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Three Models of the Foreign Economic Aid Allocation : Preliminary Analyses for the Case of China

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Three Models of the Foreign Economic Aid Allocation: Preliminary Analyses for the Case of China

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There are two opposing views on determinants of foreign aid-giving (the donor interest and the recipient need), while there are no consistent findings among previous empirical investigations, which brings us some puzzlements: for example, if a donor allocates its foreign economic aid in order to satisfy its own selfish interest, why did some studies find positive correlations between the recipient need and the aid-giving? The author attempts to answer the questions by modeling the economic aid allocation of non-superpower donors and estimating parameters of the models for the case of the PRC, and suggests the alternative model of the community of interest. It does not assume that a donor has a pure humanitarian motivation, but claims that a donor responds to development need within a realm of the donor interest for efficient use of its limited resources. Preliminary examinations of the data set encourages to further study the third model to test its hypothesis: the China's aid allocation is accounted for both but more by the donor interest and less by the recipient need, when they are controlled for each other.

This paper is a part of my on-going dissertation research which is aimed (1) to model foreign economic aid allocation by the People's Republic of China to the Third World countries, (2) to empirically estimate parameters of the models, and hence (3) to test three models which attempt to explain the bilateral economic aid allocation of non-superpower donors: the donor interest, the recipient need, and the community of interest models. The paper concentrates on part (1), shows some results from preliminary examinations of the data set collected for the project, and suggests the importance of having an alternative model: the community of interest.

1. Objectives of Foreign Economic Aid

Simply speaking, there are two opposing views of foreign aid-giving. Some argue that "aid" is in fact merely an instrument used by the donors for their own selfish advantage, for example, to dominate and control the recipients (Weissman *et al.* 1975). Others argue that the donor governments have already accepted some sort of obligation for the welfare of the less fortunate members of their own societies and, then, would and should (or in fact do) apply the same principle to the welfare of other societies in other parts of the world (Pearson 1969).²

Regardless of their opposing views, there is a tendency to argue that the effect of aid on the recipient's development will be the greatest if political factors are kept to a minimum and if aid is allocated mainly on the basis of economic criteria. Studies focused on the contribution that aid can, in principle, benefit the recipient country, tend to examine the effect of aid-giving on economic growth inequality,³ while studies of the politics of foreign aid tends to inquire the objectives aid-giving and to try to explain the given economic aid allocation by such objectives, mostly based on the national interest argument

¹I would like to thank J. David Singer and Daniel M. Jones for giving me an opportunity to use the new alliance data set (1816-1980), and to Peter Van Ness for his offer for me to use his Chinese economic aid data set (1949-1974). The first version of this paper was presented at the joint meeting of the International Studies Association and the British International Studies Association in London (March 28-April 1, 1989). I would like to thank the participants of the panel for their comments.

²See Riddell (1987) for extensive discussions on the moral case for the aid and its critics.

³For example, Bornschier *et al.* (1978), Chase-Dunn (1975), Griffin and Enos (1970), Kick and Conaty (1983), Papanek (1973), Rubinson (1976, 1977), Stevenson (1972), Stoneman (1975), and Szymanski (1976).

of foreign policy behavior or less often, from the humanitarian motivation or the recipient's development need argument.⁴

In terms of the objectives of bilateral foreign aid, almost all scholars share the claim that the donor's self interest is a major factor in its aid allocation, while there also are two opposing views in dealing with the recipient's economic development as one of the donor's foreign policy objectives. Some argue that foreign aid is "a sophisticated instrument of control" (Weissman *et al.* 1975, p. 11) and "is designed to promote the foreign policy interests of the donor" (McKinlay and Little 1977, p. 59). Here, the ultimate objective of the donor is to convert superior economic power into political influence on the recipient's domestic and foreign policies and, therefore, the development as a objective is just a rhetoric or is an instrumental objective from which only the donor can receive benefits. Another argument proposes that the recipient's economic development is one of the donor's foreign policy objectives and the donor's self interest is pursued through the effort for and realization of recipient's development.⁵

In empirical studies, both arguments were simplified into two incompatible

⁴For the donor interest arguments in multilateral aid studies, see Frey and Schneider (1983), Frey (1984), and Rowe (1978); for counter-findings, see Maizels and Nissanke (1984). First Chinese multilateral aid was to Laos in 1978, while China's multilateral aid is only a small portion of its aid-giving. In 1980, for example, China donated about \$5 million to a number of U.N.-affiliate or other international organizations (Copper 1981), while its bilateral aid commitment was more than \$300 million in the same year.

⁵For the first argument, Hayter (1971), Liska (1968), Mende (1972), Payer (1974), Sobhan (1982), Weissman *et al.* (1975), and White (1974). For the second argument, for example, Ghosh (1984), Healey (1971), and Meier (1968).

models: the donor interest and the recipient need models. In terms of the donor interest model, the following are argued to be plausible donor objectives in bilateral economic assistance:⁶ (1) to promote export to recipients and to enhance donor's economic interest, (2) to keep or gain influence in recipient countries, especially (2b) to buy support for the policies of the assisting country in the UN and other international forums, and (3) to promote donor's security interests. Thus, the donor interest model predicts that donors allocate their foreign aid according to these self interests. The recipient need model usually utilizes a generic index of per capita GNP and some other indicators of development needs and predicts that donors allocate their aid as supplemental resources according to the recipient's needs for development.

A series of works by McKinlay (1979) and McKinlay and Little (1977, 1978, 1979) tested each of the donor interest and the recipient need models separately for the U.S., the U.K., France, and Germany and found the former model is supported. On the influence relationship, Rai (1980) studied the UN voting behavior and claimed that the US aid works as an inducement and the Soviet aid is given or withdrawn as a reward or a punishment.

Although these findings seem to confirm the conventional view of the donor interest model, there are some inconsistent findings and objections against their test of the recipient need model (Healey and Coverdale 1981, Mosley 1981). Wittkopf (1972) found evidence that recipient need was significant in the aid allocations of the U.K., France, and West Germany, though he concluded that the data were not conclusive. When assigning the per capita

⁶See, for example, Griffin and Enos (1970), Healey (1971), Mende (1974), Mikesell (1968), Nelson (1968), and White (1974).

GNP as an endogenous variable to the model and measuring the dependent variable as the total aid amount from DAC countries, Mosley (1981) found that the recipient need model cannot be rejected and is gaining in explanatory power over time. On the UN voting studies, Moon (1985) convincingly argued that the previous findings supporting the influence argument were spurious,

Table 1: Summary of Previous Findings

Independent Variables	Supporting	Mixed or Non-significant
Trade and Investment	Rowe (1978) USA Wittkopf (1972) McKinlay (1979) FRN, GFR Maizels and Nissanke (1984) Horvath (1976) CHN	McKinlay and Little (1977) USA McKinlay and Little (1979) USA McKinlay (1979) USA, UK
Influence /Political Interests	Wittkopf (1972) McKinlay and Little (1978) UK Rowe (1978) USA Horvath (1976) CHN Dudley and Montmarquette (1976) Maizels and Nissanke (1984)	Wittkopf (1972) USA
/U.N. Voting	Roeder (1985) USR Rai (1972) USA USR Rai (1980) USA USR Wittkopf (1973) USA Alpert and Bernstein (1971) Alpert and Bernstein (1974) Singer and Sensenig (1963) Ellis and Salzberg (1965)	Moon (1985) USA Kato (1969) Keohane (1966) Wittkopf (1973)
Security Interest	Wittkopf (1971) USA McKinlay (1979) USA, UK, FRN Maizels and Nissanke (1984) McGuire (1982) USA	Wittkopf (1971) McKinlay (1979) GFR
Recipient Need	Wittkopf (1972) UK, FRN, GFR Mosley (1981) Dudley and Montmarquette (1976)	McKinlay (1979) McKinlay and Little (1977) McKinlay and Little (1978) McKinlay and Little (1979) Maizels and Nissanke (1984) Gang and Lehman (1986) USA

when controlling for non-bargaining foreign policy behavior of defense treaty.

If a donor allocates its foreign economic aid in order to satisfy its own selfish interest, why do some studies find positive correlations between the recipient need and the aid-giving? If there is supposed to be an influence or exchange relationship between the aid-giving and the recipient's behavior, why do some find non-significant correlations between the aid allocation and the compliance? Or, if the recipient need model cannot be rejected, what accounts for the observed non-significant correlations between the aid allocation and the recipient need?⁷

The key for solving this puzzle is found in the idea that, as Moon (1985) suggested, the foreign policy behavior of aid-giving is an activity which constitutes less of the exchange process and more of the community of interest, and that the donor, especially the non-superpower donor, expects less compliance or changes in the recipient's behavior and rather reinforcement of the recipient's current policy favorable to the donor. It does not assume that a donor has a pure humanitarian motivation, but claims that a donor responds to development need within a realm of the donor interest for efficient use of its limited resources. It does not deny that the "aid-influence" link works, but it implies much less confidence in the ability of the non-superpower donors to fine tune the foreign and/or domestic policies of other nations without a prior and massive penetration of their economic and political systems. Thus, the

⁷Similar concerns are expressed in Gang and Lehman (1986), and different ways of solving this puzzle are found in Dudley and Montmarquette (1976), Maizels and Nissanke (1984), and Schneider and Frey (1985). Also, see Riddell (1987) for his argument on a false dichotomy of morality and self-interest.

plausible alternative explanation should take both the donor interest and the recipient need in its model of foreign aid allocation.⁸

2. Chinese Foreign Economic Aid

The split between the donor interest and the recipient need argument is more obvious in the Chinese foreign aid literature. But, in the case of China, there is an opposing view against the donor interest model which is more extreme than one found in the literature in general. Bartke (1975, p.9) claims it is unfair to argue that "China sought to attain political aims by offering such aid....what distinguishes China from other donor countries is her guiding principle that economic aid must not bring economic profit to the donor." Certainly, China is seemingly unique in its generosity in foreign aid-giving. Even though the PRC itself is a developing country, it has committed nearly \$6.5 billion in aid to non-Communist Third World countries during the period of 1956-1985; China surpassed the Soviet Union as the major Communist aid donor in 1971.⁹ Viewed in terms of average grant ratio for the years of 1957-

⁸ It is worth it to note that this study is not intended to explain why donors use aid rather than other more conventional or cheaper instruments of foreign policy. In order to explain aid decision in this sense, "one would have to demonstrate, not only that the return to the donor in the form of advantages won exceeded the cost to the donor in the form of aid, but also that he could not secure these same objectives by some other cheaper means" (White 1974, p.130). In this direction, one would be required to elaborate much more complicated expected utility calculations.

⁹ If it is allowed to compare the Chinese aid commitment toward the non-communist Third World countries with the ODA disbursement of OECD donors, China places 7th in 1965, 3rd in 1970, 4th or 11th in 1975, 14th in 1980, and 17th in 1985. It is reported, however, that more than 50% of aid promised during 1964-76 have not been delivered by 1977 (Zhonghua Renmin Gongheguo Jingji Dashiji 1984).

1974 calculated by Horvath (1976), China is the highest among international donors with 70-80%.

The dichotomy of the recipient need and the donor interest is inappropriate for the Chinese case as well since it is claimed that the economic development of China's friendly countries, in itself, is in China's self interest: "The Chinese Government always bases itself on the principle of equality and mutual benefit in providing aid to other countries... Through such aid the friendly new emerging countries gradually develop their own national economy, free themselves from colonial control, and strengthen the anti-imperialist forces in the world. This is in itself a tremendous support to China" (Zhou En-lai 1964). Chinese officials after the Cultural Revolution also assert that Chinese foreign aid has been provided under the guidance of the Eight Principles, which includes Zhou's statement above (Wei 1981).

Hutchison (1975) argued that such a Chinese official view, broadly speaking, was true, but there seem to be further tangible benefits. The donor interest argument is suggested for China's case.¹⁰ Horvath (1976) intended to examine the hypothesis that China extended economic aid in order to expand and consolidate its influence in terms of the volume of international trade; as a result, he tested only the effects of aid but not its determinants. He also examined the influence proposition in terms of the transformation of a recipient's national economic regime and found positive effect of given Chinese aid, though his indicator cannot differentiate the Chinese model from the Soviet model.

¹⁰For example, Copper (1976, 1977, 1978), Eckstein (1966), Hutchison (1975), Larkin (1975), and Yu (1980).

Since the inconsistent findings observed in current literature seem to come from the heterogeneity among donor countries,¹¹ it is interesting to ask the following questions: Are these objectives equally important for China to choose target recipient countries? Do particular objectives explain most of the variations in Chinese foreign economic aid allocation? How is China different from or similar to other donor countries in this respect? Answering these questions contributes to solving one of the major puzzles in the study of Chinese foreign policy (Kim 1984, p.7): "How unique and particularistic or general and common is Chinese foreign policy behavior compared with other nations?"

Additionally, China's unique outlook in its foreign aid-giving leads us to ask the following questions: In a uni-rational actor of decision-making framework, with what objectives did China allocate its foreign economic aid to particular countries which cannot assist China so much in a conventional military sense, or even be considered as ideological allies? What objectives were relatively important among others? Did the relative importance of each objective in China's foreign aid decision-making change over time and differ over geographic areas?

The last question is concerns the time factor, which might be the source of observed inconsistent findings. It is adequate to ask if changes in the foreign policy line of the donor country affects its foreign aid allocation through

¹¹McKinlay (1979) reported that the U.S. foreign aid is sensitive to its security and power political interests, while French aid is related to its trading interest as well as its security interest, and only security interest for the U.K. and only trading interest for Germany. Hoadley(1980) also established that small state donors such as Australia, Canada, or Scandinavian countries have behaved in different ways in contrast with those large state donors.

changes in relative importance of major foreign policy objectives. Such a question also contributes to solve the other major puzzle in the study of Chinese foreign policy (Kim 1984, p.7): "How consistent or changeable is Chinese foreign policy behavior compared over time?"

The existing literature on Chinese foreign economic aid includes only analyses of official policy statements, collections of aid statistics, and studies of Chinese assistance to individual countries.¹² So far, there is no comprehensive published analysis of Chinese foreign aid. Thus, this proposed study can stand as a heuristic case study (Eckstein 1975) for the theory of foreign economic aid split between the donor interest and the recipient need arguments.¹³

3. Three Models of Foreign Aid Allocation

In order to solve the puzzle addressed in section 1, I propose to establish an alternative model, the community of interest model, and to test it. At the same time, I will test the community of interest model against the two conventional models: the more popular donor interest model and the less favored recipient need model. This research is designed to compare these three models in the case of China's aid allocation based on the following sets of assumptions.

Assumptions of Rational Unitary Actor

¹²For example, Bartke (1975), Copper (1976), Muller (1967), Weinstein (1975), Weinstein and Henriken (1980).

¹³The split of arguments is more obvious for the case of China; China is the only major non-superpower donor which was not examined in a systematic manner before; and China is one of two Communist major donors, which the theory of foreign economic aid should be able to account for.

A donor government is a rational unitary actor who uses aid to promote the donor's foreign policy objectives.¹⁴ Those objectives consist of one or more of following four dimensions: security concerns, economic interests, prestige concerns, and recipient's development. The priority of these objectives may change over time according to changes in the donor's foreign policy line which are caused by changes in domestic and international systemic conditions. The rationality assumption does not tell us anything about how governments form their preferences, but means, rather, that they try to maximize their utilities given their preferences. The unitary actor assumption combined with the foreign policy objectives argument implies that a decision of aid-giving is not unintentional and that it is useful to conceive of a state as a set of roles and institutions which holds a particular judgment about the well-being of the society as a whole (Krasner 1978).¹⁵

It is also presumed that the donor government has a systematic set of criteria for target indicators in choosing recipient countries among Third World countries according to the donor's policy objectives and its evaluation of aid effects. Such indicators consist of national, dyadic, and systemic char-

¹⁴ Thus, I do not examine the decision making process of economic aid allocation in this study. See White (1974) and Tendler (1975) for description of the process and Mosley (1985) for modeling the process.

¹⁵ If the aid-giving is unintentional we can expect the distribution of aid is rather at random. In the case of China during the period of 1956-85, 11 out of 111 countries (about 10%) received 57.4% of total aid commitment: \$1113 to Kampuchea, \$703 million to Pakistan, \$587 million to Tanzania, \$346 million to Zambia, \$307 million to Nepal, \$255 million to Sri Lanka, \$241 to Burma, \$206 to Sudan, \$204 to Somalia, \$200 to Congo, and \$189 to Mauritania. Thus, it is reasonable to assume that at least China's aid-giving is purposeful rather than unintentional (For counter-argument, White 1974, p.131).

acteristics of possible recipients. Criteria for target indicators can be the level or the change of indicators, while choice of such criteria depends on choice of alternative explanations. The effects of foreign aid is viewed as changes in target indicators which are caused by changes in the domestic and foreign policies of recipient governments. These policy changes can be explained in different ways: through a structure of dependence; by resulted or expected economic growth; or just as a "bribe" (Morgenthau 1962). The dependence argument is attractive for particular donors such as superpowers or major powers, but not so attractive for small donors. Both arguments, of development and bribe, are plausible, and it is possible that different governments react to the foreign aids with different motivation.

Thus, the probability that a country is assigned as a recipient is systematically related to the donor's foreign policy objectives and its evaluation or expectation of aid effect; and the donor's decision-making of foreign economic aid allocation is a function of the national, dyadic, and systemic characteristics of a possible recipient.

The basic presumptions described above are kept among the three models, and these three models can be briefly described by the following six aspects: (1) basic characteristics and donor type, (2) working mechanism of conditioning, (3) donor objectives and recipient development needs, (4) "aid allocation → recipient behavior" link, (5) "recipient reaction → aid allocation" link, and (6) predictions.

The three models share some agreements on the second and third aspects. They agree that donors and recipients have preferences about the foreign policy behavior of other states sufficiently compelling to warrant the

expenditure of financial resources, or to motivate different levels of compliance or reactions, and that both governments react to each other in referring to their preferences or objectives. The models agree that donors allocate their aid in referring to their foreign policy objectives. They also agree that foreign aid can be used as a conditioning tool in one or more of following ways: (a) INDUCEMENT — eliciting stimulus for inducing desirable behavior of others, (b) THREAT — threat of withdrawing such stimulus in order to prevent deviant behavior, (c) REWARD — positively reinforcing stimulus for keeping desirable behavior, and (d) PUNISHMENT — withdrawing such stimulus in order to stop deviant behavior. They differ, however, in assuming and explaining how these factors are working in the context, which result in their different predictions.

Donor Interest Model

(1) There is a bargaining between aid allocation and compliant behavior: the donor-recipient relationship is defined as an exchange relationship. The model is not explicit about the donor type to which the model is applicable, while most of the supportive findings are on superpowers or major powers.

(2) Conditioning mechanism can work in every way: as inducement, threat, reward, or punishment. Particular donors may tend to use conditioning tools in particular way.

(3) Aid allocation directly responds to donor objectives and donor governments allocate their aid not in response to the degree of recipient's development needs but in response to their own selfish interests.

(4) Foreign aid allocation results in compliant behavior of the recipient governments, where donors exercise their influence over the weaker states.

The conditioning tools of weaker states (compliance and/or reliance) is sufficiently flexible to calibrate their behaviors to the desires of the stronger states. The model does not assume domestic constraints of recipients.

(5) Conditioning tools of donors are sufficiently flexible so that the stronger states can calibrate rewards and punishments to the weaker states' degree of compliance.

(6) There should be significant correlations between changes in aid allocation and changes in the recipient's level of compliance in both directions along the dimensions of donor objectives. There should be no significant correlations between recipient's development needs and aid allocation.

Recipient Need Model

(1) There is a shared objective between donors and recipients, whose central content is the recipient's development which is expected to produce favorable situations for donors in recipient countries. The model is not explicit about the donor type to which the model can be applied, while most supportive findings are on non-superpower donors.

(2) Conditioning mechanism of aid-giving works asystematically or else it is a minor factor in explaining the donor-recipient relationship. When donors allocate their aid according to the recipient's development performance, it may be said that rewards and punishment are working, though economic development is not the result which recipients can flexibly control as a conditioning device. When donors allocate their aid in response to the recipient's development effort, it may be said that threats and inducement are working, though most theoretical literatures, being inclined to the recipient need argument, does not claim that donors use their aid as a conditioning device over reci-

ipient's development policy.

(3) Aid allocation is not directly responsive to donor's foreign policy objectives but is responsive to development needs since donor objectives are expected to be materialized through recipient's economic development.

(4) Economic aid allocation does not result in compliant behavior of the recipient government. Recipient development, as the central content of the shared objective, cannot be the conditioning tool of weaker states because the development is not sufficiently flexible; the weaker states cannot calibrate their behaviors to the desires of the stronger states by this tool.

(5) Donors do not use economic aid as a conditioning tool and, therefore, there is no link between recipient reaction and aid allocation.

(6) There should be significant correlations between recipient's development needs at $t-1$, and aid allocation at time t , and no systematic relationships between donor objectives and aid allocation.

Community of Interest Model

(1) There is a community of interest between donors and recipients, whose central content is a limited consensus or mutual benefit on the particular foreign policy issues, whether found by chance in cases of non-superpower donors or produced by dependency in cases of superpower donors. The constrained consensus model (Moon 1985) can be defined as a special case of the community of interest model only between the dominant states and the dependent states, and only for the broad foreign policy orientation issue. The community of interest model is basically applied to major powers or small donors when they do not or cannot establish dependency situations with their recipients.

(2) Conditioning mechanism of rewards and punishment is working: non-superpower donors can only reinforce desirable behaviors and punish deviance. Conditioning mechanism of inducement and threat can be used only by donors who concentrate a significant amount of foreign aid to a single recipient.

(3) The model agrees with the donor interest model in that aid allocation is responsive to donor objectives but only in limited ways, and with the recipient need model in that donors respond to development needs but only within a realm of donor objectives for efficient use of their limited resources.

(4) The model is less confident about donor capability to influence and to change recipient's behavior through aid-giving. It, therefore, anticipates that recipient behaviors are less responsive to the changes in aid-giving. There could be less stable consensus on the particular foreign policy issues such as trade and security concerns of donor governments, but they would be more like spontaneous or operant behaviors. The model agrees with the constrained consensus model (Moon 1985) in that domestic constraints are working and such changes in the broad foreign policy orientation issues are only sensitive to regime changes, but it is not necessarily the only source of changes in the particular foreign policy issues.

(5) Aid allocation is sensitive to the level of recipient's of compliance and to the changes of desirability in recipient behaviors. Thus, only rewards and punishment, not inducement or threat, are the major working conditioning mechanisms.

(6) There should be significant correlations between aid allocation at time t and the desirability in recipient behaviors relating to donor objectives at

time t-1. There should be no significant correlations between aid allocation at time t-1 and changes in recipient's reactions at time t. The model also expects that correlations should appear between the recipient development needs at time t-1 and aid allocation at time t after controlling for the recipient level of desirability for donor objectives at time t-1.

Selected Hypotheses of Economic Aid Allocation

The following hypotheses will be tested in the case of China's economic assistance. They state the most crucial predictions of the models using same sets of independent variables: (a) the donor interests, (b) the recipient's de-

Table 2: Three Models of Economic Aid Allocation

	Donor Interest Model	Recipient Need Model	Community of Interest Model
Empirical Studies - supportive - rejective	many some	some some	a few none
Basic Character	exchange or bargaining	shared objective (development)	community of interest (FP issues)
Donor Type	both (superpower/major power donors)	both (non-super-power donors)	both (dependent consensus model for superpower donors)
Conditioning	inducement threat reward punishment	none	reward punishment
Donor Objectives	working	working thru development	working
Development Need	not working	working	working in part
Aid → Reaction	yes	no	no
Reaction → Aid	yes	no	yes

velopment needs, and (c) both the donor interest and the development need.

Hypothesis 1: Donor Interest Model

(H1a) The more desirable a country is in terms of the donor interest (China's economic, legitimacy, and/or security concerns), the more likely that country is an active aid recipient.

(H1b) There is no systematic relation between the country's development need (per capita GNP, smallness of the economy, and/or physical quality of life) and China's choice of a target recipient country.

(H1c) The probability of China's aid commitment is accounted for by the variations in the donor interest, not by the development need, even when they are controlled for each other.

Hypothesis 2: Recipient Need Model

(H2a) There is no systematic relation between the donor interest and China's choice of a target recipient country.

(H2b) The greater the development need of a country, the greater the chance that the country is an active aid recipient.

(H2c) The probability of China's aid commitment is accounted for by variations in the development need, not by donor interest, when they are controlled for each other.

Hypothesis 3: Community of Interest Model

(H3a) The more desirability of a country in terms of the donor interest, the more are chances that the country is an active aid recipient.

(H3b) The greater the development need of a country, the greater the chance that the country is an active aid recipient.

(H3c) The probability of China's aid commitment is accounted for both by

variations in the donor interest and by variations in the development need, when they are controlled for each other.

The hypotheses described above are expressed using the variables discussed in the following section. They are tested over time, several time periods, and across different regions.¹⁶

4. Preliminary Examination of the Data Set

Following reports are results from preliminary examination of the data set, which I believe suggest utility of the community of interest model to explain the determinants of Chinese economic aid allocation. First, we look at each variable and correlations between aid allocation and recipient need or donor interest variables, then turn to discriminant analyses using three models.¹⁷

Dependent Variable

Economic aid or economic assistance is defined as financial flows from a government in one country to a government in another country at concessional rates of interest and repayment which consists of grants, loans, official export credits, and other long-term capital. It excludes military assistance, pri-

¹⁶The development need hypothesis in H2b and H3b does not claim that China aids the poorest of the poor more, but does mean that the poorest of the poor have better chances to receive China's aid whatever the amount is. See Appendix for more formal presentation of the hypotheses, predictions, and models utilized for hypothesis testing.

¹⁷The general criteria for selecting the Third World countries are: non-European, non-communist, materially poor, and located in Asia, Africa, or Latin America. Communist countries or national liberation movements are excluded from the sample mainly because of the serious lack of data. The period of research is from 1956 to 1985, since China's economic aid to non-Communist Third World countries have started in 1956. See Appendix for a list of countries and of data sources for dependent and independent variables.

vate investment, and other means of assistance such as preferential entry into markets.

The active aid recipient is a country which is reported to be receiving non-negligible amounts of economic assistance from a donor in a particular year. Operationally, it is a country to which a donor has committed its economic assistance, which amounts to more than 0.5 million US dollars, without completing or suspending that aid. The dependent variable (ART) is 1 when a country is an active aid recipient and 0 when it is not.

Unfortunately, the Chinese government does not publish figures regarding aggregate aid commitments, so several separate sources must be used to compile a comprehensive set of statistics for this study. Then, it is required to cross-check over available sources in order to maintain reliability of the data. The decision to use the nominal data of China's aid allocation is made because the aid amount delivered is neither available nor reliable, and the aid amount committed is not a suitable index for each year. The aid commitment data instead of disbursement will be used in further analyses based on five periods of the Chinese foreign policy line.

As we see in Figure 1, China's economic aid activities in terms of its commitment amount (AEC) vary from time to time and were very extensive in 1970's. Only 1964, 1983, and 1984 show some extra activities. If we ignore 1975's \$1 billion commitment to Kampuchea, skyrocketing increase in the early 70's is the most remarkable change in its rises and falls. This picture, however, changes when we look at the aid commitment as a percentage of government expenditure (AEP, see Figure 2). It tells us that the previous picture is overestimating activities after the mid-70's and underevaluating them in

the early 60's.¹⁸

Figure 1: Chinese Economic Aid 1956-85

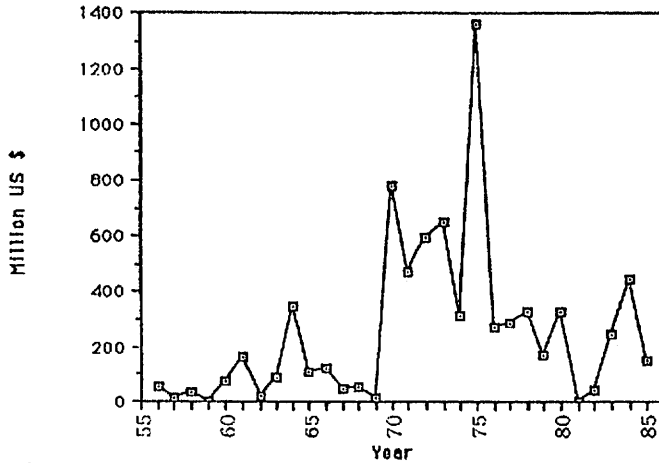
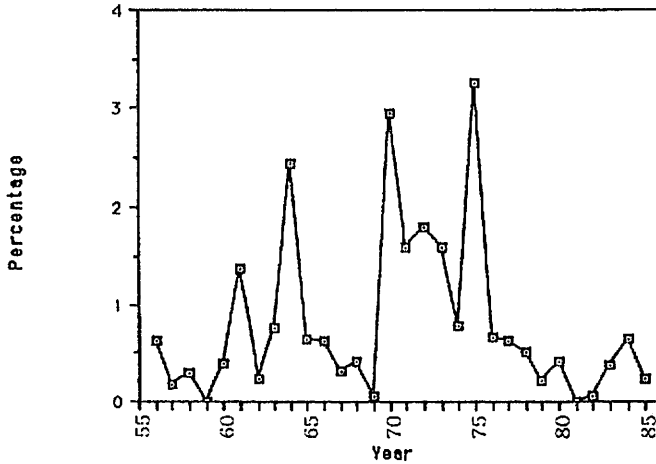


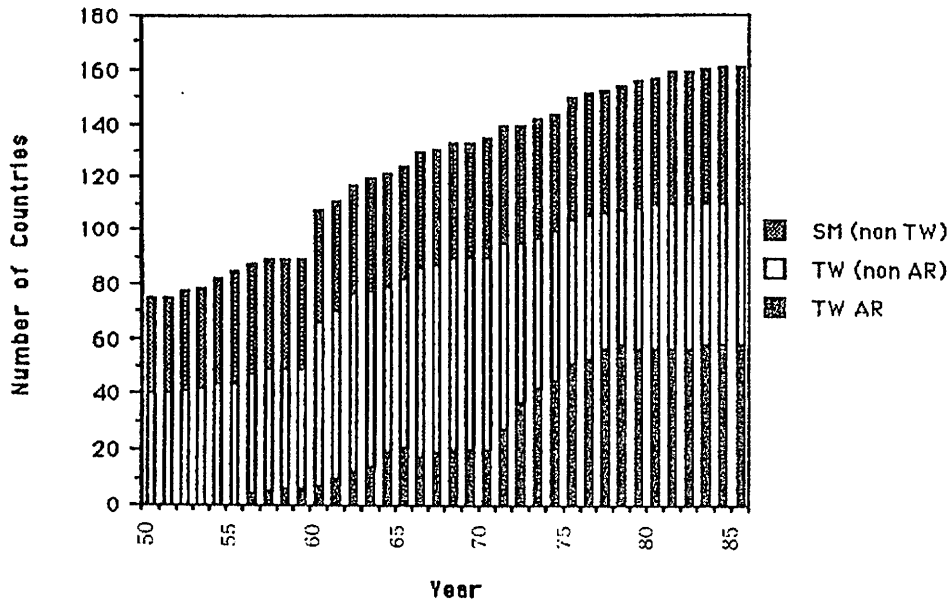
Figure 2: Aid Amount as Percentage of Government Expenditure

1956-85



¹⁸In 1975, the central committee of Chinese communist party decided the total aid amount (including communist countries) should be less than 5% of the government expenditure, and the ceiling was lowered to 4% in 1977, when the central committee also approved a report that the total new commitment should be around one billion yuan (\$538 million). See *Zhonghua Renmin Gongheguo Jingji Dashiji* (1984).

Figure 3: Aid Recipients, Third World Countries & System Members 1950-85



There are five periods (Figure 3) we can identify in terms of the number of active aid recipients (AR). In the late 1950's, the number of AR was only around five, while it increased to 21 by 1965. During the late 60's, the number of AR did not increase at all,¹⁹ although there was a sharp increase from 20 in 1970 to 58 in 1978. Since then the number of AR did not change so much.²⁰ Thus, one half of the Third World countries and one third of all system members are now China's aid recipients.²¹

¹⁹ There were some aid discontinuances during the Cultural Revolution: Burma 1966-70, Central Africa 1966-75, Ghana 1966-71, Indonesia 1966-present, and Kampuchea 1970-74.

²⁰ There are three aid suspensions during this period: Afghanistan 1980-present, Kampuchea 1979-present, and Laos 1979-present.

²¹ Periodization used in Figure 8 corresponds to the China's foreign policy lines, while it interestingly fits well with these five periods.

Figure 4 shows regional distributions of active aid recipient, while Figure 5 shows the amount of aid commitment. A sharp increase in African aid recipients in 1970's made Africa (south of Sahara) the region where China has been most active in its economic aid. Its share among AR exceeded 50% in 1972 and it is 65% since then. While the number of Asian active aid recipients has been relatively stable throughout the period studied, its share of aid amount promised is considerably large. This second largest share of 40% compares to the African share of 45%.

Figure 4: Chinese Economic Aid Recipient 1955-85

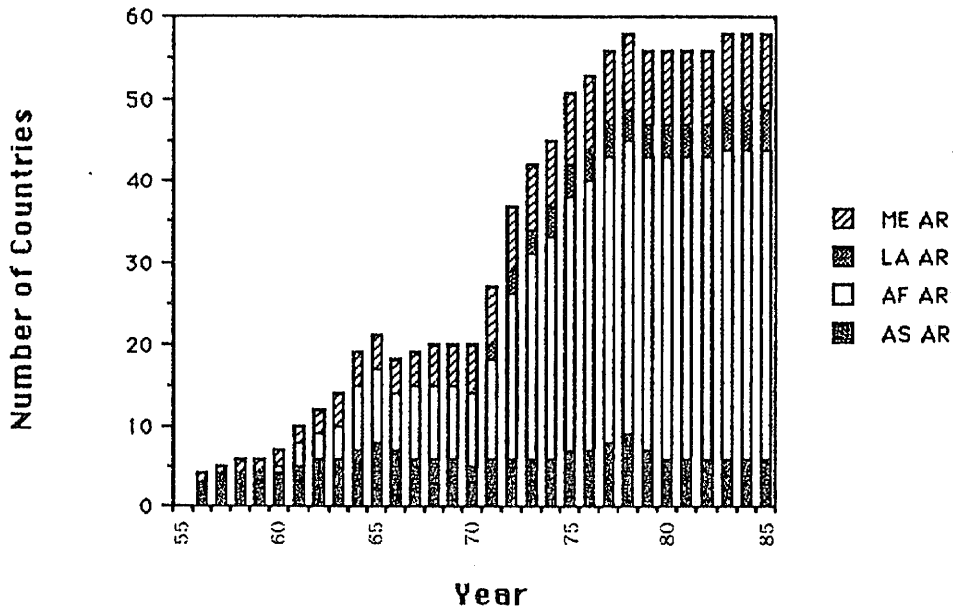
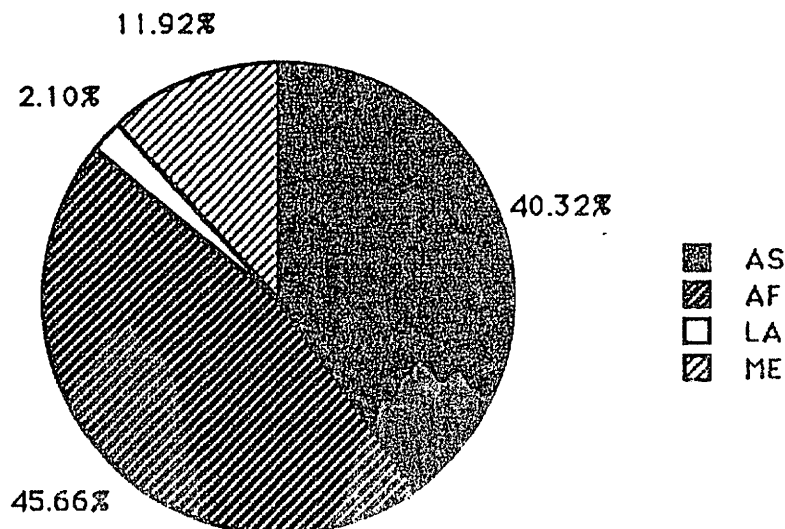


Figure 5: Aid Amount by Region 1956-85



These characterizations of China's 30 year aid activities promise the fruitfulness of further analyses by period and by region, while this paper limits itself within a general examination of its sample as a whole.

Indicators of Recipient Need

Development need is defined in economic term as an external support and a domestic effort required for a country to achieve its ideal state (in a short run) in constructing its economy and society: economic requirement "for obtaining the good life" (Goulet 1968, p. 299) — sustenance of life, esteem or recognition, and freedom from oppression (Chilcote 1981). It is measured along the following three dimensions:

- (1) GND: a difference between the level of target GNP per capita (approximation by the lowest per capita GNP among DAC countries) and the level of real achievement by the country,
- (2) ESZ: smallness of the economy (approximation by population), and

(3) PQL: need in terms of the physical quality of life (life expectancy and literacy rates).

Indicators of Donor Interest

Donor interest is a utility which is expected to be maximized through foreign economic aid-giving. It is operationally defined along the following three dimensions: trade interest (TDM), international legitimacy concerns (FRD), and security interest (BCHN).

Trade interest is a benefit which is gained through bilateral export and import. It is the acquisition of foreign exchange and products so vital to internal development. Trade interest is measured by a total amount of the bilateral trade as a proportion of the country's world trade amount.

International legitimacy concern is a concern of prestige on the level of acceptance of a donor as a legitimate state in the international community, which relates to a donor's diplomatic status. Operationally, it is defined by the status of official diplomatic relations among a country, the ROC, and the PRC.

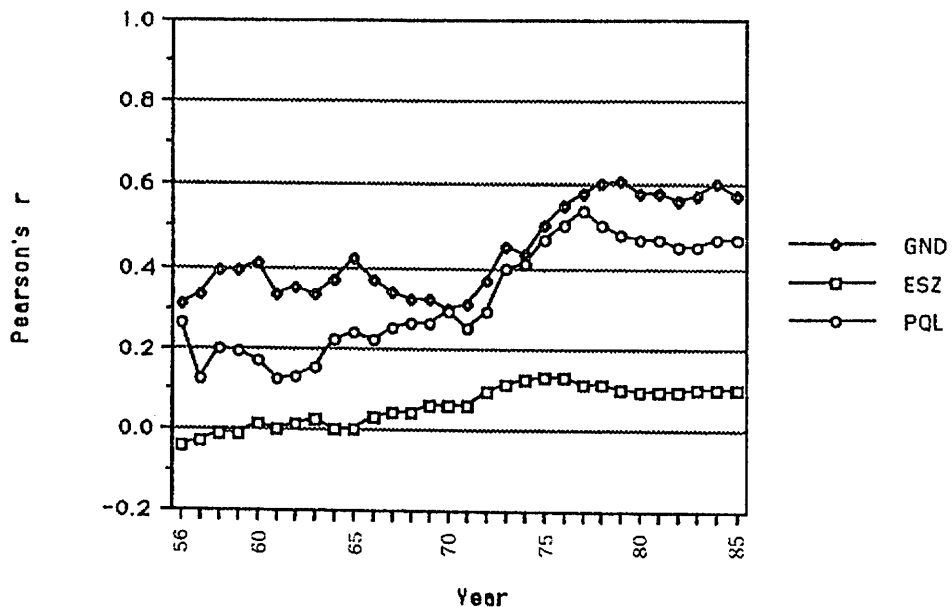
Security concern is a self-preservation concern of sovereignty over land, people, and wealth, which is satisfied by using military measures, showing these intentions, or concluding military treaties with other actors in the international system. It is measured by a level of similarity in a country's alliance patterns with China.²²

²²Military alliance is categorized into four types: defense pacts, nonaggression pacts, ententes, and no alliance. Similarity is measured as Kendall's τ_b coefficient by constructing a four-by-four contingency table for each pair of a country and the PRC for each year (Bueno de Mesquita 1981, pp. 111-118).

Correlations with Lagged Independent Variable

The following three figures show correlations between the variable of active aid recipient at year t and each independent variable at year $t-1$. It is noticeable from Figure 6 that the variables for recipient needs are not strongly correlated with China's aid allocation in the first half of the period studied. It is worth noting, however, that the development needs, in terms of GNP per capita, and of physical quality of life, could account for 15-35% of variations in China's selection of aid recipients after 1973. Also, the need in GNP per capita constantly accounted for more than 10% of the variations.

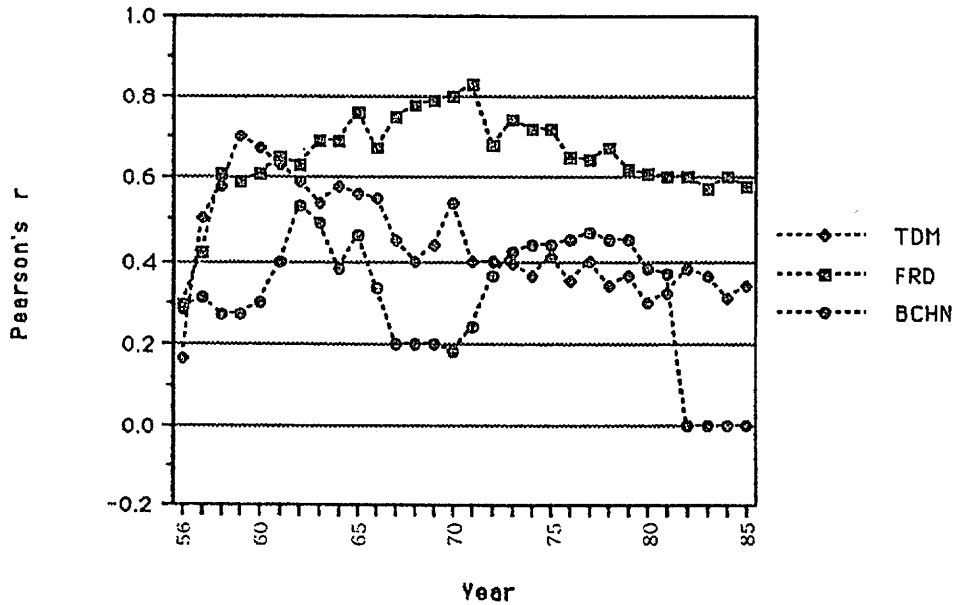
Figure 6: Correlations with Aid Recipient 1956-85 (Recipient Needs)



In Figure 7, it appears that the variables for donor interest correlates more strongly with Chinese aid allocation. In most years, each variable accounts for more than 10% of variations in the active aid recipient variable and more than 30% for the variable of international legitimacy concerns, which steadily increased until its peak in 1971 (the year the PRC recovered its representative status in the United Nations). It declined slowly since then. Trade interest was strongest in the early years (more than 25% of variations accounted till 1966) and decreased into 10-15% after the early 1970's. Security interest shows more up-and-down's. It accounts for less than 10% of variations in Chinese aid allocation in the late 50's and late 60's, and more than 15% in early 60's and most of the 70's (missing in the 1980's).

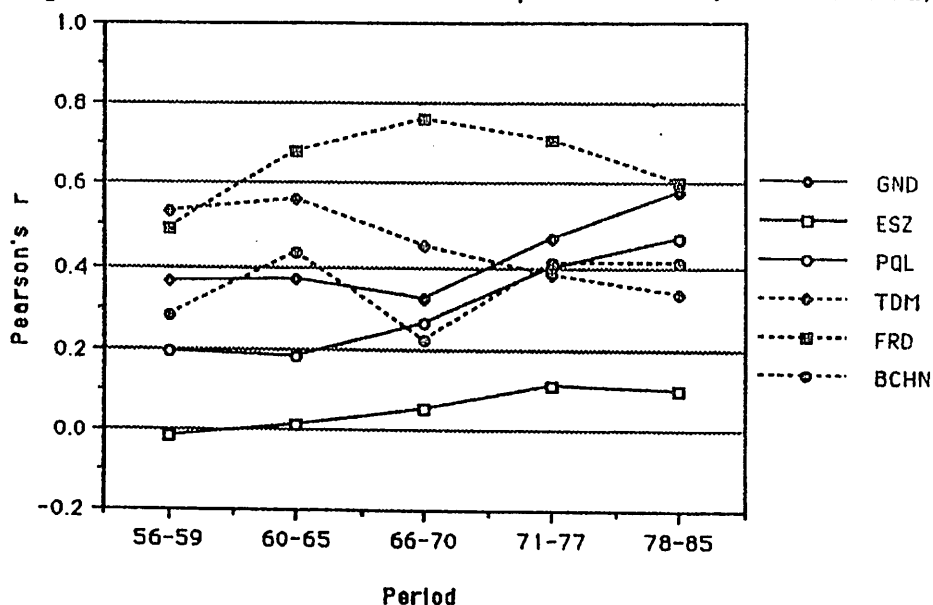
Figure 8 summarizes these tendencies by pooling yearly data into periods: 1956-59, 1960-65, 1966-70, 1971-77, and 1978-85.²³

Figure 7: Correlations with Aid Recipient 1956-85 (Donor Interests)



60's, the need in GNP per capita was the third salient variable among six, while in 70's and early 80's, it obtains the second highest correlations. The need in terms of physical quality of life was ranked almost third in 1971-77 and clearly third in 1978-85. Thus, casting a glance at the mainly cross-sectional correlations, we are encouraged to pursue further analyses under the community of interest model.

Figure 8 : Correlations with Aid Recipient 1956-85 (Pooled Period)



²³ Chinese foreign policy lines can be analyzed by examining its political-strategic policy and international economic policy. China's assignment of the main enemy is the best indicator in political-strategic policy: the United States for 1950-65 (including transition for 1958-65), both superpowers for 1966-1970, and the U.S.S.R. for 1971-85. In terms of the economic component of Chinese foreign policy, three periods can be identified: integration into the socialist camp world economy for 1950-59 (including transition for 1958-59), self-reliance for 1960-77, and integration into the capitalist world market for 1978-present. Taking both components into consideration results these five periods. See Van Ness (1984).

Discriminant Analysis

Figure 9 compares performances of three sets of variables corresponding to three models, using the percentage of correctly classified sample by discriminant analysis as the indicator of performance. It is not surprising that the community of interest model shows better performance among the three sets of variables since it can utilize six variables to classify the sample while the other two use only three. What is worth noting is the relatively high performance of the recipient need variables in early years and in late 1970's and the slowly declined performance of the donor interest variables after 1971. In some later years, the recipient need variables classify active aid re-

Figure 9: Discriminant Analysis 1956-81

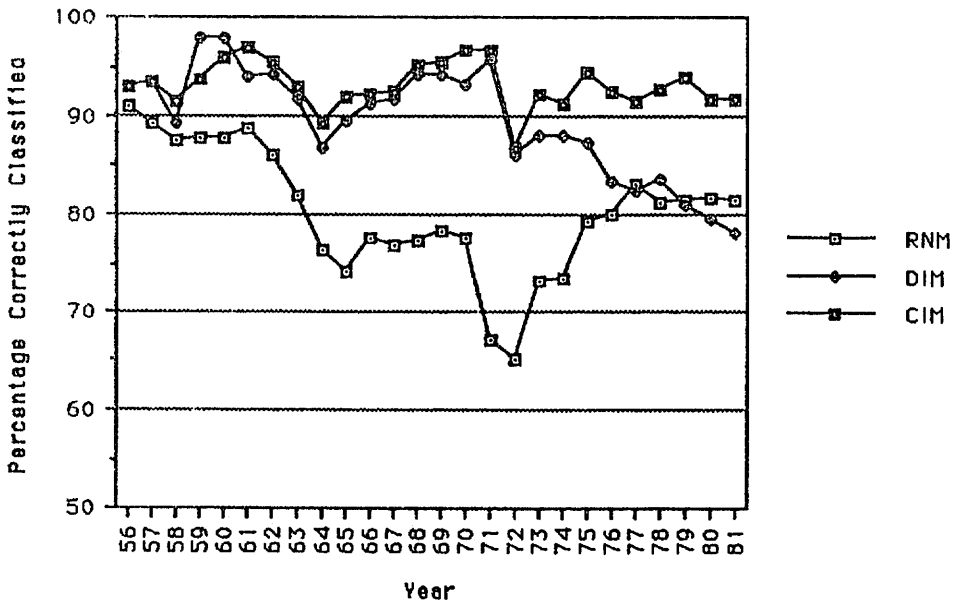
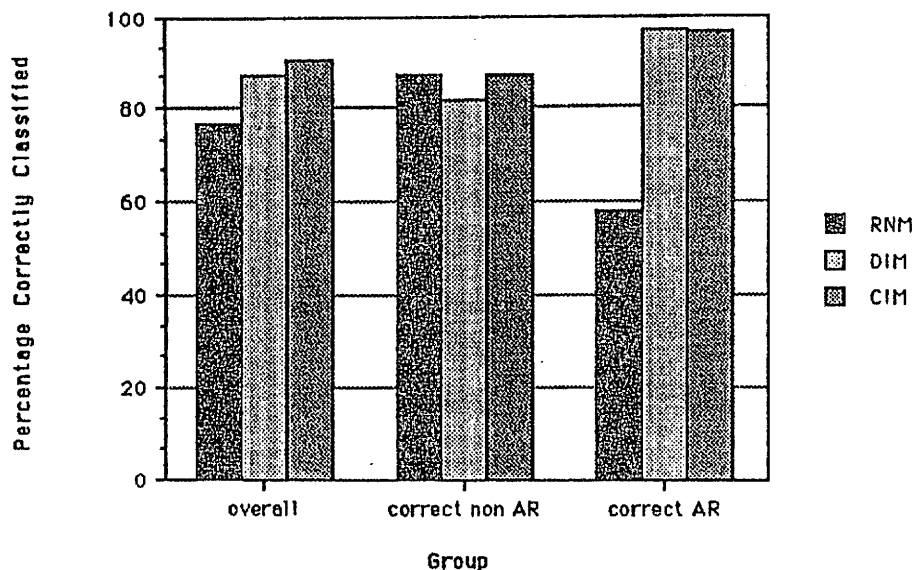


Figure 10: Comparing Performance of Three Models in Discriminant Analysis (Pooled Sample)



recipients and non-recipients even better than the donor interest variables.²⁴

Pooling yearly data into one whole period, Figure 10 shows the overall performances of three sets of variables. It also tells how much three sets of variables correctly classify each of active aid recipients and of non-recipients. The recipient need variables show better performance in correctly classifying non-recipients, while the donor interest variables are better in choosing active aid recipients. The community of interest model variables show the average performances both in identifying active aid recipients and non-recipients among three sets of variables, which results in a slightly better performance of the community of interest variables than of the donor interest variables.

²⁴See, for an alternative explanation, Mosley's (1981) argument on the bargaining power of recipient countries, especially of the more disaster-prone (generally the poorest) countries, based on budgetary incrementalism arguments.

Examinations of yearly data also show similar tendencies. In Figure 11 for the recipient need variables, this set of variables correctly classifies non-recipients better than active aid recipients, except after 1973 when both groups are similarly well-identified. In Figure 12 for the donor interest variables, it appears that active aid recipients are correctly classified better than non-recipients, except before 1965 which probably caused by the fact that the proportions of active aid recipients are only marginal and that the decisions of choosing recipients are not systematically related to these variables. Variables for the community of interest model show the similar tendencies, in Figure 13, with that of the donor interest model, but the dominance in correct classification of active aid recipients is not as clear as in the case of donor interest variables.

Figure11: Discriminant Analysis by Recipient Need Model

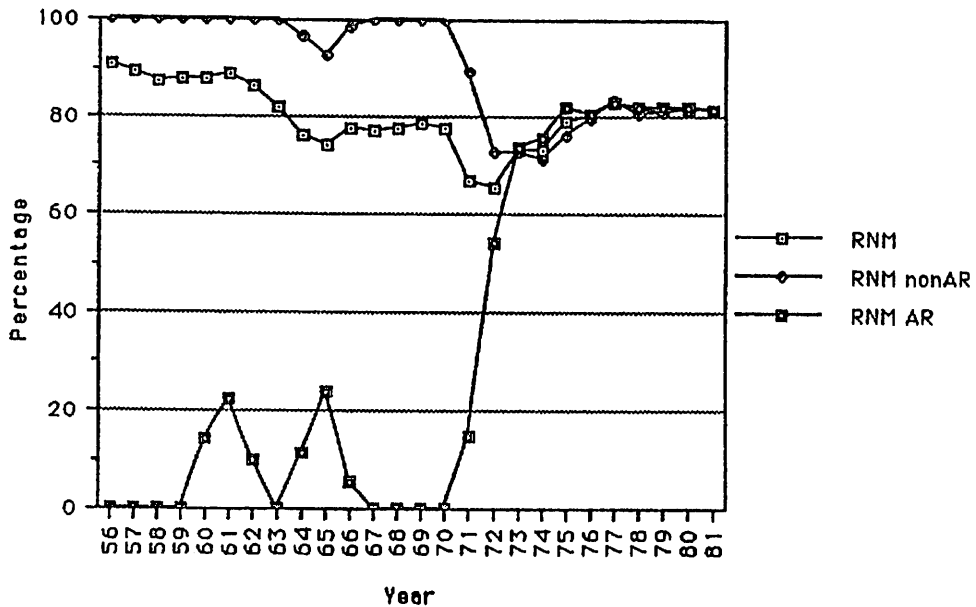


Figure12: Discriminant Analysis by Donor Interest Model

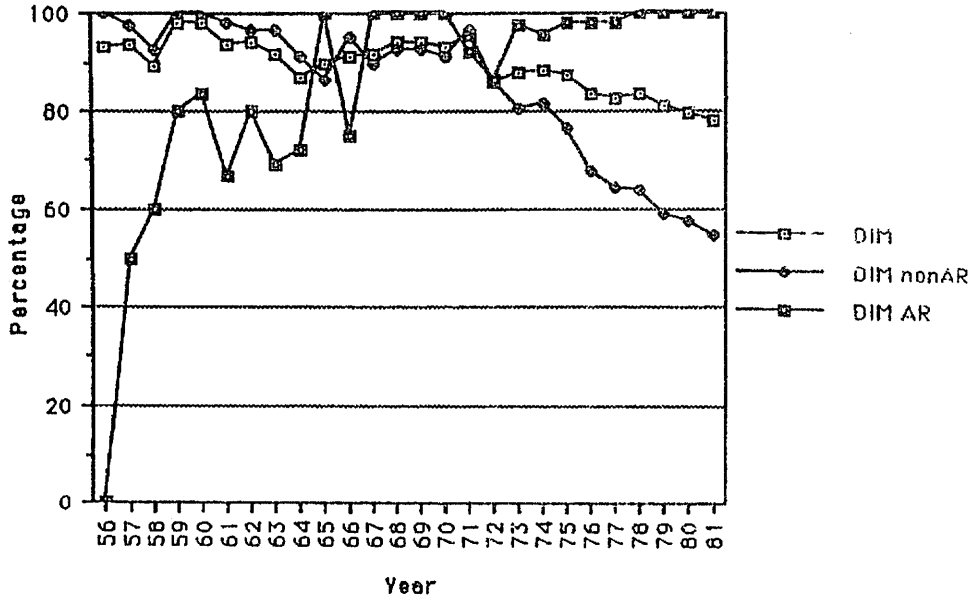
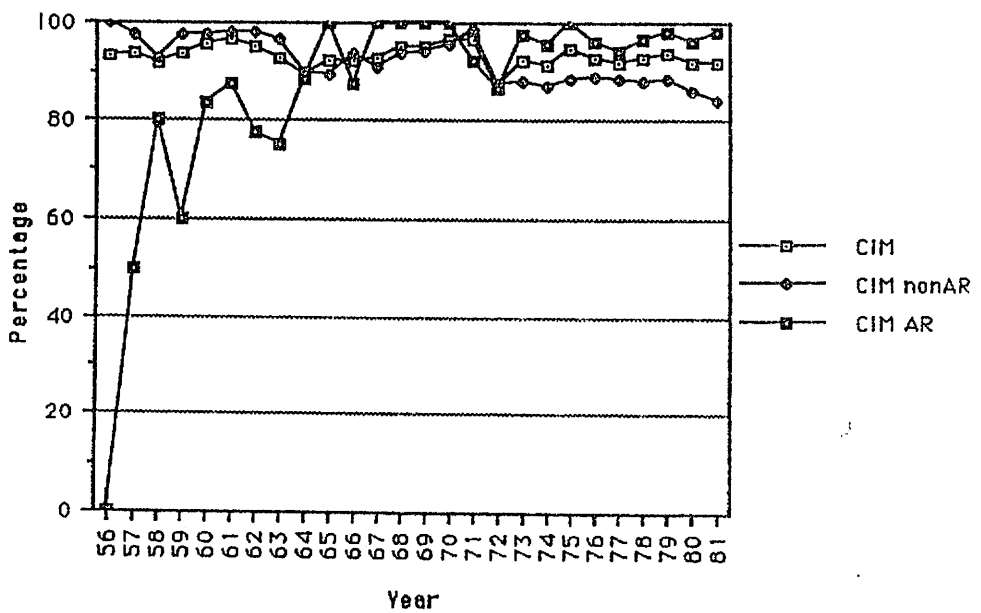


Figure13: Discriminant Analysis by Community of Interest Model



5. Conclusions

Implications for Theory and Policy

Of the three models proposed, these results support the community of interest model. The decision of dropping the candidate recipients from a list of active aid recipients is better explained by the recipient need model regardless of the donor interest model's high performance in indentifying the active aid recipients. These key elements exist in the community of interest model. In the decision of China's aid-giving, the logic of each model should be merged into the model of the community of interest.

When a group of decision makers in a non-superpower donor country (whose resources are not spent in vain or used to establish dependent relationships) are assumed to be a rational unitary actor, they should take the recipient need into consideration, specifically, when to drop countries from a list of candidate recipients. Non-superpower donors may only support the government sharing the community of interest or make its power bases more stable; they cannot fine-tune the foreign and/or domestic policies of the recipient government. Therefore, they have little to gain from giving limited resources away to unneedy recipients even if the community of interest exists with that nation. Preliminary examination of the data set collected for my ongoing dissertation research shows that decisions in Chinese economic aid allocation are best suited by the community of interest model.

Direction of the Study

Even though the preliminary examinations of the data set encouraged the pursual of the community of interest model, the data analyses in this paper is limited. First, the dependent variable of active aid recipient is a good indica-

tor for examining the decision of choosing target countries while it cannot account for the decision of allocating given resources among countries (recall the share of Asian countries in terms of active aid recipients and of aid commitment amounts). Analyses for aid commitment amount will be done in the on-going research. Secondly, the discriminant analyses in this paper did not test three models against three hypotheses, in particular, they did not examine significance levels of variables in each model. Proper ways of testing hypotheses are the use of probit analysis for the active aid recipient variable and tobit analysis for the aid commitment, which is planned in the on-going study. Thirdly, in order to test the effect of changes in recipient characteristics on aid allocation or of changes in donor behaviors on recipient reactions, we need to utilize the first differentials of variables. This will also be done in the on-going study.

The proposed project will add more systematic findings to our present knowledge of Chinese foreign economic assistance as well as of Chinese foreign policy toward Third World countries and foreign economic aid in general. First of all, since economic assistance constitutes the important dimensions of Chinese foreign relations (Hutchison 1975), the findings of this study would enhance our understanding of Chinese foreign policy in general, especially in relations with Third World countries, and supply a "missing chapter" (Bobrow and Chan 1984, p. 46). Secondly, this study will partly respond to three major puzzles in the study of Chinese foreign policy (Kim 1984, pp. 5-8): consistency over time, uniqueness or generality compared with other nations, and the gap between policy pronouncement and policy performance. Finally, the findings of this project as a heuristic case study will

also enhance our understanding of the phenomenon of international economic assistance in general, especially when compared with the existing empirical and theoretical literatures on major donors.

APPENDIX

A. Data Sources for Sample Selection

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B. List of Third World Countries

As mentioned in the footnote, the basic criteria to choose the sample of Third World countries are:

- (1) an interstate system member at any time during 1950-80,
- (2) geographically located in Asia, Africa, Latin America, or Middle East,
- (3) economically non-industrialized,
- (4) culturally non-European, and
- (5) politically non-communist.

Asian Sample

Afghanistan, Bangladesh, Bhutan, Burma, India, Indonesia, Kampuchea (Cambodia), Korea (Republic of), Laos, Malaysia, Maldives, Nepal, Pakistan, Philippines, Singapore, Sri Lanka (Ceylon), Thailand, and Vietnam (Republic of).

African Sample (South of Sahara)

Angola, Benin/Dahomey, Botswana, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Djibouti, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Kenya, Lesotho, Liberia, Malagasy/Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Niger, Nigeria, Rwanda, Sao Tome Principe, Senegal, Seychelles, Sierra Leone, Somalia, Swaziland, Tanzania/Tanganyika, Togo, Uganda, Up-

per Volta/Burkina Faso, Zaire (Congo, Kinshasa), Zambia, and Zimbabwe.

Latin American Sample

Argentina, Bahamas, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Lucia, St. Vincent & Grenadines, Surinam, Trinidad, Uruguay, and Venezuela.

Middle Eastern and Northern African Sample

Algeria, Bahrein, Egypt/UAR, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, Turkey, United Arab Emirates, Yemen AR (San'ah), and Yemen PDR (Aden).

C. Data Sources for Dependent Variable

Background Brief (1984) "Aid to the Developing World." *Background Brief* (December 1984). London: Foreign and Commonwealth Office.

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E. Operational Definitions of Independent Variables

Indicators for Recipient Need

Development Need 1. Need in terms of per capita GNP: GND

$$\text{GND} = (\text{Target GPC} - \text{GPC}) / \text{target GPC}$$

$$\text{GPC} = \text{GNP per capita}$$

$$\text{Target GPC} = \text{Lowest GPC among DAC countries}$$

Development Need 2. Smallness of the economy: ESZ

$$ESZ = 1 - POP / \text{large POP}$$

POP = Population

Large POP = Largest POP among the Third World countries

Development Need 3. Physical quality of life: PQL

$$PQL = (LET + LIT) / 2$$

$$LET = (\text{Target LEX} - LEX) / \text{target LEX}$$

LEX = Life expectancy

$$LIT = (\text{Target LIR} - LIR) / \text{target LIR}$$

LIR = Literacy rate

Indicators of Donor Interest

Donor Interest 1. Economic interest: TDM

$$TDM = TCH / TWD$$

TCH = Gross amount of trade (export and import) with the PRC

TWD = Gross amount of trade with the rest of the world

Donor Interest 2. International legitimacy concerns: FRD

$$FRD = 2 \text{ if } (DRC = 1 \text{ and } DRT = 0)$$

$$FRD = 0 \text{ if } (DRC = 0 \text{ and } DRT = 1)$$

FRD = 1, otherwise

DRC = Diplomatic Relations with PRC

DRT = Diplomatic Relations with ROC

Donor Interest 3. Security concerns: BCHN

BCHN = Similarity of alliance pattern with the PRC for each region.

(See Appendix B and footnote 22)

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