AND 1962

	1961	1962	Combined 1961-62*
Guinea	.67	.33	.56
Indonesia	.50	.43	.47
UAR	.33	.33	.33
Afghanistan	.33	.28	.32
Ghana	.25	.43	.32
Iraq	.33	.28	.32
Ceylon	.25	.43	.32
Cambodia	.09	.43	.22
Nepal	.00	.43	.17
Ethiopia	.00	.43	.16
Burma	.00	.28	.11
India	.17	-.17	.06
Yemen	.33	-.43	.05
Finland	-.25	.00	-.11
Cyprus	-.64	-.28	-.50
Pakistan	-.64	-.60	-.50
Greece	-.83	-.86	-.84
Iran	-.82	-1.00	-.89
Thailand	-.92	-1.00	-.95
Turkey	-1.00	-1.00	-1.00

*1961-62 index is computed from raw data and may differ
considerably from the mean of the first two indices.

Source: Triska and Finley, Soviet Foreign Policy, pp.274-75.

A similar method of comparison was used to produce an index measuring the relative quantity of economic aid received by these countries during the period 1954 to 1962. Total aid from the West (B) was subtracted from total aid from the party-states (A), and divided by the total aid (A + B) from both sources.[14] These absolute values of aid (in millions of US dollars), and the indices for aid, are shown in Table 2.

TABLE 2

GROUP A: ECONOMIC AID, 1954-62* (GRANTS AND CREDITS IN MILLIONS OF US DOLLARS)

	Aid from Party-States(A)	Aid from the West(B)	Index: (A - B)/(A + B)
Iraq	218.0	18.0	.85
Guinea	125.0	13.4	.80
Afghanistan	514.0	193.0	.45
Yemen	44.0	22.8	.32
Indonesia	638.0	393.1	.24
Burma	97.0	75.3	.19
Ghana	196.0	156.0	.11
UAR	716.0	575.9	.10
Nepal	54.0	47.6	.06
Ethiopia	114.0	111.3	.01
Ceylon	69.0	79.4	-.07
India	982.0	3533.3	-.56
Cambodia	65.0	250.7	-.59
Cyprus	1.0	16.9	-.89
Turkey	17.0	1251.3	-.97
Iran	6.0	657.3	-.98
Pakistan	33.0	1733.1	-.99
Greece	0	444.8	-1.00
Thailand	0	308.3	-1.00

*Finland did not receive aid during this period.
Source: Triska and Finley, Soviet Foreign Policy, p.276.

The formula (A - B)/(A + B) was also used to compute the indices in the tables showing trade percentage with the

West and with the party-states. As was the case with United
Nations voting, trade figures were listed separately for
each of the two years under consideration. These two tables
were also condensed and the actual trade percentages are
omitted. An average index for the two-year period is shown
in the righthand column of Table 3.[15]

TABLE 3

GROUP A: INDICES FOR TRADE, 1961 and 1962.

	1961	1962	Combined 1961-62*
Guinea	.79	.75	.77
Afghanistan	.32	.31	.32
Guinea	.27	.07	.17
UAR	.19	.00	.10
Burma	.00	.00	.00
Finland	-.22	-.17	-.20
Ceylon	-.47	-.40	-.44
Greece	-.47	-.43	-.45
Indonesia	-.59	-.59	-.59
Cambodia	-.78	-.52	-.65
India	-.73	-.62	-.68
Turkey	-.67	-.74	-.72
Iraq	-.78	-.67	-.73
Iran	-.71	-.85	-.78
Ghana	-.86	-.74	-.80
Ethiopia	-.88	-.80	-.84
Cyprus	-.88	-.85	-.87
Pakistan	-.84	-.93	-.89
Thailand	-.91	-.95	-.93
Nepal	no data	no data	no data

Source: Triska and Finley, Soviet Foreign Policy, pp.277-78.

From the first three sets of indices, Triska and Finley
drew a number of conclusions. First, with regard to the
tables for UN voting, they noted that the tables provided:

> ...a clear division of the twenty states into
> three categories for 1961: nine inclined towards

the USSR, four neutral (we arbitrarily designated
the range from +.10 to -.10 as neutral), and
seven inclined toward the West. For 1962, the
breakdown was: eleven inclined towards the USSR,
one neutral, and eight inclined towards the West.[16]

For the first comparison of tables, the same arbitrary
designation of neutrality was used, and the following
comments were offered with respect to the relationship
between aid and UN voting:

> During the 1954-1962 period, seven countries
> received significantly more aid from the
> Communist party-states than they did from the
> West, four states received roughly equal
> assistance from the West and the Communist
> countries, and eight countries received the
> bulk of their grants and credits from the West.
>
> A strong relationship between a positive index
> number for economic aid and a pro-Communist
> voting record in the United Nations emerged.
> Six countries (Iraq, Guinea, Afghanistan,
> Indonesia, Burma and Ghana) out of the seven
> which received significantly more aid from
> the Communist party-states than from the West
> for 1954-1962, also strongly supported the
> Communist doctrines in the UN as is shown by
> their positive index numbers.[17]

The authors did note that there appeared to be one
exception. In 1962 Yemen registered a +.32 index number
for economic aid, but recorded a -.43 index number for UN
voting. They offered as a possible explanation that Yemen
received $6.7 million in new Western aid in 1962. It should
be noted, however, that Yemen's 1961 UN record was a +.33
and its overall (average) voting record for the two-year
period was +.05.

The first two indices, UN voting and economic aid, were designated respectively by the authors as "output" and "input." The third index, which measures the percentages of trade, was labeled as "interaction." The authors summarized their conclusions on the trade table as follows:

> (The trade table)...indicates the United States' overwhelming superiority over the party-states in the realm of trade relationships with the nonaligned countries. It also casts great doubt upon trade patterns as a reliable indicator of political alignment. In 1961, only four of the countries (Yemen, Afghanistan, Guinea and the United Arab Republic) did more trade with Communist countries than with the West; in 1962, only two countries (Yemen and Afghanistan) remained in this category. Our data generally indicate that economic aid is much more closely correlated with UN voting than is the flow of trade. We might cynically hypothesize that nonaligned countries are more fearful that their votes in the UN may provoke US congressional efforts for withdrawal of aid programs than they are that government and private trade will decrease in retaliation for unfavorable votes in the UN.[18]

As a final step, a table was introduced which was entitled the "indices of affinity." In this table, the three variables of input (aid), interaction (trade), and output (UN voting) were averaged to provide a composite index for each country. This abbreviated table showed only countries above the index level of +.25. Table 4 illustrates the results.

TABLE 4

GROUP A: "INDICES OF AFFINITY,"* 1961 AND 1962

1961	Input (Aid)	Interaction (Trade)	Output (UN)	Average Index
1. Guinea	.93	.27	.67	.62
2. Yemen	.46	.79	.33	.53
3. Afghanistan	.17	.32	.33	.27
4. UAR	.26	.19	.33	.26
1962				
1. Guinea	.80	.07	.33	.40
2. Afghanistan	.45	.31	.28	.35
3. Nepal	.06	no data	.43	.25

*+1.00 means total commitment; .00 means total neutrality.

Source: Triska and Finley, <u>Soviet Foreign Policy</u>, p.279.

The authors summarized their conclusions of these data as follows:

> Six countries (Greece, Pakistan, Cyprus, Iran, Turkey, and Thailand) were negative according to all three indices. Finland was negative in both the indices for trade and voting record in 1961 (no aid figures were published and it was assumed that Finland received no aid from either side, giving it an .00 index number in this area). India had a negative index number in all three criteria in 1962. During these years these countries were in no sense allies of the Communist system, and we accordingly omitted them from further consideration.
>
> In 1961, four countries (Guinea, Yemen, Afghanistan, and the United Arab Republic) were positive in all criteria; only three countries (Guinea, Afghanistan, and Nepal) had positive index numbers in all criteria examined in 1962. We think that these states may be termed the "allies" of the Communist system in the 1961-1962 period.
>
> This typology is of course transient: membership and rank in the matrix may, and in fact does, change considerably from one year to the next. In 1961, the UAR had a +.26 index alliance; in 1962, it received an increase of

economic aid from the West and its positive
trade index number of +.19 dropped to .00.
Thus, the UAR has an index of alliance of
only +.14 in 1962. It is interesting to note
that Guinea's +.62 index in 1961 dropped to
+.40 in 1962; Yemen also dropped from +.53
to +.21. The reasons are probably not difficult
to guess: the Communist embrace can be rather
tight and possessive. The more stable friend-
ships with the party-states may be those
maintained from a distance.

Another consideration is that the West, and
especially the United States becomes alienated
and estranged from countries which lean too
far toward the Communists, leaving them little
alternative but total dependence on the party-
states. It would be possible to argue that
Fidel Castro did not intend to make Cuba a
Communist party-state, but simply could not
withstand the pressures generated around the
level of 80 percent commitment to the Communists.
It will be interesting to see whether states
which reach a level of commitment of more than
50 percent (halfway between neutrality and
commitment to the party-states) in the future
can remain stable at this plane and resist
becoming a slow-motion Cuba.[19]

It is these theories and conclusions of authors Triska
and Finley that this thesis challenges. The following
propositions are submitted to this end:

Hypothesis #1: There is little significance, if any, between
the amount of foreign aid provided by a donor and the sympa-
thetic response of the donee in terms of the United Nations
General Assembly voting pattern.

Hypothesis #2: The relationship between percentage of trade
and affinitive voting will be at least as significant as any
relationship attributable to foreign aid.

Hypothesis #3: Any relationship which can be identified

among these three indices will hold true along the entire
range of values for each variable, and not be merely of
significance on the pro-Communist side of the index spectrum.

There are a number of reasons behind the theory that
the original research will prove incorrect under further
investigation, or under present-day circumstances. It is
felt that there may be a basic error in the criteria for
selection of the twenty countries which were used in the
tests. Of the twenty, most were not the typical Third World
countries created as a result of de-colonization, but were
rather older countries with generally well-established geo-
graphic and ethnic boundaries. Because of the two criteria
specifying either geographic contiguity or trade dependence
on the party-states, there is reason to believe that selection
of these countries may have prejudiced the otherwise indepen-
dent variables of trade and aid, thereby putting them into
a role subordinate to other more dominant and controlling
variables such as prior political affiliation. These two
criteria, in fact, subjugated all three variables (trade,
aid and UN voting) to a role of dependency. It would there-
fore seem to be a more appropriate test of the designated
dependent variable (UN voting) to include in the investigation,
countries which did not meet either of these subordinating
preconditions, but which nonetheless were recipients of
significant amounts of aid from both the West and the

party-states. In addition, any relationship which may
exist should be tested over the entire range of values, not
just on the positive side of the "indices of affinity." For
this reason, it would be appropriate to include states which
received aid totally from one side or the other, again dis-
regarding the earlier criteria.

Several other factors put the original approach in
question. The latest data input terminated in 1962. The
Soviet foreign aid program was initiated in 1954, but did
not reach a high level of output until 1960. Between the
period 1962 and 1964, however, the strategy and methods of
Soviet foreign aid were considerably revised. The resultant
expansion of Soviet aid to include many more countries,
especially those in the newly emerging former colonies in
Africa, would appear to have overtaken the generalizations
set forth by Triska and Finley. In theory, this expansion
should have heightened the competition among aid donors
seeking political influence and ideological alignment in
these countries. It would also appear that as the competition
for influence in the Third World increased, true nonalignment
might become a more viable and acceptable alternative to
choosing a permanent one-sided political position. Logically,
it would appear that the maintenance of strict neutrality
in an environment of competitive aid might reward the neutral
with aid contributions from both sides in a total quantity not
otherwise available in a single bilateral program.

The theory behind the second hypothesis relates to a development in Soviet aid which occurred as part of the major strategy changes evolving in the past decade. There now appears to be a deliberate relationship between Soviet aid and trade policies.[20] The Soviet policy since 1964 has been one of granting soft loans and credits which result in the repayment of aid in commodity exports to the Soviet Union. Additionally, where credits are granted, the general policy is to use this credit for the purpose of purchasing project-related Soviet goods and services. This method of stimulating trade is not dissimilar to the United States' use of the Export-Import Bank loans. Since these policies dictate a close relationship between trade and aid, this association of variables should also be evident in a corresponding correlation of the two indices. Although no such assumption is made in the hypotheses here presented, the presence of this relationship, if reasonably strong, could present a spurious link between either of the two variables and UN voting. For the purpose of examining this possibility, the tables (for correlation and regression) which follow in the next chapter will routinely test the correlation between aid and trade, even though they are nominally assumed to be independent in their function with UN voting.

CHAPTER III

Operational Testing of Statistical Data

This chapter will be divided into several sections
based on the grouping of statistical data. The first will
involve the testing and discussion of the original twenty
countries used in the Triska-Finley study. These will be
identified as Group A. The second section will also study
Group A countries, but the statistical data will be updated
to 1968-69 in order to allow a later comparison with the
initial test results. The third section will also use
1968-69 data, but will appraise the results of a similar
study of twenty-one countries from the Middle East, Africa
and South America. The criterion for selection in this
group will be the receipt of significant bilateral aid from
both the West and the party-states during the period 1954-
1968. This group of countries will be identified as Group B.
The fourth section of this chapter will investigate twelve
countries from sub-Sahara Africa, Group C, all of which
have received substantial economic aid from the West during
the same period, but none from the party-states.

For the three groups of data aggregated for the 1968-69
period, indices will be calculated in the same manner in
which indices were calculated in the original study. These
indices will provide interval data in a range of -1.0 to

+1.0. As interval data they are suitable for the application of several techniques of multivariate analysis.[21]

The first technique to be utilized will be that of correlation. Correlation may be used to express the relationship between any two variables (paired) or a summary relationship between multiple independent variables and one dependent variable. Correlation can provide several different measurements. The specific correlation to be used here is known as Pearson's coefficient, or perhaps better known as the coefficient of correlation (symbolized by "r" for simple correlation, and "R" for multiple correlation). Correlation coefficients vary between +1.0 for perfect positive association and -1.0 for perfect negative association, zero being a total lack of association. (This range of coefficient values is coincidentally similar to the indices constructed by Triska and Finley, but is unrelated.) Although less widely used than the coefficient of correlation, the square of r, known as the coefficient of determination will be more meaningful in interpreting the results. This value (r^2) can be interpreted as being the proportion of variation in the dependent variable which is explained by the independent variable. It is important to note that correlation shows the degree of association. It does not, in itself, prove that variation in the independent variable "causes" variation in the dependent variable. There can be complicated interactions between any dependent and independent variable,

or among independent variables (in a multiple correlation),
which cause significant feedback affecting their mutual
association. Nevertheless, this technique can be very useful
when care is taken to closely examine the association for
cause-and-effect relationships.

There is also another means for measuring association.
This is merely a variation of correlation known as partial
correlation. Partial correlation indicates the amount of
association between two variables, holding other variables
constant. In this case, it will be possible to hold any
one of the three variables constant while measuring the
association between the other two. It will, in effect, allow
the determination of which of any two variables, by itself,
has the most influence on the third variable, and to what
degree.

The third technique to be used will be regression. One
of the underlying assumptions of regression is that there
must be a strong linear relationship between the variables.
The strength of this relationship may be established by the
magnitude of the correlation coefficient. This linear relation-
ship may be represented by the function $y = a + bx$, where
"a" is the intersection of the line on the y-axis and "b" is
the slope of the line. Increasing the number of independent
variables (x) which may jointly account for the variance in
the dependent variable (y) would produce the function:

$Y = a + b_1x_1 + b_2x_2 \ldots + b_nx_n$. The "slope" values ($b_1$, b_2, etc.) in this multiple regression are not standardized, however, and would not be suited for meaningful comparison. It is possible, though, to express these regression coefficients in terms of their own standard deviation. The resulting coefficient, Beta, is then useful as a measure of the relative predictive importance of the independent variables. This permits the prediction of an incremental change in the dependent variable based on a unit change of the independent variable. The values of Beta can vary from +1.0 for a perfect positive relationship to -1.0 for a perfect negative (inverse) relationship.

These three types of measurement will provide a means to evaluate the statistical relationships between the three variables used in this study. The results derived by this method of evaluation will not be meaningful in themselves, but will merely indicate a mathematical relationship which must be developed further by a logical explanation of events. Most certainly, for example, there are many more variables which may be responsible to some extent for United Nations voting patterns.[22] This test portion of the investigation, therefore, will hopefully lead to a logical explanation of any peculiarities in the data, as well as lending support to the ultimate conclusions.

Test of 1961-62 Data

The original study provides no specific measurement
of correlation for the aggregate data, except for Triska's
treatise, "The World Communist System," which notes "how
strongly the rank-ordering according to one index correlates
with that according to another." The absence of any finite
mathematical data in this portion of the text would probably
indicate that the word "correlation" was used as a generality
not intended to represent calculations using the Pearsonian
or other coefficients of correlation. The authors did,
however, state that "each of the three rank-orderings...
correlates with each of the others at better than .001 level
of significance." The calculation of statistical significance
indicates that there was some attention to the statistical
probability that the distribution in these tables occurred
by other than chance alone. Nothing, however, is said
concerning the type of tests conducted and their results,
if any.[23]

Before beginning the testing of the 1961-62 data, it
is important to point out at least one anomaly peculiar to
the earlier testing. This is the presence of Finland in the
group of countries under study. Although Finland qualified
for selection under the criteria specified, it had not been
the recipient of any economic aid from either source during
the period under consideration. Based on the necessity of

having a meaningful index value for each element of the "indices of affinity," Finland's inclusion in this group is extraneous, if not misleading. For this reason, the data for Finland were arbitrarily dropped from the following tables and will not be considered for further evaluation.

TABLE 5

STATISTICAL TEST OF GROUP A (1961-62)

<u>Correlation</u> (Variables taken as pairs; control variable shown in parentheses for partial correlation)

a. Simple Correlation

	Pearson's r	r^2
UN x Aid	.8693	.7556
Aid x Trade	.5844	.3415
Trade x UN	.4456	.1986

b. Partial Correlation

UN x Aid (Trade)	.8381	.7024
Aid x Trade (UN)	.4454	.1984
Trade x UN (Aid)	-.1556	.0242

<u>Regression</u> (UN voting designated as dependent variable; multiple correlation performed in order shown)

	Multiple R	R^2	R^2 Change	Beta
Aid (only)	.8693	.7556	n/a	.9247
Aid + Trade	.8727	.7615	.0059	-.0948

The results of the correlation and regression tests using the 1961-62 input are summarized in Table 5. The correlation between each of the three variables, taken as pairs, was quite high, tending to support the hypotheses in the original study. The highest correlation was between aid and UN voting. The coefficient of determination (r^2) in this pairing was .7556, or in more direct terms, approximately

75 percent of the variance in the dependent variable (UN voting) can be attributed to the independent variable (aid). For the relationship between aid and trade, r^2 is considerably lower (.3415). The lowest of the three r^2 values is the correlation between trade and UN voting (r^2 = .1986). In the partial correlation between aid and UN voting (when controlling for trade), the r^2 value is .7024 which accounts for nearly the entire strength of r^2 in the uncontrolled correlation. At the same time there is a sharp drop in r^2 in the correlation between trade and voting when eliminating the effects of aid by using partial correlation. In fact, the value of Pearson's r is negative, indicating that there is negative association between the variables as well as a low degree of correlation. Further bearing out this poor statistical relationship between trade and UN voting is the fact that there appears to be a fairly strong relationship between aid and trade, thereby indicating that as one analyzes all three variables simultaneously, this latter relationship (aid and trade) accounts for a significant measure of the relationship between trade and UN voting.

Having established a strong linear relationship between aid and UN voting by the results of simple correlation, it is therefore appropriate to test the relationship for the results of linear regression. As shown in the table, the value for Beta is .9247. The standard interpretation of this value is that for each unit movement in the value of

aid, UN voting can be predicted to change in the corresponding direction by .9247 units. From a mathematical standpoint, this is an extremely strong causal relationship, indicating that aid has a very significant effect on the dependent variable (UN voting). By comparison, and in direct support of the relatively weak partial correlation for trade and UN voting, the Beta value representing the slope of the relationship between those two values is negative (-.0948). The interpretation of this is that UN voting varies inversely with trade by .0948 units for each unit change in trade, and not only is the relationship inverse, it also shows very weak causation.

The initial impact of these results is somewhat surprising with respect to the first two hypotheses. However, in view of the fact that the input data may be biased, it is possible that these results are not general. Further tests comparing the values obtained in Table 5, and those of other test groups, may show a marked difference in the results. There is also the possibility that with some discrimination in selecting the range of values to be tested for a particular variable, it may be possible to disturb the strength of the general relationships to the extent that they may be explained or severely weakened.

Test Group A (1968-69 Data)

This portion of the tests is primarily concerned with
replicating the data for the original countries (Group A),
using as a test period the years 1968-1969. The aid
contributions used in this section will be the total contri-
butions for the West and the party-states for the period
1954-1968. While this period increases the aid sample from
nine to fifteen years, the total quantities of aid during
this latter period increased at a sharply greater rate,
thereby more than doubling the total aid expenditures of the
first nine years. This is true, not only of the party-states
but for the West. Generally, a majority of the total aid
donated by the West during the fifteen-year span is aid from
the United States (about 60 percent), primarily because of
the preeminent position of the US aid program in the early
years of this period. A similarly prominent US position also
will be true in the two groups not yet discussed. However,
in those latter groups there will be many exceptions to this,
most notably in the former colonies. In those cases, aid
programs appear to be spearheaded by the country which
formerly administered the colony.

Table 6 shows the comparable 1954-1968 aid figures for
Group A, indexed and rank-ordered in the same manner as
Table 2. As these data also include the aid donations
presented in the original study as part of the new total,

it is not surprising that the expanded figures for 1954–
1968 are very similar in their indices and relative rank-
order. There are several instances in this chart, though,
where the figures are considerably different and require
further comment. There is a clear discrepancy in the
figures shown in Table 6 for Iraq and Guinea as compared
with those shown in Table 2. Specifically, it is impossible
to have a lower figure in Table 6, thus presenting the
inevitability of incorrect figures in one of the two
tables. The source documents referenced in the original
study were not readily available.[24] The figures shown in
Table 6, however, were confirmed by at least four sources,
and probably are the result of a revaluation of official
US Government estimates based on information obtained after
the publication of the earlier sources.[25] The figures in
Table 6, therefore, will be assumed to be correct.

TABLE 6

GROUP A: ECONOMIC AID FROM 1954-68 (GRANTS AND CREDITS TO THE NEAREST MILLION US DOLLARS)

	Aid from Party-States(A)	Aid from the West (B)	Index (A-B)/(A+B)
Iraq	184	52	.56
Yemen	149	49	.51
Afghanistan	737	457	.23
UAR	1679	1097	.21
Guinea	123	113	.04
Iran	839	890	-.03
Burma	124	141	-.06
Ghana	231	362	-.22
Nepal	82	137	-.25
Indonesia	740	1526	-.35
Ceylon	123	266	-.37
Ethiopia	119	279	-.40
Cambodia	80	306	-.59
India	1948	10116	-.68
Greece	84	672	-.78
Pakistan	410	4684	-.84
Turkey	218	2655	-.85
Cyprus	1	20	-.90
Thailand	0	654	-1.00

Sources: Organization for Economic Cooperation and Development, Resources for the Developing World, p.268, 269, 304, 310; Carter, The Net Cost of Soviet Foreign Aid, p.109; Taylor and Hudson, World Handbook of Social and Political Indicators, Table 6.4; US Agency for International Development, The Foreign Assistance Program, Annual Report to the Congress, 1969.

The sizable reduction in party-states' aid to Iraq as a result of the devalued figures, and also the significant increase in Western aid to both Iraq and Guinea, considerably lowers the indices for these two countries in Table 5. There appears to be a tendency for aid to "ebb and flow," rather than to assume a uniform pattern of annual disbursement. Of particular significance with respect to Communist aid are the large increases shown for Turkey, Iran and Pakistan and the

granting of $84 million to Greece which was not previously
a recipient. In the case of Iran, a dramatic increase in
aid from $6 million to $839 million caused the party-states'
aid for that country to nearly equal the fifteen-year total
from Western sources. This advanced Iran's aid index from
-.98 to a new value of -.03. On the West's side of the
ledger, several countries also participated in "quantum jumps"
in total aid receipts. These were Guinea with an eight-fold
increase and Indonesia with a four-fold increase (which in
Indonesia's case amounted to more than a billion dollars in
six years).

United Nations voting for years 1968 and 1969 was
aggregated using the same criteria specified earlier by
Triska and Finley. Thirty United Nations General Assembly
votes were identified as meeting these criteria. The votes
selected dealt with a variety of issues which included
subjects such as Korea, Rhodesia, New Guinea, human rights,
international law, the Palestinian Arabs, and the People's
Republic of China.[26] Table 7 summarizes the aggregate
voting for 1968 and 1969 without indicating an individual
breakdown by year, which in this case would serve no useful
purpose.

TABLE 7

GROUP A: KEY VOTES AT THE UNITED NATIONS (1968-69)

	Votes with Party-States(A)	Votes with West (B)	Total Votes (N)	Index (A-B)/N
Yemen	25	0	25	1.00
UAR	28	0	30	.93
Iraq	27	0	30	.90
Cambodia	18	0	20	.90
Guinea	23	0	27	.85
Burma	8	1	26	.27
Afghanistan	11	4	30	.23
Ceylon	8	2	28	.21
Nepal	8	2	29	.21
India	9	4	30	.17
Pakistan	10	5	30	.17
Indonesia	7	5	26	.08
Ghana	7	7	29	-.17
Ethiopia	8	13	30	-.17
Cyprus	1	13	28	-.43
Iran	4	19	28	-.54
Turkey	1	26	30	-.83
Greece	0	27	30	-.90
Thailand	0	26	27	-.96

Sources: United Nations, <u>Yearbook of the United Nations</u>, Volumes for 1968 and 1969.

A similar treatment was given to trade figures for 1968 and 1969. The percentages of trade were calculated separately by year to obtain the raw data. However, to streamline the results, Table 8 shows only the averages for the two-year period. As was the case in the original study, percentage of trade with the West represents total trade of the United States, United Kingdom and France. There were two cases (Nepal and Yemen) in which insufficient data was available to establish an exact trade percentage. This, however, did not prevent the arbitrary assignment of an index value in each case (see footnote).[27] From a comparison of the trade figures in Table 8 with those in Table 3, there appear

to be only relatively minor differences, demonstrating a considerable degree of consistency in year-to-year trading patterns.

TABLE 8

GROUP A: PERCENTAGES OF TRADE   (AVERAGED FOR TWO YEAR PERIOD, 1968-69)

	% with Party-States(A)	% with West (B)	Index* (A-B)/(A+B)
Yemen	no data	neg	1.00
UAR	45	13	.54
Afghanistan	41	14	.50
Guinea	40	30	.15
Nepal	neg	neg	.00
Ceylon	20	28	-.17
Burma	11	18	-.24
Greece	12	24	-.32
India	18	35	-.33
Turkey	14	28	-.33
Cambodia	14	26	-.35
Iraq	9	24	-.45
Pakistan	14	36	-.45
Iran	11	31	-.48
Indonesia	7	22	-.52
Cyprus	8	40	-.65
Ghana	7	42	-.71
Ethiopia	5	38	-.76
Thailand	1	24	-.92

*Average index may not agree exactly with calculation using percentages shown here because of rounding-off in yearly trade percentages. See Footnote 27 for explanation of the index values for Yemen and Nepal.

Sources: Organization for Economic Cooperation and Development, Statistics of Foreign Trade, Volumes for 1968 and 1969; United Nations, United Nations Yearbook of International Trade Statistics, 1969; US Department of Commerce, Overseas Business Reports, OBR 70-45, September 1970.

Shown in Table 9 are the "indices of affinity" corresponding to those of the earlier period shown in Table 4. These indices did not enter into the statistical analysis

conducted on the data obtained from Tables 6, 7, and 8, and are shown only as a comparison for figures in Table 4. The data used to compute the "indices of affinity" were the bases of the statistical input for Table 10, however.

TABLE 9

GROUP A: SUMMARY   ("INDICES OF AFFINITY"), 1968-69

	Input (Aid)	Interaction (Trade)	Output (UN)	Average Index
Yemen	.51	1.00	1.00	.84
UAR	.21	.54	.93	.56
Guinea	.04	.15	.85	.35
Iraq	.56	-.45	.90	.34
Afghanistan	.23	.50	.23	.32
Burma	-.06	-.24	.27	-.01
Cambodia	-.59	-.35	.90	-.01
Nepal	-.25	.00	.21	-.01
Ceylon	-.37	-.17	.21	-.11
Indonesia	-.35	-.52	.08	-.26
Ghana	-.22	-.71	.00	-.31
Iran	-.03	-.48	-.54	-.35
India	-.68	-.33	.17	-.39
Ethiopia	-.40	-.76	-.17	-.44
Pakistan	-.84	-.45	.17	-.49
Cyprus	-.90	-.65	-.43	-.66
Greece	-.78	-.32	-.90	-.67
Turkey	-.85	-.33	-.83	-.67
Thailand	-1.00	-.92	-.96	-.96

Using the input provided by the three variables of trade, aid and UN voting for the 1968-69 period, it was possible to provide a table with the coefficients for regression and correlation corresponding to those in Table 5. Table 10 is a summary of these results.

TABLE 10

STATISTICAL TEST OF GROUP A   (1968-69)

> Correlation   (Variables taken as pairs; control
> variable shown in parenthesis for
> partial correlation)

a. Simple Correlation	Pearson's r	r^2
UN x Aid	.7004	.4906
Aid x Trade	.6446	.4155
Trade x UN	.6049	.3659

b.   Partial Correlation

UN x Aid (Trade)	.5099	.2600
Aid x Trade (UN)	.3887	.1511
Trade x UN (Aid)	.2812	.0791

> Regression   (UN voting designated as dependent
> variable; multiple correlation
> performed in order shown)

	Multiple R	R^2	R^2 Change	Beta
Aid (only)	.7004	.4906	n/a	.5311
Aid + Trade	.7286	.5308	.0402	.2625

Comparing the results with those in Table 5, indicates that there remains a high correlation between aid and United Nations voting (although somewhat lower than in the former study), but a relatively higher correlation between trade and both UN voting and aid. The coefficient of determination (r^2) for aid and UN voting dropped from a level accounting for 75 percent of the variance in the dependent variable, to only 49 percent. In the partial correlation, the difference is even more remarkable in that the coefficient of determination dropped from .7024 to .2600. Correspondingly, the effects of multiple correlation and regression show a similar decline in the joint relationship between two independent variables and UN voting, and only a slight rise in the R^2 change attributable

to trade. However, from the nearly "perfect" slope
(Beta = .9247) for the regression line in the earlier study,
the slope for the 1968-69 tests shows Beta declined to a
value of .5311. This, in effect, indicates that there may
be a considerably lower causal relationship in the newer data.

The partial correlation between trade and UN voting
(holding aid constant) and the continuing minimal R^2 change
value caused by trade, tends to suggest a relatively small
predictive contribution being made by the independent variable
(trade) in determining the value of the dependent variable
(UN voting). The continuing strength of the association
between aid and trade, at this point, tends to favor the
possibility that the relationship between those two variables
will "explain away" any relationship between trade and UN
voting. Generally speaking, however, the relative changes
in coefficients between Table 5 and Table 10 are not overly
significant, even though there is some support for the first
two hypotheses provided by a weakening of the relationship
between voting and aid, and by the stronger relationship
between voting and trade.

Test of Group B

Using the alternate criteria established for selection
of Group B will hopefully provide somewhat more dramatic
changes to the coefficients of correlation and regression.

The selection of this group was intended to provide a broad sampling of countries receiving aid from both the West and the party-states, and to provide more representation in the test group for newly emerging nations.[28]

The same treatment was given the variables as in the two tests of Group A. In this group, however, the format for the presentation of data will be changed somewhat. Because the raw data are relatively immaterial to the study other than to support the computation of the indices, these data will not be included. A single table summarizing the three separate indices and the "indices of affinity" (average index) will be used instead, with the countries rank-ordered according to their average index. Table 11, therefore, is in a "summary" format similar to that used in Tables 4 and 9 to show the "indices of affinity."

TABLE 11

SUMMARY OF AID, TRADE, UN VOTING, AND AVERAGE
INDEX FOR 1968-69

	Aid Index 1954-68	Trade Index 1968-69	UN Voting Index 68-69	Average Index
Syria	.60	.45	1.00	.68
Mali	.36	-.21	.83	.33
Sudan	-.52	-.03	.93	.13
Mauritania	.40	-.89	.80	.10
Algeria	-.18	-.76	.87	-.02
Congo(Braz.)	-.13	-.87	.88	-.04
Somalia	-.33	-.48	.42	-.13
Tanzania	-.60	-.64	.77	-.16
Zambia	-.77	-.89	.65	-.34
Uganda	-.74	-.78	.48	-.35
Nigeria	-.52	-.80	.25	-.36
Kenya	-.77	-.85	.32	-.43
Sierra Leone	-.53	-.82	-.04	-.46
Tunisia	-.77	-.58	-.04	-.46
Cameroon	-.61	-.90	.00	-.50
Morocco	-.85	-.55	-.17	-.52
Senegal	-.67	-.97	-.53	-.71
Cent.Afr.Rep.	-.86	-1.00	-.26	-.71
Brazil	-.84	-.75	-.63	-.74
Argentina	-.79	-.81	-.70	-.74
Chile	-.93	-.97	-.77	-.89

Sources: Organization for Economic Cooperation and Develop-
ment, Resources for the Developing World, pp.268,
269, 304, 310; Carter, The Net Cost of Soviet
Foreign Aid, p.109; Taylor and Hudson, World
Handbook of Social and Political Indicators,
Table 6.4; US Agency for International Development,
The Foreign Assistance Program, Annual Report to
the Congress, 1969; United Nations, United Nations
Yearbook of International Trade Statistics, 1969;
OECD, Statistics of Foreign Trade, Volumes for
1968 and 1969; United Nations, Yearbook of the
United Nations, Volumes for 1968 and 1969.

Only four of the countries in this table have a positive
average index. Of those four, only two (Syria and Mali) have
an average index above the "interesting" level of .25 which
Triska and Finley used as the minimum index for entry to
Table 4. The only country which is positive in all of the

indices is Syria. From a comparison of the indices in
this table with those of the corresponding tables for both
time periods of Group A, several observations can be made.
First, there are fewer countries with a positive index for
aid (only three in Group B, versus five in Table 6 and ten
in Table 2). In trade there is only one country (Syria)
which has a positive index. The earlier studies had four
countries in each trade table with a positive index. The
indices for UN voting, however, compare more favorably, with
a positive index in twelve cases for Group B and an average
of eleven for the three separate indices in Group A (two in
Table 1, and one in Table 7). While not indicated in the
tables, the mean index for UN voting in Group B is slightly
above +.24 while the means for aid and trade are -.48 and
-.67, respectively. It would appear by examining these
figures by themselves that the West does more trading and
provides more aid for Group B, but Group B at the same time
provides more support for the policies of the party-states.
If this generalization could be accepted, it would indeed
support the first two hypotheses by asserting that aid was
relatively unimportant in influencing UN voting and that
trade appeared, at the very least, to follow the pattern
for aid.

Several extreme disparities between aid and UN voting
can be noted in Table 11, which, for a logical standpoint,
would give the appearance of poor statistical correlation

between these two variables. As an example, Tanzania, which has an aid index of -.60, has a UN voting index of +.77. It is impossible, however, to support such judgments by visual examination of the table, notwithstanding the depth of the "eyeball scrutiny." The evaluation of such a statistical generalization must be done by systematic analyses. To assist in this evaluation, correlation and regression tests were performed on Group B, with the results shown in Table 12.

TABLE 12

STATISTICAL TEST OF GROUP B (1968-69)

Correlation (Variables taken as pairs; control variable shown in parenthesis for partial correlation)

a. Simple Correlation

	Pearson's r	r^2
UN x Aid	.6890	.4747
Aid x Trade	.5704	.3254
Trade x UN	.4947	.2447

b. Partial Correlation

UN x Aid (Trade)	.5700	.3249
Aid x Trade (UN)	.3644	.1328
Trade x UN (Aid)	.1708	.0292

Regression (UN voting designated as dependent variable; multiple correlation performed in order shown)

	Multiple R	R^2	R^2 Change	Beta
Aid (only)	.6890	.4747	n/a	.6031
Aid + Trade	.7001	.4901	.0154	.1507

Contrary to the cursory observations which may be made about the data in Table 11, the statistical analysis of Group B again shows a strong correlation between aid and

UN voting. The r^2 value, when controlling for trade, is .3249, or slightly greater than the value of .2600 obtained in a similar test of Group A for 1968-69 (Table 10). Furthermore, the "slope" of the regression line is .6031, again an improvement over the Beta value of .5311 for that same test of Group A. As has been the case in each of the other two statistical tests (of Group A), it can again be noted that there is a strong relationship between aid and trade -- even stronger, in fact, than the relationship between trade and UN voting. Again, however, in the multiple correlation, R^2 change attributed to the addition of trade, is negligible (.0154). Considering the relatively high r^2 value (.2447) for the simple correlation of trade and UN voting, this again adds further support to the theory that the high correlation between aid and trade may explain most of the relationship between trade and voting.

Test of Group C

The countries selected for Group C have in common the single criterion that each has received a substantial amount of aid from the West, while receiving none from the party-states.[29] The purpose of introducing Group C is to test the variable relationship between trade and UN voting when the aid index is constant. Use of partial correlation and multiple correlation in this group is impossible since there are only two variables. Therefore, only a simple correlation

between trade and aid can be calculated for these twelve cases. This computation produced the following results:

$$\text{Pearson's r (UN x Trade)} = .2080, \; r^2 = .0433$$

Here again, the coefficient of determination for the variable pair, trade and UN voting, is very low. This value for Group C then, is consistent with the findings in the other three tests. That is, there is very little association between these two variables.[30]

TABLE 13

GROUP C: SUMMARY OF TRADE AND UN VOTING INDICES FOR
1968-69*

	Trade	UN Voting
Chad	-.95	-.24
Congo(Kin.)	-.98	-.54
Dahomey	-.87	-.59
Gabon	-.97	-.73
Ivory Coast	-.96	-.86
Liberia	-1.00	-.87
Malagasy Republic	-.98	-.79
Malawi	-1.00	-1.00
Niger	-.89	-.59
Rwanda	-.82	-.60
Togo	-.81	-.59
Upper Volta	-1.00	+.08

*Each country receives aid from the West only, thus each has an aid index of -1.00.

Sources: United Nations, United Nations Yearbook of
International Trade Statistics, 1969;
Organization for Economic Cooperation and
Development, Statistics for Foreign Trade,
Volumes for 1968 and 1969; United Nations,
Yearbook of the United Nations, Volumes for
1968 and 1969.

Statistical Test of Groups A, B, and C (1968-69) Combined

The separate statistical tests of Groups A, B, and C
provided a means for the evaluation of the relative importance
of the pairs of variables. To this point, examination of
these data reveals that for both time periods of Group A, and
for Group B, aid is much more important in explaining
variance in UN voting than might be assumed from the theory
that led to the statement of Hypothesis #1. With each of
the coefficients -- simple correlation, partial correlation,
multiple correlation and regression (Beta) -- the order of
importance for aid and trade as independent variables indicated
that aid ranks consistently higher. In fact, it became
apparent that there was a degree of consistency demonstrated
in the relative values of all three variables in each of the
correlation and regression tests thus far performed. This
unexpected discovery leads to the feasibility of some further
statistical testing if the groups, when combined, produce
a single linear relationship. This aggregation of data
will include Group B, Group C, and the latter time period
for Group A.[31] Testing these data for correlation and
regression coefficients in the same manner as was previously
done, produced the results shown in Table 14.

TABLE 14

STATISTICAL TEST OF GROUPS A, B, AND C COMBINED (1968-69)

Correlation (Variables taken as pairs; control variable shown in parenthesis for partial correlation)

a. Simple Correlation

	Pearson's r	r^2
UN x Aid	.7381	.5448
Aid x Trade	.7012	.4917
Trade x UN	.5522	.3049

b. Partial Correlation

UN x Aid (Trade)	.5904	.3486
Aid x Trade (UN)	.5220	.2725
Trade x UN (Aid)	.0719	.0052

Regression (UN voting designated as dependent variable; multiple correlation performed in order shown)

	Multiple R	R^2	R^2 Change	Beta
Aid (only)	.7381	.5448	n/a	.6904
Aid + Trade	.7397	.5471	.0023	.0681

The data in Table 14, compared with that in Tables 10 and 12, shows a slightly stronger correlation between UN voting and aid, and a much stronger correlation between aid and trade. In fact, this latter correlation is now almost equal to that of voting and aid. The simple correlation for trade and UN voting fell midway between the values of Table 10 and Table 12. What is highly significant in this table, however, can be noted in the partial correlation between trade and voting. This correlation shows a pronounced drop. The coefficient of determination for this partial correlation is .0052, a value which may be considered negligible. Results obtained from the regression table again showed a very in-significant R^2 change attributable to the addition of trade

in the multiple correlation, and a very low Beta coefficient
(.0681) when adding trade to the regression equation. Having
established that there was a significant linear correlation
in these data, it appeared appropriate to conduct further
tests on the variables between certain limits in an attempt
to detect any major deviation of the variable relationships
across a range of values.

Hypothesis #3 stipulated that any general relationship
between the variables would probably hold true over the entire
range of values, rather than merely for the positive (pro-
Communist) portion as posited by Triska and Finley. Since
aid definitely seems to be the most "important" variable in
terms of its effect on the dependent variable, it would then
appear to be most advantageous to check the previously
established relationships across the range of values for aid.
Within the 52 cases, the mean value for aid is -.53. The
table was therefore divided into two sections testing values
for aid less than or equal to -.53, and values greater than
or equal to -.52. According to the theory of Triska and
Finley, the correlation should be higher as the numerical
value of the indices increases. Table 15 indicates the
results obtained when dividing the table as stated.

TABLE 15

STATISTICAL TESTS OF GROUPS A, B, AND C COMBINED (1968-69) USING SELECTED VALUES OF AID

Values of Aid Equal to or Less Than -.53 (32 Cases)

Correlation (Variables taken as pairs; control variable shown in parenthesis for partial correlation)

a. Simple Correlation

	Pearson's r	r^2
UN x Aid	.6605	.4363
Aid x Trade	.4855	.2357
Trade x UN	.3207	.1028

b. Partial Correlation

UN x Aid (Trade)	.6096	.3716
Aid x Trade (UN)	.3848	.1481
Trade x UN (Aid)	.0000	0

Regression (UN voting designated as dependent variable; multiple correlation performed in order shown)

	Multiple R	R^2	R^2 Change	Beta
Aid (only)	.6605	.4363	n/a	.6605
Aid + Trade	.6605	.4363	0	.0000

Values of Aid Equal to or Greater Than -.52 (20 Cases)

Correlation (Variables taken as pairs; control variable shown in parenthesis for partial correlation)

a. Simple Correlation

	Pearson's r	r^2
UN x Aid	.5125	.2627
Aid x Trade	.4779	.2284
Trade x UN	.3512	.1233

b. Partial Correlation

UN x Aid (Trade)	.4190	.1756
Aid x Trade (UN)	.3705	.1373
Trade x UN (Aid)	.1409	.0199

Regression (UN voting designated as dependent variable; multiple correlation performed in order shown)

	Multiple R	R^2	R^2 Change	Beta
Aid (only)	.5125	.2627	n/a	.4466
Aid + Trade	.5266	.2773	.0146	.1378

Both parts of the table (above and below the mean) show
a drop in the value of coefficients from the table (Table 14)
using all 52 cases.[32] Correlation of the variable pairs
indicates that they maintain their same rank-ordering of
relative importance as in earlier tables. The partial
correlations in this test, though, are very informative. In
testing for values of aid less than -.53, the partial
correlations remained relatively high with respect to the
simple correlation values for voting and aid (.6096 vs.
.6605), and for aid and trade (.3848 vs. .4855). However,
the Pearsonian coefficient (r) for the simple correlation
between trade and UN voting (.3207) was reduced to zero in
the partial correlation. The interpretation of this change
is that by eliminating aid in the triangular relationship
between the three variables, the correlation between trade
and voting is completely nullified. Somewhat to the contrary,
it can be noted that in those cases where aid is at or above
the level of -.52, the simple correlation between aid and
trade (.4779) is almost the same as it is in the cases at
or below -.53 (.4855). This also holds true for partial
correlation. But, the simple and partial correlations
between UN voting and trade do increase very slightly (.3207
to .3512; and 0 to .1409) for higher values of aid. This
reinforces the previous observations concerning association
between trade and UN voting. Additionally, the Beta
coefficient for the equation which includes trade, is also
zero.[33] This, compared with a Beta coefficient of .1378

in the table for higher aid values, further testifies to
the relatively low predictive ability of trade, irrespective
of the corresponding value of aid.[34]

CHAPTER IV

Analysis

The results presented in the last chapter are those
which appeared to have significant bearing on the hypotheses
set forth in Chapter II.[35] In this chapter, each of the
hypotheses will be evaluated with respect to those results.
Following an analysis of the individual hypotheses, the
overall impact of the original investigation will be discussed
in light of changing trends in aid and in weaknesses which
may be inherent in the theories of Triska and Finley, but
which are not brought out by these hypotheses.

Hypothesis #1: It was stipulated that the original
Triska-Finley theory, with respect to importance of aid
as an element of political influence, was incorrect. To
test this hypothesis, the original data was replicated, and
both the original and the new data were tested for statistical
correlation. The comparison of results, which are shown in
Table 16, tended to confirm the conclusions reached in
the earlier research. In the 1961-62 data, there was a
very high correlation and a very high causal relationship
between amounts of aid provided and degree of sympathy in
UN voting. This relationship did not remain quite as high
in the test of Group A for 1968-69, but nonetheless, was
again significant. Tests of Group B provided results which

compared very favorably with those of Group A for that same time period.

TABLE 16

SUMMARY OF CORRELATION BETWEEN AID AND UN VOTING

	r^2	r^2(controlled for trade)	Beta*
Group A(1961-62)	.7556	.7024	.9247
Group A(1968-69)	.4906	.2600	.5311
Group B	.4747	.3249	.6031

*Beta coefficient is for Aid (only)

The theory that a biased selection of the countries for Group A would result in higher correlation between aid and UN voting is shown to be incorrect. The major variance in Table 16 is not between Groups A and B, but rather between the dichotomy of Group A.[36] The theory behind Hypothesis #1 was that the selection of Group B would show a significant change in results because the criteria for selection differed from those of Group A. It now appears that these criteria (the principal difference being geographic location) had less effect in altering the results than did the passage of six years in time. The changes, therefore, focus attention on the intervening events.

Already mentioned was the major Soviet policy change during this period, putting increased emphasis on the use of aid credits to promote trade expansion coincident with a reduction in "impact projects."[37] Accordingly, the Soviets

became increasingly selective about the projects they funded
and put greater weight on economic criteria.[38] The result,
evident in 1968-69 tests, is a strategic struggle in which
the superpowers have created an environment of "aid
competition." In this environment, the recipients and the
players tend to become equals. This is described by David
Beim as a "three-player, non-zero-sum game" in which aid
agreements tend to satisfy all parties by being mutually
profitable.[39] As aid competition increases, "cheap payoffs"
become the target of the donor, and maximum (and sometimes
unrealistic) economic growth, the goals of the donee. It
is not difficult under these circumstances, to foresee a
lowering of allegiance (in political returns) exhibited in
UN voting behavior. Some writers, in fact, go so far as to
dismiss altogether the causal relationship between heightened
economic interaction and increased political influence.
Alvin Z. Rubinstein, writing in Asian Affairs (February 1971),
stated that while political influence-building is often
assumed to be a by-product of aid, it "is a complex, time-
consuming, expensive activity in which the criteria for
success are almost impossible to define."[40] By Rubinstein's
standard, UN voting might be a questionable test of political
influence, given all the other variables also capable of
affecting voting behavior.

In addition to the difficulty of defining "influence"
and measuring it quantitatively, there exists another

problem. Triska and Finley argued that beyond a certain
level of commitment, there would be total incorporation into
the Communist system. The model used in this example was
Cuba. Certainly the Soviet experience with Cuba has proven
to be other than an overwhelming success, and as time passes
it continues to remain a troublesome economic burden on
Moscow.[41] Other experience also militates against the
acceptance of the view that the grip of influence is irreversi-
ble beyond a certain point of commitment. In the examples
of more "committed" countries as presented in Chapter II,
certainly some reversals are clearly evident. Specifically,
Guinea, Ghana, Iraq and now even the UAR, are less closely
allied to the Soviets than in years past. What is more
relevant perhaps than the factors of economic evolvement,
would appear to be leadership of Third World countries and
the policies which the leaders themselves set for their
countries.

There may be a case to question even the assumption of
a statistical relationship between aid and UN voting. If
national policy dictated both the acceptance of aid and a
particular pattern of UN voting behavior, these two variables
would be related only through their elaboration with that
more powerful control variable, national policy. In an
environment of "competitive aid," this overall policy would
govern which aid was accepted, and could, through a change
in leadership or a particular leader's change in attitude,

precipitate a switch to the opposing side for assistance.[42]
It may be the onset of such a competitive environment then,
that would seem to have reduced the correlation between aid
and voting, thus accounting somewhat for the trend observed
in Table 16. Notwithstanding this apparent trend, however,
the statistical relationship continues to indicate a high
level of association between the two variables cited in
this instance, and it suggests that the hypothesis may be
incorrect. This being the case, the original works referred
to in this study would appear to have been correct in their
theory of the direct causal relationship between aid and
UN voting patterns. It should be noted, however, that
accepting the validity of this theory on the basis of
statistical results or related events which complement
these results, presupposes that the basic assumptions under-
lying the selection of variables are valid. As this question
relates to all three hypotheses, further discussion of this
possibility will be deferred until later in this chapter.

Hypothesis #2: In the second hypothesis it was reasoned
that because of both Soviet and US policy changes affecting
trade and aid relationships after the period of the original
study, trade would now show a strong relationship with UN
voting. These policy changes which made aid a contingency
of trade agreements, should now provide a causal relationship
between trade and voting. Initially, using simple correlation,
this appeared to be correct, although somewhat weaker in

variable association than aid and voting. Table 17 summarizes the relationships resulting from these tests.

TABLE 17

SUMMARY OF CORRELATION BETWEEN TRADE AND UN VOTING

	r^2	r^2(controlled for Aid)	Beta*
Group A(1961-62)	.1986	.0242	-.0948
Group A(1968-69)	.3659	.0791	.2625
Group B	.2447	.0292	.1507
Group C	.0433	n/a	n/a

*Beta coefficient is for Aid + Trade

The conclusion reached by Triska and Finley was that trade was less "important" as an indicator of political alignment than was aid. While that conclusion appears to be the result of a rather superficial examination of the empirical data shown in Table 3, it nonetheless is strongly supported by the results of statistical testing. In addition to the continuing superiority of the statistical "importance" of aid, a number of the fluctuations in trade statistics lend themselves to logical explanation. For example, the increase in correlation between the original test of Group A and the later test, can be attributed in part, to the policy changes linking trade and aid. Group B, however, showed a lower correlation, perhaps indicative of the lower level of aid commitment in that group as compared with Group A, and also perhaps because of a shorter period of aid experience. Notwithstanding speculation on causes for the variance in simple correlation, these observations are overtaken by the results

of partial correlation. In this series of tests, trade
and voting was reduced to a much lower correlation, the
highest r^2 value being .0791 -- statistically, a value
nearly void of meaningful mutual association.

Further tests of the predictive value of trade as an
indicator of voting behavior confirmed this lack of association.
In every test, the R^2 change value realized when adding one's
knowledge of the trade relationship to that of aid, was a
minimal improvement (on the order of less than .05). This
poor causal relationship was also shown by the low values
for Beta. The fact that the relationship was inverse as well
as statistically weak for Group A in the 1961-62 tests, also
confirms the authors' conclusions of poor (direct) correlation.
Correlation results obtained from the "placebo" (Group C) in
which aid was not a variable, illustrates further the lack
of efficacy in the statistical relationship between trade
and voting.

The results observed in the tests of this hypothesis
can be explained by two realities. First is that trade,
while beneficial in the development of LDCs, responds more
readily to market pressures than to political ties; and
second, the year-to-year trend in trade is relatively stable
and not affected by any but the most severe changes in bi-
lateral relationships.[43] Further minimizing the effects of
attempted change, is the relatively low magnitude of trade

volume affected by economic aid ties. Although Khruschev himself reportedly stated that "we value trade least for economic reasons and most for political reasons,"[44] only two and a half percent of the trade from LDCs is conducted with the USSR, and that represents only twelve percent of total Soviet trade.[45]

Hypothesis #3: The third hypothesis is related to the theory presented by Triska and Finley which assumed the relationship among the variables to be valid only on the strongly pro-Communist side of the indices. The somewhat speculative conclusions which were posited concerning the inability of nonaligned states to resist becoming "a slow-motion Cuba" after reaching a certain level of commitment, were not specifically assumed to be present also on the West's side of the index spectrum. This hypothesis, then, was based on the assmumption that the relationship would be equally as valid for the negative side of the index as it might be on the positive side.

In the discussion of the results of Table 15, it was noted that there is a slight variation in the correlation measurement for high and low values of aid. Contrary to what might be assumed from the earlier observations, the strongest relationship for aid and UN voting is evident in the very low negative side of the index (below -.53). The correlation for aid and trade is virtually identical, though, in both

cases. On the contrary, there is a slight reversal of this trend in the relationship between trade and voting. In the partial correlation of these two variables at values of aid below -.53, the correlation coefficient is zero, but it is slightly positive in the twenty cases at -.52, and above. Considering the relatively low magnitude of these variations, however, the differences in the correlation coefficients are not significant to the degree that any generalization could be made from the results. Tests of variables other than those in Table 15 were even less conclusive and were omitted from discussion (see Footnote 35).

It therefore appears that, with respect to this hypothesis, the relationships between all variables show a strong similarity throughout the entire range of values for aid and voting. As with the earlier correlation between trade and UN voting, however, a general lack of association still persists.

Discussion

Putting aside for a moment the specific points brought out by testing the above hypotheses, there are several other questionable aspects of the relationship between aid and influence which require discussion. It was assumed at the start, that the input data were capable of presenting some finite relationship, or lack thereof, between the variables.

There may be weaknesses in this basic assumption.

In addition to the difficulties of identifying and measuring influence, other questions are raised by the selection of the particular independent variables (inputs) assumed to be affecting influence. First of all, data used in the tables for trade, aid and UN voting are not consistent in measuring the same "universe" of data. For example, aid figures attributed to the "West" were not qualified by identifying the "West" as a specific group. It appears from the figures that this is economic aid from the member-states of the Development Assistance Committee of the OECD. This group comprises all major non-Communist aid donors and accounts for virtually all aid to LDCs from the so-called "West." At the same time, the "West" as it is applied to both the United Nations voting and the trade percentage tables, is only the United States, France and the United Kingdom. On the other hand, "party-states" refers to that specific group of fourteen countries listed in Chapter II. This group accounts for the entire Communist input to the aid and trade tables. However, this same group cannot be appropriately applied to the UN voting tables because, for example, the People's Republic of China and East Germany were not UN members during the period tested. Furthermore, the inclusion of China as a joint participant in any action including the USSR and its satellites is highly questionable at this point. The upheaval of the "cultural revolution" did cause a draw-down of Chinese aid,

particularly in sub-Sahara Africa. The emergence from that period, however, has seen a sharp increase in economic interaction and the continuing expansion of Chinese aid at a rate far greater than in earlier years.[46]

This information is somewhat ex post facto to the original study and the data used in this thesis; however, to assure some check of the validity of the results obtained, other data were used which accounted in part for these contradictions. A separate tabulation of Chinese aid was kept and a separate index was tested which had as the criterion for identification of party-states, "all except China." The difference in results using these separate data was negligible, probably due to the minimal participation of the PRC when compared with the total of all other party-states over the entire fifteen-year period. Because this difference in data appeared to be insignificant for the period under study, the original criteria and methods were followed exactly. It is not likely, however, that this would be possible if a similar study could be made on current (1973) data.

There may be another shortcoming of the original study and one which could be the most serious. This deficiency is not related to the actual measurement of the data, but rather is a question of what constitutes data that is valid and suitable in demonstrating the effects of an attitudinal variable. As a measurement of influence, or perhaps more

appropriately, as a measurement of the returns from attempted influence-building, Triska and Finley chose United Nations voting patterns as the indicator. Using this as the sole means for quantification of international political influence assumes that the most significant outlet for expression of political and ideological empathy, is UN voting. Certainly other aspects of international behavior may also provide a suitable means of measuring political responses. None, however, are as convenient and easily quantified as UN voting tabulations.

Alvin Z. Rubinstein, in a paper prepared for presentation at the 1971 Annual Meeting of the American Political Science Association, presented the findings obtained from a question-aire submitted to a cross-section of American specialists on the subject of Soviet influence in the Third World. The purpose was to elicit from the respondents: (1) instances of alleged Soviet influence, (2) a sense of data regarded as salient, and (3) the criteria used in evaluating influence. Rubinstein drew several conclusions from the responses which have a bearing on this thesis. First, he found that these specialists (a mixture of 88 academicians and fifteen middle-echelon foreign service officers of the State Department) assumed that aid brought influence, and "their assessments of Soviet influence were shaped by the in-flow of Soviet material, rather than by changes in the actual behavior of the target country." Secondly, "the increase in Soviet

influence generally coincided with a perceived decrease
in American influence, though some respondents cautioned
against assuming a zero-sum situation." A third conclusion,
and one of particular interest in this discussion, was that
there was no agreement on specific instances in which the
Soviets actually exercised influence, nor was there agree-
ment on what quantifiable indicators could be used to measure
influence. Specifically mentioned as one possible indicator
was UN voting behavior.[47]

The results of Rubinstein's survey are not surprising.
Contrary to the ability of the researcher to perform
attitudinal studies of a wide variety within his own country
(particularly in the United States), such measurements in
foreign countries are nearly impossible to obtain, and
probably equally as difficult to assess if the survey were
possible. This apparent inability to measure and quantify
data universally is a serious limitation. The need to
provide such an appraisal, however, can perhaps be satisfied
with the data at hand, using other means available to the
researcher. A proposal for such a model will be suggested
as a recommendation in the conclusion of this thesis.

CHAPTER V

Conclusion and Findings

Some seemingly critical comments have been made concerning the original research which this thesis attempted to evaluate. It is much easier, of course, to question the work of another than it is to rectify the perceived deficiencies. Lest that criticism be leveled here, this conclusion will hopefully provide not only a summary and explanation of the findings, but also a recommendation for improvement in the research methods.

The findings, based on statistical analysis of the hyotheses of this thesis, are as follows:

1. There is a strong measurable correlation between the amount of foreign aid a country receives from a particular donor and that recipient country's voting pattern in the United Nations. This correlation has a direct causal relationship in voting results involving issues which exacerbate the ideological differences of the competing donors.

2. There is little "real" correlation between the amount of trade between aid donor and donee and the pattern of voting in the United Nations. What apparent correlation does exist is explained by the much stronger correlation

between aid and UN voting. This spurious correlation is virtually nullified by acknowledging the presence of the intervening control variable (aid), as shown schematically below:

Aid

Trade ⟶ UN Voting
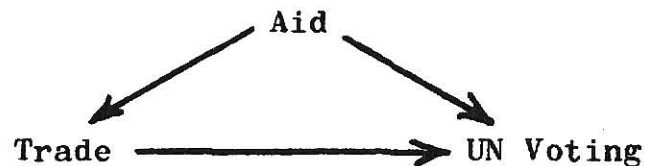
3. The relationships identified as being significant in tests of indices for aid, trade, and voting, are generally consistent across the entire range of values for the variables. This is an amplification of the theory presented by Triska and Finley, which only recognized this relationship for strongly positive index values.

A note of caution must be made, however. Due to several somewhat questionable assumptions and the possibility of prejudicial application of the specified criteria, these results may not be general. In the discussion and analysis of the statistical testing, there was doubt cast as to the validity of the conclusions reached by Triska and Finley. These doubts were based on two deficiencies. First, the input criteria appeared to be biased and not uniformly applied. And second, the conclusions may not necessarily be representative of the variable relationships unless certain assumptions are accepted. These assumptions are that *UN*

voting indicates, among other things, the level of outside
political influence present; and, that aid or trade (or any
specific variable), acting independently, accounts for a
significant measure of voting behavior. If these assumptions
are accepted, the findings above are quite reasonable inasmuch
as the statistical tests show a high probability of a
significant relationship and there is a plausible explanation
for much of the variance noted. The uncertainty of the
assumptions, however, requires further inquiry in order to
establish the validity of the results, or if possible, to
determine an alternate method of evaluation which may negate
the requirement for such assumptions. In either case, such
an inquiry goes beyond the intended scope of this thesis.

Further Inquiry

These findings were based on the results of testing
empirical data within certain limits established by a previous
study. The imposition of these limits appears to have been
based on an assumption by the earlier researchers that the
principal cause-and-effect relationship would be found in
the realm of these particular data. The area of research,
however, need not be limited only to those variables tested
here. The implication is that there may be many more
variables which either indicate the existence of influence,
or indicate the means of creating influence. It would,
therefore, be appropriate in such research to test all

possible indicators which might provide a means of quanti-
fying attitudinal variables. For example, in Rubinstein's
survey of foreign area specialists, such oblique indicators
were mentioned by the respondents as size of embassy staff,
number of visits by naval vessels, and amount of private
mail exchanged.[48] Given the availability of a computer,
there is little further effort expended in determining the
significance of additional variables. Any logically
promising variables should be included to determine whether
additional correlation and regression tests are warranted,
and having done so, proceeding with further testing of those
variables showing significant association. It is immaterial
in the use of correlation and regression coefficients whether
the raw data are expressed in pounds of mail or number of
ships, so long as they can be measured as interval data and
tested throughout the range of cases. This fact makes it
possible to compare the relative strength of a relationship
between variables, disregarding differences of commonality
and magnitude of unit measurement. There need only be
sufficient cases available to provide an adequate statistical
basis for testing. Fabrication of artifical indices such
as was the case in Soviet Foreign Policy, would be un-
necessary, and in fact, might dilute the effectiveness of
the test results.

In summary, two preliminary ingredients which were not
present in earlier tests, may be needed. First, identification

of which indicators best measure "influence;" and, second, what independent variables best explain the variance in "influence" indicators. The use of correlation and regression coefficients is particularly well suited for determining the relative importance of these variables, and thus may eliminate the necessity for any weak or doubtful assumptions. Given the success of these pre-conditions, tests such as those conducted in this thesis may provide a more meaningful evaluation of the relationships within the "system." It is therefore proposed that through relevant, systematic behavioral testing on the order of that described here, the researcher may obtain a better understanding of the phenomenon of foreign aid and, hopefully, may determine more accurately the validity of its assumed role as an influence-builder.

FOOTNOTES

1. Jan F. Triska and David D. Finley, <u>Soviet Foreign Policy</u>, (New York: The MacMillan Company, 1968), pp.249-283, <u>et passim</u>.

2. <u>Soviet Foreign Policy</u> is not the original publication resulting from the particular research used as background for this thesis. In 1963, Triska was the principal author of an unpublished treatise prepared at Stanford University, entitled "The World Communist System," Research Paper No.1, Stanford Studies of the Communist System. A reproduced copy of the original 49-page manuscript was obtained from Stanford University for use here. A significant portion of the data gathered in Triska's 1963 study was extracted in its original form and used in the book, <u>Soviet Foreign Policy</u>. In addition, a research assistant, David O. Beim, who participated in the original work at Stanford University, used data from this research as the basis for an article entitled, "The Communist Bloc and the Foreign Aid Game," published in the <u>Western Political Quarterly</u>, XVII, No.4, December 1964. Some minor updating in data input can be noted in both Beim's article and the book by Triska and Finley; however, the basic assumptions and conclusions remain the same.

3. This is particularly true with respect to foreign aid figures for Communist countries, most of which are "official estimates" published by the US State Department. These estimates are widely accepted as factual.

4. The most widely referenced source and perhaps the most current compilation of data on foreign (other than US)

economic assistance is the reference book, <u>Resources for the Developing World</u>, published by the Organization for Economic Cooperation and Development (OECD) in May, 1970. Correspondence with the OECD Publication Center in Washington, DC, revealed that there is no available update to the statistics contained in this book, which are current only through December, 1968. In addition, a similar lack of current statistical data was reported by the World Bank Group Offices in Washington, DC, in reply to a written request.

5. In reply to an inquiry, the United Nations Public Information Office stated that the most recent yearbook now in publication is for calendar year 1969 and that the following edition would not be available until mid-1973.

6. It should be noted, however, that trade statistics are actually available through late 1972.

7. James R. Carter, <u>The Net Cost of Soviet Foreign Aid</u>, (New York: Praeger, 1971), pp.22-23; also see I.M.D. Little and J.M. Clifford, <u>International Aid</u>, (Chicago: Aldine Publishing Company, 1966), pp.113-14.

8. Cf. Triska and Finley, <u>op.cit.</u>, p.276; and Jan F. Triska, with Noralou P. Roos, David O. Beim, and others, "The World Communist System," Stanford Studies of the Communist System, 1963, (unpublished treatise), pp.34-35.

9. US Army Command and General Staff College (USACGSC), <u>International Security Assistance</u>, RB31-100, (Ft. Leavenworth, KS: AG Publications), Volume I, July 1972.

10. Triska, et al., <u>op.cit.</u>, pp.3-5; and Triska and

Finley, op.cit., pp.149-50. The term "party-state" as
identified here will be used throughout this study to
represent the sub-system described by Triska and Finley.

11. Triska and Finley, op.cit., p.273.

12. Ibid., pp.273-75. The formula (A - B)/N
produced a scale between +1.0 for a country which cast
all nineteen votes in consonance with the party-states,
to -1.0 for a country which voted nineteen times in
consonance with the West. Those countries which had
one or more abstentions, or which mixed their voting
records (theoretically) between the ideological polarity
of East and West were indexed somewhere in the middle-
ground between +1.0 and -1.0. The authors' arbitrary
designation of "neutrality" as being in the range of -.10
to +.10, appears to be much too narrow. However, as this
designation is not particularly significant with respect
to the overall investigation, that issue will not be
challenged.

13. It should be noted that the authors did not
explain the significance, if any, of maintaining separate
tables for each of the two years under consideration. The
data will naturally vary from year to year. Later in this
chapter there are several excerpts from Soviet Foreign
Policy where the authors compare results for 1961 with
results for 1962. For this reason, separate indices for
1961 and 1962 will be shown in the respective tables,
together with an "average" index for the two-year period.
For purposes of statistical analysis, however, only the
"average" data will be used. The reason for combining this
data is primarily one of condensing material to make it
more easily understandable. However, the retention of all

sample data and the use of a wider time-span assures
that the combined data are more representative of the
theoretical norm. Because of the imbalance in total
possible decisions (N) in UN voting (i.e. 1961, N = 12;
1962, N = 7), it was not appropriate to "average" the
indices by adding the 1961 and 1962 indices, and dividing
by two. Therefore, an entirely new index was computed
using the same formula, but substituting the total
values for both years to compute the average index. The
average in some cases will vary considerably from the
mean of the two annual indices.

14.   Triska and Finley, op.cit., pp.265-72 and
pp.275-76. The authors have considered party-states'
aid as being the sum total of aid from that specifically
identified group. Their assumption is that Soviet economic
domination over the European satellites (only the East
European satellites are known to have been aid donors)
requires that group to be considered jointly with the
USSR as an aid-donating "bloc." They also accept the
fact that China came into its own as a major power and an
aid donor in the late 1950's. They do not, however,
justify their inclusion of China in the total figures for
party-states' aid (considering the outright independence
of the Chinese program), except to note that the Chinese
contribution was rather minimal in comparison with the
total. To be consistent when testing the theories of
Triska and Finley, all tables shown here include aid
from the PRC.

15.   The reasons for condensing these tables are
the same as those explained in Footnote 13. Contrary to
the necessity for recomputation as performed in Table 1,
the average index in Table 3 is appropriately stated as

the mean of the indices for 1961 and 1962.

16.   Triska and Finley, _op.cit._, p.275.

17.   _Ibid._, p.276.

18.   _Ibid._, p.278.   Note that the authors refer to "the United States overwhelming superiority in the realm of trade."   However, the index to which they refer is based on aggregate trade from the "West" which also includes the United Kingdom and France.

19.   _Ibid._, pp.278-79.

20.   Marshall   I.   Goldman, _Soviet Foreign Aid_, (New York: Praeger, 1967), pp.81-84.

21.   There are many techniques of multivariate analysis commonly discussed in textbooks on that subject. The reference for this thesis is William Buchanan, _Understanding Political Variables_, (New York: Charles Scribner's Sons , 1969).

22.   There are two additional tables in _Soviet Foreign Policy_ which have not been included in this thesis. These tables dealt with (1) treaties linking the developing countries and the USSR, and (2) the training of youth from LDCs in the Soviet Union.   The authors, while noting a propensity for the quantitative expansion of both these facets of Soviet policy, concluded their discussion by describing them as "rather unremarkable observations." For this reason, no attempt will be made to replicate the tables.   These tables were also not a part of the 1963 treatise written by Triska at Stanford University, nor was this data considered in the later article by David Beim.

23.   Triska, _et al._, _op.cit._, p.38.

24.   Triska and Finley, _op.cit._, p.276, lists the
sources as (1) "Sino-Soviet Bloc Credits and Grants,
January 1, 1954 - March 31, 1961," _East Europe_, XII,
No.2, 5;   (2) "Economic Aid Commitments and Expenditures,
1954-1962," _East Europe_, XII, No.11, 13;   and (3) Agency
for International Development, Statistics and Reports
Division, _United States Foreign Assistance_, July 1, 1945 -
June 30, 1962, (Washington, DC: Government Printing Office,
1962).

25.   The sources used were Carter, _op.cit._, Appendix
Table 1, p.109;   OECD, _Resources for the Developing World_,
(Paris: OECD Press, 1970), Annex II, pp.293-315;   Charles
L. Taylor and Michael C. Hudson, _World Handbook of Political
and Social Indicators_, 2^{d} ed., (New Haven: Yale University
Press, 1972), Table 6.4;   Agency for International Develop-
ment, _The Foreign Assistance Program_, Annual Report to the
Congress, (Washington, DC: Government Printing Office, 1969),
et passim.

26.   In the case of voting on admission of the PRC
to the UN, the actual voting on UN membership could not
be used, in that both the United Kingdom and France voted
in opposition to the United States on that issue.   The
particular vote on the China issue pertained to the
administrative details of how the final vote would be
conducted.   In this important preliminary ballot, voting
did follow East-West polarity.   Another peculiarity was
noted in studying the entire range of UN voting.   This was
that, contrary to the popular myth that the party-states
always vote in unison, there were many instances where there

was a lack of unanimity in that group, particularly with respect to Rumania, and occasionally with Poland and Bulgaria.

27. In the case of Nepal, that country's trade percentage with India completely dominates its foreign trade position. The total interchange with India exceeds 90 percent of all imports and exports, thereby leaving only small percentages for any other foreign trade. Because of the negligible amounts of trade with either side, an arbitrary value of zero (i.e. trade neutrality) was assigned for Nepal's trade index. In the other case, neither the United States, the United Nations, or OECD published any trade figures for Yemen. Because there was no trade with Yemen reported by any of the three Western countries, this percentage was assumed to approximate zero, thereby forcing an index of +1.0 for Yemen's trade without regard to the dollar value or actual percentage attributed to the party-states. However, party-states' trade with Yemen is officially estimated at over 20 percent. The remainder is apparently spread throughout neighboring Middle East and African states.

28. Of these twenty-one, fourteen are LDCs of the sub-Sahara Africa region, three (Algeria, Morocco and Tunisia) are North African Arab states, one (Syria) is classified as a Middle East Arab state, and the remaining three (Argentina, Brazil and Chile) were the three major recipients of Communist aid in South American during this period.

29. In each of these cases, the value of the aid index would be -1.0. As this value would be constant throughout the table, aid is therefore not a variable.

Because of this, aid is not useful in the computation of
correlation and regression coefficients, nor is it appropriate
in supporting the average index ("index of affinity").
For these reasons, Table 13 contains only (unranked) trade
and voting indices.

30. Notwithstanding this lack of association,
however, it should be noted that from an examination
of the values in Table 13 it might appear that this
group of countries is uniformly closely tied to the
West in trade, and that they also show a generally
sympathetic response toward the West in their UN voting
records. This trend is apparently a random variation
since it does not produce a significant mutual variance
(correlation) between trade and voting behavior.

31. It would be invalid to include the first time
period of Group A, in that these earlier data do not share
a common milieu with other data. The useful data in
this instance are provided by use of the 52 countries
previously examined for the period 1968-69.

32. This drop is not unusual in that the smaller
number of cases available for each portion of the divided
table can reduce the statistical significance, and con-
currently the level of association, between the variables.

33. To standardize the tables, this coefficient
was only carried to four places beyond the decimal point;
however, it is significant at the fifth place (.00003).
Such a small fractional value can be regarded as approxi-
mating zero.

34. Correspondingly, the association between aid

and UN voting moves inversely with that of trade and UN
voting in these tables, the former having a higher value
for r^2 and R^2 in the lower division of aid values, as
well as a higher value of Beta (.6605, compared with
.4466 for aid values above -.52).

35. Several other tests of the data which did not
provide significant or relatively conclusive results have
been omitted. Tests of the 52-case grouping were performed
on aid values between the limits of -.33 and +.33, and
collectively between -1.00 to -.34 and +.34 to +1.00.
This examined values in a much wider "neutral" range and
in a somewhat more limited (and perhaps more realistic)
"committed" range. The results were not significantly
different, however. One difficulty was the low number
of cases in the "neutral" range (10) which caused the
statistical reliability of the table to become questionable.
A further widening of the "neutral" values was considered
to be impractical as there was a scarcity at that point
in the number of cases on the index above +.34. Further-
more, it became difficult to justify certain countries
outside that as being "neutral." It must be reiterated
that Triska and Finley designated -.10 to +.10 as their
neutrality range. Using those same limits would have
provided only three cases for 1968-69 data. That would
be insufficient for a statistically reliable test, not-
withstanding the question (in Footnote 12) of the validity
of this arbitrary designation.

36. A corresponding table for Group B for 1961-62,
in order to provide a diachronic comparison, was not feasible
because several of these countries did not exist as inde-
pendent nation-states prior to 1961 and others did not
receive aid during that period.

37. This "impact project" aid was occasionally an outright grant, but had little long-range effect in improving the industrial or economic welfare of the country. The praise and appreciation for the donor was usually short-lived; however, in those cases where the project proved to be an unqualified embarrassment, its notoriety seemed to live on as a "monumental ruin." For examples and discussion, see among others, Little and Clifford, op.cit., p.29, and Goldman, op.cit., p.141. A similar "buy American" policy was instituted by the United States in 1959 to combat the balance-of-payments deficit. The effects of both these policies were evident in the mid-1960's.

38. OECD, op.cit., p.299. This new direction in Soviet aid is aimed primarily at industrialization and development of the state-owned sector of the economy. Also see Elizabeth K. Valkenier, "New Soviet Views of Economic Aid," Survey, Summer, 1970, pp.17-19.

39. David O. Beim, "The Communist Bloc and the Foreign Aid Game," Western Political Quarterly, XVII, No.4, (December, 1964), p.784.

40. Alvin Z. Rubinstein, "Assessing Soviet Power in the Third World," Asian Affairs, V.58, (February, 1971), p.7.

41. Richard F. Rosser, An Introduction to Soviet Foreign Policy, (Englewood Cliffs, NJ: Prentice-Hall, Incorporated, 1969), pp.349-53.

42. Rubinstein, op.cit., p.8.

43.   "Severe changes" meaning, for example, the
emergence of the PRC from the isolation of the "cultural
revolution" and resulting foreign economic relations
which are being established.   Examples of less severe
changes which have had relatively little effect on trade
relationships are Algeria after Ben Bella, Indonesia
after Sukarno, etc.   These and other examples of the
inertia of trading patterns with respect to attempted
change, are discussed by Robert S. Jaster, "Foreign
Aid and Economic Development: The Shifting Soviet View,"
International Affairs, (July, 1969), pp.452-464; and
Elizabeth K. Valkenier, "New Trends in the Soviet Economic
Relations with the Third World," World Politics, Volume 22,
(April, 1970), pp.415-432.   For an actual comparison of
this trade stability transcending a political upheaval,
compare the index values for Indonesia in Table 3 with
the nearly unchanged values for 1968-69 in Table 8.   At
the same time note the correspondingly greater changes
in aid and UN voting indices.   These tables illustrate
the relationships before and after the fall of President
Sukarno.

44.   Khruschev made this statement to a group of
visiting US Congressmen in 1955.   Alexei Kosygin generally
used this same theme in a speech to the 24th Congress of
the CPSU on 6 April, 1971.   Also, evidently   conceding to
a recession in influence-building, he urged that the
USSR help emerging nations to "consolidate their national
independence and promote the common cause of struggle
against imperialism, for peace and social progress."
This is quite a come-down from Khruschev's vitriolic and
bombastic speeches in which he insisted that a corollary
to such struggles was conversion to socialism.   (One
might perhaps conclude that insuring an adversary's downfall

is the next best thing to winning a new friend.) See Communist Party of the Soviet Union, 24th Congress of the CPSU, Documents translated to English, (Moscow: Novosti Press, 1971), p.200.

45. Elizabeth K. Valkenier, "New Trends in Soviet Economic Relations with the Third World," World Politics, (April, 1970), p.431.

46. Tad Szulc, "China Increasing Her Foreign Aid," The New York Times, March 5, 1972.

47. Alvin Z. Rubinstein, "US Specialists Perceptions of Soviet Policy Toward the Third World." Paper presented at the 1971 Annual Meeting of the American Political Science Association, Chicago, Illinois, September 7-11. (Mimeographed)

48. Ibid., pp.8-10.

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FOREIGN AID AND INTERNATIONAL TRADE AS INDICATORS OF
POLITICAL INFLUENCE: A CORRELATION ANALYSIS OF
SELECTED COMMUNIST PARTY-STATES

by

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B.S., U.S. Military Academy, 1957

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF ARTS

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This thesis investigated the relationship between foreign aid to less-developed nations and the indicators of political influence attained by the donor in aid-receiving countries. The basis for the investigation was the evaluation and replication of a theory introduced in the book, Soviet Foreign Policy, by Jan F. Triska and David D. Finley, (New York: The MacMillan Company, 1968). This reference provided an aggregation of country-by-country statistical data relating to three principal variables: economic aid, international trade, and United Nations voting behavior. Countries were classified according to political affinity with Communist party-states by means of indices fabricated for each of the three variables. The authors concluded that there was a strong direct correlation between aid and UN voting, but that trade patterns were doubtful as reliable indicators of political alignment.

The hypotheses of this thesis challenged the findings of authors Triska and Finley. Subsequent investigation and analyses involved the use of the standardized computer program, Statistical Package for the Social Sciences, which provided coefficients of correlation and regression for the three variables identified in the original study. In addition to the evaluation of the twenty countries previously examined, the data sample was widened to test

an additional thirty-three countries, and the statistical information updated. The results of the statistical analyses tended to confirm earlier conclusions insofar as the three specific variables were concerned. An analysis of the validity of UN voting behavior as an indicator of influence, however, cast doubt on the subsequent validity of those results.

Failure to accept the basic assumption implicit in the tests -- that is, that UN voting behavior does adequately indicate a degree of political influence -- militates against the acceptance of the theory that quantity of economic aid accounts directly for a given measure of influence. It is conceivable that many more variables may either indicate influence or may cause variance in the indicators themselves. The overall results, therefore, were deemed inconclusive unless these assumptions could be reasonably qualified, or otherwise avoided. It was further concluded that certain additional tests identifying and qualifying the most suitable variables should be prerequisites for further investigation.