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Lobbying by Ethnic Groups and Aid Allocation[□]

By

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Abstract

We develop a political-economic model of foreign aid allocation. Each ethnic group in the donor country lobbies the government for allocating more aid to its country of origin, and the government accepts contributions from lobby groups. Initial per-capita income of the recipients and those of the ethnic groups are shown to be important determinants of the solution of the political equilibrium. We also examine the effects of changes in the degree of corruption, aid fatigue, and ethnic composition, in the donor country on the allocation of aid.

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1 Introduction

It is a rather curious fact that only 30% of total overseas development assistance goes to the least developed countries. This contrasts to a figure of 25% of foreign aid that goes to the relatively prosperous developing countries. It is also true that the pattern of aid differs widely between donors. For example, the proportion of aid going to relatively prosperous developing countries is much higher for the U.S.A, the U.K., and France than for Denmark, Norway and Japan.¹ There have been many studies | mostly applied | that attempt to examine why bilateral foreign aid is allocated in this fashion (see, for example, Trumbull and Wall (1994) and Alesina and Dollar (1998)).² The motivation for giving aid can be divided into two broad categories: recipient needs and donor self-interest(see Maizel and Nissanke (1984)). In other words, the donors do care about the needs of the recipients, but at the same time they also use foreign aid to further their self-interest. Within each of the two broad categories, there are of course many factors that determine how a donor allocate aid. Of all the factors, one set of factors that come out as significant in almost all empirical studies can broadly be defined as political variables.³ However, in most of the studies the focus of attention has been on international political variables such as strategic alliance, voting pattern in the United Nations, and domestic political variables relating to the recipient countries such as dictatorship, corruption, political stability etc. Domestic politics in the donor country has been ignored. In the present paper, we shall construct a theoretical model to analyse the role of domestic politics in a donor country in its allocation of aid between competing recipient countries.

Casual empiricism suggests that domestic politics in the donor countries do

¹According to the World Development Report 1992, the percentage of aid given to 'low-income' developing countries by major donors in 1991 were as follows: U.S.A.: 14%, France: 18%, Germany: 20%, U.K.: 23%, Denmark: 29%, Norway: 30%, Japan: 42%. The low-income countries include China and India who, between them, account for about 40% of world population. Therefore the above figures cannot be justified on the ground of small population size of the low-income countries.

²To our knowledge the only paper that analyses the question of allocation of foreign aid among multiple recipients is Lahiri and Raimondos-Müller (1997). They examine if trade policies in the recipient countries affect the allocation of aid.

³Political variables have also been found to be important in determining the effectiveness of foreign aid (see, for example, Boone (1996) and Burnside and Dollar (1998)).

play a role. For example, in a multi-cultural donor country, the importance of various ethnic groups may not be underestimated. These groups often lobby the government for the benefit of the countries of their origin. Many such lobby groups such as the Jewish lobby, the Arab lobby, the Indian lobby, the Turkish lobby etc. are well known for their activities in major multi-cultural donor countries such as the United States of America, The United Kingdom, Germany, and France. To the extent these lobbying activities have effects on the allocation of aid, one would expect that the pattern of aid would be quite different between multi-cultural countries such as the ones mentioned above on the one hand and relative more homogeneous countries such as Japan, Denmark, Sweden etc. In fact, as mentioned before, the pattern of aid between the two groups of countries is strikingly different. Moreover, the relationship between the pattern of aid and the ethnic composition is also striking. For example, a large proportion of aid from Germany goes to Turkey. Similar observation can be made for U.K. aid to India and U.S.A aid to Israel.⁴ It is therefore important to examine the role of ethnic composition in the determination of the allocation of aid.

The importance of political process in economic decision making in general and international policy issues in particular is well recognised (see Dixit (1996)). The particular aspect of lobbying by interest groups has derived a lot of attention from international economists. There are many alternative approaches in modelling political equilibrium,⁵ and these include the tariff-formation function approach (Findlay and Wellisz (1982)), the political support function approach (Hillman (1989)), median voter approach (Mayer (1984)), the campaign contribution approach (Magee et al (1989), and the political contributions approach (Grossman and Helpman (1994)).

Lobbying in our paper takes place in a donor country which allocates aid among two recipient countries. We assume that there are two ethnic groups in the donor coun-

⁴In the empirical literature, researchers have found significant correlation between bilateral aid and former colonies. For example, as reported in Alesina and Dollar (1998) the 'colony shares' in bilateral aid are the following for some of the major imperial powers of the past: U.K.: 78%, France: 57%, Portugal: 99.6%, and Belgium: 53.7%. However, there is usually a high correlation between ethnic composition of a country and its imperial past. Therefore, a part of the reasons for a high proportion of aid going to former colonies could in fact be due to the ethnic composition of a donor country and domestic politics rather than due to merely historical reasons.

⁵See Rodrik (1995) for a survey of the various approaches of modelling political economy in trade policy analysis.

try corresponding to the two recipient countries, and there are natives. The natives are impartial about the two recipient countries and do not lobby the government. However, each ethnic group cares only about one recipient country and lobbies the government for giving more aid to its country of preference. We model lobbying by following the political contribution approach. That is, the lobbyists make political contributions to the political party in power, and the amount they contribute is contingent upon the policy that the government adopts. The political contributions approach, derived from the common agency problem analysed by Bernheim and Whinston (1986), was first introduced by Grossman and Helpman (1994) in modelling the political economy of trade protection. However, one of the shortcomings of the framework of Grossman and Helpman (1994) is that the preferences of all the agents are assumed to be of the quasi-linear type which has the implication of constancy of marginal utilities of income. This assumption is particularly inappropriate for the present problem as marginal utilities of income typically act as equilibrating forces in the determination of foreign aid (see Lahiri and Raimondos-Müller (1998a)). Dixit, Grossman and Helpman (1997) have recently generalised the Bernheim-Whinston framework to allow for general preferences and therefore variability in marginal utilities of income. We shall follow their approach closely in this paper.

Our aim is to construct a model in which the reasons for a disproportionately large proportion of aid going to relatively prosperous developing countries are to be found in the way the political equilibrium is determined. We shall focus on three parameters, viz., the degree of corruption, the level of aid fatigue, and ethnic composition, in the donor country to examine the issues at hand.

2 The Framework for Analysis

In our framework, there are three countries: two recipient countries (labeled α and β) and a donor country. The population in the donor country is heterogeneous, particularly in terms of their cultural/ethnic background. In particular, we consider three groups of individuals in the donor country: labeled 1, 2 and 3. Let $(i = 1, 2, 3)$ be

the size of ethnic group i . All three groups are altruistic towards the consumers in the recipient countries, but asymmetrically so. Members of third group, who are the native population in the donor country, care equally about the consumers in the two recipient countries. However, members of the first group care only about the consumers in country \oplus , and members of the second group only about \ominus . Implicitly, we assume that members of the first (second) group have their cultural roots in country \oplus (\ominus). Because of the nature of altruism as outlined above, the per capita utility levels of the three groups in the donor country, u_i ($i = 1; 2; 3$), is given as.⁶

$$\begin{aligned} u_1 &= \hat{u}_1 + \alpha_1 u_{\oplus}; \\ u_2 &= \hat{u}_2 + \alpha_2 u_{\ominus}; \\ u_3 &= \hat{u}_3 + \alpha_3 (u_{\oplus} + u_{\ominus}); \end{aligned}$$

where \hat{u}_i is the direct utility derived from consumption, u_j is the aggregate utility level of the (identical) consumers in country j ($j = \oplus; \ominus$), and α_i is the altruism parameter.⁷

The gross factors incomes are denoted by Y_i ($i = \oplus; \ominus; 1; 2; 3$).⁸ All the markets are perfectly competitive and all three countries are small open economies so that the commodity prices are exogenous.⁹ Moreover, all factor endowments are inelastically supplied so that the gross factor incomes all the agents in all three countries are exogenously given. Because of all these assumptions, the Y_i 's are exogenous in our model.

We assume that the total amount of aid, T , is financed by a proportional income tax, and the tax rate, t , is exogenous. However, the allocation of this aid between the two recipient countries is endogenous, and we denote by θ the proportion of the total

⁶We assume that there is no altruism within the donor country, i.e. people in the donor country do not care about the welfare of other people in their own country.

⁷This simple specification of altruism where the utility is additive in direct self utility and the utility of the foreign consumers, is made for analytical simplicity and most of our results will go through under the more general specification $u_i = f(\hat{u}_i; u_-)$ where the function f is an increasing function of both its arguments.

⁸For the three groups in the donor country, these are per-capita incomes. Since in the recipient countries all the consumers are identical, Y_{\oplus} and Y_{\ominus} are taken to be aggregate incomes.

⁹In Lahiri and Raimondos-Müller (1997), which does not model lobbying at all, term-of-trade effect is the main mechanism which determines the allocation of foreign aid

aid budget that is allocated to country i . Assuming that the amount of aid received by a recipient country is distributed among the consumers in a lump-sum fashion, the indirect utility functions in the two recipient countries and that of the natives in the donor country, $V_i(c)$ ($i = 1, 2, 3$), depends on the net incomes,

$$u_1 = V_1(Y_1) \sim V_1(Y_1 + \alpha T); \quad (1)$$

$$u_2 = V_2(Y_2) \sim V_2(Y_2 + (1 - \alpha)T); \quad (2)$$

$$u_3 = u_3 + \lambda_3(u_1 + u_2) \sim V_3((1 - t)Y_3 + \lambda_3(u_1 + u_2)); \quad (3)$$

Since aid, T , is financed by income taxation, we must have

$$T = t(Y_1L_1 + Y_2L_2 + Y_3L_3);$$

Since t , L_i 's and Y_i 's are exogenous, the total amount of aid is also exogenous in our analysis.¹⁰

Equations (1) and (2) state that the indirect function in each of the recipient country is depends on (exogenous) aggregate factor incomes plus the (endogenous) amount of foreign aid received. Similarly, (3) says that the per-capita utility of the natives (group 3) in the donor country is equal to their direct utility which depends on their factor income net of the tax they pay for financing foreign aid, plus the utility they receive because of their altruism.

The aid allocation parameter α is a policy instrument for the government of the donor country, and this instrument is determined endogenously in the political equilibrium. We shall follow very closely Dixit, Grossman and Helpman (1997) (to be referred to as DGH) in specifying the equilibrium. The natives in the donor country (group 3) do not lobby the government, but the other two groups do by making political contributions to the political party in power. We shall henceforth refer to the

¹⁰Implicitly, we assume that there are two stages in the decision making process in relation to foreign aid. In the first stage, the donor country decides how much it wants to set aside for development assistance. In other words, the tax rate is decided in the first stage. In the second stage, the donor country decides how to allocate this earmarked amount between the recipients. In this paper, we concentrate on the second stage, taking the first stage as exogenous. We also assume away any private aid. The justification of this assumption is that by lobbying for public aid, the ethnic groups do not have to bear the full cost of the aid. In fact, if the natives form the vast majority of the population, the ethnic groups bear only a small proportion of the cost of financing aid via the government

First two groups as interest groups 1 and 2. The political contribution schedules for the i th interest group is denoted by $c_i(\cdot)$, ($i = 1; 2$). The donor government's objective function is given by

$$G = G(C; W; \frac{1}{2}); \tag{4}$$

where

$$C = c_1 + c_2;$$

$$W = L_1u_1 + L_2u_2 + L_3u_3;$$

It is implicit in the above specification of the government's objective function that it cares about the total welfare of its nationals, and also about the total amount of political contribution that

it receives.¹¹ $\frac{1}{2}$ is a 'corruption' parameter which will be explained later on. The function is assumed to be increasing in the first two arguments,

$$G_C > 0 \quad \text{and} \quad G_W > 0; \tag{5}$$

The political equilibrium is the outcome of a two-stage non-cooperative Nash game. In stage one of the game, the two lobbies simultaneously choose their political contribution schedules. Government sets policy in stage two. A political equilibrium is given by (i) two political contribution functions $fc_1^s(\cdot); c_2^s(\cdot)g$, one for each interest group, such that each group maximises the welfare of its members, given the contribution schedule set by the other interest group and the anticipated political optimisation by the government, and (ii) a policy variable, \cdot^s , that maximises the government objective given by (4), taking the contribution schedules as given.

As discussed in DGH, the model can have multiple sub-game perfect Nash equilibria, some of which can be inefficient. DGH develop a refinement, called the truthful equilibria, that implement Pareto efficient outcomes. Stated formally, let $(fc_1^0(\cdot^0; u_1^0); c_2^0(\cdot^0; u_2^0)g; \cdot^0)$ be a truthful equilibrium in which u_1^0 and u_2^0 are the

¹¹Rather than considering the sum total of the individual welfares (which we do for analytical convenience), we could have considered a more general social welfare function, W .

equilibrium per-capita utility level of the two interest groups. Then $(f, c_1^0(1^0; u_1^0), c_2^0(1^0; u_2^0), g, 1^0, u_1^0, u_2^0)$ is characterised by (i) the truthful contribution schedules chosen by the interest groups

$$c_1(1; u_1^0) = \text{Max}(0; A_1); \quad (6)$$

$$c_2(1; u_2^0) = \text{Max}(0; A_2); \quad (7)$$

where A_1 and A_2 are defined in

$$u_1^0 = V_1(\mu, 1-t) \gamma_1 \left(\frac{A_1}{L_1} + u_1^0 \right); \quad (8)$$

$$u_2^0 = V_2(\mu, 1-t) \gamma_2 \left(\frac{A_2}{L_2} + u_2^0 \right); \quad (9)$$

(ii) the optimal aid-allocation parameter, 1^0 , chosen by the donor government,

$$1^0 = \text{Argmax}_1 G(c_1(1; u_1^0) + c_2(1; u_2^0); L_1 u_1^0 + L_2 u_2^0 + L_3 u_3(1); \frac{1}{2}); \quad (10)$$

and finally (iii) the following two equations that tie down the utility levels of the two interest groups

$$\begin{aligned} & G(c_1(1^0; u_1^0) + c_2(1^0; u_2^0); L_1 u_1^0 + L_2 u_2^0 + L_3 u_3(1^0); \frac{1}{2}) \\ &= G(c_1(1_1; u_1^0); L_1 u_1^0 + L_2 u_2^0 + L_3 u_3(1_1); \frac{1}{2}) \end{aligned} \quad (11)$$

$$\begin{aligned} & G(c_1(1^0; u_1^0) + c_2(1^0; u_2^0); L_1 u_1^0 + L_2 u_2^0 + L_3 u_3(1^0); \frac{1}{2}) \\ &= G(c_2(1_2; u_1^0); L_1 u_1^0 + L_2 u_2^0 + L_3 u_3(1_2); \frac{1}{2}); \end{aligned} \quad (12)$$

where 1_1 and 1_2 are defined by

$$1_i = \text{Argmax}_1 G(c_i(1; u_i^0); L_1 u_1^0 + L_2 u_2^0 + L_3 u_3(1); \frac{1}{2}); \quad (i = 1; 2); \quad (13)$$

and $u_3(1)$ is defined in (1)-(3).

Equations (6) and (7) (together with (8) and (9)) in a sense state that the truthful contribution schedules are set to the level of compensating variations relative to the equilibrium utility levels of the respective interest groups (see Dixit et al (1996, p.18)). Equation (10) is self explanatory: the government takes the utility levels of the interest groups as given and chooses the allocation parameter so as to maximise

its objective function. Equations (11) and (12) (together with (13)) which tie down the equilibrium utility levels of the two interest groups, are derived from the premise that each interest group would pay the lowest possible contribution to induce the government of pursue the equilibrium policy given in (10), given the contribution of the other group. For this to be the case, the government must be indi®erent between (a) implementing the equilibrium policy and receiving contributions from both the interest groups, and (b) implementing a policy by accepting contribution from only one interest group. Equations (11) and (12) state precisely that.

We conclude the description of the basic framework by writing explicitly the first order conditions associated with (10) and (13). For doing so, first of all from (1)-(3) we obtain

$$du^- = V^0 T d^1; \tag{14}$$

$$du^{\otimes} = \int_i V^0_{\otimes} T d^1; \tag{15}$$

$$du_3 = \int_{\rightarrow 3} d(u^- + u^{\otimes}) = \int_{\rightarrow 3} T \int_i V^0_{\otimes} d^1; \tag{16}$$

where V_j^0 are the marginal utilities of income. Differentiating (6) and (7) (and therefore (8) and (9)) and using (14) and (15), we obtain¹²

$$dc_1(1; u_1^0) = \int_i \frac{L_1 V^0_{\otimes \rightarrow 1} T}{V_1^0} d^1; \tag{17}$$

$$dc_2(1; u_2^0) = \frac{L_2 V^0_{\rightarrow 2} T}{V_2^0} d^1; \tag{18}$$

Finally, using (16)-(18) we obtain from (10) and (13) the first-order conditions for the government's maximisation problems

$$1^0 : \quad G_1^0 = L_{\rightarrow 3} A G_W^0 \int_i B G_C^0 = 0; \tag{19}$$

$$1_1 : \quad G_1^1 = L_{\rightarrow 3} A G_W^1 \int_i \frac{L_{\rightarrow 1} V^0_{\otimes} G_C^1}{V_1^0} = 0; \tag{20}$$

$$1_2 : \quad G_1^2 = L_{\rightarrow 3} A G_W^1 + \frac{L_{\rightarrow 2} V^0_{\rightarrow 2} G_C^2}{V_2^0} = 0; \tag{21}$$

¹²Clearly, the $c_i(\cdot)$ functions may not be differentiable. However, we assume that A_i is always positive so that $c_i(\cdot) = A_i(\cdot)$.

where

$$A = V_{i1}^0; \quad B = \frac{L_{1,1}V_{i1}^0}{V_1^0}; \quad C = \frac{L_{2,2}V_{i2}^0}{V_2^0};$$

and G_i^0 is the partial derivative of the left hand side of (11) (or, equivalently, of (12)), and G_i^1 (G_i^2) is the partial derivative of the right hand side of (11) ((12)), with respect to the i ($i = C; W$).

This completes the basic description of the model, and we conclude this section by stating some of the assumptions and noting a few properties of the equilibrium before embarking on two comparative static exercises in the following two sections.

First of all, we assume that the total volume of aid, T , is not so large that the allocation of it can reverse the ranking of welfare levels of the various agents in the model. Second, given this assumption, without any loss of generality we assume that

$$Y_{i1} > Y_{i2} \quad (22)$$

Third, we assume positive and diminishing marginal utility of income for all agents, i.e.

$$V_{i1}^0 > 0 \quad \text{and} \quad V_{i1}^{00} < 0; \quad i = 1; 2; 3; \dots; \textcircled{1} \quad (23)$$

From (5), (19) and (22) it is clear that if $L_{1,1}V_{i1}^0 < L_{2,2}V_{i2}^0$, G_1 is always positive and therefore $\theta^0 = 1$. Because of (1), (2), (22) and (23), it therefore follows that if either $u_1 \ll u_2$ or $L_1 \ll L_2$, or $\alpha_1 \ll \alpha_2$, we must have $\theta^0 = 1$. This gives us the first result of the paper. Formally,

Proposition 1: The poorer recipient country receives the entire amount of aid if either, ceteris paribus, (i) the richer ethnic group lobbies for the poorer recipient country, or (ii) the ethnic group that lobbies for the poorer recipient country is relatively numerous, or (iii) the ethnic group that lobbies for the poorer country is significantly more altruistic than the other ethnic group.

An increase in the proportion of aid going to the poorer country has two effects on the objective function for the government. The first effect is given by the first term

on the right hand side of (19) is via changes in social welfare and is always positive as giving more aid to the country with a higher marginal utility of income raises social welfare. The second effect is given by the second term on the right hand side of (19) is via changes in political contributions. If the poorer country receives a higher proportion of aid, the ethnic group that lobbies for the poorer country would make a higher contribution and the other group would make a lower contribution. If the ethnic group corresponding to the poorer country, ceteris paribus, is richer than the other group, the net political contribution would also increase, and the overall effect on the government's objective function would be unambiguously positive. In this case, the government would allocate the entire amount of aid to the poorer country.

An implication of the above proposition is that in order for there to be an interior solution of α , one must have,

$$B > 0; \tag{24}$$

an assumption that we shall make henceforth.¹³ For expositional simplicity henceforth we shall take that (24) means that the first ethnic group is richer although, as explained above, B could be positive even when the first ethnic group is poorer but either relatively more numerous, or altruistic, than the second ethnic group.

Because of the above assumptions it can be proved from (19)-(21) that

$$\alpha_1 < \alpha^0 < \alpha_2 = 1; \tag{25}$$

That is, when only the richer (poorer) ethnic group lobbies, the poorer (richer) recipient country receives a smaller proportion of aid than when both groups lobby. The intuition for this should be clear. When only one ethnic group lobbies, the government

¹³The second-order condition is given by

$$\begin{aligned} 0 > G_{\alpha\alpha}^0 = & L_{3,3} T G_W^0 \frac{(V^0)^3}{V^{00}} + \left(\frac{V^0}{V^{00}} \right)^3 \left[L_3 (\alpha_2 + \alpha_3) T G_{CW}^0 A B \right. \\ & + L_{3,3} T G_{WW}^0 A + G_{CC}^0 B^2 \\ & \left. + G_C^0 L_1 T_{\alpha 1} (V^0)^2 \frac{\alpha_1}{V_1^{00}} + \frac{V^0}{V_1^0 V^{00}} + G_C^0 L_2 T_{\alpha 2} (V^0)^2 \frac{\alpha_2}{V_2^{00}} + \frac{V^0}{V_2^0 V^{00}} \right] \end{aligned}$$

It is clear from the above that a sufficient condition for $G_{\alpha\alpha}^0 < 0$ is that $G_{CC} < 0$; $G_{WW} < 0$; $G_{CW} > 0$: an assumption that we make here.

has less incentive to give aid to the country that is not represented through lobbying. Note that the asymmetry, $\lambda_2 = 1$ and $\lambda_1 \notin 0$, is due to the fact that the donor government has always an interest in allocating some aid to the poorer country since the latter has higher marginal utility of income and the government cares about the welfare of its nationals.

Having discussed some properties of the equilibrium, we turn to a number of comparative static exercises.

3 Comparative Statics

Having described the political equilibrium and established some properties of it, we shall now carry our three comparative static exercises, i.e we shall change three parameters of the model in turn in the following three subsections and examine how these changes affect the allocation of aid among the two recipient countries. The three parameters that we focus on are: the degree of corruption in the donor country, the degree of aid fatigue, and ethnic composition.

3.1 Corruption and the allocation of aid

In this subsection we shall examine the effect of an increase in the degree of corruption on the proportion of aid going to the poorer recipient country. That is, we want to establish the sign of $d\lambda^0 = d\lambda$. We characterise λ as the corruption parameter by the assumption that λ increases G_C , the marginal utility of political funds for the government, and decreases G_W , the marginal utility of social welfare. However, in order to neutralise the direct effect of λ on the government's utility, we also assume that, at the equilibrium, $G_\lambda = 0$. That is, we assume that

$$G_{C\lambda} > 0; G_{W\lambda} < 0; \text{ and } G_\lambda|_{\lambda=10} = 0: \tag{26}$$

Since λ^0 , λ_1 and λ_2 are optimally chosen, using the envelope property and the

assumption that $G_{1/2} = 0$ (see (26)), it can be shown from (11) and (12) that

$$\frac{du_1^0}{d\alpha} = \frac{du_2^0}{d\alpha} = 0 \tag{27}$$

Finally using (27) we obtain from (19)

$$\frac{d^{10}}{d\alpha} = i \frac{G_{1/2}}{G_{11}} \tag{28}$$

where $G_{1/2} = L_{3,2}AG_{W1/2} + BG_{C1/2}$.

Since $A > 0$ and $B > 0$, using (26) it follows that $G_{1/2} < 0$. This together with the fact that $G_{11} < 0$, gives us

$$\frac{d^{10}}{d\alpha} < 0$$

That is, a higher degree of corruption leads to a lower proportion of aid going to the poorer recipient country. Formally,

Proposition 2: When the richer ethnic group lobbies for the richer recipient country, an increase in the degree of corruption decreases the proportion of aid going to the poorer recipient country.

An increase in the degree of corruption means that the government puts relatively a higher weight on political contributions, and therefore it cares more about the richer ethnic group. Since the richer ethnic group lobbies for the richer country, the poorer country receives a lower proportion of aid.

3.2 Aid fatigue and the allocation of aid

We shall now examine the effect of an increase in aid-fatigue on the proportion aid going to the poorer recipient country. We characterise an increase in aid fatigue by a decrease in the degree of altruism of the natives given by the parameter α_3 . For this exercise we shall take the government's objective function $G(\alpha)$ to be linear. In particular, we assume that

$$G(\alpha) = \alpha G_1 + (1-\alpha) G_2 \tag{29}$$

where \pm is a fixed and positive parameter.

With this assumption and noting that 1_0 , 1_1 and 1_2 are optimally chosen, from (11) and (12) we obtain

$$\begin{aligned} a_1 du_1^0 + a_2 du_2^0 &= a_3 d_{s,3}; \\ a_4 du_1^0 + a_5 du_2^0 &= a_6 d_{s,3}; \end{aligned} \quad (30)$$

where

$$\begin{aligned} a_1 &= \pm L_1 \frac{1}{V_1^0 j_{1=1_1}} \text{ ; } \frac{1}{V_1^0 j_{1=1_0}} \text{ ; } a_2 = \text{ ; } \frac{\pm L_2}{V_2^0 j_{1=1_0}} \text{ ;} \\ a_3 &= L_3 \frac{h}{(u^- + u^{\otimes}) j_{1=1_1}} \text{ ; } \frac{i}{(u^- + u^{\otimes}) j_{1=1_0}} \text{ ; } a_4 = \text{ ; } \frac{\pm L_1}{V_1^0 j_{1=1_0}} \text{ ;} \\ a_5 &= \pm L_2 \frac{1}{V_2^0 j_{1=1_2}} \text{ ; } \frac{1}{V_2^0 j_{1=1_0}} \text{ ; } a_6 = L_3 \frac{h}{(u^- + u^{\otimes}) j_{1=1_2}} \text{ ; } \frac{i}{(u^- + u^{\otimes}) j_{1=1_0}} \text{ ;} \end{aligned}$$

from which we solve the following

$$\begin{aligned} \frac{du_1^0}{d_{s,3}} &= \frac{a_3 a_5 \text{ ; } a_6 a_2}{a_1 a_5 \text{ ; } a_2 a_4} \text{ ;} \\ \frac{du_2^0}{d_{s,3}} &= \frac{a_1 a_6 \text{ ; } a_3 a_4}{a_1 a_5 \text{ ; } a_2 a_4} \text{ ;} \end{aligned} \quad (31)$$

Using (16), (22), (23) and (25) we find that $a_1 < 0$; $a_2 < 0$; $a_3 < 0$; $a_4 < 0$; $a_5 < 0$; $a_6 > 0$, and $a_1 a_5 \text{ ; } a_2 a_4 < 0$. It therefore follows from (31) that

$$\frac{du_1^0}{d_{s,3}} < 0; \quad \frac{du_2^0}{d_{s,3}} > 0; \quad (32)$$

Finally from (19) we get

$$\frac{d^{10}}{d_{s,3}} = \text{ ; } \frac{G_{1,s,3}}{G_{1,1}} \text{ ;} \quad (33)$$

where

$$G_{1,s,3} = L_3 A + \pm \frac{L_{1,s,1} V_{\otimes}^0}{V_1^{00}} \text{ ; } \frac{du_1^0}{d_{s,3}} \text{ ; } \frac{L_{2,s,2} V^0}{V_2^{00}} \text{ ; } \frac{du_2^0}{d_{s,3}} \text{ ;}$$

It immediately follows from (23), (32) and (33) that

$$\frac{d^{10}}{d_{s,3}} > 0;$$

That is, an increase in aid fatigue reduces λ^0 . Formally,

Proposition 3: When the richer ethnic group lobbies for the richer recipient country, an increase in aid fatigue reduces the proportion of aid going to the poorer recipient country.

When the natives are more altruistic, the government indirectly puts a higher weight on the aggregate welfare of the two recipient countries as the natives care equally about the two countries. Therefore the government gives more aid to the country with a higher marginal utility of income. Since the poorer country gets more aid, the poorer ethnic group is happier and the richer ethnic group is unhappier because of their altruism.

3.3 Ethnic composition and the allocation of aid

In this section we want to examine the effect on the proportion of aid going to the poorer recipient country of an increase in proportion of people in one of the ethnic groups with a compensating decrease in the other one. That is, we want to examine the sign of $d\lambda^0 = dL_1$ when

$$dL_1 = j dL_2; \text{ and } dL_3 = 0: \quad (34)$$

Following similar analysis as in the previous subsection, we can derive the following result (detailed proof is given in the appendix)

Proposition 4: When the richer ethnic group lobbies for the richer recipient country, an increase in the proportion of population of that group (at the expense of the other ethnic group) reduces the proportion of aid going to the poorer recipient country.

An increase in the proportion of richer ethnic group means that the government receives more political contribution from that group and its also cares more about the

welfare of that group. Since the richer group lobbies for the richer country, the poorer country receives a lower proportion of total aid.

4 Conclusion

The pattern of foreign aid by many donor countries have puzzled economists for a long time. While the least developed countries in Sub-Saharan Africa and South Asia, where the economic conditions of a majority of the population is desperate, receive rather small amounts of aid, the relatively prosperous developing countries receive lion's share of development assistance. All the empirical studies on the subject point their fingers at political factors for such seemingly unreasonable policies on the part of the donor countries. However, there are two gaps in the literature. First, the literature concentrates on international politics and domestic political factors in the donor countries have not been looked at seriously. Second, one notices a serious lack of theoretical studies to examine the political issues associated with overseas development assistance. This paper attempted to fill in these two gaps by developing a theoretical model in which lobbying in the donor countries have

important implications for the allocation of foreign aid. Lobbying is done by ethnic groups who are asymmetrically altruistic to specific recipient countries.

We model lobbying following the generalised common agency problem as developed in a recent paper by Dixit, Grossman and Helpman (1997). In this framework, the government accepts political contribution from the lobbyists and the level of contribution depends on the policy that the government pursues. The government also cares about the welfare of its nationals. We look at three factors and examine if they are responsible for a larger proportion of aid going to relatively more prosperous countries, and find that to be the case. The factors that we consider are ethnic composition in the donor country, the degree of 'corruption' in the donor country given by the weight attached to political contributions, and the extent of aid-fatigue. It is to be noted that in the literature, aid fatigue is blamed for the low level of the total

amount of aid (see Cassen (1986)). Our study suggests that higher aid fatigue in the donor countries may also affect the way a limited amount of overseas development assistance fund is allocated between recipient countries.

Appendix: Proof of proposition 4

We shall, as in subsection 3.2, continue to assume that government's objective function is linear so that (29) holds. In addition, for simplicity we shall assume that the ethnic groups are homogeneous in the product (labour) market so that their per-capita incomes are the same, i.e. $\dot{Y}^* = \dot{Y}^-$.

First of all, from (6), (7), (8), and (9) we get

$$dc_1 = \frac{c_1}{L_1} dL_1 + \frac{L_1}{V_1^0} du_1^0; \quad (35)$$

$$dc_2 = \frac{c_2}{L_2} dL_2 + \frac{L_2}{V_2^0} du_2^0; \quad (36)$$

whence differentiating (11) and (12) and noting from (1)-(3) that $du_3 = 0$, we obtain

$$\begin{aligned} b_1 du_1^0 + b_2 du_2^0 &= b_3 dL_1; \\ b_4 du_1^0 + b_5 du_2^0 &= b_6 dL_1; \end{aligned} \quad (37)$$

where

$$\begin{aligned} b_1 &= L_1 \frac{1}{V_1^0 j_{1=1_1}} + \frac{1}{V_1^0 j_{1=1_0}}; & b_2 &= \frac{L_2}{V_2^0 j_{1=1_0}}; \\ b_3 &= c_2 j_{1=1_0} + \frac{1}{V_1^0 j_{1=1_0}} + \frac{1}{V_1^0 j_{1=1_1}}; & b_4 &= \frac{L_1}{V_1^0 j_{1=1_0}}; \\ b_5 &= L_2 \frac{1}{V_2^0 j_{1=1_2}} + \frac{1}{V_2^0 j_{1=1_0}}; & b_6 &= \frac{1}{V_2^0 j_{1=1_2}} + \frac{1}{V_2^0 j_{1=1_0}} \end{aligned}$$

from which we solve the following

$$\begin{aligned} \frac{du_1^0}{dL_1} &= \frac{b_3 b_5 + b_6 b_2}{b_1 b_5 + b_2 b_4}; \\ \frac{du_2^0}{dL_1} &= \frac{b_1 b_6 + b_3 b_4}{b_1 b_5 + b_2 b_4}. \end{aligned} \quad (38)$$

Using (16), (22), (23) and (25) we find that $b_1 < 0$; $b_2 < 0$; $b_3 > 0$; $b_4 < 0$; $b_5 < 0$; $b_6 < 0$, and $b_1 b_5 + b_2 b_4 < 0$. It therefore follows from (38) that

$$\frac{du_1^0}{dL_1} > 0; \quad \frac{du_2^0}{dL_1} < 0; \quad (39)$$

Finally from (19) we get

$$\frac{d^{10}}{dL_1} = i \frac{G_{1,L_1}}{G_{11}}; \quad (40)$$

where

$$\begin{aligned} G_{1,L_1} = & i \frac{\dot{s}_1 V_{10}^0}{V_1^0} i \frac{\dot{s}_2 V_2^0}{V_2^0} \\ & + \frac{L_{1,s_1} V_{10}^0}{V_1^{00}} \zeta \frac{du_1^0}{dL_1} i \frac{L_{2,s_2} V_2^0}{V_2^{00}} \zeta \frac{du_2^0}{dL_1}; \end{aligned}$$

In view of (23) and (39), we get $G_{1,L_1} < 0$ and therefore from (40)

$$\frac{d^{10}}{dL_1} < 0;$$

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