

# What Factors Determine the Allocation of Aid by Arab Countries and Multilateral Agencies?

ERIC NEUMAYER

*This article provides a statistical analysis of the determinants of Arab aid allocation using Heckman's two-step estimator. It is found that poorer, Arab, Islamic and sub-Saharan African countries are more likely to receive some positive amount of Arab aid (gate-keeping stage). The same is true for countries not maintaining diplomatic relations with Israel as well as those with voting patterns in the United Nations General Assembly similar to Saudi Arabia. Arab and more populous countries also receive a higher share of the total aid allocated (level stage). The same is true for Islamic countries in the case of bilateral aid and countries with voting similarity in the case of multilateral aid. Donor interest, in particular Arab solidarity, plays a clear role at both stages, whereas recipient need as measured by a country's level of income only affects the gate-keeping stage, not the level stage.*

## I. INTRODUCTION

While the determinants of aid allocation by OECD countries, regional development banks and United Nations (UN) agencies have been examined extensively over many years (see, for example, McKinlay and Little [1977]; Maizels and Nissanke [1984]; more recently, Alesina and Dollar [2000]; Neumayer [2003a, 2003b, 2003c]), to the best of my knowledge no systematic statistical analysis of Arab aid allocation has ever been undertaken. What does exist are rather descriptive studies that provide rich and detailed information, but cannot give an answer to which factors determine the allocation of Arab aid (see, for example, Imady [1984]; Porter [1986]; Van den Boogaerde [1991]; Raffer and Singer [1996]; Neumayer

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Eric Neumayer, Lecturer in Environment and Development, Department of Geography and Environment, London School of Economics and Political Science, Houghton Street, London, UK; email: e.neumayer@lse.ac.uk.

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[2002]). This lack of a systematic statistical analysis presents an astonishing gap in the relevant literature that deserves being filled for at least two reasons. One is the importance of Arab aid: Arab countries have on average provided around 13.5 per cent of total aid by all donors in the time period 1974 to 1994.<sup>1</sup> The other reason stems from the fact that it is often suggested that Arab aid is different from other aid in being heavily influenced by factors such as, among others, Arab and Islamic solidarity.

Recently, there has been a heated debate concerning the effectiveness of aid – see, for example, the World Bank's [1998] *Assessing Aid: What Works, What Doesn't, and Why* report as well as a series of papers published in a special issue of this journal [Hermes and Lensink, 2001]. This article does not add anything to this debate, but in order to better understand the consequences of aid provision it might be helpful to know which factors can explain the allocation of aid in the first place. Hopefully, this article therefore contributes to a better and more comprehensive understanding of the determinants of aid allocation that goes beyond a mere analysis of aid flows from Western countries.

Before examining the factors determining the pattern of aid allocation by Arab countries and multilateral agencies, it is worthwhile noting the extraordinary amount of aid given by Arab donors relative to the gross national product (GNP) of donor countries. Between 1974 and 1994, Arab countries have provided on average about 1.5 per cent of their GNP as net ODA to developing countries (net ODA data taken from OECD [1999], GNP data taken from World Bank [2001]).<sup>2</sup> This is well above the 0.7 per cent of GNP recommended by the United Nations, which most Western donors do not reach anyway. It is the more astonishing given that the GNP of Arab aid donors derives mainly from the extraction of non-renewable resources. Since such extraction leads to inflated income figures given that the partial liquidation of capital (the resource stock) is erroneously counted as true income [Neumayer, 1999, 2000], actual GNP is lower and the aid provision to GNP ratio therefore higher than the published figures would suggest (see also Raffer and Singer [1996: 124ff.]).

## II. LITERATURE REVIEW: WHAT FACTORS MIGHT INFLUENCE ARAB AID ALLOCATION?

The relevant literature, which has studied Arab aid allocation, albeit not in a systematic statistical sense, suggests a number of factors which might influence the allocation of aid by Arab countries and Arab agencies.

Starting with what one might call Arab solidarity, there is very little doubt that at least in the early years of Arab aid allocation, Arab countries were the main beneficiaries of such aid [Van den Boogaerde, 1991]. The

most striking examples for this are multilateral agencies such as the Gulf Organization for the Development of Egypt (GODE), but a certain favourable bias towards Arab countries is apparent in other multilateral and bilateral programmes as well. Indeed, in the very early years often only Arab countries were eligible for these programmes. For example, only Arab countries were eligible for the receipt of aid from the Kuwait and the Abu Dhabi Fund for Arab Economic Development until 1974. Still today the Arab Fund for Economic and Social Development's Agreement states that the purpose of the Fund is to give 'preference to projects which are vital to the Arab world and to inter-Arab projects' [*AFESD*, 1999: 5]. However, generally speaking, eligibility and the range of recipient countries widened substantially after the very early periods of Arab aid allocation. Already in 1984, Khaldi [1984: 13] claimed that 'Arab aid is geographically balanced out' and is not heavily biased towards Arab countries.

In addition to Arab countries, many observers also suggest that sub-Saharan African countries might have been favoured due to the pursuit of Afro-Arab unity and the traditionally strong links between these countries and Arab countries [*Simmons*, 1981: 16]. Again, such potential preference is suggested by the existence of such organisations as the Arab Fund for Technical Assistance to African and Arab Countries (AFTAAAC) or the Arab Bank for Economic Development in Africa (BADEA), established in the wake of the commitments made at the Afro-Arab summit meeting in Cairo in March 1977 [*Porter*, 1986: 53ff.].

Besides Arab and African solidarity, another potential preference suggested by, for example, Mertz and Mertz [1983] is with respect to Islamic countries. Khaldi [1984: 13] rejects the suggestion that Islamic countries might be favoured by Arab aid in claiming that 'Arab aid does not have any religious character'. However, suggestive of such potential preference might again be the existence of multilateral agencies such as the Islamic Development Bank, which only funds projects in member countries of the Organization of Islamic Conference.<sup>3</sup> A middle position is taken by Porter [1986: 63] who believes that the 'Islamic connection', while existent, 'appears to be of relatively small significance among the motivations underlying the Arab aid effort and its distribution'.

Turning towards more directly political factors potentially influencing Arab aid allocation, Mertz and Mertz [1983] suggest that the traditionally conservative major Arab aid donors such as Saudi Arabia, Kuwait and the United Arab Emirates might be biased against Socialist countries in their aid provision. Furthermore, Mertz and Mertz [1983: 21] claim that 'political interests dictate the distribution of Arab aid' such that aid allocation might be biased towards countries that are similar in their foreign policy positions, in particular with respect to issues concerning the Israel-Arab conflict

(similarly, Simmons [1981]). However, the claim that political interests heavily influence the distribution of Arab aid is again rejected by Al-Ani [1984: 42] who states that many of the recipient countries do not have diplomatic relations with OPEC (and therefore Arab) countries.

Finally, Arab donors, like many other aid donors, might take the need of potential recipient countries into account in favouring poorer countries. For example, Al-Humaidi [1984: 60] claims that it has been the general policy of the already mentioned Kuwait Fund to favour 'those countries of the developing world which are more in need of assistance than others'. Similarly, Humaidan [1984: 69] claims that the Saudi Fund for Development 'has tried to focus the benefits of its assistance predominantly on the poorest countries, those having very low per capita income'. A booklet by the OPEC Fund for International Development states that while all developing countries are in principle eligible for Fund assistance 'the least developed and most seriously affected countries ... are accorded higher priority' [OFID 1987: 11].

The problem with all these claims over what determines Arab aid allocation is that their validity can only be tested in a multivariate statistical framework. Controlling for other variables, one may analyse whether a factor has a statistically significant influence on the allocation, and whether one may estimate the strength of the effect. Such a statistical analysis is the objective of the rest of this article.

### III. RESEARCH DESIGN

#### *The Dependent Variables*

OECD [1999] provides aggregate aid data for Arab countries as well as Arab multilateral agencies.<sup>4</sup> Aid refers here to net official development assistance (ODA). It measures the disbursement of grants and highly concessional loans (that is, loans with a grant element of at least 25 per cent) minus amortisation. In principle, aid commitments rather than actual disbursements might have been a better candidate for the dependent variable, since donors have better control over their commitments than actual disbursements, which depends on whether recipients actually draw upon all the commitments [White and McGillivray, 1995]. However, OECD [1999] does not provide commitment data for many years for which it provides net ODA data. Given the generally very high correlation between the two, it was decided therefore to take net ODA as the dependent variable in order to avoid substantial loss of information.

Since the aid data are in current US\$ they have been transformed into real units with 1995 as the base year using the unit value of the world import price index, taken from IMF [2000]. The purpose of this is to express aid in terms

of its purchasing power for a representative bundle of imports. The dependent variable is then the (natural log) of the amount of net ODA in constant US\$1995 that a country receives as a share of the total amount allocated. Such a dependent variable seeks to represent the actual decision-making process. There is a fixed aid budget on which is decided what recipient country receives what share of the total cake, if anything.

We look at aid allocation in three-year averages covering the period from 1974 to 1997 for Arab countries. Until 1992, the Arab country data comprised the combined total for Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia and the United Arab Emirates (UAE). From 1993 to 1996 the data covered Kuwait, Saudi Arabia and the UAE only, by far the most important donors. No data for the UAE were available for 1997. The reader should note that while these data are the best available, they are also somewhat incomplete because Saudi Arabia keeps secret the geographic allocation of a large part of its aid flows from the Saudi Ministry of Finance [*Van den Boogaerde, 1991: 27*].

As far as the Arab multilateral agencies are concerned, the data comprise the combined total for the Arab Bank for Economic Development in Africa (BADEA), the Arab Fund for Economic and Social Development (AFESD), the Islamic Development Bank and the OPEC Fund for International Development (OFID). Of course, strictly speaking, neither the Islamic Development Bank nor the OFID are exclusively Arab-financed institutions, but the Arab countries are by far the major financiers [*Meenai, 1989; Porter, 1986*]. Due to lack of data the period covered extends to 1994 only for Arab multilateral agencies.

### *The Independent Variables*

Following McKinlay and Little [1977], it has become common in the aid allocation literature to distinguish between variables that control for donor interest versus recipient need. Regarding donor interest, in order to check for potential bias towards Arab, sub-Saharan African and Islamic countries, dummy variables were used. An Arab dummy variable was set to 1 for Bahrain, Djibouti, Egypt, Jordan, Lebanon, Mauritania, Morocco, Oman, Somalia, Sudan, Syria, Tunisia and Yemen. This dummy covers all countries with a majority Arab population, apart from those Arab countries with major oil or gas reserves, which are aid donors themselves (Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia and the United Arab Emirates). An African dummy was set to 1 for all sub-Saharan African countries except those which are Arab. An Islamic dummy was set to 1 for all countries other than Arab countries coded as belonging to the Islamic civilisation in Henderson and Tucker [2001: 335] and based on the conceptual framework of Huntington [1996].

A further proxy variable for donor interest that is often employed in the aid allocation literature is some trade-related measure. We use here the natural log of the value of imports in constant US\$1995 from Kuwait, Saudi Arabia and the United Arab Emirates (data taken from Gleditsch [2001]). The idea for using such a variable is that donors might be more willing to give aid to countries which are major recipients of their exports. However, given that Arab countries do not export a diversified basket of goods and are known for not tying their aid to the purchase of specified exports from the donor country, we would expect this variable not to test statistically significant.

To test the importance of considerations of donor interest that are more directly political, we introduce three control variables. One is a Socialist dummy, which was set to 1 if a country was considered Socialist as in Kornai [1992: Table 1.1] with further information taken from CIA [2001]. The second control variable attempts to measure the similarity of policy positions. Signorino and Ritter [1999] have developed a measure of policy similarity. This measure conceptualises two policy positions as falling within a policy space defined by all the possible policy positions. The measure falls in the interval  $-1$  to  $1$ , where  $-1$  means that two policy positions are as far apart in the policy space as possible (complete dissimilarity) and  $1$  means that the two policy positions are identical (complete similarity). Gartzke, Jo and Tucker [1999] use this measure to provide estimates of the similarity of policy positions as revealed by the voting behaviour in the UN General Assembly. We take the similarity of policy positions between potential aid recipient countries and Saudi Arabia, the major Arab aid donor, as a proxy variable for the non-observable similarity of positions with Arab countries as a whole. The third control variable is a dummy, which was set to 1 for any period a country has had diplomatic relations with Israel, with information taken from Ministry of Foreign Affairs [2000] and complemented by *New York Times* [various years].

To test the importance of recipient need, gross domestic product (GDP) per capita data in purchasing power parity and constant US\$1995 were taken from the World Bank [2001]. Other need variables used in the literature such as life expectancy, infant mortality and literacy rates are very highly correlated with income per capita and therefore are not used here in addition to income.

A further control variable is population size. We would expect more populous countries to be regarded more eligible for the receipt of aid due to their greater importance in comparison to countries with a smaller population size. We would also expect more populous countries to receive a greater share of total aid given their bigger size. Finally, the total amount of aid available for allocation should have an influence on the probability

that any country is regarded eligible for the receipt of aid. With a bigger pie available, the likelihood of receiving any cake should increase. Period specific dummies are also included to control for aggregate time effects.

### *Methodology*

Analysing the determinants of Arab aid allocation has also to deal with the fact that not only do countries receive different amounts of aid, but many countries do not receive any aid at all. There are basically two methods for dealing with this fact. One is to follow the lead of Cingranelli and Pasquarello [1985] and many others and distinguish between two independent stages in the process of aid allocation (the so-called two-part model). The first stage is the so-called gate-keeping stage whereby which countries are to receive aid is determined. The appropriate estimation technique for this kind of analysis is probit or logit. The second stage is the so-called level stage, which can be estimated via ordinary least squares (OLS). At this stage, it is determined how much aid is allocated to a country, selected as an aid recipient in the first stage. One of the problems with this two-part method is that it assumes that errors in both stages are uncorrelated. In other words, it assumes that decisions at the gate-keeping stage are taken independently from the decisions at the level stage, which might be unrealistic.

The second method is Heckman's [1979] two-step estimator, which explicitly allows for error terms from both stages of aid allocation to be correlated. It has been used by, for example, McGillivray and Oczkowski [1992] in the aid allocation literature.<sup>5</sup> One of the disadvantages of the two-step estimator is that it requires an exclusionary variable that has a significant impact at the first step (gate-keeping stage), but not at the second step (level stage).<sup>6</sup> For Arab aid allocation, the total amount of aid provided in any one year can function as such an exclusionary variable. This is because a higher value of the total amount allocated raises the chance of being included at the gate-keeping stage, but has no influence on the percentage of total aid allocated to any one country. It is not an ideal exclusionary variable since it does not vary across donors, but no better exclusionary variable could be found.

To mitigate potential problems with distributional skewedness, all variables that are not dummy variables entered the estimations as their natural log. Heteroscedasticity robust standard errors were used. The population, income and export variables enter all estimations with a one-year lag since their contemporaneous values are not available to decision-makers at the time aid is allocated. The models were pre-tested for non-linear effects of the independent variables. No evidence for non-linear effects was found, with the exception of the population variable at the gate-

keeping stage of Arab agency aid allocation. In only this case was a squared population term included in the estimations.

#### IV. RESULTS

Column I of Table 1 provides the Heckman estimations for the gate-keeping stage for the allocation of aid by Arab countries. Countries that are poor, Arab, sub-Saharan African, Islamic as well as countries that vote similar to Saudi Arabia in the UN General Assembly are statistically significantly more likely to receive aid. Maintaining diplomatic relations with Israel decreases the chances of a country receiving aid. Socialist countries are not less likely to receive some aid, however. Population size and the value of imports from Arab countries are insignificant for eligibility of aid. As expected, the total amount of aid allocated has a positive effect on the likelihood that any country is deemed eligible for aid receipt.

TABLE 1  
HECKMAN ESTIMATIONS FOR AID BY ARAB COUNTRIES

	I (gate-keeping stage)	II (level stage)
ln (POPULATION)	.04 (1.25)	.18** (2.88)
ln (GDP)	-.16* (2.51)	-.05 (.40)
ARAB	1.67*** (6.27)	3.15*** (12.21)
S-S AFRICA	.78*** (5.99)	-.10 (.46)
ISLAM	.85*** (5.14)	.78*** (3.51)
RELATIONS ISRAEL	-.49*** (4.01)	-.25 (.85)
VOTE-SIMILARITY	.92*** (3.57)	.85 (1.04)
SOCIALIST	-.24 (1.44)	.07 (.26)
ln (IMPORTS)	.01 (.25)	.02 (.66)
TOTAL AID	.0002** (2.71)	

N = 855, of which uncensored: 370. LR test of independent eqs.:  $p = .3363$

*Note:* Pooled regressions with three-year averages. Absolute z-values in parentheses with heteroscedasticity robust standard errors. Coefficients of constant and period specific dummies not reported.

\* statistically significant at 95% level \*\* at 99% level \*\*\* at 99.9% level.



Column II looks at the level stage. It reveals that more populous, Arab and Islamic countries receive a greater share of total aid from Arab countries. A one per cent increase in population size leads to an aid share that is about 0.18 per cent higher. Islamic countries are estimated to receive a share of aid that is about 118 per cent higher than for non-Islamic countries. For Arab countries, the difference is more than 2200 per cent, which clearly underlines the importance of being Arab for receiving a higher share of bilateral aid from Arab donors. Poorer countries, sub-Saharan African countries, those which maintain diplomatic relations with Israel, or with voting similar to Saudi Arabia or have higher imports from Arab countries do not receive more aid.

Column I of Table 2 provides the Heckman estimations at the gate-keeping stage for the allocation of aid by Arab multilateral agencies. Again, countries which are poor, Arab, sub-Saharan African, Islamic as well as countries with voting similar to Saudi Arabia in the UN General Assembly are statistically significantly more likely to receive aid as is the case in

TABLE 2  
HECKMAN ESTIMATIONS FOR AID BY ARAB MULTILATERAL AGENCIES

	I (gate-keeping stage)	II (level stage)
ln (POPULATION)	.70* (1.91)	.29*** (5.97)
ln (POPULATION) sq.	-.02 (1.76)	
ln (GDP)	-.22** (3.07)	-.12 (1.20)
ARAB	1.83*** (6.78)	1.99*** (7.25)
S-S AFRICA	.54*** (3.69)	-.25 (1.36)
ISLAM	.46** (2.53)	-.02 (.10)
RELATIONS ISRAEL	-.18 (1.36)	-.22 (1.03)
VOTE-SIMILARITY	1.63*** (4.36)	2.27*** (3.24)
SOCIALIST	-.22 (1.27)	-.13 (.67)
ln (IMPORTS)	-.05** (2.87)	-.02 (.93)
TOTAL AID	.0014** (2.62)	

N = 719, of which uncensored: 299. LR test of independent eqs.: p = .3508

*Note:* Pooled regressions with three-year averages. Absolute z-values in parentheses with heteroscedasticity robust standard errors. Coefficients of constant and period specific dummies not reported.

\* statistically significant at 95% level \*\* at 99% level \*\*\* at 99.9% level.

bilateral aid allocation. However, maintaining diplomatic relations with Israel is not a statistically significant factor. Socialist countries are again not less likely to receive some aid. However, the value of imports from Arab countries is estimated to have a significant influence, but with a negative sign. Also, contrary to bilateral aid allocation, the population variables are statistically significant. More populous countries have, first, a higher chance and, then, with further increases in population size, possibly a lower chance of being eligible for receiving aid from Arab agencies.<sup>7</sup> As expected, the total amount of aid allocated again has a positive effect on the likelihood that any country is deemed to be eligible for aid receipt.

Column II of Table 2 provides the Heckman estimates for the level stage. The results are generally rather similar to the level stage of bilateral Arab aid allocation. More populous and Arab countries receive a greater share of total aid as was the case with aid allocation from Arab donor countries. A one per cent increase in population size is associated with an aid share that is about 0.29 per cent higher. Being Arab is estimated as leading to a share that is about 632 per cent higher than for non-Arab countries which, while substantially smaller than in the case of bilateral aid, still clearly underlines the importance of being Arab for receiving a higher share of multilateral Arab aid as well.

Contrary to bilateral aid allocation, however, Islamic countries do not receive more aid, while countries with voting similar to Saudi Arabia in the UN General Assembly do. The way this variable is constructed renders it more difficult to provide a useful interpretation of its coefficient. However, one can say that a country with voting identical to Saudi Arabia is estimated to receive a share of aid that is about 68 per cent higher than a country whose voting similarity value is equal to the sample mean. As before, none of the other control variables tests significant.

Note that Likelihood Ratio (LR) tests for both the bilateral and the multilateral aid allocation model fail to reject the hypothesis of independent equations. What this means is that the sample selection bias is very small, that the error terms of the equations at the gate-keeping and level stages are basically uncorrelated and that, therefore we could have used equally well the two-part estimation technique instead of Heckman's two-step estimator. Non-reported sensitivity analysis shows that this is indeed the case.

## V. CONCLUDING OBSERVATIONS

The results reported above quite strongly support the importance of being Arab for receiving aid from Arab countries and multilateral agencies. Arab countries are statistically significantly more likely to receive aid and if they do receive some amount of aid, they also receive significantly more aid.

Thus clear evidence for the existence of preferential treatment based on Arab solidarity was found. The picture is more complex for the other determining factors tested. Countries belonging to the Islamic civilisation without being Arab are more likely to receive some aid, but once selected only receive more aid in the case of Arab donor countries, not multilateral agencies. Similarly, countries with voting patterns similar to Saudi Arabia in the UN General Assembly are more likely to be eligible for bilateral and multilateral aid receipt, but once selected receive more aid only in the case of Arab multilateral agencies.

Poorer and sub-Saharan African countries are more likely to receive some positive amount of bilateral and multilateral aid. The same is true for countries that do not maintain diplomatic relations with Israel, but for bilateral aid allocation only. Interestingly, however, these three variables have no influence on the level stage. The hypothesis that Arab donors might be biased against Socialist countries was not confirmed by the results. Neither at the gate-keeping nor at the level stage is the relevant dummy tested as statistically significant. The import variable tested insignificant, with one exception, as expected. Population size matters when it comes to the level stage, but more populous countries are more likely to be eligible as an aid recipient in the case of multilateral aid only, and even then the effect is non-linear.

In conclusion, this article has shown the important role that ethnic and religious similarity (being Arab and Islamic) as well as voting similarity in the UN General Assembly has on the allocation of aid by Arab donors.<sup>8</sup> As far as ethnic and religious similarity is concerned, Arab aid allocation is quite different from aid allocation by Western donors. For example, Alesina and Dollar [2000] do not find evidence that religion plays a major role in their allocation of aid. There is also some evidence that the idea of Arab–African solidarity, political factors such as not maintaining diplomatic relations with Israel, as well as a country's level of income, play some role in the decision whether a country is deemed eligible for the receipt of aid. None of these variables plays any role with regard to how much aid a country is given, once it is selected as eligible for aid. These variables therefore truly play the role of 'gate-keepers' only. Some aspects of donor interest thus clearly have a key role in Arab aid allocation at both stages, but recipient need does so only at the gate-keeping stage.

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## WHAT FACTORS DETERMINE AID ALLOCATION?

145

## NOTES

1. Figures refer to net official development assistance (ODA) and are taken from OECD [1999]. Note that Arab aid originates from before 1974, in the case of Kuwait dating back even before the formal establishment of the Kuwait Fund for Arab Economic Development in 1961.
2. Not surprisingly, the amount of aid provided is heavily dependent on the volatility of oil and gas revenues to Arab countries. It ranges from as high as 3.6 per cent of GNP in 1975 to as low as 0.55 per cent of GNP in 1989. I tested a simple model with the natural log of the total amount of aid allocated as the dependent variable and the natural log of the combined oil and natural gas revenue of Kuwait, Saudi Arabia and United Arab Emirates as well as a time trend as the independent variable with serial correlation and heteroscedasticity robust standard errors. The estimated elasticity is 1.34 for aid allocation from Arab countries and 0.85 for aid allocation from Arab agencies. Bilateral aid allocation is therefore more sensitive towards changes in the energy revenue available to donors. (Energy revenue data are taken from World Bank [2000]).
3. Arab countries are the major, but not the only, providers of money for the Islamic Development Bank.
4. Note that only aggregate data are available, no individual data for each donor country or each multilateral agency exists.
5. Note that they call their model somewhat misleadingly a two-part model.
6. Strictly speaking, no exclusionary variable is required, but in its absence the validity of estimations depends on restrictive distributional assumptions only.
7. The estimated coefficient for the squared population term is at the margin between statistical significance and insignificance.
8. Of course, such similarity does not automatically imply that a country is supported, especially not if for political reasons it falls out of grace. For example, Egypt basically lost all Arab aid in the 1980s due to the Camp David treaty with Israel, but regained it in the 1990s. Yemen temporarily lost aid in the early 1990s due to its support of Iraq in the Second Gulf War.

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## WHAT FACTORS DETERMINE AID ALLOCATION?

147

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